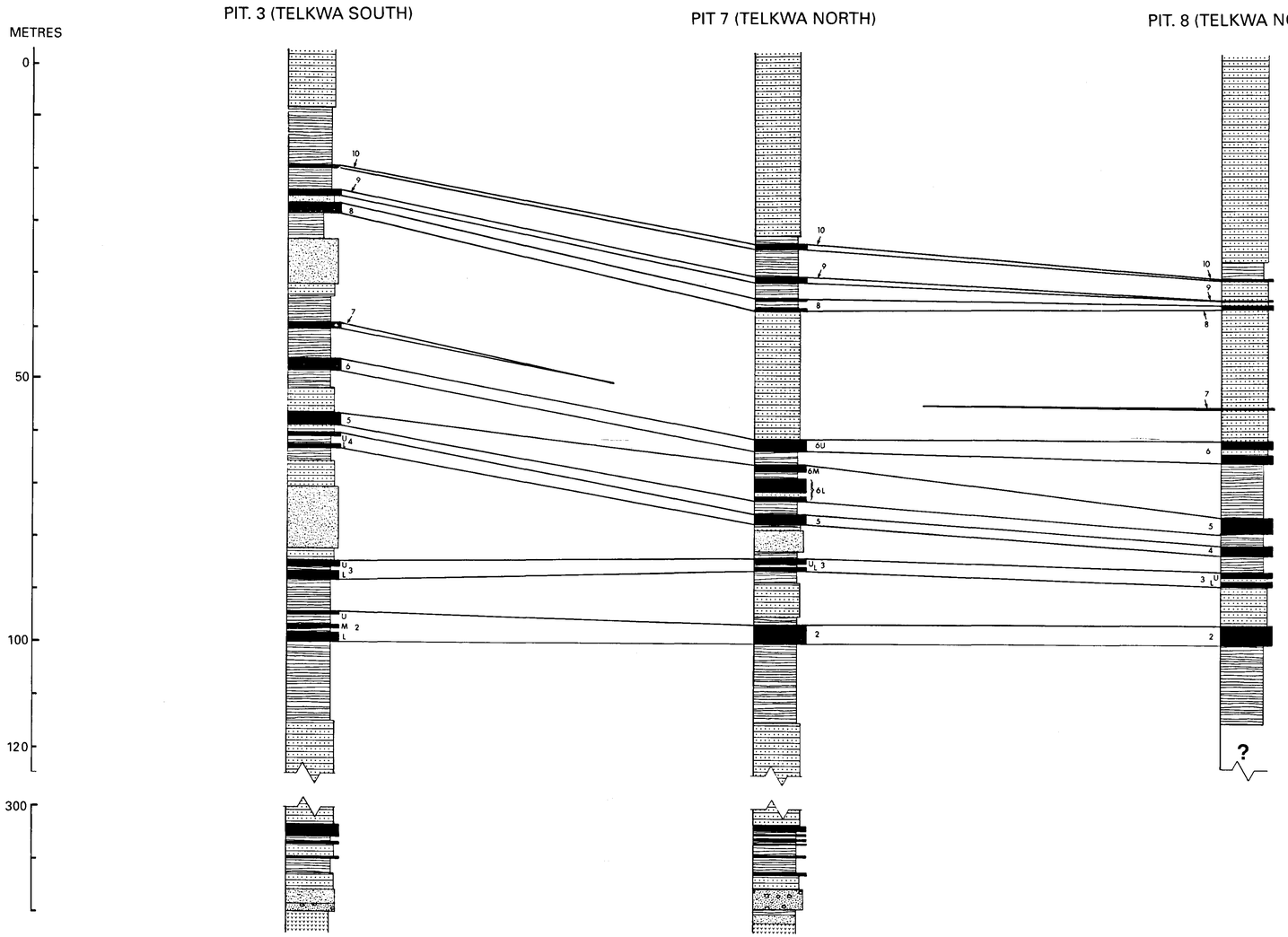
TELKWA GENERALIZED STRATIGRAPHIC COLUMNS



LEGEND

SKEENA GROUP (CRETACEOUS)
RED ROSE FORMATION

1. COAL
2. CONGLOMERATE
2. SANDSTONE
3. SILTSTONE TO VERY FINE GRAINED SANDSTONE
4. MUDSTONE & SHALE

HAZELTON GROUP (JURASSIC)
MAFIC VOLCANICS

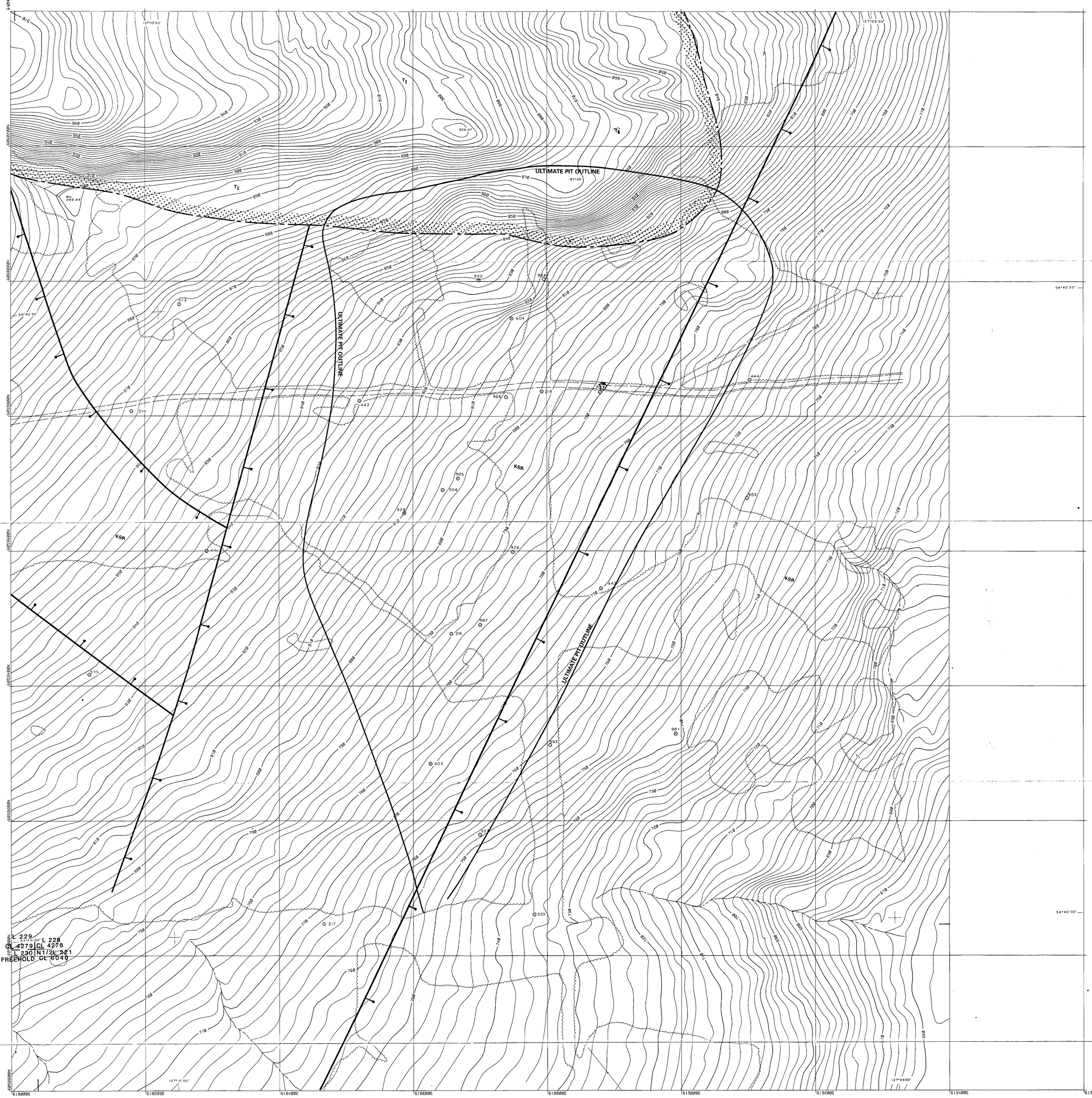
755
pt. 2

Crows Nest Resources Limited

1

TELKWA GENERALIZED STRATIGRAPHIC COLUMNS PIT 3, PIT7, and PIT8

AUTHOR: S.CAMERON	SCALE:	DRAWN BY: K.PASCOE.
DATE: 1990-02-10	REVISED:	DRAWING No:
To Accompany		



755
pt. 2

LEGEND

- GEOLOGICAL CONTACT (APPROXIMATE)
- FAULT (TEETH ON UPTHROWN SIDE)
- BOREHOLE
- T_I TERTIARY INTRUSIVE (GRANODIORITE)
- K_{SR} SKEENA GROUP (CRETACEOUS) RED ROSE FORMATION – SANDSTONE, SILTSTONE, MUDSTONE AND COAL

Crows Nest Resources Limited

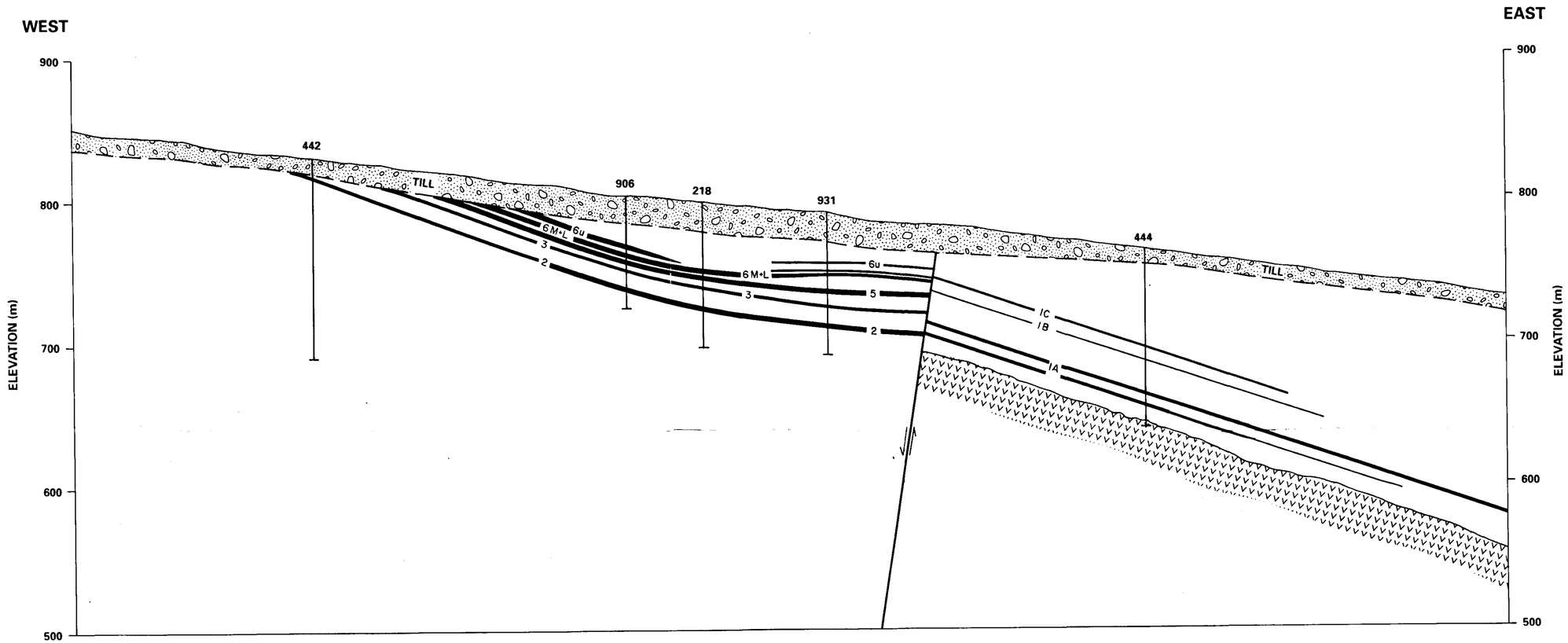
(2)

TELKWA
WEST CENTRAL B.C.

GEOLOGY MAP
PIT 7 AREA

AUTHOR: ORTHOSHOP	SCALE: 1:2 000	DRAWN BY:
DATE: 1990-03	REVISED:	DRAWING No: TW1T29
To Accompany		

TELKWA NORTH
PIT 7



0 50 100 m

755
pt. 2

Crows Nest Resources Limited

TELKWA PROJECT

PIT 7

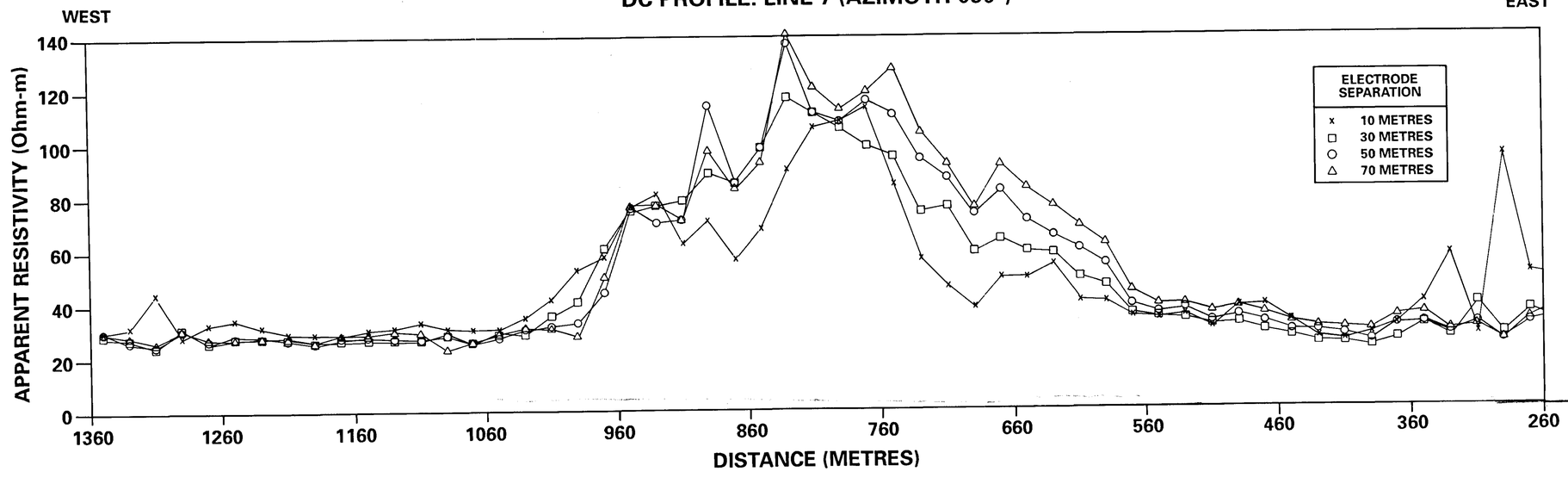
TYPICAL SECTION

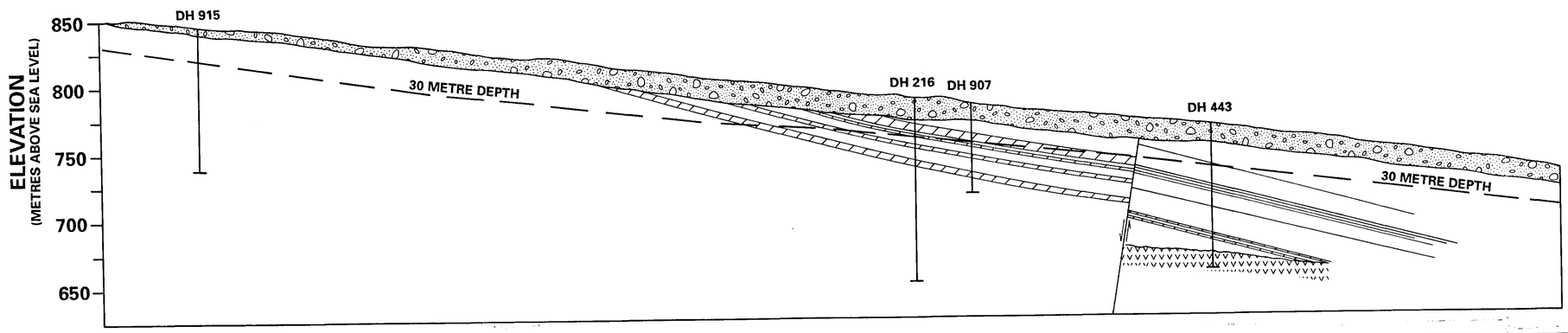
3

AUTHOR: B. McKINSTRY	SCALE: 1:2 000	DRAWN BY: E.N
DATE: 1990-02-08	REVISED:	DRAWING No:
To Accompany		

TELKWA PROJECT

DC PROFILE: LINE 7 (AZIMUTH 090°)





SCALE

0 50 100 m

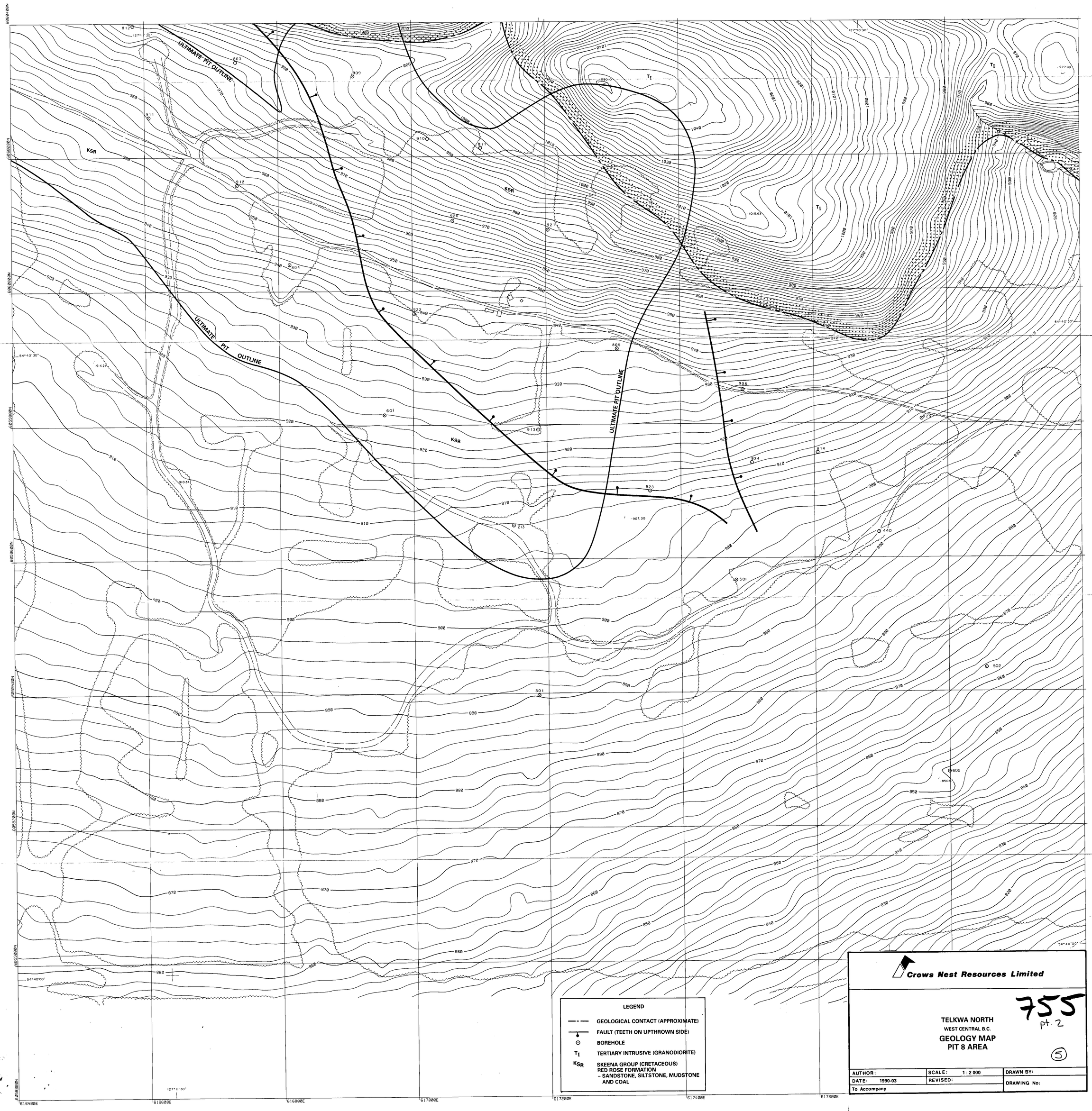
Crows Nest Resources Limited

TELKWA PROJECT
PIT 7
LINE 7

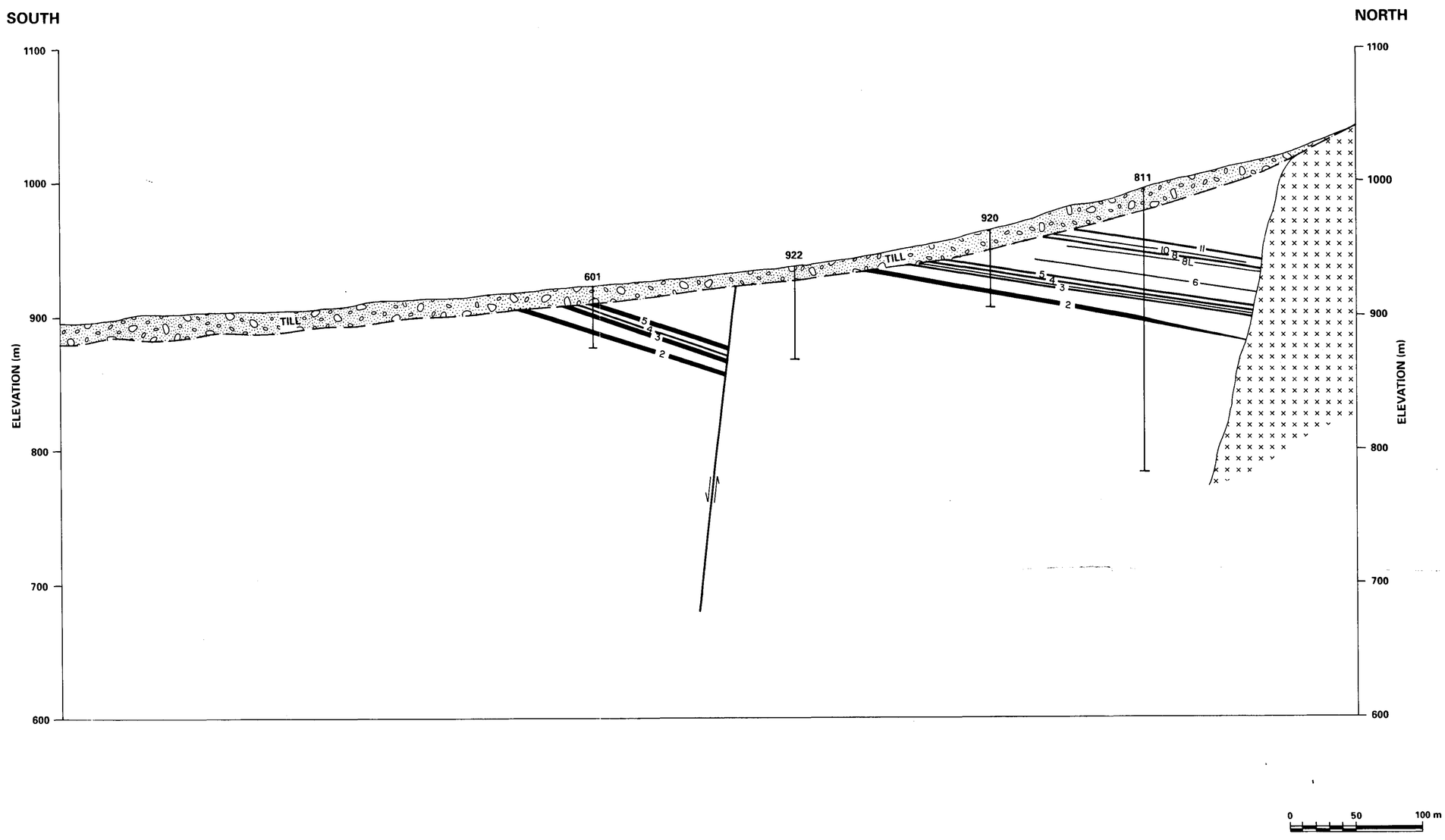
4

AUTHOR: B. MCKINSTRY	SCALE: 1:2000	DRAWN BY
DATE: 1990-05	REVISED:	DRAWING No: Fig 2.
To Accompany		

755
pt. 2


ULTIMATE PIT OUTLINE
ULTIMATE PIT OUTLINE
ULTIMATE PIT OUTLINE
KSR
KSR
KSR
TI
TI
TI
LEGEND
GEOLOGICAL CONTACT (APPROXIMATE)
FAULT (TEETH ON UPTHROWN SIDE)
BOREHOLE
TI TERTIARY INTRUSIVE (GRANODIORITE)
KSR SKEENA GROUP (CRETACEOUS) RED ROSE FORMATION – SANDSTONE, SILTSTONE, MUDSTONE AND COAL
616400E
616600E
616800E
617000E
617200E
617400E
617600E
127°11'30"
127°10'30"
54°40'30"
54°40'00"
Crows Nest Resources Limited
755 pt. 2
TELKWA NORTH
WEST CENTRAL B.C.
GEOLOGY MAP
PIT 8 AREA
5
AUTHOR:
SCALE: 1 : 2 000
DRAWN BY:
DATE: 1990-03
REVISED:
DRAWING No:
To Accompany

TELKWA NORTH
PIT 8

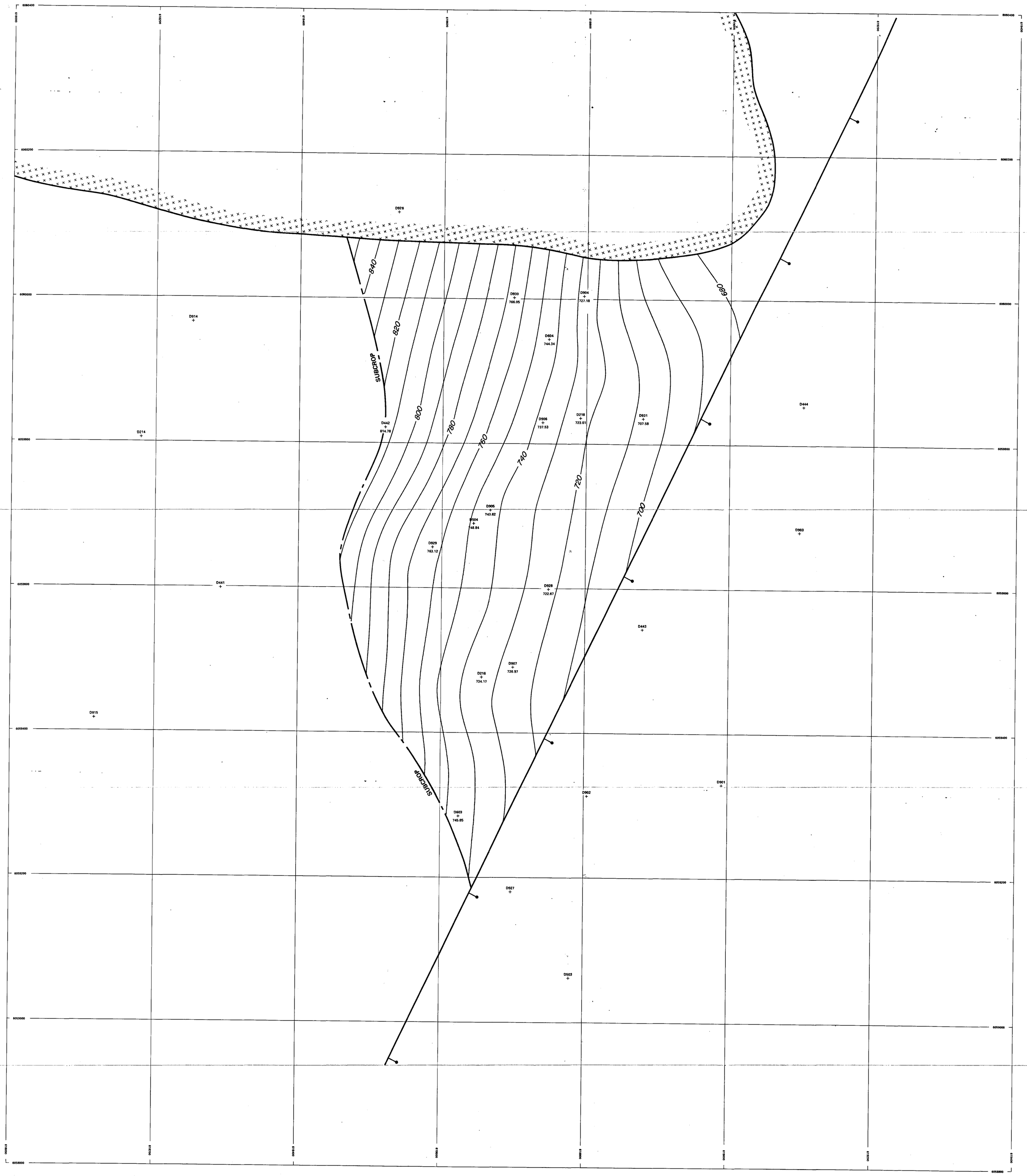


Crows Nest Resources Limited

TELKWA PROJECT
PIT 8
TYPICAL SECTION

AUTHOR: B. McKINSTRY	SCALE: 1:2 000	DRAWN BY: E.N.
DATE: 1990-02-08	REVISED:	DRAWING No:
To Accompany		

755
pt. 2
(6)



TN-GN

LEGEND

- TERTIARY INTRUSIVE
- FAULT (TEETH ON UPTHROWN SIDE)
- SEAM 2 SUBCROP
- CONTOUR INTERVAL
- D924 + 868.44 — BOREHOLE WITH POSTED SEAM 2 FLOOR VALUE

755

pt. 2

Crows Nest Resources Limited

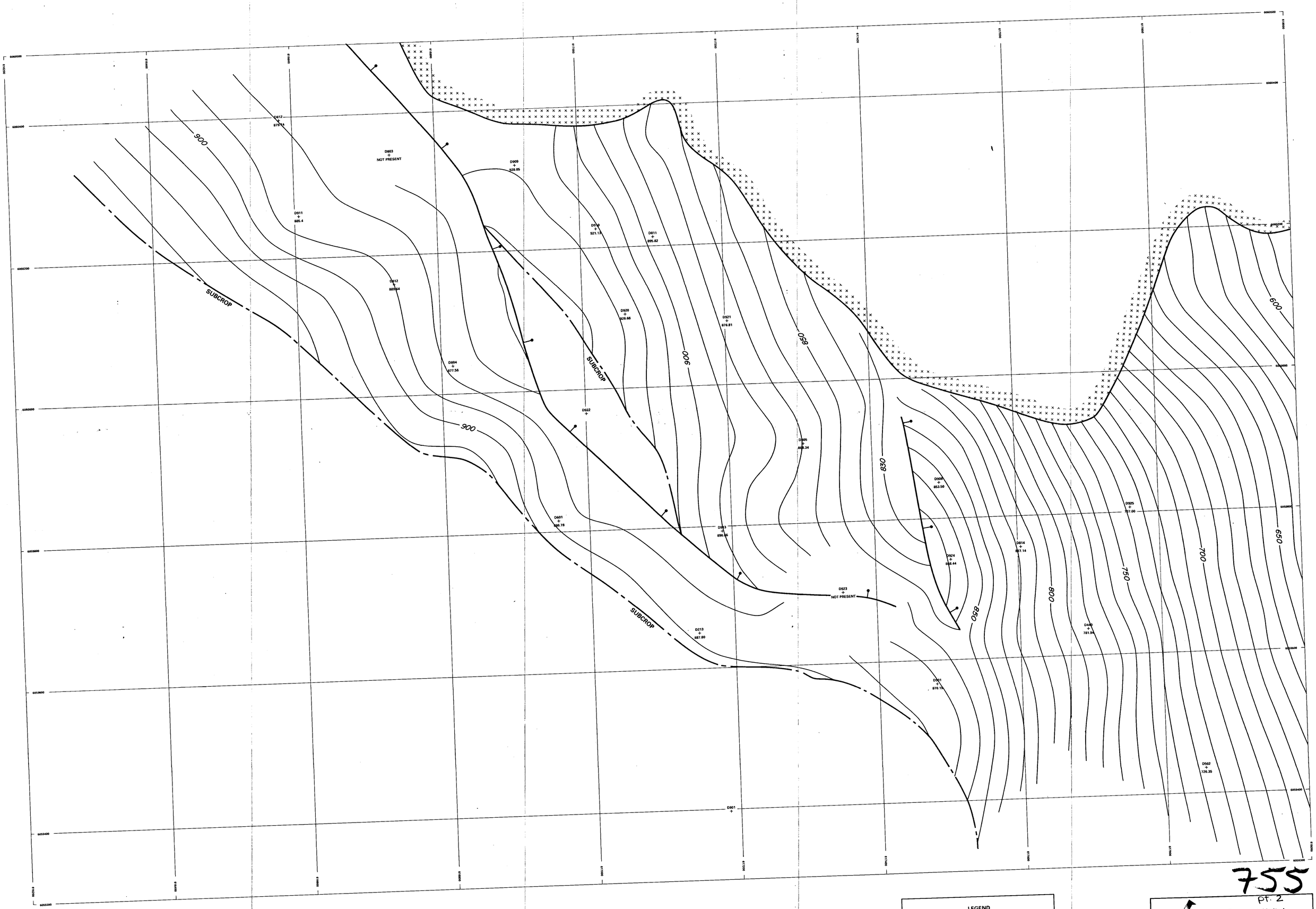
7

TELKWA PROJECT

WEST CENTRAL B.C.

STRUCTURE CONTOUR: SEAM 2 FLOOR PIT 7

AUTHOR B. McKINSTRY	SCALE: 1:2000	DRAWN BY: E.N.	
DATE 90-03-14	REVISED:	DRAWING No:	
To Accompany			



TN·GN

LEGEND

- TERTIARY INTRUSIVE
- FAULT (TEETH ON UPTHROWN SIDE)
- SEAM 2 SUBCROP
- 700 — CONTOUR INTERVAL
- D924 + 868.44 — BOREHOLE WITH POSTED SEAM 2 FLOOR VALUE

755
pt. 2

Crows Nest Resources Limited

(8)

TELKWA PROJECT

WEST CENTRAL B.C.

STRUCTURE CONTOUR: SEAM 2 FLOOR PIT 8

AUTHOR: B. McKINSTRY	SCALE: 1:2000	DRAWN BY: E.N.	
DATE: 90-03-14	REVISED:	DRAWING No:	
To Accompany			

DRILL HOLE PARTICULARS

Project TELKWA

Hole I.D. 901 Total Depth 101.0 m

Northing 6059329.8 Easting 618991.7 Elevation 740.80

Drilling Contractor SDS DRILLING LTD

Drilling Type (Diamond, Rotary, etc.) ROTARY (RC)

Comments (cost, etc.)

Was hole cemented? No

Logging Contractor BPB

Logging Engineer BRIAN PICHE

Comments (cost, etc.)

Logs run GAMMA RAY, L.S. DENSITY, CALIPER, B.R. DENSITY

Water Level 62.5 m Comments

Seams Intersected SEAM 1 ZONE COMPRISING 4 SEAMS

DRILL HOLE PARTICULARS

Project TELKWA

Hole I.D. 902 Total Depth 81.8 m

Northing 6059313.1 Easting 618804.8 Elevation 758.5

Drilling Contractor SDS DRILLING LTD

Drilling Type (Diamond, Rotary, etc.) ROTARY (RC)

Comments (cost, etc.)

Was hole cemented? NO

Logging Contractor BPB

Logging Engineer B. PICHE

Comments (cost, etc.)

Logs run GAMMA RAY, L.S. DENSITY, CALIPER, NEUTRON (SINGLE-SPACE), B.R. DENSITY, DIPMETER

Water Level 23.2 m Comments

Seams Intersected SEAM 1 ZONE COMPRISING 3 SEAMS

BWM/bc.1

DRILL HOLE PARTICULARS

Project TELKWA

Hole I.D. 903 Total Depth 100.2

Northing 6059679.3 Easting 619097.90 Elevation 749.7

Drilling Contractor SDS DRILLING LTD

Drilling Type (Diamond, Rotary, etc.) ROTARY (RC)

Comments (cost, etc.)

Was hole cemented? NO

Logging Contractor BPB

Logging Engineer B. PICHE

Comments (cost, etc.)

Logs run GAMMA RAY, L.S. DENSITY, B.R. DENSITY, CALIPER, L.S. NEUTRON, DIPMETER

Water Level 8.5m Comments

Seams Intersected SEAM 1 ZONE COMPRISING 5 SEAMS

BWM/bc.1

DRILL HOLE PARTICULARS

Project TELKWA

Hole I.D. 904 Total Depth 100.2 m

Northing 6060004.3 Easting 618795.7 Elevation 819.3

Drilling Contractor SDS DRILLING LTD

Drilling Type (Diamond, Rotary, etc.) ROTARY (RC)

Comments (cost, etc.)

Was hole cemented? NO

Logging Contractor BPB

Logging Engineer B. PICHE

Comments (cost, etc.)

Logs run GAMMA RAY, L.S. DENSITY, B.R. DENSITY, CALIPER, L.S. NEUTRON, DIPMETER

Water Level 10.6 m Comments

Seams Intersected 10, 9, 8, 6, 5R, 5, 3, 2

BWM/bc.1

DRILL HOLE PARTICULARS

Project TELKWA

Hole I.D. 905 Total Depth 72.6 m

Northing 6089708.1 Easting 618667.4 Elevation 803.1

Drilling Contractor SDS DRILLING LTD

Drilling Type (Diamond, Rotary, etc.) ROTARY (RC)

Comments (cost, etc.)

Was hole cemented? No

Logging Contractor BPB

Logging Engineer B. PICHE

Comments (cost, etc.)

Logs run GAMMA RAY, L.S. DENSITY, B.R. DENSITY, CALIPER, L.S. NEUTRON, DIPMETER

Water Level 22.0 m Comments

Seams Intersected 6, 5, 3, 2

BWM/bc.1

DRILL HOLE PARTICULARS

Project TELKWA

Hole I.D. 906 Total Depth 80.0m

Northing 6059829.1 Easting 618739.4 Elevation 805.8

Drilling Contractor SDS DRILLING LTD.

Drilling Type (Diamond, Rotary, etc.) ROTARY (RC)

Comments (cost, etc.)

Was hole cemented? NO

Logging Contractor BPB

Logging Engineer B. PICHE

Comments (cost, etc.)

Logs run GAMMA RAY, L.S. DENSITY, B.R. DENSITY, CALIPER, L.S. NEUTRON, DIPMETER

Water Level 3.5m Comments

Seams Intersected 6, 5, 3, 2

DRILL HOLE PARTICULARS

Project TELKWA

Hole I.D. 907 Total Depth 62.8m

Northing 6059490.9 Easting 618780.4 Elevation 782.5

Drilling Contractor J. T. THOMAS

Drilling Type (Diamond, Rotary, etc.) DIAMOND (NQ)

Comments (cost, etc.)

Was hole cemented? NO

Logging Contractor BPB

Logging Engineer B. PICHE

Comments (cost, etc.)

Logs run GAMMA RAY, L.S. DENSITY, B.R. DENSITY, CALIPER, L.S. NEUTRON, DIPMETER

Water Level 6.0m Comments

Seams Intersected 6, 5, 3, 2

BWM/bc 1

DRILL HOLE PARTICULARS

Project TELKWA

Hole I.D. 908 Total Depth 103.2 m

Northing 6059851.2 Easting 617492.6 Elevation 926.6

Drilling Contractor SDS DRILLING LTD.

Drilling Type (Diamond, Rotary, etc.) ROTARY (RC)

Comments (cost, etc.)

Was hole cemented? NO

Logging Contractor BPB

Logging Engineer B. PICHE

Comments (cost, etc.)

Logs run GAMMA RAY, L.S. DENSITY, B.R. DENSITY, CALIPER, L.S. NEUTRON, DIPMETER

Water Level 1.2 m Comments

Seams Intersected 5, 4, 3, 2

BWM/bc.1

DRILL HOLE PARTICULARS

Project TELKWA

Hole I.D. 909 Total Depth 77.0 m

Northing 6060320.2 Easting 616912.1 Elevation 985.4

Drilling Contractor SDS DRILLING LTD.

Drilling Type (Diamond, Rotary, etc.) ROTARY (RC)

Comments (cost, etc.)

Was hole cemented? NO

Logging Contractor BPB

Logging Engineer B. PICHE

Comments (cost, etc.)

Logs run GAMMA RAY, L.S. DENSITY, B.P. DENSITY, CALIPER, L.S. NEUTRON, DIPMETER.

Water Level 2.1 m Comments

Seams Intersected 6, 4, 3, 2

BWM/bc 1

DRILL HOLE PARTICULARS

Project TELKWA

Hole I.D. 910 Total Depth 95.0 m

Northing 6060226.6 Easting 617023.2 Elevation 989.1

Drilling Contractor SDS DRILLING LTD.

Drilling Type (Diamond, Rotary, etc.) ROTARY (RC)

Comments (cost, etc.)

Was hole cemented? NO.

Logging Contractor BPB.

Logging Engineer B. PICHE

Comments (cost, etc.)

Logs run GAMMA RAY, L.S. DENSITY, B.R. DENSITY, CALIPER, L.S. NEUTRON, DIPMETER

Water Level 7.2 m Comments

Seams Intersected 6, 5, 4, 3, 2

DRILL HOLE PARTICULARS

Project TELKWA

Hole I.D. 911 Total Depth 96.0m

Northing 6060259.3 Easting 616606.3 Elevation 956.6

Drilling Contractor SDS DRILLING LTD.

Drilling Type (Diamond, Rotary, etc.) ROTARY (RC)

Comments (cost, etc.)

Was hole cemented? NO.

Logging Contractor SPB

Logging Engineer B. PICHIE

Comments (cost, etc.)

Logs run GAMMA RAY, L.S. DENSITY, B.R. DENSITY, CALIPER, L.S. NEUTRON, DIPMETER

Water Level 4.2 m Comments

Seams Intersected 8, 6, 5, 4, 3, 2

BWM/bc.1

DRILL HOLE PARTICULARS

Project Tenkung

Hole I.D. 912 Total Depth 96.0m

Northing 6060158.0 Easting 616737.6 Elevation 954.0

Drilling Contractor SDS DRILLING LTD.

Drilling Type (Diamond, Rotary, etc.) ROTARY (RC)

Comments (cost, etc.)

Was hole cemented? No

Logging Contractor BPB

Logging Engineer B. BICHE

Comments (cost, etc.)

Logs run GAMMA RAY, L.S. DENSITY, B.R. DENSITY, CALIPER, L.S. NEUTRON, DIPMETER

Water Level 4.2m Comments

Seams Intersected 9, 8, 6, 5, 4, 3, 2

BWM/bc.1

DRILL HOLE PARTICULARS

Project TELKWA

Hole I.D. 913 Total Depth 63.5m

Northing 6059793.1 Easting 617185.9 Elevation 922.8

Drilling Contractor SDS DRILLING LTD.

Drilling Type (Diamond, Rotary, etc.) ROTARY (RC)

Comments (cost, etc.)

Was hole cemented? NO

Logging Contractor BPB

Logging Engineer B. PICHE

Comments (cost, etc.)

Logs run GAMMA RAY, L.S. DENSITY, B.R. DENSITY, L.S NEUTRON, CALIPER, DIPMETER

Water Level 0.6m Comments

Seams Intersected 5, 4, 3, 2

DRILL HOLE PARTICULARS

Project TELKWA

Hole I.D. 914 Total Depth 78.0m

Northing 6059966.1 Easting 618250.8 Elevation 873.1

Drilling Contractor SDS DRILLING LTD

Drilling Type (Diamond, Rotary, etc.) ROTARY (RC)

Comments (cost, etc.)

Was hole cemented? NO

Logging Contractor BAB

Logging Engineer B. PICHE

Comments (cost, etc.)

Logs run GAMMA RAY, L.S. DENSITY, CALIPER, L.S. NEUTRON

Water Level 2.0m Comments

Seams Intersected NONE

BWM/bc.1

DRILL HOLE PARTICULARS

Project TELKWA

Hole I.D. 915 Total Depth 100.0 M

Northing 6059417.6 Easting 618116.7 Elevation 838.3

Drilling Contractor SDS DRILLING LTD.

Drilling Type (Diamond, Rotary, etc.) ROTARY (RC)

Comments (cost, etc.)

Was hole cemented? No

Logging Contractor BPB

Logging Engineer B. PICHE

Comments (cost, etc.)

Logs run GAMMA RAY, L.S. DENSITY, CALIPER, L.S. NEUTRON

Water Level 0.0 m Comments

Seams Intersected NONE

BWM/bc.1

DRILL HOLE PARTICULARS

Project TELKWA

Hole I.D. 917 Total Depth 72.6 m

Northing 6060483.3 Easting 621041.5 Elevation 576.3

Drilling Contractor SDS DRILLING LTD.

Drilling Type (Diamond, Rotary, etc.) ROTARY (RC)

Comments (cost, etc.)

Was hole cemented? NO

Logging Contractor BPB

Logging Engineer B. PICHE

Comments (cost, etc.)

Logs run GAMMA RAY, L.S. DENSITY, CALIPER, L.S. NEUTRON

Water Level 0.0 M Comments

Seams Intersected 3 THIN SEAMS OF SEAM 1 ZONE

BWM/bc.1

DRILL HOLE PARTICULARS

Project TELKWA

Hole I.D. 91B Total Depth 63.3M

Northing 6060240.0 Easting 620543.9 Elevation 590.2

Drilling Contractor SDS DRILLING LTD.

Drilling Type (Diamond, Rotary, etc.) ROTARY, (RC)

Comments (cost, etc.)

Was hole cemented? NO

Logging Contractor BPB

Logging Engineer B. PICHE

Comments (cost, etc.)

Logs run GAMMA RAY, L.S. DENSITY, B.R. DENSITY, CALIPER, L.S. NEUTRON, DIPMETER

Water Level 0.0M Comments

Seams Intersected 5 THIN SEAMS OF SEAM 1 ZONE

DRILL HOLE PARTICULARS

Project TELKWA

Hole I.D. 9.9 Total Depth 85.0m

Northing 6059359.1 Easting 620230.1 Elevation 628.0

Drilling Contractor SDS DRILLING LTD.

Drilling Type (Diamond, Rotary, etc.) ROTARY (RC)

Comments (cost, etc.)

Was hole cemented? NO

Logging Contractor BPB

Logging Engineer B. PICHE

Comments (cost, etc.)

Logs run GAMMA RAY, L.S. DENSITY

Water Level — Comments

Seams Intersected ONE THIN SEAM OF SEAM .1 ZONE

BWM/bc 1

DRILL HOLE PARTICULARS

Project TELKWA

Hole I.D. 920 Total Depth 48.8m

Northing 6060104.8 Easting 617060.6 Elevation 966.9

Drilling Contractor J. T. THOMAS

Drilling Type (Diamond, Rotary, etc.) DIAMOND (NQ)

Comments (cost, etc.)

Was hole cemented? No

Logging Contractor BPB

Logging Engineer B. PICHE

Comments (cost, etc.)

Logs run GAMMA RAY, L.S. DENSITY, B.R DENSITY, CALIPER, L.S. NEUTRON, DIPMETER

Water Level 2.8m Comments

Seams Intersected 5, 4, 3, 2

BWM/bc.1

DRILL HOLE PARTICULARS

Project TELKWA

Hole I.D. 921 Total Depth 111.9 m

Northing 6060090.0 Easting 617203.0 Elevation 976.3

Drilling Contractor J. T. THOMAS

Drilling Type (Diamond, Rotary, etc.) DIAMOND (NQ)

Comments (cost, etc.)

Was hole cemented? NO

Logging Contractor BPB

Logging Engineer B. PICHE

Comments (cost, etc.)

Logs run GAMMA RAY, L.S DENSITY, B.R. DENSITY, CALIPER, L.S. NEUTRON, DIPMETER

Water Level 18.6 m Comments

Seams Intersected 10, 9, 8, 6, 5, 4, 3, 2

BWM/bc.1

DRILL HOLE PARTICULARS

Project TEKWA

Hole I.D. 922 Total Depth 69.2m

Northing 6059966.2 Easting 617001.6 Elevation 938.3

Drilling Contractor J.T. THOMAS

Drilling Type (Diamond, Rotary, etc.) DIAMOND NQ

Comments (cost, etc.)

Was hole cemented? NO

Logging Contractor BPB

Logging Engineer B. PICHE

Comments (cost, etc.)

Logs run GAMMA RAY, L.S. DENSITY

Water Level 10.2 m Comments

Seams Intersected NONE

DRILL HOLE PARTICULARS

Project TELKWA

Hole I.D. 923 Total Depth 66.1 m

Northing 6059700.3 Easting 617353.0 Elevation 908.3

Drilling Contractor J. T. THOMAS

Drilling Type (Diamond, Rotary, etc.) DIAMOND (NQ)

Comments (cost, etc.)

Was hole cemented? NO

Logging Contractor BPB

Logging Engineer B. PICHE

Comments (cost, etc.)

Logs run GAMMA RAY, L.S. DENSITY, O R. DENSITY, CALIPER L.S. NEUTRON, DIPMETER

Water Level 2.1 m Comments

Seams Intersected 6, 4, 2

DRILL HOLE PARTICULARS

Project Telkwa

Hole I.D. 924 Total Depth 66.1m

Northing 6059742.0 Easting 617505.8 Elevation 911.8m

Drilling Contractor J. T. THOMAS

Drilling Type (Diamond, Rotary, etc.) DIAMOND (NQ)

Comments (cost, etc.)

Was hole cemented? NO

Logging Contractor BPB

Logging Engineer B. PICHE

Comments (cost, etc.)

Logs run GAMMA RAY L.S. DENSITY, B.R. DENSITY, CALIPER, L.S. NEUTRON, DIPMETER

Water Level ? Comments

Seams Intersected 6, 4, 2

BWM/bc.1

DRILL HOLE PARTICULARS

Project TEKWA

Hole I.D. 925 Total Depth 182.0m

Northing 6059806.9 Easting 617760.4 Elevation 906.3

Drilling Contractor J. T. THOMAS

Drilling Type (Diamond, Rotary, etc.) DIAMOND (NQ)

Comments (cost, etc.)

Was hole cemented? NO

Logging Contractor BPB

Logging Engineer B. PICHE

Comments (cost, etc.)

Logs run GAMMA RAY, L.S. DENSITY, B R DENSITY, CALIPER, L.S. NEUTRON, DIPMETER

Water Level 7.0m Comments

Seams Intersected 10, 9, 8, 6, 5, 4, 3, 2

BWM/bc.1

DRILL HOLE PARTICULARS

Project Telkwa

Hole I.D. 926 Total Depth 21.9

Northing 6060118.5 Easting 618536.2 Elevation 876.3

Drilling Contractor J. T. THOMAS

Drilling Type (Diamond, Rotary, etc.) DIAMOND NQ

Comments (cost, etc.)

Was hole cemented? NO

Logging Contractor BPB

Logging Engineer B. PICHE

Comments (cost, etc.)

Logs run NONE

Water Level ? Comments HOLE DRILLED 3.6 m OF GRANODIORITE AND THEN STOPPED. NO LOGS RUN.

Seams Intersected NONE

BWM/bc.1

DRILL HOLE PARTICULARS

Project TELKWA

Hole I.D. 927 Total Depth 62.2 m

Northing 6059181.3 Easting 618700.0 Elevation 752.6

Drilling Contractor J. T. THOMAS

Drilling Type (Diamond, Rotary, etc.) DIAMOND (NQ)

Comments (cost, etc.)

Was hole cemented? NO

Logging Contractor BPB

Logging Engineer B. PICHE

Comments (cost, etc.)

Logs run GAMMA RAY, L.S DENSITY, B.R. DENSITY, CALIPER, L.S. NEUTRON, DIPMETER.

Water Level 0.0 m Comments

Seams Intersected 3 THIN SEAMS OF SEAM 1 ZONE

BWM/bc.1

DRILL HOLE PARTICULARS

Project TELKWA

Hole I.D. 928 Total Depth 84.4m

Northing 6059588.7 Easting 618749.1 Elevation 786.8

Drilling Contractor J. T. THOMAS

Drilling Type (Diamond, Rotary, etc.) DIAMOND (NQ)

Comments (cost, etc.)

Was hole cemented? NO

Logging Contractor BPB

Logging Engineer B. PICHE

Comments (cost, etc.)

Logs run GAMMA RAY, L.S. DENSITY, B.R. DENSITY, CALIPER

Water Level 7.2m Comments

Seams Intersected 6, 5, 3, 2

BWM/bc.1

DRILL HOLE PARTICULARS

Project TELKWA

Hole I.D. 929 Total Depth 60.1m

Northing 6059656.5 Easting 618587.1 Elevation 808.9m

Drilling Contractor J. T. THOMAS

Drilling Type (Diamond, Rotary, etc.) DIAMOND (NQ)

Comments (cost, etc.)

Was hole cemented? N

Logging Contractor BPB

Logging Engineer B. PICHE

Comments (cost, etc.)

Logs run GAMMA RAY, L.S. DENSITY, B.R. DENSITY, CALIPER, L.S. NEUTRON, DIPMETER

Water Level 8.1m Comments

Seams Intersected 6, 5, 3, 2

BWM/bc.1

DRILL HOLE PARTICULARS

Project TELKWA

Hole I.D. 930 Total Depth 78.3m

Northing 6060001.8 Easting 618698.2 Elevation 832.7m

Drilling Contractor J. T. THOMAS

Drilling Type (Diamond, Rotary, etc.) DIAMOND (NQ)

Comments (cost, etc.)

Was hole cemented? NO

Logging Contractor BPB

Logging Engineer B. PICHE

Comments (cost, etc.)

Logs run GAMMA RAY, L.S. DENSITY, B.R. DENSITY, CALIPER, DIPMETER, L.S. NEUTRON

Water Level 0.0m Comments

Seams Intersected 5, 3, 2

BWM/bc.1

DRILL HOLE PARTICULARS

Project TELKWA

Hole I.D. 931 Total Depth 99.1m

Northing 6059835.2 Easting 618879.1 Elevation 789.9

Drilling Contractor J. T. THOMAS

Drilling Type (Diamond, Rotary, etc.) DIAMOND (NQ)

Comments (cost, etc.)

Was hole cemented? NO

Logging Contractor BPB

Logging Engineer B. PICHE

Comments (cost, etc.)

Logs run GAMMA RAY, L.S. DENSITY, B.R. DENSITY, CALIPER, L.S. NEUTRON

Water Level 9.4m Comments

Seams Intersected 6, 5, 3, 2

BWM/bc.1

*COAL ANALYSIS
SECTION 15(1)(a)-(h)

ANALYSIS ON RAWCOAL
15(1)(a)-(d).

NOT CONFIDENTIAL AFTER
3 YEARS, SECTION 5(4)

LORING LABORATORIES LTD.

629 BEAVERDAM RD., N.E.,
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TEL: (403) 274-2777 FAX: (403) 275-0541

TO : CROWSNEST RESOURCES LTD.
ATTN.: STEVE CAMERON/BRIAN MCKINSTRY
PROJECT : TELKWA

FILE # : 33068
DATE : FEBRUARY 9, 1990
SAMPLE TYPE : RAW COAL

HOLE : DDH - 904

PAGE : 1

SAMPLE	INTERVAL		(M)	BASIS	% H2O	% ASH	% S
1	14.5	15.0	0.50	A.R.	19.56	46.57	2.33
				A.D.	2.57	56.41	2.82
				D.B.	-----	57.90	2.89
2	21.0	21.5	0.50	A.R.	18.60	52.62	1.07
				A.D.	0.79	64.13	1.30
				D.B.	-----	64.64	1.31
3	24.5	25.0	0.50	A.R.	25.51	57.09	2.75
				A.D.	1.05	75.83	3.65
				D.B.	-----	76.63	3.69
4	25.8	26.6	0.80	A.R.	3.37	63.02	0.55
				A.D.	1.72	64.09	0.56
				D.B.	-----	65.21	0.57
5	26.6	27.0	0.40	A.R.	17.45	35.31	1.07
				A.D.	0.61	42.51	1.29
				D.B.	-----	42.77	1.30
6	27.0	27.3	0.30	A.R.	8.66	76.34	0.13
				A.D.	0.84	82.87	0.14
				D.B.	-----	83.57	0.14
7	52.6	53.0	0.40	A.R.	19.93	41.43	1.01
				A.D.	0.58	51.45	1.25
				D.B.	-----	51.75	1.26
8	53.0	53.5	0.50	A.R.	9.80	63.92	0.33
				A.D.	0.36	70.61	0.37
				D.B.	-----	70.87	0.37

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ATTN.: STEVE CAMERON/BRIAN MCKINSTRY
PROJECT : TELKWA

FILE # : 33068
DATE : FEBRUARY 9, 1990
SAMPLE TYPE : RAW COAL

HOLE : DDH - 904

SAMPLE	INTERVAL		(M)	BASIS	% H2O	% ASH	% S
9	56.0	56.5	0.50	A.R.	11.19	52.11	2.34
				A.D.	0.30	58.50	2.63
				D.B.	-----	58.68	2.64
10	56.5	57.0	0.50	A.R.	11.41	12.47	0.53
				A.D.	0.24	14.04	0.60
				D.B.	-----	14.07	0.60
11	57.0	57.5	0.50	A.R.	11.54	15.73	0.43
				A.D.	0.32	17.72	0.49
				D.B.	-----	17.78	0.49
12	57.5	58.0	0.50	A.R.	10.01	17.86	0.52
				A.D.	0.51	19.75	0.58
				D.B.	-----	19.85	0.58
13	58.0	58.5	0.50	A.R.	9.12	41.65	0.41
				A.D.	0.14	45.77	0.45
				D.B.	-----	45.83	0.45
14	59.2	59.4	0.20	A.R.	7.15	30.12	0.97
				A.D.	0.72	32.21	1.04
				D.B.	-----	32.44	1.05
15	59.4	60.0	0.60	A.R.	23.96	34.26	0.94
				A.D.	0.62	44.78	1.23
				D.B.	-----	45.06	1.24

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ATTN.: STEVE CAMERON/BRIAN MCKINSTRY
PROJECT : TELKWA

FILE # : 33068
DATE : FEBRUARY 9, 1990
SAMPLE TYPE : RAW COAL

HOLE : DDH - 904

SAMPLE	INTERVAL		(M)	BASIS	% H2O	% ASH	% S
16	60.0	60.5	0.50	A.R.	9.61	48.35	0.53
				A.D.	0.60	53.17	0.58
				D.B.	-----	53.49	0.58
17	63.7	64.0	0.30	A.R.	30.50	20.57	0.50
				A.D.	0.52	29.44	0.71
				D.B.	-----	29.59	0.71
18	64.0	64.5	0.50	A.R.	9.89	25.76	0.26
				A.D.	0.88	28.34	0.29
				D.B.	-----	28.59	0.29
19	64.5	65.0	0.50	A.R.	11.35	55.25	0.19
				A.D.	1.16	61.60	0.21
				D.B.	-----	62.32	0.21
20	65.0	65.5	0.50	A.R.	17.13	43.77	0.55
				A.D.	1.75	51.90	0.65
				D.B.	-----	52.82	0.66
21	65.5	66.0	0.50	A.R.	7.56	54.67	0.52
				A.D.	0.94	58.58	0.56
				D.B.	-----	59.14	0.57
22	68.7	69.0	0.30	A.R.	35.92	17.64	0.52
				A.D.	1.21	27.20	0.80
				D.B.	-----	27.53	0.81
23	69.0	69.5	0.50	A.R.	25.20	17.66	0.51
				A.D.	1.01	23.37	0.68
				D.B.	-----	23.61	0.69

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ATTN.: STEVE CAMERON/BRIAN MCKINSTRY
PROJECT : TELKWA

FILE # : 33068
DATE : FEBRUARY 9, 1990
SAMPLE TYPE : RAW COAL

HOLE : DDH - 904

SAMPLE	INTERVAL		(M)	BASIS	% H20	% ASH	% S
24	69.5	70.0	0.50	A.R.	21.67	34.26	0.78
				A.D.	0.34	43.59	0.99
				D.B.	-----	43.74	0.99
25	76.0	76.5	0.50	A.R.	20.59	22.50	2.51
				A.D.	0.86	28.09	3.13
				D.B.	-----	28.33	3.16
26	76.5	77.0	0.50	A.R.	20.52	41.73	1.02
				A.D.	0.58	52.19	1.28
				D.B.	-----	52.49	1.29
27	78.0	78.5	0.50	A.R.	28.74	16.96	1.10
				A.D.	0.26	23.74	1.54
				D.B.	-----	23.80	1.54
28	90.5	91.0	0.50	A.R.	23.02	51.01	1.01
				A.D.	0.36	66.02	1.31
				D.B.	-----	66.26	1.31
29	91.0	91.5	0.50	A.R.	18.32	39.91	0.76
				A.D.	1.23	48.26	0.92
				D.B.	-----	48.86	0.93
30	91.5	92.0	0.50	A.R.	22.68	22.44	0.44
				A.D.	2.27	28.37	0.56
				D.B.	-----	29.03	0.57
31	92.0	92.5	0.50	A.R.	23.36	30.78	0.46
				A.D.	1.34	39.62	0.59
				D.B.	-----	40.16	0.60
32	92.5	93.0	0.50	A.R.	22.42	51.22	0.35
				A.D.	1.52	65.01	0.45
				D.B.	-----	66.01	0.46

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TO : CROWSNEST RESOURCES LTD.
ATTN.: STEVE CAMERON/BRIAN MCKINSTRY
PROJECT : TELKWA

FILE # : 33068
DATE : FEBRUARY 12, 1990
SAMPLE TYPE : RAW COAL

HOLE : DDH - 905

PAGE : 5

SAMPLE	INTERVAL		(M)	BASIS	% H2O	% ASH	% S
1	21.0	21.5	0.50	A.R.	14.88	60.42	2.82
				A.D.	1.59	69.85	3.26
				D.B.	-----	70.98	3.31
2	21.5	22.0	0.50	A.R.	9.20	42.82	3.51
				A.D.	0.55	46.90	3.84
				D.B.	-----	47.16	3.86
3	22.0	22.5	0.50	A.R.	11.49	17.29	1.13
				A.D.	0.37	19.46	1.27
				D.B.	-----	19.53	1.27
4	22.5	23.0	0.50	A.R.	11.32	49.16	0.90
				A.D.	0.40	55.21	1.01
				D.B.	-----	55.43	1.01
5	23.0	23.5	0.50	A.R.	11.00	68.54	0.52
				A.D.	0.77	76.42	0.58
				D.B.	-----	77.01	0.58
6	23.5	24.0	0.50	A.R.	9.64	57.38	0.57
				A.D.	0.61	63.11	0.63
				D.B.	-----	63.50	0.63
7	24.0	24.5	0.50	A.R.	10.42	62.72	4.46
				A.D.	0.70	69.53	4.94
				D.B.	-----	70.02	4.97
8	24.5	25.0	0.50	A.R.	7.38	28.88	2.81
				A.D.	0.60	31.00	3.02
				D.B.	-----	31.19	3.04

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TO : CROWSNEST RESOURCES LTD.
ATTN.: STEVE CAMERON/BRIAN MCKINSTRY
PROJECT : TELKWA

FILE # : 33068
DATE : FEBRUARY 12, 1990
SAMPLE TYPE : RAW COAL

HOLE : DDH - 905

SAMPLE	INTERVAL		(M)	BASIS	% H2O	% ASH	% S
9	25.0	25.5	0.50	A.R.	8.53	18.85	0.88
				A.D.	0.43	20.52	0.96
				D.B.	-----	20.61	0.96
10	25.5	26.0	0.50	A.R.	8.08	52.15	0.77
				A.D.	0.97	56.18	0.83
				D.B.	-----	56.73	0.84
11	26.0	26.6	0.60	A.R.	7.06	49.59	1.31
				A.D.	0.53	53.07	1.40
				D.B.	-----	53.35	1.41
12	26.6	27.0	0.40	A.R.	8.67	17.74	0.81
				A.D.	0.62	19.30	0.88
				D.B.	-----	19.42	0.89
13	27.0	27.5	0.50	A.R.	8.00	16.25	0.51
				A.D.	0.47	17.58	0.55
				D.B.	-----	17.66	0.55
14	28.0	28.5	0.50	A.R.	9.64	12.99	0.48
				A.D.	0.61	14.29	0.53
				D.B.	-----	14.38	0.53
15	28.5	29.0	0.50	A.R.	9.89	16.77	0.54
				A.D.	0.96	18.43	0.59
				D.B.	-----	18.61	0.60
16	29.0	29.5	0.50	A.R.	8.11	37.57	0.57
				A.D.	0.91	40.51	0.61
				D.B.	-----	40.88	0.62

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TO : CROWSNEST RESOURCES LTD.
ATTN.: STEVE CAMERON/BRIAN MCKINSTRY
PROJECT : TELKWA

FILE # : 33068
DATE : FEBRUARY 12, 1990
SAMPLE TYPE : RAW COAL

HOLE : DDH - 905

SAMPLE	INTERVAL		(M)	BASIS	% H2O	% ASH	% S
17	29.5	30.0	0.50	A.R.	25.56	58.11	1.16
				A.D.	0.78	77.46	1.55
				D.B.	-----	78.07	1.56
18	30.0	30.5	0.50	A.R.	9.89	70.77	1.17
				A.D.	0.85	77.87	1.29
				D.B.	-----	78.54	1.30
19	30.5	31.2	0.70	A.R.	6.65	44.82	2.24
				A.D.	0.47	47.79	2.39
				D.B.	-----	48.02	2.40
20	31.2	31.5	0.30	A.R.	6.00	47.33	1.19
				A.D.	0.54	50.08	1.26
				D.B.	-----	50.35	1.27
21	31.5	32.0	0.50	A.R.	7.62	71.68	1.58
				A.D.	0.87	76.91	1.70
				D.B.	-----	77.58	1.71
22	32.0	32.5	0.50	A.R.	12.71	58.68	1.20
				A.D.	0.97	66.57	1.36
				D.B.	-----	67.22	1.37
23	32.5	33.0	0.50	A.R.	9.14	61.90	1.47
				A.D.	1.19	67.32	1.60
				D.B.	-----	68.13	1.62
24	33.0	33.5	0.50	A.R.	58.19	0.63	1.39
				A.D.	50.25	0.75	1.66
				D.B.	-----	1.51	3.34

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ATTN.: STEVE CAMERON/BRIAN MCKINSTRY
PROJECT : TELKWA

FILE # : 33068
DATE : FEBRUARY 12, 1990
SAMPLE TYPE : RAW COAL

HOLE : DDH - 905

SAMPLE	INTERVAL		(M)	BASIS	% H2O	% ASH	% S
25	33.5	34.0	0.50	A.R.	10.15	42.12	1.66
				A.D.	0.99	46.42	1.83
				D.B.	-----	46.88	1.85
26	34.0	34.5	0.50	A.R.	25.96	24.74	0.81
				A.D.	0.80	33.15	1.09
				D.B.	-----	33.42	1.10
27	34.5	35.0	0.50	A.R.	10.13	30.62	0.80
				A.D.	0.85	33.78	0.88
				D.B.	-----	34.07	0.89
28	35.0	35.8	0.80	A.R.	9.70	63.29	0.76
				A.D.	1.66	68.93	0.83
				D.B.	-----	70.09	0.84
29	42.5	43.0	0.50	A.R.	17.98	11.90	0.87
				A.D.	0.56	14.43	1.06
				D.B.	-----	14.51	1.07
30	43.0	43.5	0.50	A.R.	10.64	65.86	0.72
				A.D.	1.65	72.49	0.79
				D.B.	-----	73.71	0.80
31	43.5	44.0	0.50	A.R.	14.02	51.88	0.96
				A.D.	0.89	59.80	1.11
				D.B.	-----	60.34	1.12
32	56.5	57.0	0.50	A.R.	14.67	32.30	0.67
				A.D.	0.79	37.55	0.78
				D.B.	-----	37.85	0.79

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TO : CROWSNEST RESOURCES LTD.
ATTN.: STEVE CAMERON/BRIAN MCKINSTRY
PROJECT : TELKWA

FILE # : 33068
DATE : FEBRUARY 12, 1990
SAMPLE TYPE : RAW COAL

HOLE : DDH - 905

SAMPLE	INTERVAL		(M)	BASIS	% H2O	% ASH	% S
33	57.0	57.5	0.50	A.R.	12.45	9.25	0.53
				A.D.	0.76	10.49	0.60
				D.B.	-----	10.57	0.60
34	57.5	58.0	0.50	A.R.	12.66	17.25	0.56
				A.D.	0.81	19.59	0.64
				D.B.	-----	19.75	0.65
35	58.0	58.8	0.80	A.R.	12.01	26.26	0.72
				A.D.	0.89	29.58	0.81
				D.B.	-----	29.85	0.82
36	58.8	59.5	0.70	A.R.	23.08	14.68	0.26
				A.D.	0.43	19.00	0.34
				D.B.	-----	19.08	0.34
37	59.5	60.0	0.50	A.R.	23.41	14.01	0.32
				A.D.	0.59	18.19	0.42
				D.B.	-----	18.30	0.42

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TO : CROWSNEST RESOURCES LTD.
ATTN.: STEVE CAMERON/BRIAN MCKINSTRY
PROJECT : TELKWA

FILE # : 33068
DATE : FEBRUARY 21, 1990
SAMPLE TYPE : RAW COAL

HOLE : DDH - 906

PAGE : 10

SAMPLE	INTERVAL		(M)	BASIS	% H2O	% ASH	% S
1	28.0	28.5	0.50	A.R.	23.38	69.07	1.00
				A.D.	0.91	89.33	1.29
				D.B.	-----	90.15	1.30
2	28.5	29.0	0.50	A.R.	14.45	78.23	0.76
				A.D.	1.18	90.36	0.88
				D.B.	-----	91.44	0.89
3	35.8	36.5	0.70	A.R.	18.27	57.55	1.28
				A.D.	1.19	69.58	1.55
				D.B.	-----	70.42	1.57
4	36.5	37.0	0.50	A.R.	6.57	46.20	2.17
				A.D.	1.75	48.59	2.28
				D.B.	-----	49.46	2.32
5	37.0	37.5	0.50	A.R.	9.07	69.91	1.57
				A.D.	1.79	75.51	1.70
				D.B.	-----	76.89	1.73
6	37.5	38.0	0.50	A.R.	9.66	58.69	4.13
				A.D.	0.87	64.40	4.53
				D.B.	-----	64.97	4.57
7	38.0	38.5	0.50	A.R.	9.18	42.63	1.36
				A.D.	0.99	46.47	1.48
				D.B.	-----	46.93	1.49
8	38.5	39.0	0.50	A.R.	8.43	69.46	2.06
				A.D.	1.09	75.03	2.23
				D.B.	-----	75.86	2.25

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TO : CROWSNEST RESOURCES LTD.
ATTN.: STEVE CAMERON/BRIAN MCKINSTRY
PROJECT : TELKWA

FILE # : 33068
DATE : FEBRUARY 21, 1990
SAMPLE TYPE : RAW COAL

HOLE : DDH - 906

SAMPLE	INTERVAL		(M)	BASIS	% H2O	% ASH	% S
9	39.0	39.5	0.50	A.R.	8.62	13.99	0.85
				A.D.	1.21	15.12	0.92
				D.B.	-----	15.31	0.93
10	39.5	40.4	0.90	A.R.	10.59	21.02	0.81
				A.D.	0.69	23.35	0.90
				D.B.	-----	23.51	0.91
11	40.4	41.0	0.60	A.R.	28.01	28.29	1.05
				A.D.	1.19	38.83	1.44
				D.B.	-----	39.30	1.46
12	41.0	41.5	0.50	A.R.	37.91	9.47	0.43
				A.D.	1.09	15.08	0.69
				D.B.	-----	15.25	0.70
13	41.5	42.0	0.50	A.R.	18.27	42.83	0.36
				A.D.	0.80	51.98	0.44
				D.B.	-----	52.40	0.44
14	42.0	42.5	0.50	A.R.	10.34	67.02	0.82
				A.D.	0.91	74.07	0.91
				D.B.	-----	74.75	0.92
15	42.5	43.0	0.50	A.R.	19.92	44.19	1.59
				A.D.	0.91	54.68	1.97
				D.B.	-----	55.18	1.99

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TO : CROWSNEST RESOURCES LTD.
ATTN.: STEVE CAMERON/BRIAN MCKINSTRY
PROJECT : TELKWA

FILE # : 33068
DATE : FEBRUARY 21, 1990
SAMPLE TYPE : RAW COAL

HOLE : DDH - 906

SAMPLE	INTERVAL		(M)	BASIS	% H2O	% ASH	% S
16	43.0	43.5	0.50	A.R.	9.34	36.39	1.14
				A.D.	0.96	39.75	1.25
				D.B.	-----	40.14	1.26
17	44.0	44.5	0.50	A.R.	20.85	66.03	1.03
				A.D.	1.17	82.44	1.29
				D.B.	-----	83.42	1.31
18	44.5	45.0	0.50	A.R.	11.03	61.97	1.36
				A.D.	1.66	68.49	1.50
				D.B.	-----	69.65	1.53
19	45.0	45.5	0.50	A.R.	17.54	63.36	1.09
				A.D.	1.95	75.34	1.30
				D.B.	-----	76.84	1.33
20	47.0	47.5	0.50	A.R.	24.02	19.83	0.72
				A.D.	1.17	25.80	0.94
				D.B.	-----	26.11	0.95
21	47.5	48.0	0.50	A.R.	8.96	10.29	0.41
				A.D.	1.23	11.16	0.44
				D.B.	-----	11.30	0.45
22	48.0	48.5	0.50	A.R.	11.42	47.98	0.26
				A.D.	1.90	53.14	0.29
				D.B.	-----	54.17	0.30

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ATTN.: STEVE CAMERON/BRIAN MCKINSTRY
PROJECT : TELKWA

FILE # : 33068
DATE : FEBRUARY 21, 1990
SAMPLE TYPE : RAW COAL

HOLE : DDH - 906

SAMPLE	INTERVAL		(M)	BASIS	% H2O	% ASH	% S
23	48.5	49.0	0.50	A.R.	8.70	73.48	0.82
				A.D.	1.05	79.64	0.89
				D.B.	-----	80.49	0.90
24	49.0	49.6	0.60	A.R.	6.03	64.48	0.42
				A.D.	1.90	67.32	0.44
				D.B.	-----	68.62	0.45
25	54.2	55.0	0.80	A.R.	19.61	55.94	0.98
				A.D.	0.97	68.92	1.21
				D.B.	-----	69.60	1.22
26	55.5	56.0	0.50	A.R.	23.58	41.37	1.71
				A.D.	2.35	52.87	2.19
				D.B.	-----	54.14	2.24
27	66.5	67.0	0.50	A.R.	22.59	6.99	0.36
				A.D.	0.78	8.96	0.46
				D.B.	-----	9.03	0.46
28	67.0	67.5	0.50	A.R.	21.45	24.62	0.25
				A.D.	0.72	31.12	0.32
				D.B.	-----	31.35	0.32
29	68.0	68.5	0.50	A.R.	26.01	8.85	0.28
				A.D.	3.28	11.57	0.36
				D.B.	-----	11.96	0.37
30	68.5	69.0	0.50	A.R.	21.28	46.89	0.14
				A.D.	0.66	59.17	0.18
				D.B.	-----	59.56	0.18

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TO : CROWSNEST RESOURCES LTD.
ATTN.: STEVE CAMERON/BRIAN MCKINSTRY
PROJECT : TELKWA

FILE # : 33068
DATE : FEBRUARY 21, 1990
SAMPLE TYPE : RAW COAL

HOLE : DDH - 906

PAGE : 14

SAMPLE	INTERVAL		(M)	BASIS	% H2O	% ASH	% S
A	0.0	0.0	0.00	A.R.	24.61	17.28	0.34
				A.D.	0.55	22.80	0.45
				D.B.	-----	22.93	0.45
B	0.0	0.0	0.00	A.R.	19.75	69.72	0.46
				A.D.	0.68	86.29	0.57
				D.B.	-----	86.88	0.57
C	0.0	0.0	0.00	A.R.	24.12	11.35	0.28
				A.D.	1.81	14.69	0.36
				D.B.	-----	14.96	0.37

THE SAMPLES WITH TAGS UNREADABLE (OR MISSING) ARE:

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TO : CROWSNEST RESOURCES LTD.
ATTN.: BRIAN MCKINSTRY
PROJECT : TELKWA

FILE # : 32985
DATE : DECEMBER 14, 1989
SAMPLE TYPE : CORE

HOLE : TW - 920

SAMPLE	INTERVAL		(M)	BASIS	% H2O	% ASH	% S	
232	41.28	41.36	0.08	A.R.	4.28	79.93	0.39	
				A.D.	0.76	82.87	0.40	2L (f)
				D.B.	-----	83.50	0.40	
233	21.61	21.79	0.18	A.R.	3.43	70.22	3.52	
				A.D.	0.71	72.20	3.62	5L (f)
				D.B.	-----	72.72	3.65	
HOLE : TW - 925								
234	97.30	97.38	0.08	A.R.	2.26	74.82	11.05	
				A.D.	0.59	76.10	11.24	10 (R)
				D.B.	-----	76.55	11.31	
235	97.38	97.96	0.58	A.R.	2.23	19.61	3.79	
				A.D.	0.38	19.98	3.86	10
				D.B.	-----	20.06	3.87	
236	97.96	98.04	0.08	A.R.	3.38	81.37	2.78	
				A.D.	0.83	83.52	2.85	10 (f)
				D.B.	-----	84.22	2.87	
237	101.85	101.93	0.08	A.R.	3.03	78.47	4.50	
				A.D.	0.74	80.33	4.61	8 (R)
				D.B.	-----	80.93	4.64	
238	101.93	102.23	0.30	A.R.	2.97	16.80	1.48	
				A.D.	0.59	17.21	1.52	8
				D.B.	-----	17.31	1.53	
239	102.23	103.35	1.12	A.R.	3.21	16.74	0.82	
				A.D.	0.58	17.19	0.84	8
				D.B.	-----	17.29	0.84	

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TO : CROWSNEST RESOURCES LTD.
ATTN.: BRIAN MCKINSTRY
PROJECT : TELKWA

FILE # : 32985
DATE : DECEMBER 14, 1989
SAMPLE TYPE : CORE

HOLE : TW - 925

PAGE : 14

SAMPLE	INTERVAL		(M)	BASIS	% H2O	% ASH	% S	
240	103.35	103.65	0.30	A.R.	3.03	11.78	0.49	
				A.D.	0.74	12.06	0.50	8
				D.B.	-----	12.15	0.50	
241	103.65	103.73	0.08	A.R.	5.46	82.34	0.09	
				A.D.	3.70	83.87	0.09	8 (f)
				D.B.	-----	87.09	0.09	
242	128.64	128.72	0.08	A.R.	2.38	77.52	2.61	
				A.D.	0.56	78.96	2.66	6 U (R)
				D.B.	-----	79.40	2.67	
243	128.72	129.02	0.30	A.R.	2.13	12.44	3.04	
				A.D.	0.33	12.67	3.10	6 U
				D.B.	-----	12.71	3.11	
244	129.02	129.94	0.92	A.R.	2.35	7.84	1.27	
				A.D.	0.33	8.00	1.30	6 U
				D.B.	-----	8.03	1.30	
245	129.94	130.24	0.30	A.R.	1.97	16.79	2.89	
				A.D.	0.43	17.05	2.94	6 U
				D.B.	-----	17.12	2.95	
246	130.24	130.32	0.08	A.R.	3.27	81.35	0.97	
				A.D.	0.83	83.40	0.99	6 U (f)
				D.B.	-----	84.10	1.00	
247	130.32	130.92	0.60	A.R.	2.89	85.59	1.49	
				A.D.	0.57	87.63	1.53	6 (s)
				D.B.	-----	88.13	1.54	

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TO : CROWSNEST RESOURCES LTD.
ATTN.: BRIAN MCKINSTRY
PROJECT : TELKWA

FILE # : 32985
DATE : DECEMBER 14, 1989
SAMPLE TYPE : CORE

HOLE : TW - 925

SAMPLE	INTERVAL		(M)	BASIS	% H2O	% ASH	% S	
248	130.92	131.00	0.08	A.R.	2.67	86.69	2.29	
				A.D.	0.64	88.50	2.34	6L (R)
				D.B.	-----	89.07	2.36	
249	131.00	131.44	0.44	A.R.	2.07	13.74	2.23	
				A.D.	0.27	13.99	2.27	6L
				D.B.	-----	14.03	2.28	
250	131.44	132.26	0.82	A.R.	2.62	7.57	1.09	
				A.D.	0.44	7.74	1.11	6L
				D.B.	-----	7.77	1.11	
251	132.26	132.60	0.34	A.R.	1.34	39.64	6.45	
				A.D.	0.22	40.09	6.52	6L
				D.B.	-----	40.18	6.53	
252	132.60	132.68	0.08	A.R.	1.89	66.39	0.26	
				A.D.	0.43	67.37	0.26	6L (F)
				D.B.	-----	67.66	0.26	
253	142.86	142.94	0.08	A.R.	2.06	71.49	4.34	
				A.D.	0.25	72.81	4.42	5 (R)
				D.B.	-----	72.99	4.43	
254	142.94	143.24	0.30	A.R.	3.34	10.03	2.67	
				A.D.	0.53	10.32	2.75	5
				D.B.	-----	10.37	2.76	

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TO : CROWSNEST RESOURCES LTD.
ATTN.: BRIAN MCKINSTRY
PROJECT : TELKWA

FILE # : 32985
DATE : DECEMBER 15, 1989
SAMPLE TYPE : CORE

HOLE : TW - 925

SAMPLE	INTERVAL		(M)	BASIS	% H2O	% ASH	% S	
255	143.24	144.58	1.34	A.R.	3.69	7.70	0.58	
				A.D.	0.51	7.95	0.60	5
				D.B.	-----	7.99	0.60	
256	144.58	145.91	1.33	A.R.	2.87	9.75	0.49	
				A.D.	0.38	10.00	0.50	5
				D.B.	-----	10.04	0.50	
257	145.91	146.21	0.30	A.R.	2.45	25.81	0.49	
				A.D.	0.62	26.29	0.50	5
				D.B.	-----	26.45	0.50	
258	146.21	146.51	0.30	A.R.	2.41	15.87	0.68	
				A.D.	0.42	16.19	0.69	5
				D.B.	-----	16.26	0.69	
259	146.51	146.59	0.08	A.R.	2.32	80.69	1.66	
				A.D.	0.44	82.24	1.69	5 (f)
				D.B.	-----	82.60	1.70	
260	147.30	147.38	0.08	A.R.	2.60	85.76	2.22	
				A.D.	0.47	87.64	2.27	4 (R)
				D.B.	-----	88.05	2.28	
261	147.38	147.60	0.22	A.R.	2.02	67.42	4.90	
				A.D.	0.37	68.56	4.98	4
				D.B.	-----	68.81	5.00	
262	147.60	147.90	0.30	A.R.	2.47	12.54	1.60	
				A.D.	0.30	12.82	1.64	4
				D.B.	-----	12.86	1.64	

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TO : CROWSNEST RESOURCES LTD.
ATTN.: BRIAN MCKINSTRY
PROJECT : TELKWA

FILE # : 32985
DATE : DECEMBER 18, 1989
SAMPLE TYPE : CORE

HOLE : TW - 925

SAMPLE	INTERVAL		(M)	BASIS	% H2O	% ASH	% S	
263	147.90	149.18	1.28	A.R.	3.37	9.13	0.76	
				A.D.	0.18	9.43	0.78	4
				D.B.	-----	9.45	0.78	
264	149.18	149.48	0.30	A.R.	2.07	18.91	0.52	
				A.D.	0.45	19.22	0.53	4
				D.B.	-----	19.31	0.53	
265	149.48	149.64	0.16	A.R.	2.41	77.82	0.06	
				A.D.	0.36	79.45	0.06	4
				D.B.	-----	79.74	0.06	
266	149.64	149.72	0.08	A.R.	1.66	56.52	0.35	
				A.D.	0.40	57.25	0.35	4 (f)
				D.B.	-----	57.48	0.35	
267	153.29	153.37	0.08	A.R.	2.91	82.99	5.77	
				A.D.	0.56	85.00	5.91	3u (R)
				D.B.	-----	85.48	5.94	
268	153.37	154.44	1.07	A.R.	2.33	14.40	2.01	
				A.D.	0.40	14.68	2.05	3u
				D.B.	-----	14.74	2.06	
269	154.44	154.52	0.08	A.R.	3.12	81.29	4.80	
				A.D.	0.79	83.25	4.92	3u (f)
				D.B.	-----	83.91	4.96	
270	154.52	154.79	0.27	A.R.	3.46	84.73	1.61	
				A.D.	0.87	87.00	1.65	3 (s)
				D.B.	-----	87.76	1.66	

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ATTN.: BRIAN MCKINSTRY
PROJECT : TELKWA

FILE # : 32985
DATE : DECEMBER 18, 1989
SAMPLE TYPE : CORE

HOLE : TW - 925

SAMPLE	INTERVAL		(M)	BASIS	% H2O	% ASH	% S	
271	154.79	154.87	0.08	A.R.	3.14	81.85	2.30	
				A.D.	0.81	83.82	2.36	3L (R)
				D.B.	-----	84.50	2.38	
272	154.87	155.91	0.96	A.R.	2.63	17.12	1.96	
				A.D.	0.66	17.47	2.00	3L
				D.B.	-----	17.59	2.01	
273	155.91	155.99	0.08	A.R.	3.64	87.37	0.19	
				A.D.	0.73	90.01	0.20	3L (f)
				D.B.	-----	90.67	0.20	
274	165.62	165.68	0.06	A.R.	2.45	60.54	3.54	
				A.D.	0.63	61.67	3.61	2 (R)
				D.B.	-----	62.06	3.63	
275	165.68	165.98	0.30	A.R.	2.06	18.31	3.40	
				A.D.	0.60	18.58	3.45	2
				D.B.	-----	18.69	3.47	
276	165.98	166.28	0.30	A.R.	2.08	27.11	4.15	
				A.D.	0.65	27.51	4.21	2
				D.B.	-----	27.69	4.24	
277	166.28	167.64	1.36	A.R.	2.82	19.73	0.57	
				A.D.	0.78	20.14	0.58	2
				D.B.	-----	20.30	0.58	

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TO : CROWSNEST RESOURCES LTD.
ATTN.: BRIAN MCKINSTRY
PROJECT : TELKWA

FILE # : 32985
DATE : DECEMBER 18, 1989
SAMPLE TYPE : CORE

HOLE : TW - 925

PAGE : 19

SAMPLE	INTERVAL		(M)	BASIS	% H2O	% ASH	% S	
278	167.64	169.00	1.36	A.R.	3.24	9.20	0.45	
				A.D.	0.58	9.45	0.46	2
				D.B.	-----	9.51	0.46	
279	169.00	169.30	0.30	A.R.	4.07	14.13	0.41	
				A.D.	0.79	14.61	0.42	2
				D.B.	-----	14.73	0.42	
280	169.30	169.38	0.08	A.R.	3.51	88.41	0.11	
				A.D.	0.84	90.86	0.11	2 (f)
				D.B.	-----	91.63	0.11	
HOLE : TW - 924								
281	11.94	12.20	0.26	A.R.	4.99	19.01	3.98	
				A.D.	0.80	19.85	4.16	6U
				D.B.	-----	20.01	4.19	
282	13.06	13.14	0.08	A.R.	4.17	16.95	7.25	
				A.D.	0.87	17.53	7.50	6L (R)
				D.B.	-----	17.68	7.57	
283	13.14	13.44	0.30	A.R.	4 ~~[illegible]~~.65	0.83 22.72	5.63	
				A.D.	~~83.00~~	23.63	5.86	6L
				D.B.	-----	~~139.00~~ 23.83	~~31.47~~ 5.91	
284	13.44	14.25	0.81	A.R.	5.10	20.97	1.08	
				A.D.	0.73	21.94	1.13	6L
				D.B.	-----	22.10	1.14	
285	14.25	15.04	0.79	A.R.	5.80	14.46	1.20	
				A.D.	0.99	15.20	1.26	6L
				D.B.	-----	15.35	1.27	

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TO : CROWSNEST RESOURCES LTD.
ATTN.: BRIAN MCKINSTRY
PROJECT : TELKWA

FILE # : 32985
DATE : DECEMBER 18, 1989
SAMPLE TYPE : CORE

HOLE : TW - ~~925~~ 924

PAGE : 20

SAMPLE	INTERVAL		(M)	BASIS	% H2O	% ASH	% S	
286	15.04	15.34	0.30	A.R.	4.22	27.62	0.53	
				A.D.	0.76	28.62	0.55	6L
				D.B.	-----	28.84	0.55	
287	18.60	18.94	0.34	A.R.	4.29	25.38	3.12	
				A.D.	0.74	26.32	3.24	5 ??
				D.B.	-----	26.52	3.26	
288	35.49	35.57	0.08	A.R.	4.04	82.07	2.05	
				A.D.	0.80	84.84	2.12	4 (R)
				D.B.	-----	85.52	2.14	
289	35.57	35.87	0.30	A.R.	4.47	9.28	4.64	
				A.D.	0.70	9.65	4.82	4
				D.B.	-----	9.72	4.85	
290	35.87	36.95	1.08	A.R.	4.69	9.24	1.44	
				A.D.	0.90	9.61	1.50	4
				D.B.	-----	9.70	1.51	
291	36.95	37.25	0.30	A.R.	3.07	35.16	0.88	
				A.D.	0.89	35.95	0.90	4
				D.B.	-----	36.27	0.91	
292	37.25	37.33	0.08	A.R.	3.92	83.61	0.26	
				A.D.	0.60	86.50	0.27	4 (f)
				D.B.	-----	87.02	0.27	
293	39.72	39.80	0.08	A.R.	3.72	76.13	1.42	
				A.D.	0.52	78.66	1.47	2 (R)
				D.B.	-----	79.07	1.48	

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TO : CROWSNEST RESOURCES LTD.
ATTN.: BRIAN MCKINSTRY
PROJECT : TELKWA

FILE # : 32985
DATE : DECEMBER 18, 1989
SAMPLE TYPE : CORE

HOLE : TW - 924

PAGE : 21

SAMPLE	INTERVAL		(M)	BASIS	% H2O	% ASH	% S	
294	39.80	39.92	0.12	A.R.	2.23	41.20	4.79	
				A.D.	0.53	41.91	4.87	2
				D.B.	-----	42.13	4.90	
295	39.92	40.17	0.25	A.R.	3.74	40.19	0.71	
				A.D.	0.89	41.38	0.73	2
				D.B.	-----	41.75	0.74	
296	40.17	40.47	0.30	A.R.	3.44	21.21	3.26	
				A.D.	0.76	21.80	3.35	2
				D.B.	-----	21.97	3.38	
297	40.47	41.78	1.31	A.R.	3.81	20.28	0.79	
				A.D.	0.80	20.92	0.81	2
				D.B.	-----	21.09	0.82	
298	41.78	43.06	1.28	A.R.	4.54	19.91	1.02	
				A.D.	0.89	20.67	1.06	2
				D.B.	-----	20.86	1.07	
299	43.06	43.36	0.30	A.R.	3.65	20.41	0.49	
				A.D.	0.79	21.02	0.50	2
				D.B.	-----	21.19	0.50	
300	43.36	43.44	0.08	A.R.	6.03	73.41	0.20	
				A.D.	0.33	77.86	0.21	2 (f)
				D.B.	-----	78.12	0.21	

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TO : CROWSNEST RESOURCES LTD.
ATTN.: BRIAN MCKINSTRY
PROJECT : TELKWA

FILE # : 32985
DATE : DECEMBER 18, 1989
SAMPLE TYPE : CORE

HOLE : TW - 924

SAMPLE	INTERVAL		(M)	BASIS	% H2O	% ASH	% S	
301	44.09	44.17	0.08	A.R.	5.81	78.14	5.60	
				A.D.	0.55	82.51	5.91	2L (R)
				D.B.	-----	82.97	5.94	
302	44.17	45.32	1.15	A.R.	3.77	19.29	0.94	
				A.D.	0.88	19.87	0.97	2L
				D.B.	-----	20.05	0.98	
303	45.32	45.40	0.08	A.R.	6.29	84.13	0.46	
				A.D.	0.59	89.25	0.49	2L (f)
				D.B.	-----	89.78	0.49	
HOLE : TW - 921								
304	28.38	28.46	0.08	A.R.	3.44	85.58	4.37	
				A.D.	0.88	87.85	4.49	11 (R)
				D.B.	-----	88.63	4.53	
305	27.46	28.53	1.07	A.R.	2.69	16.77	2.63	
				A.D.	0.56	17.14	2.69	11
				D.B.	-----	17.24	2.71	
306	28.53	28.61	0.08	A.R.	3.38	80.51	1.94	
				A.D.	0.73	82.72	1.99	11 (f)
				D.B.	-----	83.33	2.00	
307	34.11	34.19	0.08	A.R.	3.37	84.84	1.04	
				A.D.	0.80	87.10	1.07	10 (R)
				D.B.	-----	87.80	1.08	
308	34.~~11~~ 19	35.14	1.03	A.R.	2.24	15.45	3.00	
				A.D.	0.47	15.73	3.05	10
				D.B.	-----	15.80	3.06	

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TO : CROWSNEST RESOURCES LTD.
ATTN.: BRIAN MCKINSTRY
PROJECT : TELKWA

FILE # : 32985
DATE : DECEMBER 18, 1989
SAMPLE TYPE : CORE

HOLE : TW - 921

SAMPLE	INTERVAL		(M)	BASIS	% H2O	% ASH	% S	
309	35.14	35.22	0.08	A.R.	3.73	82.06	0.54	
				A.D.	1.10	84.30	0.55	10 (f)
				D.B.	-----	85.24	0.56	
310	36.50	36.55	0.05	A.R.	3.27	85.18	2.35	
				A.D.	0.75	87.40	2.41	9 (k)
				D.B.	-----	88.06	2.43	
311	36.55	36.98	0.43	A.R.	2.13	23.32	7.64	
				A.D.	0.51	23.71	7.77	9
				D.B.	-----	23.83	7.81	
312	36.98	37.28	0.30	A.R.	3.21	80.22	4.33	
				A.D.	0.78	82.24	4.44	(5)
				D.B.	-----	82.89	4.47	
313	37.28	37.58	0.30	A.R.	2.69	25.59	8.07	
				A.D.	0.50	26.17	8.25	8
				D.B.	-----	26.30	8.29	
314	37.58	38.69	1.11	A.R.	3.67	15.30	1.10	
				A.D.	0.95	15.73	1.13	8
				D.B.	-----	15.88	1.14	
315	38.69	38.99	0.30	A.R.	3.49	25.97	0.52	
				A.D.	0.53	26.77	0.54	8
				D.B.	-----	26.91	0.54	
316	38.99	39.07	0.08	A.R.	2.83	88.93	0.05	
				A.D.	0.87	90.72	0.05	8 (f)
				D.B.	-----	91.52	0.05	

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ATTN.: BRIAN MCKINSTRY
PROJECT : TELKWA

FILE # : 32985
DATE : DECEMBER 18, 1989
SAMPLE TYPE : CORE

HOLE : TW - ~~924~~ 921

SAMPLE	INTERVAL		(M)	BASIS	% H2O	% ASH	% S	
317A	63.17	63.25	0.08	A.R.	2.69	79.67	4.02	
				A.D.	0.52	81.44	4.11	6U (R)
				D.B.	-----	81.87	4.13	
317	63.25	63.35	0.10	A.R.	2.21	22.46	3.41	
				A.D.	0.19	22.92	3.48	6U
				D.B.	-----	22.96	3.49	
318	63.35 ~~63.98~~	64.68 ~~64.00~~	~~0.05~~ 1.33	A.R.	2.58	22.97	2.41	
				A.D.	0.25	23.52	2.47	6U
				D.B.	-----	23.58	2.48	
319	64.68	64.76	0.08	A.R.	3.35	82.61	1.48	
				A.D.	0.79	84.79	1.52	6U (f)
				D.B.	-----	85.47	1.53	
320	65.86	65.94	0.08	A.R.	2.43	74.82	10.47	
				A.D.	0.54	76.27	10.67	6L (R)
				D.B.	-----	76.68	10.73	
321	65.94	66.24	0.30	A.R.	2.20	6.24	1.55	
				A.D.	0.18	6.37	1.58	6L
				D.B.	-----	6.38	1.58	
322	66.24	67.23	0.99	A.R.	2.92	22.97	2.71	
				A.D.	0.77	23.48	2.77	6L
				D.B.	-----	23.66	2.79	

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ATTN.: BRIAN MCKINSTRY
PROJECT : TELKWA

FILE # : 32985
DATE : DECEMBER 18, 1989
SAMPLE TYPE : CORE

HOLE : TW - 921

SAMPLE	INTERVAL		(M)	BASIS	% H2O	% ASH	% S	
323	67.23	67.53	0.30	A.R.	2.26	61.33	2.63	6L
				A.D.	0.85	62.21	2.67	
				D.B.	-----	62.74	2.69	
324	67.53	67.96	0.43	A.R.	3.03	70.80	1.33	6L
				A.D.	1.03	72.26	1.36	
				D.B.	-----	73.01	1.37	
325	67.96	68.04	0.08	A.R.	3.41	84.55	1.15	6L (F)
				A.D.	0.90	86.75	1.18	
				D.B.	-----	87.54	1.19	
326	71.91	71.99	0.08	A.R.	2.96	83.80	0.96	5ex (R)
				A.D.	0.79	85.68	0.98	
				D.B.	-----	86.36	0.99	
327	71.99	72.24	0.25	A.R.	2.16	49.31	1.53	5ex
				A.D.	0.67	50.06	1.55	
				D.B.	-----	50.40	1.56	
328	72.24	72.54	0.30	A.R.	3.17	74.55	0.52	5ex (S)
				A.D.	0.88	76.31	0.53	
				D.B.	-----	76.99	0.53	
329	72.54	73.58	1.04	A.R.	3.70	15.25	0.65	5ex
				A.D.	0.83	15.70	0.67	
				D.B.	-----	15.83	0.68	
330	73.58	73.81	0.23	A.R.	2.60	66.77	0.19	5ex
				A.D.	0.49	68.22	0.19	
				D.B.	-----	68.56	0.19	

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ATTN.: BRIAN MCKINSTRY
PROJECT : TELKWA

FILE # : 32985
DATE : DECEMBER 18, 1989
SAMPLE TYPE : CORE

HOLE : TW - 921

SAMPLE	INTERVAL		(M)	BASIS	% H2O	% ASH	% S	
331	73.81	74.12	0.31	A.R.	1.81	78.99	0.05	
				A.D.	0.46	80.07	0.05	5ex (s)
				D.B.	-----	80.44	0.05	
332	74.12	74.41	0.29	A.R.	2.56	60.97	0.18	
				A.D.	0.60	62.20	0.18	5ex
				D.B.	-----	62.58	0.18	
333	78.77	78.85	0.08	A.R.	2.67	81.41	3.03	
				A.D.	0.54	83.19	3.10	5U (R)
				D.B.	-----	83.64	3.12	
334	78.85	80.16	1.31	A.R.	2.98	23.18	2.55	
				A.D.	0.51	23.77	2.61	5U
				D.B.	-----	23.89	2.62	
335	80.16	80.24	0.08	A.R.	2.54	81.68	0.18	
				A.D.	0.74	83.19	0.18	5U (f)
				D.B.	-----	83.81	0.18	
336	80.88	80.96	0.08	A.R.	2.58	77.89	3.47	
				A.D.	0.67	79.41	3.54	5L (R)
				D.B.	-----	79.95	3.56	
337	80.96	81.60	0.64	A.R.	2.62	30.77	2.16	
				A.D.	0.63	31.40	2.20	5L
				D.B.	-----	31.60	2.21	
338	81.60	81.68	0.08	A.R.	4.86	79.79	0.82	
				A.D.	0.88	83.13	0.85	5L (f)
				D.B.	-----	83.87	0.86	

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TO : CROWSNEST RESOURCES LTD.
ATTN.: BRIAN MCKINSTRY
PROJECT : TELKWA

FILE # : 32985
DATE : DECEMBER 18, 1989
SAMPLE TYPE : CORE

HOLE : TW - 921

SAMPLE	INTERVAL		(M)	BASIS	% H2O	% ASH	% S	
339	82.52	82.60	0.08	A.R.	2.19	41.98	3.79	
				A.D.	0.74	42.60	3.85	4 (R)
				D.B.	-----	42.92	3.88	
340	82.60	82.90	0.30	A.R.	2.39	23.09	3.46	
				A.D.	0.62	23.51	3.52	4
				D.B.	-----	23.66	3.54	
341	82.90	83.88	0.98	A.R.	3.83	7.65	0.80	
				A.D.	0.90	7.88	0.82	4
				D.B.	-----	7.95	0.83	
342	83.88	83.95	0.07	A.R.	1.29	49.92	1.46	
				A.D.	0.28	50.43	1.47	4 (S)
				D.B.	-----	50.57	1.47	
343	83.95	84.44	0.49	A.R.	3.01	14.92	0.84	
				A.D.	0.76	15.27	0.86	4
				D.B.	-----	15.39	0.87	
344	84.44	84.65	0.21	A.R.	2.20	80.47	0.03	
				A.D.	0.86	81.57	0.03	4 (S)
				D.B.	-----	82.28	0.03	
345	84.65	84.90	0.25	A.R.	2.11	50.82	3.24	
				A.D.	0.83	51.48	3.28	4
				D.B.	-----	51.91	3.31	

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TO : CROWSNEST RESOURCES LTD.
ATTN.: BRIAN MCKINSTRY
PROJECT : TELKWA

FILE # : 32985
DATE : DECEMBER 19, 1989
SAMPLE TYPE : CORE

HOLE : TW - 921

SAMPLE	INTERVAL		(M)	BASIS	% H20	% ASH	% S	
346	84.90	84.98	0.08	A.R.	2.51	81.30	2.15	4 (f)
				A.D.	1.10	82.47	2.18	
				D.B.	-----	83.39	2.20	
347	85.76	85.84	0.08	A.R.	3.03	76.16	2.51	3U (R)
				A.D.	1.03	77.73	2.56	
				D.B.	-----	78.54	2.59	
348	85.84	86.82	0.98	A.R.	3.23	17.11	0.81	3U
				A.D.	0.71	17.56	0.83	
				D.B.	-----	17.69	0.84	
349	86.82	86.90	0.08	A.R.	2.92	65.40	6.07	3U (f)
				A.D.	0.75	66.86	6.21	
				D.B.	-----	67.37	6.26	
350	86.90	87.15	0.25	A.R.	2.48	86.37	1.19	3 (s)
				A.D.	1.00	87.68	1.21	
				D.B.	-----	88.57	1.22	
351	87.15	87.23	0.08	A.R.	2.90	74.95	6.22	3L (R)
				A.D.	0.60	76.72	6.37	
				D.B.	-----	77.18	6.41	
352	87.23	88.24	1.01	A.R.	3.63	17.43	0.98	3L
				A.D.	0.76	17.95	1.01	
				D.B.	-----	18.09	1.02	
353	88.24	88.32	0.08	A.R.	3.05	85.66	0.14	3L (f)
				A.D.	0.95	87.52	0.14	
				D.B.	-----	88.36	0.14	

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PROJECT : TELKWA

FILE # : 32985
DATE : DECEMBER 19, 1989
SAMPLE TYPE : CORE

HOLE : TW - 921

SAMPLE	INTERVAL		(M)	BASIS	% H2O	% ASH	% S	
354	95.72	95.81	0.09	A.R.	2.14	50.90	0.97	
				A.D.	0.80	51.60	0.98	2 (R)
				D.B.	-----	52.02	0.99	
355	95.81	96.14	0.33	A.R.	3.08	80.99	4.48	
				A.D.	1.13	82.62	4.57	2 (S)
				D.B.	-----	83.56	4.62	
356	96.14	96.44	0.30	A.R.	2.95	33.01	4.87	
				A.D.	0.82	33.73	4.98	2
				D.B.	-----	34.01	5.02	
357	96.44	97.45	1.01	A.R.	3.32	18.82	1.14	
				A.D.	0.86	19.30	1.17	2
				D.B.	-----	19.47	1.18	
358	97.45	98.46	1.01	A.R.	2.63	17.81	0.54	
				A.D.	0.84	18.14	0.55	2
				D.B.	-----	18.29	0.55	
359	98.46	98.76	0.30	A.R.	2.68	18.22	0.45	
				A.D.	0.78	18.58	0.46	2
				D.B.	-----	18.73	0.46	

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ATTN.: BRIAN MCKINSTRY
PROJECT : TELKWA

FILE # : 32985
DATE : DECEMBER 19, 1989
SAMPLE TYPE : CORE

HOLE : TW - 921

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SAMPLE	INTERVAL		(M)	BASIS	% H2O	% ASH	% S	
360	98.76	98.96	0.20	A.R.	2.97	78.98	0.51	
				A.D.	0.99	80.59	0.52	2 (G)
				D.B.	-----	81.40	0.53	
361	98.96	99.49	0.53	A.R.	4.75	18.24	0.49	
				A.D.	0.77	19.00	0.51	2 L
				D.B.	-----	19.15	0.51	
362	99.49	99.57	0.08	A.R.	3.47	80.70	0.22	
				A.D.	1.04	82.73	0.23	2 L (f)
				D.B.	-----	83.60	0.23	

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TO : CROWSNEST RESOURCES LTD.
ATTN.: STEVE CAMERON/BRIAN McKINSTRY
PROJECT : TELKWA

FILE # 33059
DATE : FEBRUARY 9, 1990
REPORTED BY : ARNO HOOGVELD

PAGE : 4 B

HOLE	SEAM	SAMPLE	%SiO2	%Al2O3	%Fe2O3	%MgO	%CaO	%Na2O	%K2O	%TiO2	%P2O5	%SO3	%Undet.
923	6U	118	48.15	11.57	23.28	1.98	8.17	0.26	0.32	1.20	0.08	4.21	0.78
923	6L	124-127	55.78	30.76	5.54	0.38	2.65	0.28	0.42	1.79	0.91	1.16	0.33
923	4	133-137	56.95	28.01	10.68	0.45	0.24	0.27	0.27	1.54	0.19	0.37	1.03
924	6L	283-286	56.86	32.29	4.27	0.37	1.78	0.17	0.35	1.71	0.88	0.37	0.95
924	4	289-291	66.77	22.51	4.89	0.27	1.94	0.23	0.18	1.43	0.88	0.67	0.23
924	2	294-299	68.07	21.13	1.91	0.27	3.90	0.18	0.35	1.13	1.84	0.94	0.28
924	2L	302	70.95	13.46	4.31	1.13	5.14	0.27	0.27	0.86	0.03	3.33	0.25

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TO : CROWSNEST RESOURCES LTD.
ATTN.: STEVE CAMERON/BRIAN McKINSTRY
PROJECT : TELKWA

FILE # 33059
DATE : FEBRUARY 9, 1990
REPORTED BY : ARNO HOOGVELD

PAGE : 1 B

HOLE	SEAM	SAMPLE	%SiO2	%Al2O3	%Fe2O3	%MgO	%CaO	%Na2O	%K2O	%TiO2	%P2O5	%SO3	%Undet.
907	6M	140	59.92	22.98	10.59	0.57	1.84	0.25	0.35	0.92	0.28	1.32	0.98
907	6L	143-147	52.72	28.70	3.99	0.81	6.37	0.16	0.12	1.44	3.25	1.78	0.66
907	5	152-154	66.73	18.08	1.64	0.85	6.46	0.21	0.18	1.06	1.56	2.90	0.33
907	3U/3L	155-158	62.17	19.60	2.45	0.80	7.22	0.18	0.14	1.30	2.47	2.91	0.76
907	2	167-173	61.95	24.05	2.08	0.67	5.32	0.22	0.29	1.32	0.62	2.94	0.54
928	6U	50-52	60.68	27.52	4.74	0.54	2.31	0.17	0.21	1.45	0.29	1.10	0.99
928	6U	56-58	56.42	19.53	11.63	1.44	5.41	0.19	0.26	0.93	1.28	2.37	0.54
928	6M	62	56.87	21.84	13.82	1.10	2.43	0.24	0.27	0.79	0.16	1.79	0.69
928	6L	66-69	51.09	25.28	6.16	0.99	8.55	0.25	0.20	1.10	4.41	1.27	0.70
928	6L	72	57.65	29.58	5.78	0.66	1.91	0.32	0.35	1.56	0.05	1.34	0.80
928	5	75-78	63.48	17.82	2.31	1.49	9.74	0.20	0.19	0.79	2.05	1.51	0.42
928	3U	81-87	64.31	18.12	7.55	0.67	3.67	0.24	0.35	1.26	1.53	1.45	0.85
928	3L	91-93	62.55	20.39	7.39	1.13	4.69	0.21	0.12	0.91	0.90	1.22	0.49
	2	98-102	58.88	22.72	3.47	0.77	7.90	0.20	0.33	1.16	1.22	3.17	0.18
928	2R	95	65.57	18.02	7.73	1.13	2.41	0.36	0.46	1.11	0.03	2.19	0.99

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TO : CROWSNEST RESOURCES LTD.
ATTN.: STEVE CAMERON/BRIAN McKINSTRY
PROJECT : TELKWA

FILE # 33059
DATE : FEBRUARY 7, 1990
REPORTED BY : ARNO HOOGVELD

PAGE : 2 B

HOLE	SEAM	SAMPLE	%SiO2	%Al2O3	%Fe2O3	%MgO	%CaO	%Na2O	%K2O	%TiO2	%P2O5	%SO3	%Undet.
929	6L	16-22	55.15	29.85	3.12	0.80	4.98	0.20	0.26	1.63	1.99	1.40	0.62
929	5	25-28	55.98	19.63	3.41	1.19	12.07	0.16	0.15	0.92	1.62	4.33	0.54
929	3U/3L	32-36	62.59	20.56	5.55	0.87	5.29	0.12	0.20	1.17	1.59	1.63	0.43
929	2	39-41	65.56	21.48	3.70	0.89	3.44	0.26	0.39	0.89	1.17	1.19	1.03
929	2	45-48	58.19	22.29	2.85	0.87	9.37	0.28	0.24	1.40	1.18	3.18	0.15
931	6M	176-181	65.22	19.46	1.29	0.76	6.66	0.23	0.05	1.16	2.69	2.46	0.02
931	6L	183-186	56.78	18.19	4.63	0.88	10.26	0.21	0.10	1.12	3.90	3.20	0.73
931	5	189-191	64.92	16.67	6.80	0.71	4.76	0.16	0.11	1.17	1.42	2.67	0.61
931	3U	194-196	64.42	15.75	5.82	1.25	6.57	0.16	0.07	0.98	1.43	3.13	0.42
931	2	202-205	58.52	22.49	2.33	0.77	9.38	0.18	0.21	1.57	0.80	3.47	0.28
920	5U	207-208	60.80	28.66	2.89	0.92	1.88	0.21	0.40	1.67	0.12	1.80	0.65
920	5L	211/233	60.07	30.60	3.30	0.68	1.31	0.14	0.40	1.47	0.05	1.20	0.78
920	4	212-216	58.90	9.44	3.90	4.09	16.83	0.09	0.05	0.58	1.23	4.16	0.73
920	2	224-228	63.53	19.77	2.78	0.71	6.61	0.15	0.25	1.04	2.24	2.16	0.76
928	3U	218	63.53	12.60	7.96	1.60	7.67	0.19	0.19	0.89	2.32	2.49	0.56

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TO : CROWSNEST RESOURCES LTD.
ATTN.: STEVE CAMERON/BRIAN McKINSTRY
PROJECT : TELKWA

FILE # 33059
DATE : FEBRUARY 9, 1990
REPORTED BY : ARNO HOOGVELD

PAGE : 3 B

HOLE	SEAM	SAMPLE	%SiO2	%Al2O3	%Fe2O3	%MgO	%CaO	%Na2O	%K2O	%TiO2	%P2O5	%SO3	%Undet.
921	5U	327-330	65.94	22.60	2.41	1.26	2.87	0.15	0.30	1.18	0.19	2.29	0.81
921	5U	334	60.36	26.20	4.79	0.65	2.76	0.35	0.35	1.39	1.18	1.20	0.77
921	5L	337	58.58	29.92	4.52	0.77	1.32	0.46	0.52	1.45	0.06	1.53	0.87
921	4	340-345	66.92	14.41	5.45	1.19	5.42	0.16	0.10	0.90	1.49	3.25	0.71
921	3U	348	62.92	13.85	6.52	1.77	7.05	0.37	0.19	0.95	1.73	3.89	0.76
921	3L	352	67.15	15.08	4.36	1.40	5.55	0.55	0.30	0.93	0.78	3.23	0.67
921	2	356-361	60.47	20.53	4.01	1.18	7.63	0.23	0.27	1.15	0.60	3.18	0.75
921	11	305	56.32	23.11	13.98	0.48	1.67	0.27	0.34	0.97	0.15	1.89	0.82
921	10	308	46.83	18.69	19.20	0.40	7.16	0.31	0.29	0.80	4.23	1.42	0.67
921	9	311	47.81	16.24	31.93	0.22	0.30	0.34	0.41	1.46	0.08	0.30	0.91
921	8	313-315	52.12	28.64	11.13	0.53	2.54	0.31	0.35	1.64	0.29	1.85	0.60
921	6U	318	50.82	19.88	14.67	1.50	6.73	0.33	0.27	0.79	0.16	4.14	0.71
921	6L	321-324	60.50	23.82	7.22	1.10	2.46	0.21	0.17	1.35	0.23	2.19	0.75

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TO : CROWSNEST RESOURCES LTD.
ATTN.: STEVE CAMERON/BRIAN McKINSTRY
PROJECT : TELKWA

FILE # : 33059
DATE : FEBRUARY 15, 1990
REPORTED BY: ARNO HOOGVELD

			ULTIMATE ANALYSIS						
HOLE	SEAM	SAMPLE	%H2O	%C	%H	%N	%ASH	%S	%O
907	6M	140	1.65	77.79	4.56	1.07	7.21	1.38	6.24
907	6L	143-147	1.88	78.95	4.58	1.20	5.78	0.54	7.07
907	5	152-154	1.42	78.45	4.58	1.19	7.26	0.60	6.50
907	3U/3L	155-158	1.87	75.76	4.22	0.94	8.78	0.76	7.67
907	2	167-173	1.25	73.31	4.27	0.99	11.36	1.05	7.77
928	6U	50-52	1.19	76.86	4.68	1.19	7.62	1.26	7.20
928	6U	56-58	1.74	79.36	4.43	0.96	7.39	1.48	4.64
928	6M	62	2.15	75.06	4.39	1.00	9.23	1.65	6.52
928	6L	66-69	1.55	78.11	4.48	1.30	5.85	0.47	8.24
928	6L	72	1.70	70.03	4.13	0.87	14.73	0.97	7.57
928	5	75-78	1.65	76.35	4.50	1.21	7.15	0.58	8.56
928	3U	81-87	1.51	75.03	3.99	0.99	9.94	1.18	7.36
928	3L	91-93	1.51	74.92	4.19	0.99	9.01	1.11	8.27
928	2	98-102	2.30	75.03	3.99	1.02	10.85	0.64	6.17
928	2R	95	1.14	65.02	3.98	0.83	20.70	1.83	6.50

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TO : CROWSNEST RESOURCES LTD.
ATTN.: STEVE CAMERON/BRIAN McKINSTRY
PROJECT : TELKWA

FILE # : 33059
DATE : FEBRUARY 15, 1990
REPORTED BY: ARNO HOOGVELD

			ULTIMATE ANALYSIS						
HOLE	SEAM	SAMPLE	%H2O	%C	%H	%N	%ASH	%S	%O
929	6L	16-22	2.85	76.10	4.32	1.12	7.83	0.67	7.11
929	5	25-28	1.76	75.14	4.49	1.20	7.92	0.82	8.67
929	3U/3L	32-36	1.69	73.37	4.11	0.95	10.60	1.09	8.19
929	2	39-41	1.46	72.79	4.28	1.04	13.78	0.89	5.76
929	2	45-48	1.81	72.94	3.92	1.12	10.35	0.56	9.30
931	6M	176-181	1.10	78.67	4.64	1.23	7.28	0.70	6.38
931	6L	183-186	1.16	78.59	4.10	1.23	6.52	0.53	7.87
931	5	189-191	1.83	76.08	4.06	0.99	8.31	0.50	8.23
931	3U	194-196	1.13	75.82	4.16	1.01	9.78	1.01	7.09
931	2	202-205	1.28	74.74	4.38	0.88	11.10	0.99	6.63
920	5U	207-208	0.57	66.83	4.10	0.99	19.33	0.94	7.24
920	5L	211/233	0.67	67.81	3.90	0.90	18.82	1.19	6.71
920	4	212-216	1.03	70.54	3.81	1.10	14.93	0.63	7.96
920	2	224-228	1.61	74.74	4.88	1.06	10.35	0.88	6.48
920	3U	218	3.31	74.72	3.95	1.07	9.63	1.31	6.01
920	3L	221	4.46	71.77	3.51	0.90	12.09	1.05	[illegible]

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PROJECT : TELKWA

FILE # : 33059
DATE : FEBRUARY 15, 1990
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			ULTIMATE ANALYSIS						
HOLE	SEAM	SAMPLE	%H2O	%C	%H	%N	%ASH	%S	%O
921	5U	327-330	2.22	72.98	3.85	0.96	13.33	0.67	5.99
921	5U	334	2.48	73.35	4.18	1.10	11.70	1.09	6.10
921	5L	337	1.42	67.23	4.08	0.94	18.71	1.31	6.31
921	4	340-345	2.22	74.84	4.22	1.11	10.12	0.97	6.52
921	3U	348	2.67	74.23	4.09	0.96	10.37	1.20	6.48
921	3L	352	3.30	72.89	3.68	0.90	12.54	0.90	5.79
921	2	356-361	1.09	72.63	4.00	0.96	12.59	0.88	7.85
921	11	305	2.20	73.33	3.90	1.10	11.87	2.10	5.50
921	10	308	4.03	76.22	3.63	0.99	10.40	2.34	2.39
921	9	311	1.17	71.73	3.48	1.06	14.45	4.84	3.27
921	8	313-315	2.77	73.64	3.56	0.93	11.40	1.61	6.09
921	6U	318	2.37	76.71	4.72	1.15	7.35	1.69	6.01
921	6L	321-324	2.09	76.11	4.00	1.07	9.30	1.34	6.09

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TO : CROWSNEST RESOURCES LTD.
ATTN.: STEVE CAMERON/BRIAN McKINSTRY
PROJECT : TELKWA

FILE # 33059
DATE : FEBRUARY 15, 1990
REPORTED BY: ARNO HOOGFLED

PAGE : 4 D

HOLE	SEAM	SAMPLE	ULTIMATE ANALYSIS %H2O	%C	%H	%N	%ASH	%S	%O
923	6U	118	1.15	71.96	4.28	0.93	13.06	3.06	5.56
923	6L	124-127	1.52	81.98	3.93	0.96	9.48	1.04	1.09
923	4	133-137	1.13	76.23	4.60	1.05	7.84	1.48	7.67
924	6L	283-286	2.75	73.63	3.96	1.00	10.91	0.95	6.80
924	4	289-291	2.56	76.65	4.29	0.99	8.15	1.02	6.34
924	2	294-299	1.77	71.85	3.81	0.92	11.40	0.71	9.54
924	2L	302	3.34	72.10	3.69	0.87	14.32	0.89	4.79

NOTE: Hydrogen and oxygen do not include H and O from sample moisture.

Value of oxygen by difference.

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TO : CROWSNEST RESOURCES LTD.
ATTN.: BRIAN MCKINSTRY
PROJECT : TELKWA

FILE # : 32974
DATE : DECEMBER 4, 1989
SAMPLE TYPE : CORE

HOLE : TW - 930

PAGE : 1

SAMPLE	INTERVAL		(M)	BASIS	% H2O	% ASH	% S	SEAM
1	39.94	40.20	0.26	A.R.	4.47	21.06	3.68	
				A.D.	0.71	21.89	3.82	5R
				D.B.	-----	22.05	3.85	
2	40.20	40.88	0.68	A.R.	3.23	74.41	0.72	
				A.D.	0.72	76.34	0.74	5R
				D.B.	-----	76.89	0.75	
3	40.88	41.30	0.42	A.R.	2.43	25.03	1.18	
				A.D.	0.84	25.44	1.20	5R
				D.B.	-----	25.66	1.21	
4	43.~~65~~ 73	43.95	0.30	A.R.	3.83	46.12	6.76	
				A.D.	0.68	47.63	6.98	5
				D.B.	-----	47.96	7.03	
5	43.95	44.70	0.75	A.R.	5.41	9.86	0.69	
				A.D.	0.74	10.35	0.72	5
				D.B.	-----	10.43	0.73	
6	44.70	~~45.00~~ 44.92	0.30	A.R.	5.02	40.66	0.76	
				A.D.	0.60	42.55	0.80	5
				D.B.	-----	42.81	0.80	
7	48.44	48.88	0.44	A.R.	3.37	42.85	2.48	
				A.D.	0.84	43.97	2.54	?
				D.B.	-----	44.34	2.56	
8	54.~~01~~ 09	54.31	0.30	A.R.	2.73	61.67	3.08	
				A.D.	0.86	62.85	3.14	3U
				D.B.	-----	63.40	3.17	

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TO : CROWSNEST RESOURCES LTD.
ATTN.: BRIAN MCKINSTRY
PROJECT : TELKWA

FILE # : 32974
DATE : DECEMBER 4, 1989
SAMPLE TYPE : CORE

HOLE : TW - 930

PAGE : 2

SAMPLE	INTERVAL		(M)	BASIS	% H20	% ASH	% S	
9	54.31	54.94	0.63	A.R.	3.35	9.86	1.70	
				A.D.	1.06	10.09	1.74	3U
				D.B.	-----	10.20	1.76	
10	54.94	55.24	0.30	A.R.	2.43	16.40	2.92	
				A.D.	0.94	16.65	2.96	3U
				D.B.	-----	16.81	2.99	
11	56.~~21~~ 29	56.87	0.66	A.R.	3.26	39.28	1.74	
				A.D.	0.73	40.31	1.79	3L
				D.B.	-----	40.61	1.80	
12	63.33	63.66	0.33	A.R.	2.92	24.80	0.58	
				A.D.	1.08	25.27	0.59	2
				D.B.	-----	25.55	0.60	
13	63.66	65.00	1.34	A.R.	3.48	18.99	0.40	
				A.D.	1.03	19.47	0.41	2
				D.B.	-----	19.67	0.41	
14	65.00	66.41	1.41	A.R.	3.71	10.10	0.36	
				A.D.	1.19	10.36	0.37	2
				D.B.	-----	10.48	0.37	
15	66.41	~~66.71~~ 66.63	0.30	A.R.	3.52	40.33	0.32	
				A.D.	1.04	41.37	0.33	2
				D.B.	-----	41.80	0.33	

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TO : CROWSNEST RESOURCES LTD.
ATTN.: BRIAN MCKINSTRY
PROJECT : TELKWA

FILE # : 32974
DATE : DECEMBER 4, 1989
SAMPLE TYPE : CORE

HOLE : TW - 929

SAMPLE	INTERVAL		(M)	BASIS	% H2O	% ASH	% S	
16	14.10	14.40	0.30	A.R.	4.00	7.48	1.43	
				A.D.	1.04	7.71	1.47	6L B
				D.B.	-----	7.79	1.49	
17	14.40	15.83	1.43	A.R.	4.20	6.38	0.63	
				A.D.	0.78	6.61	0.65	6L B
				D.B.	-----	6.66	0.66	
18	15.83	17.26	1.43	A.R.	4.16	9.52	0.53	
				A.D.	0.70	9.86	0.55	6L B
				D.B.	-----	9.93	0.55	
19	17.26	17.53	0.27	A.R.	2.76	78.66	2.70	
				A.D.	0.75	80.28	2.76	6L (S)
				D.B.	-----	80.89	2.78	
20	17.53	17.63	0.10	A.R.	3.60	20.01	3.87	
				A.D.	0.56	20.64	3.99	6L A
				D.B.	-----	20.76	4.01	
21	17.63	18.06	0.43	A.R.	3.00	21.63	0.99	
				A.D.	0.72	22.14	1.01	6L A
				D.B.	-----	22.30	1.02	
22	18.06	18.36	0.30	A.R.	3.66	14.78	0.85	
				A.D.	0.79	15.22	0.88	6L A
				D.B.	-----	15.34	0.89	
23	18.36	18.44	0.08	A.R.	2.73	71.88	0.80	
				A.D.	0.73	73.36	0.82	6L (A)
				D.B.	-----	73.90	0.83	

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TO : CROWSNEST RESOURCES LTD.
ATTN.: BRIAN MCKINSTRY
PROJECT : TELKWA

FILE # : 32974
DATE : DECEMBER 4, 1989
SAMPLE TYPE : CORE

HOLE : TW - 929

SAMPLE	INTERVAL		(M)	BASIS	% H2O	% ASH	% S	
24	19.38	19.46	0.08	A.R.	4.76	82.50	2.34	
				A.D.	1.07	85.70	2.43	5 (R)
				D.B.	-----	86.63	2.46	
25	19.46	19.76	0.30	A.R.	2.88	29.30	5.57	
				A.D.	0.85	29.91	5.69	5
				D.B.	-----	30.17	5.74	
26	19.76	20.54	0.78	A.R.	5.22	5.42	0.84	
				A.D.	0.93	5.67	0.88	5
				D.B.	-----	5.72	0.89	
27	20.54	21.32	0.78	A.R.	5.16	7.85	0.57	
				A.D.	0.98	8.20	0.60	5
				D.B.	-----	8.28	0.61	
28	21.32	21.62	0.30	A.R.	3.83	8.05	0.59	
				A.D.	0.85	8.30	0.61	5
				D.B.	-----	8.37	0.62	
29	21.62	21.70	0.08	A.R.	2.29	47.09	0.57	
				A.D.	0.76	47.83	0.58	5 (A)
				D.B.	-----	48.20	0.58	
30	27.36	27.49	0.13	A.R.	2.35	52.86	5.41	
				A.D.	0.77	53.72	5.50	34 (R)
				D.B.	-----	54.14	5.54	
31	27.49	27.66	0.17	A.R.	4.19	80.12	4.31	
				A.D.	1.05	82.74	4.45	34 (R)
				D.B.	-----	83.62	4.50	

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TO : CROWSNEST RESOURCES LTD.
ATTN.: BRIAN MCKINSTRY
PROJECT : TELKWA

FILE # : 32974
DATE : DECEMBER 5, 1989
SAMPLE TYPE : CORE

HOLE : TW - 929

SAMPLE	INTERVAL		(M)	BASIS	% H20	% ASH	% S	
32	27.66	27.96	0.30	A.R.	4.24	18.60	2.61	
				A.D.	0.65	19.30	2.71	3U
				D.B.	-----	19.43	2.73*	
33	27.96	28.64	0.68	A.R.	20.57	0.81	1.19	
				A.D.	16.66	0.85	1.25	3U
				D.B.	-----	1.02	1.50	
34	28.64	28.91	0.27	A.R.	5.19	82.34	1.41	
				A.D.	1.08	85.91	1.47	3(S)
				D.B.	-----	86.85	1.49	
35	28.91	29.94	1.03	A.R.	4.05	19.78	1.00	
				A.D.	1.00	20.41	1.03	3L
				D.B.	-----	20.62	1.04	
36	29.94	30.24	0.30	A.R.	5.96	18.83	1.29	
				A.D.	0.57	19.91	1.36	3L
				D.B.	-----	20.02	1.37	
37	30.24	30.32	0.08	A.R.	4.21	80.23	2.96	
				A.D.	0.97	82.95	3.06	3L(S)
				D.B.	-----	83.76	3.09	
38	41.02	41.10	0.08	A.R.	4.63	80.83	2.62	
				A.D.	0.90	83.99	2.72	2(R)
				D.B.	-----	84.75	2.74	
39	41.10	41.20	0.10	A.R.	2.48	37.14	7.47	
				A.D.	0.56	37.87	7.62	2U
				D.B.	-----	38.08	7.66	

LORING LABORATORIES LTD.

629 BEAVERDAM RD., N.E.,
CALGARY, ALBERTA.
TEL: (403) 274-2777 FAX: (403) 275-0541

TO : CROWSNEST RESOURCES LTD.
ATTN.: BRIAN MCKINSTRY
PROJECT : TELKWA

FILE # : 32974
DATE : DECEMBER 5, 1989
SAMPLE TYPE : CORE

HOLE : TW - 929

SAMPLE	INTERVAL		(M)	BASIS	% H2O	% ASH	% S	
40	41.20	42.32	1.12	A.R.	4.08	24.93	0.89	
				A.D.	1.03	25.72	0.92	2U
				D.B.	-----	25.99	0.93	
41	42.32	42.62	0.30	A.R.	6.92	12.48	0.56	
				A.D.	0.58	13.33	0.60	2U
				D.B.	-----	13.41	0.60	
42	42.62	42.70	0.08	A.R.	5.33	80.71	0.08	
				A.D.	1.00	84.40	0.08	2 (S)
				D.B.	-----	85.25	0.08	
43	42.70	43.29	0.59	A.R.	4.84	86.68	0.21	
				A.D.	0.62	90.53	0.22	2 (S)
				D.B.	-----	91.09	0.22	
44	43.29	43.37	0.08	A.R.	4.61	75.93	1.05	
				A.D.	0.64	79.09	1.09	2 (S)
				D.B.	-----	79.60	1.10	
45	43.37	43.52	0.15	A.R.	4.05	22.65	2.01	
				A.D.	0.64	23.45	2.08	2L
				D.B.	-----	23.60	2.09	
46	43.52	44.49	0.97	A.R.	5.52	16.12	0.67	
				A.D.	0.72	16.94	0.70	2L
				D.B.	-----	17.06	0.71	
47	44.49	45.46	0.97	A.R.	5.06	12.14	0.34	
				A.D.	0.91	12.67	0.36	2L
				D.B.	-----	12.79	0.36	

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TO : CROWSNEST RESOURCES LTD.
ATTN.: BRIAN MCKINSTRY
PROJECT : TELKWA

FILE # : 32974
DATE : DECEMBER 5, 1989
SAMPLE TYPE : CORE

HOLE : TW - 928

PAGE : 7

SAMPLE	INTERVAL		(M)	BASIS	% H2O	% ASH	% S	
929 48	45.46	45.76	0.30	A.R.	5.57	11.48	0.35	
				A.D.	0.82	12.06	0.37	2L
				D.B.	-----	12.16	0.37	
928								
49	19.20	19.28	0.08	A.R.	2.76	68.68	5.49	
				A.D.	0.53	70.26	5.62	6U (e)
				D.B.	-----	70.63	5.65	
50	19.28	19.64	0.36	A.R.	3.14	19.75	4.47	
				A.D.	0.87	20.21	4.58	6U
				D.B.	-----	20.39	4.62	
51	19.64	20.64	1.00	A.R.	3.78	16.72	1.85	
				A.D.	0.67	17.26	1.91	6U
				D.B.	-----	17.38	1.92	
52	20.64	20.91 ~~21.00~~	0.36	A.R.	4.13	5.35	1.09	
				A.D.	0.46	5.55	1.13	6U
				D.B.	-----	5.58	1.14	
53	21.00	21.08	0.08	A.R.	3.35	79.87	1.73	
				A.D.	0.58	82.16	1.78	6U (s)
				D.B.	-----	82.64	1.79	
54	21.08	21.47	0.39	A.R.	3.48	83.87	2.12	
				A.D.	0.66	86.32	2.18	6U (s)
				D.B.	-----	86.89	2.19	
55	21.47	21.55	0.08	A.R.	3.51	83.66	5.61	
				A.D.	0.51	86.26	5.78	6U (s)
				D.B.	-----	86.70	5.81	

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TO : CROWSNEST RESOURCES LTD.
ATTN.: BRIAN MCKINSTRY
PROJECT : TELKWA

FILE # : 32974
DATE : DECEMBER 5, 1989
SAMPLE TYPE : CORE

HOLE : TW - 928

SAMPLE	INTERVAL		(M)	BASIS	% H20	% ASH	% S	
56	21.55	22.12	0.57	A.R.	4.53	18.90	2.62	6U
				A.D.	0.55	19.69	2.73	
				D.B.	-----	19.80	2.75	
57	22.12	22.36	0.24	A.R.	3.16	75.69	5.84	6U (S)
				A.D.	0.53	77.74	6.00	
				D.B.	-----	78.15	6.03	
58	22.36	23.08	0.72	A.R.	3.75	13.37	2.84	6U
				A.D.	0.67	13.80	2.93	
				D.B.	-----	13.89	2.95	
59	23.08	23.35	0.27	A.R.	2.87	69.79	1.35	6U (S)
				A.D.	0.60	71.42	1.38	
				D.B.	-----	71.85	1.39	
60	23.35	23.64	0.29	A.R.	2.71	61.74	0.68	6U
				A.D.	0.46	63.16	0.70	
				D.B.	-----	63.45	0.70	
61	26.69	26.77	0.08	A.R.	2.75	85.56	2.00	6M (R)
				A.D.	0.71	87.36	2.04	
				D.B.	-----	87.98	2.05	
62	26.77	27.76	0.99	A.R.	3.01	21.12	2.66	6M
				A.D.	0.34	21.70	2.73	
				D.B.	-----	21.77	2.74	
63	27.76	27.84	0.08	A.R.	3.11	79.18	0.35	6M (F)
				A.D.	0.40	81.40	0.36	
				D.B.	-----	81.73	0.36	

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TO : CROWSNEST RESOURCES LTD.
ATTN.: BRIAN MCKINSTRY
PROJECT : TELKWA

FILE # : 32974
DATE : DECEMBER 6, 1989
SAMPLE TYPE : CORE

HOLE : TW - 928

SAMPLE	INTERVAL		(M)	BASIS	% H20	% ASH	% S	
64	27.84	28.38	0.54	A.R.	3.15	83.44	0.77	
				A.D.	0.62	85.62	0.79	6 (G)
				D.B.	-----	86.15	0.79	
65	28.38	28.43	0.05	A.R.	2.37	63.34	4.45	
				A.D.	0.80	64.36	4.52	6L (R)
				D.B.	-----	64.88	4.56	
66	28.43	28.74	0.31	A.R.	3.96	12.10	1.01	
				A.D.	0.99	12.47	1.04	6LB
				D.B.	-----	12.59	1.05	
67	28.74	30.10	1.36	A.R.	4.48	10.00	0.43	
				A.D.	0.66	10.40	0.45	6LB
				D.B.	-----	10.47	0.45	
68	30.10	31.45	1.35	A.R.	4.32	8.29	0.38	
				A.D.	1.45	8.54	0.39	6LB
				D.B.	-----	8.67	0.40	
69	31.45	31.79	0.34	A.R.	4.10	29.79	0.35	
				A.D.	1.20	30.69	0.36	6LB
				D.B.	-----	31.06	0.36	
70	31.79	31.87	0.08	A.R.	2.56	85.24	0.07	
				A.D.	0.70	86.87	0.07	6L (F)
				D.B.	-----	87.48	0.07	
71	32.80	32.88	0.08	A.R.	2.36	74.35	6.20	
				A.D.	0.92	75.45	6.29	6L (R)
				D.B.	-----	76.15	6.35	

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TO : CROWSNEST RESOURCES LTD.
ATTN.: BRIAN MCKINSTRY
PROJECT : TELKWA

FILE # : 32974
DATE : DECEMBER 6, 1989
SAMPLE TYPE : CORE

HOLE : TW - 928

SAMPLE	INTERVAL		(M)	BASIS	% H2O	% ASH	% S	
72	32.88	33.92	1.04	A.R.	2.90	25.35	1.73	
				A.D.	0.95	25.86	1.76	6LA
				D.B.	-----	26.11	1.78	
73	33.92	34.00	0.08	A.R.	3.45	81.87	0.32	
				A.D.	0.76	84.15	0.33	6L (f)
				D.B.	-----	84.79	0.33	
74	35.72	35.80	0.08	A.R.	3.61	81.24	1.98	
				A.D.	1.19	83.28	2.03	5 (R)
				D.B.	-----	84.28	2.05	
75	35.80	35.90	0.10	A.R.	3.85	47.62	2.45	
				A.D.	0.91	49.08	2.53	5
				D.B.	-----	49.53	2.55	
76	35.90	37.20	1.30	A.R.	5.07	8.69	0.71	
				A.D.	1.03	9.06	0.74	5
				D.B.	-----	9.15	0.75	
77	37.20	38.50	1.30	A.R.	5.30	9.38	0.48	
				A.D.	0.99	9.81	0.50	5
				D.B.	-----	9.91	0.50	
78	38.50	38.80	0.30	A.R.	4.11	26.42	0.36	
				A.D.	1.10	27.25	0.37	5
				D.B.	-----	27.55	0.37	
79	38.80	38.88	0.08	A.R.	5.10	80.13	0.11	
				A.D.	0.65	83.89	0.12	5 (f)
				D.B.	-----	84.44	0.12	

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TO : CROWSNEST RESOURCES LTD.
ATTN.: BRIAN MCKINSTRY
PROJECT : TELKWA

FILE # : 32974
DATE : DECEMBER 6, 1989
SAMPLE TYPE : CORE

HOLE : TW - 928

SAMPLE	INTERVAL		(M)	BASIS	% H20	% ASH	% S	
80	45.80	45.88	0.08	A.R.	4.08	80.08	3.92	
				A.D.	0.89	82.74	4.05	3U (R)
				D.B.	-----	83.48	4.09	
81	45.88	46.08	0.20	A.R.	3.84	14.88	2.56	
				A.D.	1.21	15.29	2.63	3U
				D.B.	-----	15.48	2.66	
82	46.08	46.70	0.62	A.R.	5.16	7.19	0.96	
				A.D.	1.06	7.50	1.00	3U
				D.B.	-----	7.58	1.01	
83	46.70	46.90	0.20	A.R.	3.68	19.40	1.10	
				A.D.	0.70	20.00	1.13	3U
				D.B.	-----	20.14	1.14	
84	46.90	46.98	0.08	A.R.	3.65	81.39	0.50	
				A.D.	1.09	83.55	0.51	3U (S)
				D.B.	-----	84.47	0.52	
85	46.98	47.13	0.15	A.R.	4.11	84.28	1.86	
				A.D.	0.86	87.14	1.92	3U (S)
				D.B.	-----	87.90	1.94	
86	47.13	47.21	0.08	A.R.	3.90	84.05	2.27	
				A.D.	0.52	87.01	2.35	3U (S)
				D.B.	-----	87.46	2.36	
87	47.21	47.57	0.36	A.R.	3.80	23.78	2.22	
				A.D.	1.01	24.47	2.28	3U
				D.B.	-----	24.72	2.30	

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TO : CROWSNEST RESOURCES LTD.
ATTN.: BRIAN MCKINSTRY
PROJECT : TELKWA

FILE # : 32974
DATE : DECEMBER 7, 1989
SAMPLE TYPE : CORE

HOLE : TW - 928

SAMPLE	INTERVAL		(M)	BASIS	% H2O	% ASH	% S	
88	47.57	47.65	0.08	A.R.	4.08	78.79	0.63	3U (f)
				A.D.	1.10	81.23	0.65	
				D.B.	-----	82.13	0.66	
89	47.65	47.92	0.27	A.R.	4.08	87.63	0.34	3 (s)
				A.D.	0.98	90.47	0.35	
				D.B.	-----	91.37	0.35	
90	47.92	48.00	0.08	A.R.	3.84	88.58	0.72	3L (R)
				A.D.	1.00	91.20	0.74	
				D.B.	-----	92.12	0.75	
91	48.00	48.20	0.20	A.R.	3.77	18.14	1.32	3L
				A.D.	1.04	18.65	1.36	
				D.B.	-----	18.85	1.37	
92	45.80	48.64	2.84	A.R.	4.58	8.15	1.12	3L
				A.D.	1.45	8.42	1.16	
				D.B.	-----	8.54	1.18	
93	48.64	48.84	0.20	A.R.	4.02	12.27	1.58	3L
				A.D.	0.59	12.71	1.64	
				D.B.	-----	12.79	1.65	
94	48.84	48.92	0.08	A.R.	2.76	69.74	7.12	3L (f)
				A.D.	0.53	71.34	7.28	
				D.B.	-----	71.72	7.32	
95	58.40	59.20	0.80	A.R.	2.72	48.25	3.60	2R
				A.D.	0.61	49.30	3.68	
				D.B.	-----	49.60	3.70	

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TO : CROWSNEST RESOURCES LTD.
ATTN.: BRIAN MCKINSTRY
PROJECT : TELKWA

FILE # : 32974
DATE : DECEMBER 7, 1989
SAMPLE TYPE : CORE

HOLE : TW - 928

SAMPLE	INTERVAL		(M)	BASIS	% H20	% ASH	% S	
96	59.20	59.28	0.08	A.R.	3.73	80.37	0.63	
				A.D.	0.98	82.67	0.65	2R (f)
				D.B.	-----	83.49	0.66	
97	60.44	60.52	0.08	A.R.	2.54	57.65	7.38	
				A.D.	0.75	58.71	7.52	2 (R)
				D.B.	-----	59.15	7.58	
98	60.52	60.67	0.15	A.R.	2.02	32.00	9.44	
				A.D.	0.66	32.45	9.57	2
				D.B.	-----	32.67	9.63	
99	60.67	61.32	0.65	A.R.	3.56	34.02	0.82	
				A.D.	0.85	34.98	0.84	2
				D.B.	-----	35.28	0.85	
100	61.32	62.57	1.25	A.R.	5.08	11.66	0.51	
				A.D.	0.92	12.17	0.53	2
				D.B.	-----	12.28	0.53	
101	62.57	63.82	1.25	A.R.	4.60	11.96	0.38	
				A.D.	1.06	12.40	0.39	2
				D.B.	-----	12.53	0.39	
102	63.82	64.12	0.30	A.R.	4.36	12.68	0.37	
				A.D.	1.22	13.10	0.38	2
				D.B.	-----	13.26	0.38	
103	64.12	64.20	0.08	A.R.	3.89	85.09	0.05	
				A.D.	1.02	87.63	0.05	2 (f)
				D.B.	-----	88.53	0.05	

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TEL: (403) 274-2777 FAX: (403) 275-0541

TO : CROWSNEST RESOURCES LTD.
ATTN.: BRIAN MCKINSTRY
PROJECT : TELKWA

FILE # : 32974
DATE : DECEMBER 7, 1989
SAMPLE TYPE : CORE

HOLE : TW - 927

SAMPLE	INTERVAL		(M)	BASIS	% H2O	% ASH	% S
104	35.24	35.96	0.72	A.R.	2.33	21.14	1.63
				A.D.	0.71	21.49	1.66
				D.B.	-----	21.64	1.67
105	35.96	36.04	0.08	A.R.	3.12	78.90	0.48
				A.D.	1.19	80.47	0.49
				D.B.	-----	81.44	0.50
106	42.44	42.52	0.08	A.R.	3.36	85.54	0.95
				A.D.	0.92	87.70	0.97
				D.B.	-----	88.51	0.98
107	42.52	43.07	0.55	A.R.	3.40	48.86	1.14
				A.D.	0.58	50.29	1.17
				D.B.	-----	50.58	1.18
108	43.07	43.37	0.30	A.R.	3.16	67.32	5.80
				A.D.	0.56	69.13	5.96
				D.B.	-----	69.52	5.99
109	43.37	43.72	0.35	A.R.	2.36	38.03	1.22
				A.D.	0.80	38.64	1.24
				D.B.	-----	38.95	1.25
110	43.72	43.80	0.08	A.R.	2.82	76.79	0.09
				A.D.	0.74	78.43	0.09
				D.B.	-----	79.01	0.09
111	44.58	44.66	0.08	A.R.	3.06	71.98	0.52
				A.D.	1.19	73.37	0.53
				D.B.	-----	74.25	0.54

LORING LABORATORIES LTD.

629 BEAVERDAM RD., N.E.,
CALGARY, ALBERTA.
TEL: (403) 274-2777 FAX: (403) 275-0541

TO : CROWSNEST RESOURCES LTD.
ATTN.: BRIAN MCKINSTRY
PROJECT : TELKWA

FILE # : 32974
DATE : DECEMBER 8, 1989
SAMPLE TYPE : CORE

HOLE : TW - 927

SAMPLE	INTERVAL		(M)	BASIS	% H20	% ASH	% S	
112	44.66	45.69	1.03	A.R.	3.31	37.37	0.27	
				A.D.	1.20	38.18	0.28	
				D.B.	-----	38.64	0.28	
113	45.69	45.77	0.08	A.R.	2.02	78.58	0.10	
				A.D.	0.86	79.51	0.10	
				D.B.	-----	80.20	0.10	
114	47.40	47.68	0.28	A.R.	3.20	80.10	0.09	
				A.D.	1.00	81.92	0.09	
				D.B.	-----	82.75	0.09	
115	47.68	48.37	0.69	A.R.	3.72	43.19	0.40	
				A.D.	1.20	44.32	0.41	
				D.B.	-----	44.86	0.41	
116	48.37	48.45	0.08	A.R.	2.56	81.75	0.07	
				A.D.	1.17	82.92	0.07	
				D.B.	-----	83.90	0.07	
117	51.48	52.00	0.52	A.R.	3.29	64.73	0.29	
				A.D.	1.07	66.22	0.30	
				D.B.	-----	66.94	0.30	
HOLE : TW - 923								
118	11.04	11.52	0.48	A.R.	3.11	28.83	4.21	
				A.D.	1.05	29.44	4.30	6U
				D.B.	-----	29.75	4.35	
119	11.90	11.98	0.08	A.R.	3.77	80.51	3.11	
				A.D.	1.24	82.62	3.19	6L (R)
				D.B.	-----	83.66	3.23	

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629 BEAVERDAM RD., N.E.,
CALGARY, ALBERTA.
TEL: (403) 274-2777 FAX: (403) 275-0541

TO : CROWSNEST RESOURCES LTD.
ATTN.: BRIAN MCKINSTRY
PROJECT : TELKWA

FILE # : 32974
DATE : DECEMBER 8, 1989
SAMPLE TYPE : CORE

HOLE : TW - 923

SAMPLE	INTERVAL		(M)	BASIS	% H2O	% ASH	% S	
120	11.98	12.25	0.27	A.R.	3.97	57.86	3.71	
				A.D.	0.61	59.88	3.84	6L
				D.B.	-----	60.25	3.86	
121	12.25	12.44	0.19	A.R.	3.85	66.90	5.08	
				A.D.	0.84	69.00	5.24	6L(S)
				D.B.	-----	69.58	5.28	
122	12.44	12.57	0.13	A.R.	2.82	55.59	3.48	
				A.D.	0.80	56.75	3.55	6L
				D.B.	-----	57.21	3.58	
123	12.57	12.69	0.12	A.R.	3.53	80.65	2.35	
				A.D.	0.67	83.04	2.42	6L(S)
				D.B.	-----	83.60	2.44	
124	12.69	12.80	0.11	A.R.	2.66	30.51	7.05	
				A.D.	1.09	31.00	7.16	6L
				D.B.	-----	31.34	7.24	
125	12.80	13.66	0.86	A.R.	3.55	13.56	1.95	
				A.D.	1.21	13.89	2.00	6L
				D.B.	-----	14.06	2.02	
126	13.66	14.52	0.86	A.R.	4.20	13.17	1.28	
				A.D.	1.67	13.52	1.31	6L
				D.B.	-----	13.75	1.33	
127	14.52	14.82	0.30	A.R.	3.29	20.55	0.84	
				A.D.	0.83	21.07	0.86	6L
				D.B.	-----	21.25	0.87	

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ATTN.: BRIAN MCKINSTRY
PROJECT : TELKWA

FILE # : 32974
DATE : DECEMBER 8, 1989
SAMPLE TYPE : CORE

HOLE : TW - 923

SAMPLE	INTERVAL		(M)	BASIS	% H20	% ASH	% S	
128	14.82	15.16	0.34	A.R.	3.05	79.73	2.82	
				A.D.	0.85	81.54	2.88	6L (S)
				D.B.	-----	82.24	2.90	
129	15.16	15.30	0.14	A.R.	2.67	46.55	1.74	
				A.D.	0.77	47.46	1.77	6L
				D.B.	-----	47.83	1.78	
130	15.30	15.56	0.26	A.R.	3.84	83.56	1.91	
				A.D.	0.87	86.14	1.97	6L (S)
				D.B.	-----	86.90	1.99	
131	15.56	15.93	0.37	A.R.	2.61	49.17	2.93	
				A.D.	0.66	50.15	2.99	6L
				D.B.	-----	50.48	3.01	
132	28.28 ~~15.99~~	28.36	0.08 ~~12.43~~	A.R.	4.55	83.65	1.97	
				A.D.	0.33	87.35	2.06	4 (R)
				D.B.	-----	87.64	2.07	
133	28.36	28.66	0.30	A.R.	2.82	20.91	5.02	
				A.D.	0.74	21.36	5.13	4
				D.B.	-----	21.52	5.17	

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TO : CROWSNEST RESOURCES LTD.
ATTN.: BRIAN MCKINSTRY
PROJECT : TELKWA

FILE # : 32974
DATE : DECEMBER 8, 1989
SAMPLE TYPE : CORE

HOLE : TW - 923

SAMPLE	INTERVAL		(M)	BASIS	% H2O	% ASH	% S	
134	28.66	29.36	0.70	A.R.	3.24	17.25	3.76	
				A.D.	0.66	17.71	3.86	4
				D.B.	-----	17.83	3.89	
135	29.36	30.28	0.92	A.R.	3.60	1.05	36.76	
				A.D.	0.50	1.08	37.94	4
				D.B.	-----	1.09	38.13	
136	30.28	30.92	0.64	A.R.	3.30	80.77	0.79	
				A.D.	0.43	83.17	0.81	4 GI?
				D.B.	-----	83.53	0.81	
137	30.92	31.34	0.42	A.R.	3.88	12.43	0.99	
				A.D.	0.88	12.82	1.02	4
				D.B.	-----	12.93	1.03	
138	31.34	31.42	0.08	A.R.	3.44	86.26	0.12	
				A.D.	0.67	88.73	0.12	4 (f)
				D.B.	-----	89.33	0.12	

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TO : CROWSNEST RESOURCES LTD.
ATTN.: BRIAN MCKINSTRY
PROJECT : TELKWA

FILE # : 32985
DATE : DECEMBER 11, 1989
SAMPLE TYPE : CORE

HOLE : TW - 907

PAGE : 1

SAMPLE	INTERVAL		(M)	BASIS	% H2O	% ASH	% S	SEAM
139	22.56	22.64	0.08	A.R.	2.41	34.92	7.13	
				A.D.	0.70	35.53	7.25	6M (u)
				D.B.	-----	35.78	7.30	
140	22.64	23.74	1.10	A.R.	2.66	10.30	2.31	
				A.D.	0.99	10.48	2.35	6M
				D.B.	-----	10.58	2.37	
141	23.74	23.82	0.08	A.R.	2.79	85.42	0.19	
				A.D.	0.83	87.14	0.19	6M (f)
				D.B.	-----	87.87	0.19	
142	24.37	24.45	0.08	A.R.	2.33	43.06	2.39	
				A.D.	0.92	43.68	2.42	6L (k)
				D.B.	-----	44.09	2.44	
143	24.45	24.75	0.30	A.R.	3.11	12.00	1.10	
				A.D.	1.12	12.25	1.12	6LB
				D.B.	-----	12.39	1.13	
144	24.75	25.52	0.77	A.R.	3.19	6.14	0.64	
				A.D.	0.95	6.28	0.65	6LB
				D.B.	-----	6.34	0.66	
145	25.52	26.40	0.88	A.R.	3.03	7.05	0.47	
				A.D.	0.84	7.21	0.48	6LB
				D.B.	-----	7.27	0.48	
146	26.40	27.26	0.86	A.R.	3.14	8.79	0.44	
				A.D.	0.93	8.99	0.45	6LB
				D.B.	-----	9.07	0.45	

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TO : CROWSNEST RESOURCES LTD.
ATTN.: BRIAN MCKINSTRY
PROJECT : TELKWA

FILE # : 32985
DATE : DECEMBER 12, 1989
SAMPLE TYPE : CORE

HOLE : TW - 907

SAMPLE	INTERVAL		(M)	BASIS	% H2O	% ASH	% S	
147	27.26	27.56	0.30	A.R.	2.98	6.11	0.54	
				A.D.	1.15	6.23	0.55	6LB
				D.B.	-----	6.30	0.56	
148	27.56	27.64	0.08	A.R.	2.35	63.89	0.49	
				A.D.	0.98	64.78	0.50	6L (F)
				D.B.	-----	65.42	0.50	
149	27.88	27.96	0.08	A.R.	2.52	76.04	3.82	
				A.D.	1.17	77.09	3.87	6L (K)
				D.B.	-----	78.00	3.92	
150	27.96	28.78	0.82	A.R.	2.60	22.07	0.87	
				A.D.	0.92	22.45	0.88	6LA
				D.B.	-----	22.66	0.89	
151	31.01	31.09	0.08	A.R.	3.08	82.75	1.69	5 (K)
				A.D.	0.69	84.79	1.73	~~6L(K)~~
				D.B.	-----	85.38	1.74	
152	31.09	31.39	0.30	A.R.	1.96	26.38	1.64	
				A.D.	0.58	26.75	1.66	5
				D.B.	-----	26.91	1.67	
153	31.39	32.92	1.53	A.R.	2.77	7.72	0.61	
				A.D.	0.72	7.88	0.62	5
				D.B.	-----	7.94	0.62	
154	32.92	33.22	0.30	A.R.	1.96	19.16	0.47	
				A.D.	0.61	19.42	0.48	5
				D.B.	-----	19.54	0.48	

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ATTN.: BRIAN MCKINSTRY
PROJECT : TELKWA

FILE # : 32985
DATE : DECEMBER 13, 1989
SAMPLE TYPE : CORE

HOLE : TW - 907

SAMPLE	INTERVAL		(M)	BASIS	% H2O	% ASH	% S	
155	38.49	38.77	0.28	A.R.	2.14	8.31	1.98	
				A.D.	0.68	8.43	2.01	3u
				D.B.	-----	8.49	2.02	
156	38.77	39.48	0.71	A.R.	2.28	11.70	1.46	
				A.D.	0.72	11.89	1.48	3u
				D.B.	-----	11.98	1.49	
157	39.48	39.64	0.16	A.R.	2.76	70.84	3.42	
				A.D.	0.83	72.24	3.49	3 (G)
				D.B.	-----	72.84	3.52	
158	39.64	40.82	1.18	A.R.	2.32	15.23	0.70	
				A.D.	0.96	15.44	0.71	3c
				D.B.	-----	15.59	0.72	
159	40.82	40.90	0.08	A.R.	2.41	69.62	6.10	
				A.D.	1.00	70.62	6.19	3c (G)
				D.B.	-----	71.33	6.25	
160	49.58	49.66	0.08	A.R.	2.80	77.45	4.16	
				A.D.	0.78	79.06	4.25	2? (R)
				D.B.	-----	79.68	4.28	
161	49.66	50.18	0.52	A.R.	1.57	43.19	3.67	
				A.D.	0.59	43.62	3.71	2?
				D.B.	-----	43.88	3.73	
162	50.18	50.26	0.08	A.R.	2.39	70.34	0.76	
				A.D.	0.85	71.45	0.77	2?
				D.B.	-----	72.06	0.78	

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TO : CROWSNEST RESOURCES LTD.
ATTN.: BRIAN MCKINSTRY
PROJECT : TELKWA

FILE # : 32985
DATE : DECEMBER 13, 1989
SAMPLE TYPE : CORE

HOLE : TW - 907

SAMPLE	INTERVAL		(M)	BASIS	% H20	% ASH	% S	
163	50.51	50.59	0.08	A.R.	2.19	78.68	5.31	2 ?
				A.D.	0.72	79.86	5.39	
				D.B.	-----	80.44	5.43	
164	50.59	51.06	0.47	A.R.	1.69	42.16	2.85	2 ?
				A.D.	0.69	42.59	2.88	
				D.B.	-----	42.89	2.90	
165	51.06	51.14	0.08	A.R.	2.79	83.12	2.03	2 ? (4)
				A.D.	0.78	84.84	2.07	
				D.B.	-----	85.51	2.09	
166	51.88	51.96	0.08	A.R.	2.31	75.71	1.59	2 (R)
				A.D.	0.70	76.96	1.62	
				D.B.	-----	77.50	1.63	
167	51.96	52.26	0.30	A.R.	2.16	38.39	1.52	2
				A.D.	0.63	38.99	1.54	
				D.B.	-----	39.24	1.55	
168	52.26	53.10	0.84	A.R.	2.36	23.99	1.27	2
				A.D.	0.74	24.39	1.29	
				D.B.	-----	24.57	1.30	
169	53.10	53.42	0.32	A.R.	3.51	81.81	0.17	2 (5)
				A.D.	1.04	83.91	0.17	
				D.B.	-----	84.79	0.17	
170	53.42	53.60	0.18	A.R.	2.48	47.60	11.37	2
				A.D.	0.87	48.39	11.56	
				D.B.	-----	48.81	11.66	

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FILE # : 32985
DATE : DECEMBER 13, 1989
SAMPLE TYPE : CORE

HOLE : TW - 907

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SAMPLE	INTERVAL		(M)	BASIS	% H20	% ASH	% S	SEAM
171	53.60	54.49	0.89	A.R.	15.31	15.11	0.51	2
				A.D.	0.89	17.68	0.60	
				D.B.	-----	17.84	0.61	
172	54.49	55.24	0.75	A.R.	2.95	13.01	0.42	
				A.D.	0.83	13.29	0.43	2
				D.B.	-----	13.40	0.43	
173	55.24	55.54	0.30	A.R.	3.21	14.34	0.42	
				A.D.	0.80	14.70	0.43	2
				D.B.	-----	14.82	0.43	

HOLE : TW - 931

174	35.11	35.85	0.74	A.R.	3.09	20.29	0.75	
				A.D.	0.69	20.79	0.77	6U
				D.B.	-----	20.93	0.78	
175	39.95	40.03	0.08	A.R.	3.70	79.82	1.41	
				A.D.	0.67	82.34	1.45	6M (R)
				D.B.	-----	82.90	1.46	
176	40.03	40.44	0.41	A.R.	2.56	18.60	2.75	
				A.D.	0.78	18.94	2.80	6M
				D.B.	-----	19.09	2.82	
177	40.44	40.64	0.20	A.R.	1.92	44.90	0.34	
				A.D.	0.33	45.63	0.35	6M (G)
				D.B.	-----	45.78	0.35	

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PROJECT : TELKWA

FILE # : 32985
DATE : DECEMBER 13, 1989
SAMPLE TYPE : CORE

HOLE : TW - 931

PAGE : 6

SAMPLE	INTERVAL		(M)	BASIS	% H20	% ASH	% S	
178	40.64	40.94	0.30	A.R.	3.17	6.44	0.58	
				A.D.	0.76	6.60	0.59	6M
				D.B.	-----	6.65	0.59	
179	40.94	41.95	1.01	A.R.	3.34	7.36	0.49	
				A.D.	0.82	7.55	0.50	6M
				D.B.	-----	7.61	0.50	
180	41.95	42.25	0.30	A.R.	2.65	10.55	0.46	
				A.D.	0.96	10.73	0.47	6M
				D.B.	-----	10.83	0.47	
181	42.25	42.33	0.08	A.R.	2.34	23.32	0.41	
				A.D.	0.75	23.70	0.42	6M (G)
				D.B.	-----	23.88	0.42	
182	42.96	43.04	0.08	A.R.	0.78	54.01	0.99	
				A.D.	0.28	54.28	0.99	6L (R)
				D.B.	-----	54.43	0.99	
183	43.04	43.34	0.30	A.R.	3.43	7.79	0.68	
				A.D.	0.95	7.99	0.70	6LB
				D.B.	-----	8.07	0.71	
184	43.34	44.34	1.00	A.R.	3.44	5.74	0.52	
				A.D.	0.93	5.89	0.53	6LB
				D.B.	-----	5.95	0.53	
185	44.34	45.33	0.99	A.R.	3.53	9.09	0.46	
				A.D.	1.00	9.33	0.47	6LB
				D.B.	-----	9.42	0.47	

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TO : CROWSNEST RESOURCES LTD.
ATTN.: BRIAN MCKINSTRY
PROJECT : TELKWA

FILE # : 32985
DATE : DECEMBER
SAMPLE TYPE : COR

HOLE : TW - 931

SAMPLE	INTERVAL		(M)	BASIS	% H20	% ASH	% S	
186	45.33	45.63	0.30	A.R.	2.69	26.65	0.39	6LB
				A.D.	0.88	27.15	0.40	
				D.B.	-----	27.39	0.40	
187	45.63	45.71	0.08	A.R.	3.71	78.06	0.17	6L (A)
				A.D.	0.93	80.32	0.17	
				D.B.	-----	81.07	0.17	
188	54.28	54.37	0.09	A.R.	3.46	81.38	5.96	5 (R)
				A.D.	1.08	83.39	6.11	
				D.B.	-----	84.30	6.18	
189	54.37	54.67	0.30	A.R.	3.00	21.38	4.25	5
				A.D.	0.75	21.88	4.35	
				D.B.	-----	22.05	4.38	
190	54.67	55.82	1.15	A.R.	5.01	9.35	1.02	5
				A.D.	1.00	9.74	1.06	
				D.B.	-----	9.84	1.07	
191	55.82	56.12	0.30	A.R.	3.68	17.50	1.40	5
				A.D.	1.09	17.97	1.44	
				D.B.	-----	18.17	1.46	
192	56.12	56.20	0.08	A.R.	3.59	83.40	0.20	5 (A)
				A.D.	1.25	85.42	0.20	
				D.B.	-----	86.50	0.20	
193	64.56	64.64	0.08	A.R.	3.07	80.42	4.17	3U (R)
				A.D.	1.05	82.10	4.26	
				D.B.	-----	82.97	4.31	

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TO : CROWSNEST RESOURCES LTD.
ATTN.: BRIAN MCKINSTRY
PROJECT : TELKWA

FILE # : 32985
DATE : DECEMBER 13, 1989
SAMPLE TYPE : CORE

HOLE : TW - 907

SAMPLE	INTERVAL		(M)	BASIS	% H2O	% ASH	% S	
194	64.64	65.62	0.98	A.R.	13.28	9.37	1.31	
				A.D.	1.05	10.69	1.49	3u
				D.B.	-----	10.80	1.51	
195	65.62	65.93	0.31	A.R.	3.00	49.36	1.82	
				A.D.	1.10	50.33	1.86	3u (G)
				D.B.	-----	50.89	1.88	
196	65.93	66.17	0.24	A.R.	2.82	16.81	1.56	
				A.D.	1.06	17.11	1.59	3u
				D.B.	-----	17.29	1.61	
197	66.17	66.25	0.08	A.R.	4.11	82.43	0.83	
				A.D.	1.32	84.83	0.85	3u (A)
				D.B.	-----	85.96	0.86	
198	67.12 ~~66.25~~	67.20	0.08 ~~0.95~~	A.R.	4.11	85.84	2.51	
				A.D.	1.10	88.54	2.59	3L (K)
				D.B.	-----	89.52	2.62	
199	67.20	67.78	0.58	A.R.	2.85	20.19	1.76	
				A.D.	0.81	20.61	1.80	3L
				D.B.	-----	20.78	1.81	
200	67.78	67.86	0.08	A.R.	3.46	75.05	4.04	
				A.D.	0.97	76.99	4.14	3L (A)
				D.B.	-----	77.74	4.18	
201	78.66	78.74	0.08	A.R.	2.80	68.21	2.79	
				A.D.	0.80	69.61	2.85	2 (K)
				D.B.	-----	70.17	2.87	

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TO : CROWSNEST RESOURCES LTD.
ATTN.: BRIAN MCKINSTRY
PROJECT : TELKWA

FILE # : 32985
DATE : DECEMBER 13, 1989
SAMPLE TYPE : CORE

HOLE : TW - 931

PAGE : 9

SAMPLE	INTERVAL		(M)	BASIS	% H2O	% ASH	% S	
202	78.74	79.04	0.30	A.R.	1.99	43.73	3.88	
				A.D.	0.64	44.33	3.93	2
				D.B.	-----	44.62	3.96	
203	79.04	80.52	1.48	A.R.	8.22	18.10	0.54	
				A.D.	0.78	19.57	0.58	2
				D.B.	-----	19.72	0.58	
204	80.52	82.04	1.52	A.R.	3.61	9.52	0.45	
				A.D.	0.82	9.80	0.46	2
				D.B.	-----	9.88	0.46	
205	82.04	82.34	0.30	A.R.	4.13	12.30	0.38	
				A.D.	1.15	12.68	0.39	2
				D.B.	-----	12.83	0.39	

HOLE : TW - ~~[illegible]~~ 920

206	18.84	18.92	0.08	A.R.	3.83	78.89	2.10	
				A.D.	1.24	81.01	2.16	5u (R)
				D.B.	-----	82.03	2.19	
207	18.92	19.23	0.31	A.R.	2.85	55.18	1.40	
				A.D.	0.91	56.28	1.43	5u
				D.B.	-----	56.80	1.44	
208	19.23	20.25	1.02	A.R.	3.15	46.97	2.56	
				A.D.	1.02	48.00	2.62	5u
				D.B.	-----	48.49	2.65	

LORING LABORATORIES LTD.

629 BEAVERDAM RD., N.E.,
CALGARY, ALBERTA.
TEL: (403) 274-2777 FAX: (403) 275-0541

TO : CROWSNEST RESOURCES LTD.
ATTN.: BRIAN MCKINSTRY
PROJECT : TELKWA

FILE # : 32985
DATE : DECEMBER 13, 1989
SAMPLE TYPE : CORE

HOLE : TW - 920

PAGE : 10

SAMPLE	INTERVAL		(M)	BASIS	% H2O	% ASH	% S	
209	20.25	20.33	0.08	A.R.	1.79	72.84	0.28	
				A.D.	0.61	73.71	0.28	5a (f)
				D.B.	-----	74.16	0.28	
210	20.80	20.88	0.08	A.R.	3.35	68.83	4.74	
				A.D.	0.87	70.59	4.86	5L (a)
				D.B.	-----	71.21	4.90	
211	20.88	21.61	0.73	A.R.	2.85	29.68	1.95	
				A.D.	0.89	30.28	1.99	5L
				D.B.	-----	30.55	2.01	
212	22.71	23.01	0.30	A.R.	3.81	23.91	1.16	
				A.D.	0.57	24.71	1.20	4
				D.B.	-----	24.85	1.21	
213	23.01	23.98	0.97	A.R.	3.92	18.06	0.52	
				A.D.	0.50	18.70	0.54	4
				D.B.	-----	18.79	0.54	
214	23.98	24.28	0.30	A.R.	2.95	28.57	0.53	
				A.D.	0.58	29.27	0.54	4
				D.B.	-----	29.44	0.54	
215	24.28	24.54	0.26	A.R.	4.72	78.97	0.33	
				A.D.	1.19	81.89	0.34	4 (G)
				D.B.	-----	82.88	0.34	
216	24.54	24.75	0.21	A.R.	2.82	44.52	0.43	
				A.D.	0.84	45.43	0.44	4
				D.B.	-----	45.81	0.44	

LORING LABORATORIES LTD.
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TEL: (403) 274-2777 FAX: (403) 275-0541

TO : CROWSNEST RESOURCES LTD.
ATTN.: BRIAN MCKINSTRY
PROJECT : TELKWA

FILE # : 32985
DATE : DECEMBER 14, 1989
SAMPLE TYPE : CORE

HOLE : TW - 920

SAMPLE	INTERVAL		(M)	BASIS	% H2O	% ASH	% S	
217	25.96	26.04	0.08	A.R.	5.48	74.32	4.69	
				A.D.	1.15	77.73	4.91	3U (R)
				D.B.	-----	78.63	4.97	
218	26.04	26.96	0.92	A.R.	4.08	12.71	1.94	
				A.D.	0.64	13.17	2.01	3U
				D.B.	-----	13.25	2.02	
219	26.96	27.04	0.08	A.R.	5.15	80.46	2.83	
				A.D.	1.25	83.76	2.95	3U (R)
				D.B.	-----	84.82	2.99	
220	27.31	27.39	0.08	A.R.	5.68	82.93	1.76	
				A.D.	1.12	86.94	1.85	3L (R)
				D.B.	-----	87.92	1.87	
221	27.39	28.44	1.05	A.R.	3.81	18.42	1.31	
				A.D.	0.86	18.99	1.35	3L
				D.B.	-----	19.15	1.36	
222	28.44	28.52	0.08	A.R.	4.11	76.77	0.84	
				A.D.	1.02	79.24	0.87	3L (R)
				D.B.	-----	80.06	0.88	
223	37.40	37.48	0.08	A.R.	4.03	48.93	4.97	
				A.D.	0.46	50.75	5.15	2 (R)
				D.B.	-----	50.98	5.17	
224	37.48	37.78	0.30	A.R.	2.55	35.41	1.87	
				A.D.	0.44	36.17	1.91	2
				D.B.	-----	36.33	1.92	

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TO : CROWSNEST RESOURCES LTD.
ATTN.: BRIAN MCKINSTRY
PROJECT : TELKWA

FILE # : 32985
DATE : DECEMBER 14, 1989
SAMPLE TYPE : CORE

HOLE : TW - 920

SAMPLE	INTERVAL		(M)	BASIS	% H20	% ASH	% S	
225	37.78	38.00	0.22	A.R.	3.19	36.93	5.85	
				A.D.	0.83	37.83	5.99	2
				D.B.	-----	38.15	6.04	
226	38.00	39.08	1.08	A.R.	5.52	9.05	0.81	
				A.D.	0.67	9.51	0.85	2
				D.B.	-----	9.57	0.86	
227	39.08	40.00	0.92	A.R.	5.42	14.34	0.65	
				A.D.	0.57	15.08	0.68	2
				D.B.	-----	15.17	0.68	
228	40.00	40.29	0.29	A.R.	5.00	22.59	0.46	
				A.D.	0.65	23.62	0.48	2
				D.B.	-----	23.77	0.48	
229	40.29	40.37	0.08	A.R.	4.19	77.10	0.28	
				A.D.	0.79	79.83	0.29	2 (A)
				D.B.	-----	80.47	0.29	
230	40.74	40.81	0.07	A.R.	4.20	66.41	8.44	
				A.D.	0.61	68.90	8.76	2L (R)
				D.B.	-----	69.32	8.81	
231	40.81	41.28	0.47	A.R.	5.15	18.83	0.70	
				A.D.	0.76	19.70	0.73	2L
				D.B.	-----	19.85	0.74	

DRILL HOLE	NORTHING	EASTING	ELEVATION
DDH 901	6059329.842404	618991.671056	740.797000
DDH 902	6059313.149329	618804.770682	758.529000
DDH 903	6059679.285082	619097.899213	749.662000
DDH 904	6060004.340011	618795.728024	819.295000
DDH 905	6059708.089983	618667.405778	803.146000
DDH 906	6059829.113544	618739.391551	805.846000
DDH 907	6059490.945765	618700.438634	782.515000
DDH 908	6059851.254967	617492.632173	926.592000
DDH 909	6060320.209015	616912.097170	985.458000
DDH 910	6060226.597393	617023.241399	989.090000
DDH 911	6060259.357757	616606.330306	956.642000
DDH 912	6060158.048405	616737.589062	953.997000
DDH 913	6059793.073815	617185.889535	922.858000
DDH 914	6059966.074638	618250.856453	873.120000
DDH 915	6059417.585351	618116.674051	838.257000
DDH 916	6059740.059118	621143.266387	589.805000
DDH 917	6060483.326634	621041.459803	576.329000
DDH 918	6060240.012368	620543.903420	590.184000
DDH 919	6059359.114505	620230.156542	627.959000
DDH 920	6060104.789765	617060.573364	966.949000
DDH 921	6060090.042484	617202.990304	976.289000
DDH 922	6059966.195838	617001.640197	938.330000
DDH 923	6059700.304065	617353.038205	908.298000
DDH 924	6059742.017513	617505.772431	911.766000
DDH 925	6059806.883053	617760.395070	906.304000
DDH 926	6060118.497172	618536.208861	876.298000
DDH 927	6059180.298744	618699.696396	752.567000
DDH 928	6059598.721700	618749.152133	786.792000
DDH 929	6059656.494152	618587.088118	808.881000
DDH 930	6060001.765779	618698.185248	832.680000
DDH 931	6059835.172852	618879.073481	789.928000

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CORE DESCRIPTION

PROJECT Telkwa **HOLE I.D.** TW-920-89 **EXAMINER** B. McKinstry **DATE** Oct. 25/89

DEPTH (METRES)			LITHOLOGY			BEDDING ANGLE		SAMPLE	
FROM	TO	THICK-NESS	MAIN	MINOR	DESCRIPTION	DEPTH (M)	ANGLE	NUMBER	% RCVRY
0.00	10.42	10.42			Overburden				
10.42	13.20	2.78	MDST	SLST	Thinly laminated light and dark grey Microfractures Flaser bedding	12.60	71		
13.20	18.84	5.64	MDST		Vy thinly bdd to massive dark grey Occ. thin coal bands and slicked surfaces	18.70	48		
18.84	18.92	0.08	MDST		Good colour contrast with lower unit Good separation with lower unit			206	100
18.92	19.23	0.31	COAL		Rooted rubbly coal No visible py			207	100
19.23	20.25	1.02	MDST		Good clean coal Semi-stick to stick core Base is very rooted Good colour contrast with above unit Good separation with above unit			208	100
20.25	20.33	0.08	MDST					209	100
20.33	20.80	0.47	MDST		Dark grey				100
20.80	20.88	0.08	MDST		Slicked coaly surfaces, med. grey			210	
20.88	21.61	0.73	COAL		Small py bleb near top and in middle middle of seam Stick core			211	100

DEPTH (METRES)			LITHOLOGY			BEDDING ANGLE		SAMPLE	
FROM	TO	THICK-NESS	MAIN	MINOR	DESCRIPTION	DEPTH (M)	ANGLE	NUMBER	% RCVRY
21.61	21.79	0.18	MDST		Very coaly Very dark colour			233	100
21.79	22.71	0.92	MDST		Burrows and slicked surfaces Medium grey Moderate colour contrast with above unit Weak separation with above unit				
22.71	23.01	0.30	COAL		Very good colour contrast with above unit Good separation with above unit			212	100
23.01	23.98	0.97	COAL		Broken core Very thin why cc veinlets			213	100
23.98	24.28	0.30	COAL		.03m py band 1m from contact Thin ash band .08m from contact			214	100
24.28	24.54	0.26	MDST		Light grey volcanic ash parting			215	73
24.54	24.75	0.21	MDST		Good stick core			216	100
24.75	25.96	1.21	MDST		Rip-up clasts at top Medium grey Very thinly bedded	25.18	70°		
25.96	26.04	0.08	MDST						

DEPTH (METRES)			LITHOLOGY			BEDDING ANGLE		SAMPLE	
FROM	TO	THICK-NESS	MAIN	MINOR	DESCRIPTION	DEPTH (M)	ANGLE	NUMBER	% RCVRY
26.04	26.96	0.92	COAL	3U	Good clean stick core Bright with some dull bands Very poor colour contrast with above unit Good separation with above unit			218	100
26.96	27.04	0.08	MDST		Good colour contrast with above unit Good separation with above unit			219	100
27.04	27.31	0.27	MDST		Medium grey, featureless				
27.31	27.39	0.08	MDST		Py blebs at contact			220	100
27.39	28.44	1.05	COAL	3L	Good stick core Dull with occ. thin bright bands Rooted base Good separation with above unit Good colour contrast with above unit			221	100
28.44	28.52	0.08	MDST		Good separation with above unit Moderate colour contrast with above unit			222	100
28.52	37.40	8.88	MDST		Dark grey with very thin discon-tinuous light grey SLST laminations Very indistinct burrowing Remarkably consistent Colified plant fragments	29.44 36.98	70° 70°		
37.40	37.48	0.08	MDST					223	91.1

DEPTH (METRES)			LITHOLOGY			BEDDING ANGLE		SAMPLE	
FROM	TO	THICK-NESS	MAIN	MINOR	DESCRIPTION	DEPTH (M)	ANGLE	NUMBER	% RCVRY
37.48	37.78	0.30	COAL	2	Rubbly core Weak separation with above unit Very poor colour contrast with above unit Gradational contact with above unit			224	91.1
37.78	38.00	0.22	COAL	2	Thin py band in coal			225	91.1
38.00	39.08	1.08	COAL	2	Dull with thin bright bands			226	91.1
39.08	40.00	0.92	COAL	2	Occ. thin grey ash bands			227	91.1
40.00	40.24	0.24	COAL	2	Very rooted at base			228	91.1
40.24	40.37	0.13	MDST		Good colour contrast with above unit Good separation with above unit			229	90.3
40.37	40.74	0.37	MDST						
40.74	40.81	0.07	MDST					230	90.3
40.81	41.28	0.47	2L		Dull stick core Rooted at base Weak colour contrast with above unit Moderate to good separation with above unit			231	93.7
41.28	41.36	0.08	MDST	SLST	Moderate colour contrast with above unit Good separation with above unit			232	93.7
41.36	48.70	7.34	MDST	SLST	Very thin light grey SLST lamina-nations in a dark grey MDST matrix Occ. burrowing Plant fragments	46.00 47.44	72° 69°		

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CORE DESCRIPTION

PROJECT Telkwa HOLE I.D. TW-921-89 EXAMINER S.J. Cameron DATE Oct. 27/89

DEPTH (METRES)			LITHOLOGY			BEDDING ANGLE		SAMPLE	
FROM	TO	THICK-NESS	MAIN	MINOR	DESCRIPTION	DEPTH (M)	ANGLE	NUMBER	% RCVRY
0.00	19.50	19.50	SLST		Sandy Medium grey, micaceous Fairly massive Occ. thin IRST band				
19.50	26.60	7.10	SS1	SLST	Light grey SS1 with thin interbeds of dark grey SLST Bioturbated Soft sed deformation Micaceous	19.85 22.00	71° 69°		
26.60	27.38	0.78	MDST	Silty	Silty MDST, dark-medium grey Fairly hard, thin lenticular SS1 bands				
27.38	27.46	0.08	A/A					304	100
27.46	28.53	1.07	COAL		Abrupt contact Good colour contrast Moderate physical separation Broken stick at top Rubble toward base	28.20	70°	305	66
28.53	28.61	0.08	MDST		Gradational contact with above coal Poor colour contrast Poor physical separation			306	100
28.61	28.80	0.19	MDST		Black, carb				

DEPTH (METRES)			LITHOLOGY			BEDDING ANGLE		SAMPLE	
FROM	TO	THICK-NESS	MAIN	MINOR	DESCRIPTION	DEPTH (M)	ANGLE	NUMBER	% RCVRY
28.80	31.35	2.55	SS1	SLST	Interbedded light grey SS1 with dark grey SLST, micaceous Occ. thin coal bands Occ. IRST band				
31.35	32.49	1.14	SLST		Dark grey, Carb				
32.49	34.11	1.62	SS1		Light grey, iron carbonate cement				
34.11	34.19	0.08	SLST		Dark-medium grey			307	100
34.19	35.14	0.95	COAL		Abrupt contact Moderate physical Good colour contrast			308	68
35.14	35.22	0.08	MDST		Moderate contact Moderate physical Good colour contrast Dark grey/black, carb			309	100
35.22	35.35	0.13	MDST		Dark grey/black, carb				
35.35	36.50	1.15	SLST		Dark grey, carb Occ. thin SS1 wisps Occ. thin coal bands Occ. MDST nodules	35.60 36.50	75° 72°		
36.50	36.55	0.05	SLST	CARB	Black			310	100
36.55	36.98	0.43	COAL		Moderate physical separation Moderate contact Moderate colour contrast			311	81
36.98	37.28	0.30	CARB	MDST	Black/dark grey Gradational contrast			312	92

DEPTH (METRES)			LITHOLOGY			BEDDING ANGLE		SAMPLE	
FROM	TO	THICK-NESS	MAIN	MINOR	DESCRIPTION	DEPTH (M)	ANGLE	NUMBER	% RCVRY
37.28	37.58	0.30	COAL		Gradational contact			313	88
37.58	38.69	1.11	COAL					314	88
38.69	38.99	0.30	COAL					315	88
38.99	39.07	0.08	SLST	CARB	Abrupt contact Good physical separation Good colour contrast			316	100
39.07	39.29	0.22	CARB	SLST	Medium grey Fairly massive				
39.29	39.49	0.20	SS2		fining upward sequence Medium grey/light grey, ABN rip up clasts Lower contact is scour contact	39.48	69°		
39.49	39.72	0.23	MDST		Black, carb				
39.72	39.82	0.10	COAL		Dirty bone coal				
39.82	40.00	0.18	MDST		Medium grey, carb ABN wood fragments				
40.00	41.50	1.50	SLST	SS1	Dark grey, SLST with thin interbeds of light grey SS1 Some bioturbation Occ. band of brown IRST	40.4	73°		
41.50	41.60	0.10	MDST		Black, carb				

DEPTH (METRES)			LITHOLOGY			BEDDING ANGLE		SAMPLE	
FROM	TO	THICK-NESS	MAIN	MINOR	DESCRIPTION	DEPTH (M)	ANGLE	NUMBER	% RCVRY
41.60	41.89	0.29	COAL		Good physical separation Poor colour contrast Broken stick				
41.89	42.40	0.51	SLST		Muddy SLST Moderate contrast Poor colour contrast				
42.40	48.59	6.19	SLST	SS1	Dark grey SLST interbedded with light grey SS1 ABN Bioturbation Occ. carb band Occ. 5cm brown IRST band	43.60 44.98	68° 71°		
48.59	50.80	2.21	SS1		Light grey, S & P Thin interbeds of dark grey SLST Occ. thin coal bands Occ. grades to SS2	48.86	72°		
50.80	52.88	2.08	SLST		Dark grey, slightly carb Occ. thin band of light grey SS1				
52.88	57.70	4.82	SS1		Light grey SS1 with occ. thin interbeds of dark grey SLST, black carb MDST Occ. thin brown IRST bands Occ. rip up clasts Minor bioturbation	53.60 57.00	70° 72°		
57.70	62.60	4.90	SLST		Dark grey Occ. thin SS1 wisps or 2cm bands Rare thin IRST bands	60.88	73°		
62.60	63.25	0.65	MDST		Dark grey, carb				

DEPTH (METRES)			LITHOLOGY			BEDDING ANGLE		SAMPLE	
FROM	TO	THICK-NESS	MAIN	MINOR	DESCRIPTION	DEPTH (M)	ANGLE	NUMBER	% RCVRY
63.25	63.35	0.10	COAL		Moderate contact Poor colour contrast Good physical separation Minor thin pyrite bands			317	100
63.35	63.95	0.60	COAL					318	94
63.95	64.00	0.05	PYRITE					318	94
64.00	64.68	0.68	COAL					318	94
64.68	64.76	0.08	MDST		Moderate contact Moderate colour contrast Moderate physical separtion			319	100
64.76	65.86	1.10	MDST		Dark grey ABN carb material Rare thin SS1 wisps Medium grey in centre of unit	65.28	71°		
65.86	65.94	0.08	MDST		As above			320	100
65.94	66.24	0.30	COAL		Moderate/poor contact Moderate colour separation Moderate physical separation			321	100
66.24	67.23	0.99	COAL		Bony coal			322	100
67.23	67.53	0.30	COAL					323	100
67.53	67.96	0.43	COAL		Bony Coal Poor contact with above coal			324	100

DEPTH (METRES)			LITHOLOGY			BEDDING ANGLE		SAMPLE	
FROM	TO	THICK-NESS	MAIN	MINOR	DESCRIPTION	DEPTH (M)	ANGLE	NUMBER	% RCVRY
67.96	68.04	0.08	MDST		Poor contact Poor colour contrast Moderate physical separation			325	100
68.04	68.52	0.48	MDST		Black, carb				
68.52	68.72	0.20	COAL		Poor contact				100
68.72	71.91	3.19	SLST	MDST	Dark grey/black ABN thin coal bands Occ. thin pyrite bands Rare thin IRST bands Fairly massive unit	69.56	70°		
71.91	71.99	0.08	SLST	MDST				326	100
71.99	72.24	0.25	COAL		Gradational contact			327	100
72.24	72.54	0.30	MDST		Grey/black, carb Gradational contact			328	100
72.54	73.58	1.04	COAL		Gradational contact Poor colour contrast Moderate physical separation Broken stick core			329	98
73.58	73.64	0.06	COAL					330	98
73.64	73.81	0.17	COAL		Bony Coal			330	98
73.81	74.12	0.31	MDST		Black/Brown, carb			331	100

DEPTH (METRES)			LITHOLOGY			BEDDING ANGLE		SAMPLE	
FROM	TO	THICK-NESS	MAIN	MINOR	DESCRIPTION	DEPTH (M)	ANGLE	NUMBER	% RCVRY
74.12	74.41	0.29	MDST		Coaly MDST			332	100
74.41	76.20	1.79	MDST		Grey/black Silty Carb				
76.20	76.60	0.40	SLST		Dark grey, carb				
76.60	78.77	2.17	MDST		Dark grey/black grey Carb, ABN wood fragments				
78.77	78.85	0.08	MDST	SILTY	Moderate contact Moderate colour contrast Moderate physical separation			333	100
78.85	79.46	0.59	COAL					334	100
79.46	79.52	0.06	COAL	PYRITE	Zone of thin pyrite bands			334	100
79.52	80.16	0.64	COAL					334	100
80.16	80.24	0.08	MDST		Good physical separation Good colour contrast Abrupt contact			335	100
80.24	80.88	0.64	MDST		Dark grey, carb ABN wood fragments				
80.88	80.96	0.08	MDST	A/A				336	100
80.96	81.60	0.64	COAL		Gradational contact Poor physical separation Poor colour contrast			337	86

DEPTH (METRES)			LITHOLOGY			BEDDING ANGLE		SAMPLE	
FROM	TO	THICK-NESS	MAIN	MINOR	DESCRIPTION	DEPTH (M)	ANGLE	NUMBER	% RCVRY
81.60	81.68	0.08	MDST		Moderate contact Good physical contrast Moderate colour contrast			338	100
81.68	82.52	0.84	MDST		Dark grey ABN thin coal bands Occ. grades to SLST				
82.52	82.60	0.08	MDST					339	95
82.60	82.90	0.30	COAL		Moderate contact Moderate colour contrast Moderate physical separation			340	95
82.90	83.88	0.98	COAL		Broken stick			341	95
83.88	83.95	0.07	SS2		Black/brown			342	95
83.95	84.44	0.49	COAL					343	95
84.44	84.65	0.21	CLAYST		Abrupt contact Grey/brown Bentonitic? Rare sheared surfaces			344	100
84.65	84.90	0.25	COAL		Abrupt contact ABN pyrite at base of unit	84.75	71°	345	100
84.90	84.98	0.08	MDST		Coaly MDST Poor contact Poor physical separation Poor colour contrast			346	100
84.98	85.07	0.09	MDST		Coaly MDST				

DEPTH (METRES)			LITHOLOGY			BEDDING ANGLE		SAMPLE	
FROM	TO	THICK-NESS	MAIN	MINOR	DESCRIPTION	DEPTH (M)	ANGLE	NUMBER	% RCVRY
85.07	85.76	0.69	MDST		Grey, carb Occ. thin coal bands				
85.76	85.84	0.08	MDST	A/A				347	97
85.84	86.82	0.98	COAL		Abrupt contact Good colour contrast Good physical separation Broken stick			348	97
86.82	86.90	0.08	MDST		Gradational contact Poor physical separation Poor colour separation Medium grey, carb			349	97
86.90	87.15	0.25	MDST		Medium grey, carb Sulpher blebs at base of unit			350	97
87.15	87.23	0.08	MDST		Abrupt contact			351	97
87.23	88.24	1.01	COAL		Broken stick			352	97
88.24	88.32	0.08	SLST		Moderate/Abrupt contact Good physical separation Moderate colour contrast			353	97
88.32	95.72	7.40	SLST		Dark grey, carb Occ. thin light grey SS1 wisps Occ. thin IRST bands Minor calcide along bedding planes	90.45 94.27	71° 68°		
95.72	95.81	0.09	COAL					354	

DEPTH (METRES)			LITHOLOGY			BEDDING ANGLE		SAMPLE	
FROM	TO	THICK-NESS	MAIN	MINOR	DESCRIPTION	DEPTH (M)	ANGLE	NUMBER	% RCVRY
95.81	96.14	0.33	MDST		Silty, dark grey			355	100
96.14	96.44	0.30	COAL	BONEY				356	96
96.44	97.45	1.01	COAL		Stick core			357	96
97.45	98.46	1.01	COAL					358	96
98.46	98.76	0.30	COAL					359	96
98.76	98.96	0.20	CARB	MDST	Black Abn thin coal bands Gradational contact Poor colour contrast Poor physical separation			360	100
98.96	99.49	0.53	COAL		Gradational contact Poor colour contrast Poor physical separation Stick cork			361	100
99.49	99.57	0.08	SLST		Moderate gradational contact Moderate physical separation Moderate/good colour contrast Dark grey			362	100
99.57	107.60	8.03	SLST	SS1	Dark grey SLST interbedded with light grey SS1 Occ. brown IRST band Occ. soft sed deformation Minor bioturbation	101.60 105.19	72° 70°		

DEPTH (METRES)			LITHOLOGY			BEDDING ANGLE		SAMPLE	
FROM	TO	THICK-NESS	MAIN	MINOR	DESCRIPTION	DEPTH (M)	ANGLE	NUMBER	% RCVRY
107.60	113.00	5.40	SS1		SS1/v.f.g. Medium grey Massive Minor IRST nodules Rare thin coal bands Rare shell fragments Gastropods?				

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CORE DESCRIPTION

PROJECT Telkwa **HOLE I.D.** TW-922-89 **EXAMINER** S.J. Cameron **DATE** Oct. 27/89

DEPTH (METRES)			LITHOLOGY			BEDDING ANGLE		SAMPLE	
FROM	TO	THICK-NESS	MAIN	MINOR	DESCRIPTION	DEPTH (M)	ANGLE	NUMBER	% RCVRY
0.00	9.10	9.10							
9.10	10.20	1.20	SS1		Medium grey, massive Occ. stringer of dark grey SLST				
10.20	18.00	7.80	SS2		Salt and pepper Occ. thin carb SLST stringers Occ. coaly stringer	11.80 13.40 14.40	60° 68° 73°		
18.00	20.40	2.40	SS1	SLST	Medium grey SS1 interbedded with dark grey SLST Occ. pyrite band Occ. shell fragments within thin IRST bands				
20.40	49.55	29.15	SLTY SS1	Upper contact is gradational	Fine grained silty SS1 Medium grey Massive Occ. thin <5cm coal band often with ABN pyrite often associated with IRST (con't)	43.95	72°		

DEPTH (METRES)			LITHOLOGY			BEDDING ANGLE		SAMPLE	
FROM	TO	THICK-NESS	MAIN	MINOR	DESCRIPTION	DEPTH (M)	ANGLE	NUMBER	% RCVRY
					Occ. shell fragments (pelycypods) Minor soft sed deformation and bioturbation Thin lenticular bands of dark grey SLST near base of unit Occ. wood fragments Marginally less masive with some interbedded SLST wisps near base of unit				
49.55	50.00	0.45	FAULT GAUGE		Gauge zone, muddy, betonitic?				
50.00	63.00	13.00	SS1		Medium grey SS1 with thin interbeds of dark grey SS1, SLST and carb MDST ABN bioturbation and soft sed deformation 10cm interbeds of brown iron carbonate with shell fragments	55.25 62.90	69° 59°		
63.00	64.60	1.60	SS2		Gradation contact with SS1 ABN bioturbation				
64.60	67.00	2.40	SS2		Medium grey stp SS1 with thin interbeds of dark grey SLST and 5cm brown bands of iron carbonate	64.75 65.80	68° 69°		

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CORE DESCRIPTION

PROJECT Telkwa **HOLE I.D.** TW-923-89 **EXAMINER** S.J. Cameron **DATE** Oct. 28/89

DEPTH (METRES)			LITHOLOGY			BEDDING ANGLE		SAMPLE	
FROM	TO	THICK-NESS	MAIN	MINOR	DESCRIPTION	DEPTH (M)	ANGLE	NUMBER	% RCVRY
0.00	11.04	11.04	MDST		Black carb MDST with thin interbeds of light grey SS1 ABN pyrite bands and blebs	9.60 10.30	66° 76°		
11.04	11.52	0.48	COAL		Sharp contact with above unit Moderate colour contrast Good physical separation Broken stick ABN calcite along cleats				50
11.52	11.90	0.38	MDST		Abrupt contact with above unit Black, carb Thin 2cm coal bands Sheared zone at base				
11.90	11.98	0.08	MDST					119	100
11.98	12.25	0.27	COAL		Gradational contact with above unit			120	62
12.25	12.44	0.19	MDST					121	62
12.44	12.57	0.13	COAL		Broken			122	96
12.57	12.69	0.12	MDST		Carb, broken, VDK, grey			123	96
12.69	12.80	0.11	COAL		Visiable sulpher			124	91
12.80	13.12	0.32	COAL		Moderate contact with above unit Good physical separation Poor colour contrast			125	91

DEPTH (METRES)			LITHOLOGY			BEDDING ANGLE		SAMPLE	
FROM	TO	THICK-NESS	MAIN	MINOR	DESCRIPTION	DEPTH (M)	ANGLE	NUMBER	% RCVRY
13.12	13.14	0.02	SLST		2cm SLST band, also pyrite			125	91
13.14	13.66	0.52	COAL					125	91
13.66	14.52	0.86	COAL					126	91
14.52	14.82	0.30	COAL					127	91
14.82	15.16	0.34	MDST		Sharp contact with above unit Good physical separation Moderate colour contrast Dark grey, carb Occ. slickersided surface			128	100
15.16	15.30	0.14	COAL		Boney thin MDST wisps			129	90
15.30	15.56	0.26	MDST		Dark grey, carb			130	100
15.56	15.71	0.15	COAL		Gradational with above unit Dirty			131	92
15.71	15.79	0.08	MDST		Black, carb Gradational with adjacent units			131	92
15.79	15.93	0.14	COAL		Dirty			131	92
15.93	16.20	0.27	MDST		Abrupt contact with above unit Good colour contrast Good physical separation Light grey Abn coalified plant debris	16.00	68°		

DEPTH (METRES)			LITHOLOGY			BEDDING ANGLE		SAMPLE	
FROM	TO	THICK-NESS	MAIN	MINOR	DESCRIPTION	DEPTH (M)	ANGLE	NUMBER	% RCVRY
16.20	20.70	4.50	SLST	SS1	Convoluted high angle bedding Dark grey SLST with thin light grey SS1 bands. SS1 has green hue Occ. slickensides throughout unit Slightly carb	17.60 18.45 19.25	65° 79° 77°		
20.70	21.20	0.50	IRST						
21.20	23.95	2.75	SLST	SS1	Dark grey SLST with thin interbeds of light grey/green SS1	21.80 23.85	77° 66°		
23.95	26.18	2.23	SS2	SLST	Light grey/green SS2 with interbeds dark grey SLST and MDST Occ. thin IRST bands Calcite along high angle joints	25.80	76°		
26.18	27.19	1.01	SLST		Dark grey, thin wisps of light grey SS1	26.60 27.00	63° 54°		
27.19	27.45	0.26	COAL		Sharp contact Pyrite bands at roof of seam				
27.45	27.92	0.47	SLST		Sharp contact Dark grey, micaceous Occ. slickensides				
27.92	28.28	0.36	MDST		Black, carb				
28.28	28.36	0.08	MDST					132	100
28.36	28.66	0.30	COAL		Moderate contact with above unit Good physical contrast Poor colour contrast			133	96
28.66	29.31	0.75	COAL		Broken stick			134	96

DEPTH (METRES)			LITHOLOGY			BEDDING ANGLE		SAMPLE	
FROM	TO	THICK-NESS	MAIN	MINOR	DESCRIPTION	DEPTH (M)	ANGLE	NUMBER	% RCVRY
29.31	29.36	0.05			5cm pyrite band			134	96
29.36	30.06	0.70	COAL		Rubble			135	27
30.03	30.10	0.04	MDST					135	27
30.10	30.28	0.18	COAL		No visible contact due to poor recovery	135	27		
30.28	30.51	0.23	LOST CORE		Lost core				
30.51	30.74	0.23	COAL					136	52
30.74	30.92	0.18	SLST	SS1	Interbedded breccia? at base Occ. IRST			136	52
30.92	31.34	0.42	COAL		Sharp contact with above unit			137	100
31.34	31.42	0.08	MDST		Abrupt contact with above unit Good physical contrast Poor colour contrast			138	100
31.42	32.60	1.18	MDST		Black, carb 31.8-32.2 of unit is highly sheared				
32.60	35.40	2.80	MDST		Coaly MDST Black Sheared				
35.40	36.40	1.00	MDST	SHEARED	Carb Some interbedded light grey SS1 highly sheared, convoluted bedding	35.80	60°?		
36.40	36.80	0.40	MDST		Coaly MDST Black, highly sheared				

DEPTH (METRES)			LITHOLOGY			BEDDING ANGLE		SAMPLE	
FROM	TO	THICK-NESS	MAIN	MINOR	DESCRIPTION	DEPTH (M)	ANGLE	NUMBER	% RCVRY
36.80	37.70	0.90	MDST		Carb MDST				
37.70	38.38	0.68			Volcanic Tuff? Abn wood fragments Some secondary calcite				
38.38	39.00	0.68	MDST	SHEARED	Coaly MDST Black, highly sheared Fault gauge at base of unit brecciated zone, abn calcite				
39.00	46.70	7.70	SS2	SS1	Coarsening upward sequence Light grey SS2 grading down to SS1 at base Interbeds of SLST at base Occ. IRST bands Occ. pelycpod fragments Some small scale growth faults Some bioturbation near base of unit	42.85 44.40	63° 70°		
46.70	64.00	17.30	SS1		Silty SS1 Massive Light grey to medium grey Slightly carb (plant debris) Abn nodules near base Rare coaly blebs Occ. IRST bands	52.40	69°		

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CORE DESCRIPTION

PROJECT Telkwa **HOLE I.D.** TW-924-89 **EXAMINER** B. McKinstry **DATE** Oct. 29/89

DEPTH (METRES)			LITHOLOGY			BEDDING ANGLE		SAMPLE	
FROM	TO	THICK-NESS	MAIN	MINOR	DESCRIPTION	DEPTH (M)	ANGLE	NUMBER	% RCVRY
0.00	7.70	7.70	MDST		Dark grey to coaly MDST Rubble				
7.70	10.60	2.90	SLST	MDST	Thinly laminated light and medium grey interbedded SLST and MDST	9.50	78°		
10.60	11.94	1.34	MDST		Medium grey featureless				
11.94	12.20	0.26	COAL		Good colour contrast with above unit Good separation Dull coal with py at top			281	80.7
12.20	13.06	0.86	MDST		Poor colour contrast with above unit Good separation Medium grey with occ. coal lenses				
13.06	13.14	0.08	MDST					282	77.2
13.14	13.44	0.30	COAL		Poor colour contrast with above unit Moderate separation			283	77.2
13.44	14.25	0.81	COAL		Rubbly core Core loss at top Dull with occ. thin bright bands			284	77.2
14.25	15.04	0.79	COAL					285	77.2
15.04	15.34	0.30	COAL					286	77.2

DEPTH (METRES)			LITHOLOGY			BEDDING ANGLE		SAMPLE	
FROM	TO	THICK-NESS	MAIN	MINOR	DESCRIPTION	DEPTH (M)	ANGLE	NUMBER	% RCVRY
15.34	16.80	1.44	MDST		Good colour contrast with above unit Good separation Very light grey MDST grading into a medium grey silty MDST				
16.80	18.60	1.80	SLST		Laminated light and dark grey Thinly bedded	18.20	72°		
18.60	18.94	0.34	COAL		Moderate contrast with above unit Good separation Dull coal with a few thin bright bands			287	100
18.94	25.40	6.46	SLST		Good colour contrast with above unit Good separation Interlaminated and thinly bedded Burrowing common Soft sediment deformation	23.80	70°		
25.40	26.70	1.30	SS		Grey/green with occ. dark grey MDST lenses F.g. with some fining upward	26.40	66°		
26.70	28.90	2.20	SLST		Laminated with dark grey MDST bands Thinly bedded				
28.90	29.40	0.50	SS		Light grey/green laminated, f.g.				
29.40	30.00	0.60	SLST		Interlaminated, thinly bedded				
30.00	31.70	1.70	MDST		Medium/dark grey, massive	30.15	60°		
31.70	34.90	3.20	MDST	SLST	Interlaminated thin dark grey and light grey MDST/SLST beds Rythmic bedding	32.70 34.50	68° 70°		

DEPTH (METRES)			LITHOLOGY			BEDDING ANGLE		SAMPLE	
FROM	TO	THICK-NESS	MAIN	MINOR	DESCRIPTION	DEPTH (M)	ANGLE	NUMBER	% RCVRY
34.90	35.49	0.59	MDST		Dark/medium grey, massive				
35.49	35.57	0.08	MDST					288	100
35.57	35.87	0.30	COAL		Poor colour contrast with above unit Moderate separation Py band at contact			289	100
35.87	36.95	1.08	COAL		Dull and bright coal Stick core Thin bands of bright cleats	36.82	54°	290	100
36.95	37.25	0.30	COAL					291	100
37.25	37.33	0.08	MDST		Very poor contact with above unit Dark grey shaley floor Slicked			292	100
37.33	39.72	2.39	MDST		Slicked medium grey Occ. coal bands with white thin cc fibres Coaly at base	39.10	48°		
39.72	39.80	0.08	MDST					293	89.9
39.80	39.92	0.12	COAL		Dark grey shaley roof with above unit Very poor contact Poor colour contrast			294	89.9
39.92	40.17	0.25	COAL					295	89.9
40.17	40.47	0.30	COAL		Thin py bands in this band			296	89.9
40.47	41.78	1.31	COAL					297	89.9

DEPTH (METRES)			LITHOLOGY			BEDDING ANGLE		SAMPLE	
FROM	TO	THICK-NESS	MAIN	MINOR	DESCRIPTION	DEPTH (M)	ANGLE	NUMBER	% RCVRY
41.78	43.06	1.28	COAL		Dull coal with occ. bright cleated bands occ. thin (10cm) light grey ash bands in coal Occ. py bleb			298	89.9
43.06	43.36	0.30	COAL					299	89.9
43.36	43.44	0.08	MDST		Poor to moderate contact with above unit Clay at base. Bentonitic? White bleaching			300	89.9
43.44	44.09	0.65	MDST		Medium grey slicked with py nodules White cc fractures				91
44.09	44.17	0.08	MDST					301	100
44.17	45.32	1.15	COAL		Good colour contrast with above unit Good separation Dull broken core Occ. thin bright bands Py bleb 30cm from base	44.75	62°	302	100
45.32	45.40	0.08	MDST		Rooted at base Good colour contrast with above unit Good separation			303	100
45.40	47.80	2.40	MDST		Medium grey with occ. light grey beddings				

DEPTH (METRES)			LITHOLOGY			BEDDING ANGLE		SAMPLE	
FROM	TO	THICK-NESS	MAIN	MINOR	DESCRIPTION	DEPTH (M)	ANGLE	NUMBER	% RCVRY
47.80	66.10	18.30	SLST		Light grey/medium grey Occ. wht cc fractures Occ. concretion Zones of strong sandy bioturbation and burrowing Very strongly burrowed at end of hole Occ. f.g. light grey SS bands	56.50	75°		

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CORE DESCRIPTION

PROJECT Telkwa **HOLE I.D.** TW-925-89 **EXAMINER** S.J. Cameron **DATE** Oct. 30/89

DEPTH (METRES)			LITHOLOGY			BEDDING ANGLE		SAMPLE	
FROM	TO	THICK-NESS	MAIN	MINOR	DESCRIPTION	DEPTH (M)	ANGLE	NUMBER	% RCVRY
0.00	8.65	8.65	MDST		Dark grey/black, fractures in a blockg pattern Massive				
8.65	10.15	1.50	SLST		Massive Rare coaly or carb blebs				
10.15	11.60	1.45	SS1		Greenish/grey SS1, massive Rare thin coal wisps				
11.60	15.40	3.80	SS1		Light grey Occ. band of brown IRST Occ. thin interbeds of dark grey SLST becoming more abundant near base of unit Rare calcite along joint surfaces Fairly abn bioturbation	12.20 13.40	64° 59°		
15.40	16.40	1.00	MDST		Black, carb				
16.40	17.15	0.75	SLST		Dark grey SLST with thin interbeds of light grey SS1				
17.15	17.80	0.65	MDST		Black carb, abn sheared surface along bedding planes				

DEPTH (METRES)			LITHOLOGY			BEDDING ANGLE		SAMPLE	
FROM	TO	THICK-NESS	MAIN	MINOR	DESCRIPTION	DEPTH (M)	ANGLE	NUMBER	% RCVRY
17.80	26.00	2.20	SS1	SLST	Light grey SS1 interbedded with medium and dark grey v.f.g. SS1 and SLST Abn bioturbation near top of unit Occ. soft sed deformation Occ. band of SS1 with iron carbonate cement Minor carb flecks in SLST Planar to wavy bedding	20.55 25.40	69° 69°		
26.00	32.85	6.85	SS1		Gradational contact Medium grey V.f.g. to fg Slightly carb				
32.85	33.65	0.80	SS1		Light grey, massive, iron carbonate cement Very hard, heavy				
33.65	46.50	12.85	SS1		Medium grey V.f.g. to fg Slightly carb Abn bioturbation (worm burrows) Occ. thin band of lenticular light grey SS1	43.80	70°		
46.50	47.00	0.50	SS1		Light grey, massive				

DEPTH (METRES)			LITHOLOGY			BEDDING ANGLE		SAMPLE	
FROM	TO	THICK-NESS	MAIN	MINOR	DESCRIPTION	DEPTH (M)	ANGLE	NUMBER	% RCVRY
47.00	59.40	12.40	SS1	SLST	Interbedded unit Light grey SS1 interbedded with dark grey SLST and dark grey v.f.g. SST Slightly carb Abn bioturbation Occ. thin brown IRST band Trough crossbedding in SS1 unit but generally Planar laminar bedding	47.35 48.90 51.48 53.60 56.00 58.60	70° 66° 70° 66° 71° 69°		
59.40	74.80	15.40	SLST		Dark grey, massive Occ. brown IRST band Rare thin lenticular band of light grey SS1 Occ. bioturbation	62.20 66.00 69.65	65° 70° 70°		
74.80	81.30	6.50	SS1		Silty SS1 V.f.g. dark grey/green Massive Rare IRST bands or nodules Rare lenticular coal blebs				
81.30	87.40	6.10	SS1	SLST	Thinly interbedded unit Light grey SS1 with dark grey SLST and MDST Occ. brown IRST bands Occ. rip up clasts in SS1 SS1 is crossbedded Rare thin coal wisps SS1 is micaceous Planar bedding	82.00 83.30 84.60 86.20	56° 68° 71° 67°		
87.40	88.85	1.45	SLST	SS1	Dark grey SLST with thin lenticular SS1 wisps	87.60 88.70	70° 65°		

DEPTH (METRES)			LITHOLOGY			BEDDING ANGLE		SAMPLE	
FROM	TO	THICK-NESS	MAIN	MINOR	DESCRIPTION	DEPTH (M)	ANGLE	NUMBER	% RCVRY
88.85	89.09	0.24	SS1		S & P, abn rip ups, amignoidal calcite stringers				
89.09	89.41	0.32	SLST		Interbedded SLST with occ. wisps of SS1				
89.41	89.75	0.34	COAL		Broken core				
89.75	93.60	3.85	SLST	SS1		90.40 91.65	68° 59°		
93.60	97.30	3.70	SLST		Muddy SLST Dark grey/black Very thin light grey lenticular SS1 wisps throughout Occ. brown IRST bands throughout Occ. bioturbation	93.60 96.20	66° 69°		
97.30	97.38	0.08	SLST		4cm pyrite band in roof material at 97.36			234	100
97.38	97.96	0.58	COAL		Abrupt contact Moderate colour contrast Good physical separation Broken core			235	100
97.96	98.04	0.08	MDST	Silty	Silty MDST, Gradational contact Dark grey, pyrite blebs near top of unit			236	100
98.04	100.55	2.51	SLST		Muddy SLST Dark grey, carb Occ. thin pyrite bands and blebs				
100.55	100.91	0.36	COAL		Dirty coal Gradational contact, with above unit				

DEPTH (METRES)			LITHOLOGY			BEDDING ANGLE		SAMPLE	
FROM	TO	THICK-NESS	MAIN	MINOR	DESCRIPTION	DEPTH (M)	ANGLE	NUMBER	% RCVRY
100.91	100.98	0.08	MDST		Black, carb				
100.98	101.09	0.11	MDST		Coaly MDST Gradational contact 4cm pyrite band at base				
101.09	101.85	0.76	MDST		Grey/black Carb, abn wood fragments Abn thin coal bands throughout unit				
101.85	101.93	0.08	MDST		As above			237	100
101.93	102.23	0.30	COAL		Gradational contact, with above unit Poor colour contrast Moderate physical separation			238	78
102.23	103.35	1.12	COAL		Abn calcite filled fractures Thin MDST band <2cm			239	78
103.35	103.65	0.30	COAL					240	78
103.65	103.73	0.08	MDST		Moderate contact, with above unit Good physical separation Moderate colour contrast			241	100
103.73	104.35	0.62	MDST		Medium/dark grey Bioturbation Abn wood fragments Grades to medium grey silty MDST at base, heavily bioturbated				
104.35	105.85	1.50			Slightly sheared broken zone Medium/dark grey Carb, abn wood fragments Abn bioturbation	104.60	69°		

DEPTH (METRES)			LITHOLOGY			BEDDING ANGLE		SAMPLE	
FROM	TO	THICK-NESS	MAIN	MINOR	DESCRIPTION	DEPTH (M)	ANGLE	NUMBER	% RCVRY
105.85	106.30	0.45	SS1		Iron carbonate cement, heavy				
106.30	108.00	1.70	MDST		A/A				
108.00	108.38	0.38	COAL		Thin pyrite bands at roof and base of seam	108.20	64°		
108.38	108.95	0.57	MDST		Carb, medium grey, abn wood fragments				
108.95	110.20	1.25	SLST		Medium grey, thin lenticular SS1 band				
110.20	117.00	6.80	SS1	SLST	Light grey S & P SS1 with thin interbeds of dark grey SLST Occ. bioturbation Occ. brown IRST band/nodule	111.00 115.00	64° 65°		
117.00	118.60	1.60	SLST	SS1	Dark grey SLST with thin interbeds of light grey SS1				
118.60	122.45	3.85	SS1	SLST	Light grey S & P SS1 with thin interbeds of dark grey SLST Occ. bioturbation Brown IRST bands throughout	119.00 120.00 122.00	64° 69° 68°		
122.45	122.90	0.45	COAL		Abrupt road contact Pyrite lenses throughout				
122.90	123.40	0.50	MDST		Moderate floor contact Silty, medium grey, carb				
123.40	126.35	2.95	SLST			126.00	68°		

DEPTH (METRES)			LITHOLOGY			BEDDING ANGLE		SAMPLE	
FROM	TO	THICK-NESS	MAIN	MINOR	DESCRIPTION	DEPTH (M)	ANGLE	NUMBER	% RCVRY
126.35	126.60	0.25	IRST		Brown, hard, heavy, minor calcite filled fractures				
126.60	128.42	1.82	SLST		Dark grey Muddy Thin light grey wisps of SS1 Rare thin coal bands	128.00	71°		
128.42	128.64	0.22	MDST		Dark grey, carb to coaly				
128.64	128.72	0.08	MDST					242	100
128.72	129.02	0.30	COAL		Moderate gradational contact with above unit Poor physical separation Moderate colour separation Thin pyrite bands			243	85
129.02	129.94	0.92	COAL					244	85
129.94	130.24	0.30	COAL					245	85
130.24	130.32	0.08	MDST		Gradational contact Good physical contrast Poor colour contrast			246	100
130.32	130.92	0.60	MDST		Interbedded light grey SS1 wisps			247	100
130.92	131.00	0.08	MDST					248	100
131.00	131.44	0.44	COAL		Moderately gradational, with above unit Good physical separation Fair colour contrast				249 89
131.44	132.26	0.82	COAL		4cm pyrite band at 131.44			250	89
132.26	132.60	0.34	COAL		4cm pyrite band at 132.26			251	89

DEPTH (METRES)			LITHOLOGY			BEDDING ANGLE		SAMPLE	
FROM	TO	THICK-NESS	MAIN	MINOR	DESCRIPTION	DEPTH (M)	ANGLE	NUMBER	% RCVRY
132.60	132.68	0.08	MDST		Gradational contact Poor colour contrast Poor physical separation			252	100
132.68	133.30	0.62	MDST		Black, carb				
133.30	133.57	0.27	COAL		Dirty coal Black, shaley Abn calcite along cleats				
133.57	135.50	1.93	MDST		Black, carb Thin coal bands Abn colified wood fragments	133.80	69°		
135.50	135.72	0.22	COAL		Bone coal				
135.72	136.59	0.87	MDST		Black, carb				
136.59	136.70	0.11	COAL		Bone coal				
136.70	139.00	2.30	MDST		Black, carb	137.95	68°		
139.00	142.86	3.86	SLST	SS1	Dark grey SLST/MDST with interbeds of light grey S & P SS1 Brown IRST bands or nodules throughout unit Thin coal bands near base of unit Fining upward sequence	142.60	69°		
142.86	142.94	0.08	MDST	SS1	Interbedded unit			253	100
142.94	143.24	0.30	COAL		Abrupt contact, with above unit Good physical separation Good colour contrast			254	100
143.24	144.58	1.34	COAL					255	100

DEPTH (METRES)			LITHOLOGY			BEDDING ANGLE		SAMPLE	
FROM	TO	THICK-NESS	MAIN	MINOR	DESCRIPTION	DEPTH (M)	ANGLE	NUMBER	% RCVRY
144.58	145.91	1.33	COAL		Stick core 2cm SLST band at 144.67, Bentonitic? 2cm SLST band at 145.12, Bentonitic?	145.25	68°	256	100
145.91	146.21	0.30	COAL		2cm bentonitic band at 146.15			257	100
146.21	146.51	0.30	COAL					258	100
146.51	146.59	0.08	MDST		Fairly abrupt contact, with above unit Good physical separation Moderate colour separation			259	100
146.59	147.30	0.71	MDST		Medium to dark grey, carb Occ. slickensides				
147.30	147.38	0.08	MDST					260	
147.38	147.60	0.22	MDST		Coaly MDST Black, thin coal bands Abn pyrite			261	100
147.60	147.90	0.30	COAL		Gradation contact, with above unit Poor colour contrast Poor physical separation			262	100
147.90	149.18	1.28	COAL			149.15	61°	263	100
149.18	149.48	0.30	COAL					264	100
149.48	149.64	0.16		BENT	Bent/Talc? White grey, soapy, very soft			265	100
149.64	149.72	0.08	MDST		Coaly MDST			266	100
149.72	150.22	0.50	MDST		Dark grey, carb				

DEPTH (METRES)			LITHOLOGY			BEDDING ANGLE		SAMPLE	
FROM	TO	THICK-NESS	MAIN	MINOR	DESCRIPTION	DEPTH (M)	ANGLE	NUMBER	% RCVRY
150.22	150.62	0.40	SS1	MDST	SS1 with dark grey MDST Interbedded unit Some convoluted bedding				
150.62	153.29	2.67	MDST		Light to medium grey grades to dark grey at base Carb Occ thin coal bands Becomes silty near base of unit with occ. very thin SS1 wisps				
153.29	153.37	0.08	MDST					267	100
153.37	154.44	1.07	COAL		Fairly gradational contact, with above unit Moderate colour contrast Poor physical separation Pyrite blebs at contact	154.05	67°	268	100
154.44	154.52	0.08	MDST		Fairly abrupt contact with above unit Poor colour contrast Good physical separation Abn pyrite at 154.47 Dark grey MDST Carb			269	100
154.52	154.79	0.27	MDST					270	100
154.79	154.87	0.08	MDST					271	100
154.87	155.83	0.96	COAL		Fairly gradational contact, with above unit Poor colour contrast Moderate physical separation Abn pyrite bands	unit		272	97

DEPTH (METRES)			LITHOLOGY			BEDDING ANGLE		SAMPLE	
FROM	TO	THICK-NESS	MAIN	MINOR	DESCRIPTION	DEPTH (M)	ANGLE	NUMBER	% RCVRY
155.83	155.91	0.08	COAL					273	100
155.91	156.80	0.89	MDST		Fairly abrupt contact, with above unit Good colour contrast Good physical separation Medium grey, carb Abn coalified wood fragments				
156.80	165.45	8.65	MDST	SS1	Dark grey/black MDST with thin interbeds of light grey lenticular SS1/SS2 Bioturbation throughout unit (worm burrows) Brown IRST bands/nodules throughout unit Minor carb material	158.22 161.68 164.72	69° 73° 71°		
165.45	165.62	0.17	SS2		S & P SS2 with abn eliptical brown IRST and MDST rip up clasts Overlying MDST squeezed into roof of unit Irregular lower contact, abrupt				
165.62	165.68	0.06	COAL	BONEY	Bone coal Abrupt contact with SS2 Coaly shale to bone coal			274	100
165.68	165.98	0.30	COAL		Gradational contact with bone coal			275	100
165.98	166.28	0.30	COAL		2cm silty clay band at 167.82 light grey			276	100
166.28	167.64	1.36	COAL		2cm clay band at 166.67, brown/grey 2cm clay band at 167.55, brown/grey			277	100
167.64	169.00	2.36	COAL			168.50	68°	278	100

DEPTH (METRES)			LITHOLOGY			BEDDING ANGLE		SAMPLE	
FROM	TO	THICK-NESS	MAIN	MINOR	DESCRIPTION	DEPTH (M)	ANGLE	NUMBER	% RCVRY
169.00	169.30	0.30	COAL					279	100
169.30	169.38	0.08	MDST		Fairly abrupt contact with above unit Good colour contrast Moderate physical separation			280	100
169.38	169.59	0.21	MDST		Medium grey, carb				
169.59	179.40	9.81	SLST	SS1	Dark grey/medium grey SLST with interbeds of light grey SS1 Minor carb material Minor calcite along bedding Small scale thrust faults Brown IRST bands and nodules throughout Bioturbation throughout unit	171.20 174.82 176.80 178.42	67° 67° 68° 69°		
179.40	180.00	0.60	SS1		Silty SS1 SLST to v.f.g. SS1 Medium grey Extremely massive				

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CORE DESCRIPTION

PROJECT Telkwa **HOLE I.D.** TW-927-89 **EXAMINER** S.J. Cameron **DATE** Oct. 22/89

DEPTH (METRES)			LITHOLOGY			BEDDING ANGLE		SAMPLE	
FROM	TO	THICK-NESS	MAIN	MINOR	DESCRIPTION	DEPTH (M)	ANGLE	NUMBER	% RCVRY
0.00	11.40	11.40	SLST		Dark grey, massive Occ. IRST bands				
11.40	16.88	5.48	SLST		Sandy SLST Medium grey Occ. thin calcite stringer along joints Occ. coal blebs with pyrite halos Occ. slickensides along high angle joint sets Occ. IRST bands				
16.88	17.19	0.31	CLAY		Grey/brown clay, abn calcite stringers Fault gauge? Clasts of overlying rock				
17.19	33.15	15.96	SLST		Sandy SLST Medium grey Occ. thin calcite stringers along high angle joints Occ. IRST bands or nodules with abn calcite? Lenses Occ. slickensides along high angle joints Abn pyrite blebs at base of SLST and roof of seam				
33.15	33.40	0.25	COAL						

DEPTH (METRES)			LITHOLOGY			BEDDING ANGLE		SAMPLE	
FROM	TO	THICK-NESS	MAIN	MINOR	DESCRIPTION	DEPTH (M)	ANGLE	NUMBER	% RCVRY
33.40	34.52	0.12	SLST	SS1	Dark grey SLST with thin interbeds of light grey SS1 lenses, grades to carb MDST at base	33.93	68°		
34.52	34.69	0.17	COAL						
34.69	35.24	0.55	MDST		Dark grey, carb				
35.24	35.96	0.72	COAL		Abrupt contact with above unit	35.70	71°	104	87
35.96	36.04	0.08	MDST		Moderate contact with above unit Poor colour contrast Good physical separation			105	100
36.04	37.04	1.00	MDST		Dark grey, carb				
37.04	37.24	0.20	COAL		Broken				
37.24	38.40	1.16	MDST		Dark grey, carb IRST band at top of unit				
38.40	38.59	0.19	COAL		Broken				
38.59	39.88	1.29	MDST						
39.88	40.20	0.32	COAL		Rubble				
40.20	42.44	2.24	MDST		Carb MDST, dark grey Abn slickensides, broken core				
42.44	42.52	0.08	MDST					106	100
42.52	43.07	0.55	COAL		Abrupt contact with above unit Good physical separation Moderate to poor colour contrast Broken to rubble			107	96

DEPTH (METRES)			LITHOLOGY			BEDDING ANGLE		SAMPLE	
FROM	TO	THICK-NESS	MAIN	MINOR	DESCRIPTION	DEPTH (M)	ANGLE	NUMBER	% RCVRY
43.07	43.37	0.30	MDST		Black, carb			108	100
43.37	43.72	0.35	COAL		Broken Gradational contact with above unit			109	85
43.72	43.80	0.08	MDST		Moderate contact with above unit Good physical separation Poor colour contrast			110	100
43.80	44.58	0.78	MDST		Dark grey/black, carb				
44.58	44.66	0.08						111	
44.66	45.69	1.03	COAL		Gradational contact with above unit Poor colour contrast Good physical separation Bands of clay or bentonite Convoluted bedding in base of seam to thin interbeds of SLST Calcite along cleats Broken core 4cm convoluted bedding at 45.18 medium grey 6cm convoluted bedding at 45.38 medium grey	45.55	64°	112	
45.69	45.77	0.08	SS1		Abrupt contact Good colour separation Good physical separation			113	
45.77	46.72	0.95	SS1		Medium grey Interbedded with light grey SLST Occ. IRST band 5cm fault gauge at 46.20m				

DEPTH (METRES)			LITHOLOGY			BEDDING ANGLE		SAMPLE	
FROM	TO	THICK-NESS	MAIN	MINOR	DESCRIPTION	DEPTH (M)	ANGLE	NUMBER	% RCVRY
46.72	47.40	0.68	MDST		Black, carb Interbedded light grey SLST Becomes coaly MDST at base				
47.40	47.68	0.28	MDST		Gradational contact Poor colour separation Poor physical separation			114	100
47.68	48.37	0.69	COAL		Stick core 5cm clay band at 47.80m			115	100
48.37	48.45	0.08	SS1		Moderate contact Poor colour contrast Good physical separation			116	100
48.45	50.56	2.11	SS1		Fining upward sequence from v.f.g. to SS2 Becomes interbedded at base with MDST wisps Planar bedding	49.63 50.03	74° 79°		
50.56	50.72	0.16	COAL		Black, carb, interbedded thin coal bands				
50.72	51.48	0.76	MDST		Dark grey, carb Coaly bands at base				
51.48	52.00	0.52	COAL		Gradational contact with above unit	51.82	70°	117	90
52.00	52.60	0.60	SLST		Gradational contact with above unit Dark grey, carb Fines upward to MDST				

DEPTH (METRES)			LITHOLOGY			BEDDING ANGLE		SAMPLE	
FROM	TO	THICK-NESS	MAIN	MINOR	DESCRIPTION	DEPTH (M)	ANGLE	NUMBER	% RCVRY
52.60	62.00	9.40	SS1	SLST	Dark grey SS1 with interbeds of dark grey SLST and 10cm beds of S & P SS2 SS2 contain rip up clasts and often scour contacts at base Occ. calcite filled fractures (slickensides) Occ. brown IRST band or nodule Occ. coal blebs Bedding is sometimes wavy to convoluted	56.59 58.80	80° 73°		
62.00	62.20	0.20	MDST		Black, carb				

CORE DESCRIPTION

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PROJECT Telkwa **HOLE I.D.** TW-928-89 **EXAMINER** S.J. Cameron **DATE** Oct. 31/89

DEPTH (METRES)			LITHOLOGY			BEDDING ANGLE		SAMPLE	
FROM	TO	THICK-NESS	MAIN	MINOR	DESCRIPTION	DEPTH (M)	ANGLE	NUMBER	% RCVRY
0.00									
14.60	18.41	3.81	SS1	SLST	Medium grey SS1 interbedded with light grey SS1 and dark grey SLST Occ. thin IRST bands	15.60 17.48	80° 77°		
18.41	19.20	0.79	MDST		Black, carb Occ. thin coal bands				
19.20	19.28	0.08	MDST					49	76
19.28	19.64	0.36	COAL		Moderately abrupt contact with above unit Poor colour contrast Good physical separation			50	76
19.64	20.64	1.00	COAL		Thin SS1 band pyrite blebs at 20.15m			51	76
20.64	21.00	0.36	COAL					52	76
21.00	21.08	0.08	MDST		Abrupt contact with above unit Good colour contrast Good physical separation			53	100
21.08	21.47	0.39	MDST		Dark grey, carb, thin coal bands			54	100
21.47	21.55	0.08	MDST					55	100
21.55	22.12	0.57	COAL		Abrupt contact with above unit Good colour separation Good physical separation			56	100

DEPTH (METRES)			LITHOLOGY			BEDDING ANGLE		SAMPLE	
FROM	TO	THICK-NESS	MAIN	MINOR	DESCRIPTION	DEPTH (M)	ANGLE	NUMBER	% RCVRY
22.12	22.36	0.24	MDST		Dark grey, carb Occ. thin coal bands			57	79
22.36	23.08	0.72	COAL		Thin SS1 bands pyritic blebs at 22.84			58	100
23.08	23.35	0.27	MDST		Abrupt contact with above unit Good physical separation Good colour contrast			59	100
23.35	23.56	0.21	COAL		Dirty coal			60	82
23.56	23.64	0.08	MDST		Poor physical separation with above unit Poor colour contrast			60	82
23.64	24.20	0.56	MDST		Coaly upper part of unit Black, carb, soft, silty Occ. thin coal band				
24.20	25.80	1.60	SLST	SS1	Medium grey SLST with thiw lenticular light grey SS1 bands Some thin coal bands Small scale normal faults	25.20	79°		
25.20	26.69	1.49	MDST		Black, carb Occ. thin coal bands				
26.69	26.77	0.08	MDST					61	84
26.77	27.76	0.99	COAL		Abrupt contact with above unit Moderate colour contrast Good physical separation Stick core			62	84

DEPTH (METRES)			LITHOLOGY			BEDDING ANGLE		SAMPLE	
FROM	TO	THICK-NESS	MAIN	MINOR	DESCRIPTION	DEPTH (M)	ANGLE	NUMBER	% RCVRY
27.76	27.84	0.08	MDST		Moderately gradational contact with above unit Poor colour contrast Good physical separation			63	81
27.84	28.38	0.54	MDST		Black, carb, stick core			64	81
28.38	28.43	0.05	MDST					65	81
28.43	28.74	0.31	COAL		Gradational contact with above unit Moderate colour contrast Moderate physical separation			66	85
28.74	28.80	0.06	COAL		Shaley coal	28.79	80°	67	66
28.80	30.10	1.30	COAL		Stick core			67	66
30.10	31.34	0.24	COAL					68	66
31.34	31.45	0.11	MDST		Dark grey, broken			68	66
31.45	31.79	0.34	COAL					69	100
31.79	31.87	0.08	MDST		Abrupt contact with above unit Good physical separation Good colour contrast			70	100
31.87	32.80	0.93	MDST		Medium grey, carb, broken Minor slickensides				
32.80	32.88	0.08	MDST					71	100
32.88	33.92	1.04	COAL		Moderate abrupt contact with above unit Good physical separation Poor colour contrast	33.60	69°	72	82

DEPTH (METRES)			LITHOLOGY			BEDDING ANGLE		SAMPLE	
FROM	TO	THICK-NESS	MAIN	MINOR	DESCRIPTION	DEPTH (M)	ANGLE	NUMBER	% RCVRY
33.92	34.00	0.08	MDST		Moderate abrupt contact with above unit Good physical separation Poor colour contrast			73	100
34.00	35.72	1.72	MDST		Silty MDST Medium/dark grey Slickensides throughout Occ. thin coal bands Occ. brown IRST's				
35.72	35.80	0.08	MDST					74	92
35.80	35.90	0.10	COAL		Moderately abrupt contact with above unit Good physical separation Poor colour contrast			75	92
35.90	37.20	1.30	COAL		Broken stick Occ. slickenside within coal seam			76	92
37.20	38.50	1.30	COAL			37.60 38.40	67° 69°		
38.50	38.80	0.30	COAL					78	92
38.80	38.88	0.08	MDST		Poor contact with above unit Poor physical separation Poor colour contrast			79	92
38.88	39.60	0.72	MDST		Carb, MDST, 20% rec Powdered core carb				

DEPTH (METRES)			LITHOLOGY			BEDDING ANGLE		SAMPLE	
FROM	TO	THICK-NESS	MAIN	MINOR	DESCRIPTION	DEPTH (M)	ANGLE	NUMBER	% RCVRY
39.60	43.20	3.60	SS1	SLST	SS1 and SS2 with thin bands of carb SLST Fining upward sequence Grades to SS2 at base of unit Abn rip up clasts Occ. slickensides Lower contact is scour contact Soft sed deformation	42.60	71°		
43.20	45.80	0.60	SLST		SLST to v.f.g. SS1 interbedded with light grey lenticular SS1 Coalified deciduous plant debris are abn	44.20	75°		
45.80	45.88	0.08	SLST					80	100
45.88	46.08	0.20	COAL		Abrupt contact with above unit Good colour contrast Good physical separation			81	100
46.08	46.70	0.62	COAL		Stick core			82	100
46.70	46.90	0.20	COAL					83	100
46.90	46.98	0.08	MDST		Poor contact with above unit Poor colour separation Poor physical separation			84	100
46.98	47.13	0.15	MDST		Medium grey, carb			85	100
47.13	47.21	0.08	MDST					86	100
47.21	47.57	0.36	COAL		Moderate contact with above unit Moderate colour contrast Moderate physical separation Stick core			87	93

DEPTH (METRES)			LITHOLOGY			BEDDING ANGLE		SAMPLE	
FROM	TO	THICK-NESS	MAIN	MINOR	DESCRIPTION	DEPTH (M)	ANGLE	NUMBER	% RCVRY
47.57	47.65	0.08	SLST		Abrupt contact with above unit Good physical separation Good colour contrast			88	96
47.65	47.92	0.27	SLST		Thin interbedded lenticular SS1 Carb, thin coal bands	47.75	79°	89	96
47.92	48.00	0.08	SLST					90	96
48.00	48.20	0.20	COAL		Abrupt contact with above unit Good colour contrast Good physical separation			91	97
48.20	48.64	0.44	COAL		Stick core			92	97
48.64	48.84	0.20	COAL					93	97
48.84	48.92	0.08	MDST		Gradational contact with above unit Poor colour contrast Poor physical contrast			94	97
48.92	49.60	0.68	MDST		Black, carb				
49.60	49.85	0.25	MDST		Coaly MDST Black, carb				
49.85	51.80	1.95	SLST						
51.80	52.95	1.15	SS2	SS3	S & P SS2 grading to SS3 at base Abn rip up clasts, small scale normal faults Lower contact is scour contact	52.79	76°		

DEPTH (METRES)			LITHOLOGY			BEDDING ANGLE		SAMPLE	
FROM	TO	THICK-NESS	MAIN	MINOR	DESCRIPTION	DEPTH (M)	ANGLE	NUMBER	% RCVRY
52.95	53.80	0.85	SLST		Dark grey, occ. thin lenticular band of light grey SS1 Slightly carbonaceous				
53.80	54.80	1.00	SS1		Light grey, interbedded dark grey SLST SS1 has iron carbonate cement Small scale faults, rip up clasts				
54.80	58.40	3.60	SLST		Dark grey, abn coalified plant debris Occ. coal bands and blebs Slickensides on high angle joints	58.18	77°		
58.40	59.00	0.60	COAL		Abrupt contact with above unit Dirty, abn pyrite blebs			95	59
59.00	59.20	0.20	SLST					95	59
59.20	59.28	0.08	SLST		Gradational contact with above unit			96	59
59.28	59.80	0.52	SLST		Dark grey, carb				
59.80	60.44	0.64	MDST		Black, carb				
60.44	60.52	0.08	MDST					97	100
60.52	60.67	0.15	COAL		Gradational contact with above unit Poor colour contrast Moderate physical contrast			98	94
60.67	61.32	0.65	COAL		Pyrite blebs at roof of seam 2cm lenticular SS1 band at 61.30m			99	94

DEPTH (METRES)			LITHOLOGY			BEDDING ANGLE		SAMPLE	
FROM	TO	THICK-NESS	MAIN	MINOR	DESCRIPTION	DEPTH (M)	ANGLE	NUMBER	% RCVRY
61.32	62.57	1.25	COAL		Stick core Abn calcite along cleat in lower part of seam	61.3	78°	100	100
62.57	63.82	1.25	COAL					101	100
63.82	64.12	0.30	COAL					102	100
64.12	64.20	0.08	MDST		Abrupt contact with above unit Good physical separation Good colour contrast			103	100
64.20	64.50	0.30	MDST		Dark grey, carb, soft Becomes silty near base	64.45	84°		
64.50	71.80	5.30	SLST	SS1	Dark grey SLST with thin interbeds of lenticular light grey SS1 Soft sed deformation 10cm interbeds of brown IRST Minor small scale faults	66.90 70.41	83° 83°		
71.80	76.80	5.00	SLST		Muddy SLST Dark grey, massive				
76.80	79.00	2.20	SS1		V.f.g. dark grey SS1, massive				

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CORE DESCRIPTION

PROJECT Telkwa **HOLE I.D.** TW-929-89 **EXAMINER** S.J. Cameron **DATE** Nov. 1/89

DEPTH (METRES)			LITHOLOGY			BEDDING ANGLE		SAMPLE	
FROM	TO	THICK-NESS	MAIN	MINOR	DESCRIPTION	DEPTH (M)	ANGLE	NUMBER	% RCVRY
0.00	13.90	13.90			Redrill Casing Shoe				
13.90	14.10	0.20	MDST		Dark grey, carb Coalified wood fragments				
14.10	14.40	0.30	COAL		Abrupt contact Core broke at contact with above unit Distinct colour change with above unit			16	94
14.40	15.83	1.43	COAL		2cm clay band at 14.85	14.80	70°	17	94
15.83	17.26	1.43	COAL		4cm MDST band at 15.85, carb	16.43	70°	18	94
17.26	17.53	0.27	MDST		Medium grey, carb Coalified wood fragments Abrupt contact			19	94
17.53	17.63	0.10	COAL		Pyrite blebs at roof of seam Abrupt contact			20	94
17.63	18.06	0.43	COAL		2cm silty SS1 at 17.80			21	94
18.06	18.36	0.30	COAL		No physical break			22	94
18.36	18.44	0.08	MDST		Gradational contact with above unit Gradational colour with above unit			23	94
18.44	18.65	0.21	MDST		Carb MDST 2cm coal bands throughout Abn calcite along cleats				

DEPTH (METRES)			LITHOLOGY			BEDDING ANGLE		SAMPLE	
FROM	TO	THICK-NESS	MAIN	MINOR	DESCRIPTION	DEPTH (M)	ANGLE	NUMBER	% RCVRY
18.65	18.86	0.21	MDST		Dark grey, carb				
18.86	19.13	0.27	MDST		Coaly MDST, carb Occ. thin coal bands Fairly massive				
19.13	19.38	0.25	MDST		Dark grey, carb				
19.38	19.46	0.08	MDST					24	100
19.46	19.76	0.30	COAL		Gradational colour change with above unit No physical separation of core with above unit 2cm silty SS1 band at 19.55 Gradational contact with above unit			25	100
19.76	20.54	0.78	COAL			19.91	74°	26	100
20.54	21.32	0.78	COAL		2cm silty SS1 S & P band at 21.60			27	100
21.32	21.62	0.30	COAL					28	100
21.62	21.70	0.08	MDST		Gradational colour change with above unit No physical separation at contact with above unit			29	100
21.70	22.50	0.80	MDST		Medium grey, carb Occ. thin coal bands (con't)				

DEPTH (METRES)			LITHOLOGY			BEDDING ANGLE		SAMPLE	
FROM	TO	THICK-NESS	MAIN	MINOR	DESCRIPTION	DEPTH (M)	ANGLE	NUMBER	% RCVRY
22.50	25.00	2.50	SS1		Light grey SS1 with interbedded dark grey SLST and carb MDST Thin IRST bands with calcite filled fractures Generally fining upward sequence Lower contact is scour contact	23.00	76°		
25.00	25.80	0.80	MDST		Dark grey, carb MDST				
25.80	26.50	0.70	IRST		SS1 with iron carbonate cement	6.08	71°		
26.50	27.36	0.86	MDST		Dark grey, abn coalified plant debris				
27.36	27.49	0.13	COAL		Bony coal Abrupt contact with above unit			30	100
27.49	27.66	0.17	MDST		Light grey, carb, coaly strings Abrupt contact with above unit			31	100
27.66	27.96	0.30	COAL		Moderate colour contrast Good physical contact Abrupt contact with above unit			32	100
27.96	28.64	0.68	COAL					33	
28.64	28.91	0.27	MDST		Dark grey, carb				
28.91	29.94	1.03	COAL		30.4 - 30.8 boney coal			35	100
29.94	30.24	0.30	COAL					36	100

DEPTH (METRES)			LITHOLOGY			BEDDING ANGLE		SAMPLE	
FROM	TO	THICK-NESS	MAIN	MINOR	DESCRIPTION	DEPTH (M)	ANGLE	NUMBER	% RCVRY
30.24	30.32	0.08	MDST		Carb MDST very pyritic Moderately abrupt with above unit Good colour contrast Moderate physical separation			37	100
30.32	30.69	0.37	MDST		Carb MDST Coalified wood fragments throughout				
30.69	30.95	0.26	COAL		Shaley coal Become coaly shale at base				
30.95	31.60	0.65	MDST		Dark grey, carb				
31.60	32.00	0.40	MDST		Coaly MDST				
32.00	36.80	4.80	SS1	SLST	Dark grey SLST interbedded with light grey lenticular SS1 Occ. thin brown IRST band Soft sed deformation Minor deformation Occ. thin coal stringers Laminar planar bedding	32.92 34.40 35.81	71° 69° 71°		
36.80	37.70	0.90	MDST		Black, very minor carb material Abn pyrite bands and blebs				
37.70	38.83	1.13	MDST		Coaly MDST Black, abn pyrite bands and blebs	37.70	76°		
38.83	41.02	2.19	MDST		Medium grey Abn carb debris and coaly fragments Occ. brown IRST bands	39.60	76°		

DEPTH (METRES)			LITHOLOGY			BEDDING ANGLE		SAMPLE	
FROM	TO	THICK-NESS	MAIN	MINOR	DESCRIPTION	DEPTH (M)	ANGLE	NUMBER	% RCVRY
41.02	41.10	0.08	MDST		Grey, carb			38	100
41.10	41.20	0.10	COAL		Abn pyrite bands 1cm - 3 cm Good physical separation with above unit Moderate colour contrast with above unit Moderately abrupt contact with above unit			39	100
41.20	42.32	1.12	COAL		Boney coal band at 41.41 - 41.48 Irregularly shaped bentonitic band at 41.99 - 42.3			40	100
42.32	42.62	0.30	COAL					41	100
42.62	42.70	0.08	MDST		Good colour separation Good physical separation Abrupt contact with above unit			42	100
42.70	43.29	0.59	MDST		Light grey, carb Abn flecks coalified plant debris Abn wood fragments			43	100
43.29	43.37	0.08	MDST					44	100
43.37	43.52	0.15	COAL		Good colour contrast Good physical separation Fairly abrupt contact with above unit			45	100
43.52	44.49	0.97	COAL		2cm light grey green clay band at 43.73 4cm clay band at 44.02			46	100

DEPTH (METRES)			LITHOLOGY			BEDDING ANGLE		SAMPLE	
FROM	TO	THICK-NESS	MAIN	MINOR	DESCRIPTION	DEPTH (M)	ANGLE	NUMBER	% RCVRY
44.49	45.46	0.97	COAL					47	100
45.46	45.76	0.30	COAL					48	100
45.76	47.40	1.64	MDST		Good colour contrast Good physical separation Light grey, silty Occ. thin lenticular band of light grey SS1 Minor carb debris Abrupt contact with above unit	46.82	75°		
47.40	56.80	9.40	SS1	SLST	Interbedded dark grey v.f.g. SS1 light grey SS1 and dark grey SLST Occ. IRST nodule Laminar bedding Minor bioturbation Minor soft sed deformation	48.20 50.20 53.21	80° 78° 78°		
56.80	57.00	0.20	SS1		Medium grey, v.f.g. very silty SS1 Massive				

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CORE DESCRIPTION

PROJECT Telkwa **HOLE I.D.** TW-930-89 **EXAMINER** S.J. Cameron **DATE** Nov. 2/89

DEPTH (METRES)			LITHOLOGY			BEDDING ANGLE		SAMPLE	
FROM	TO	THICK-NESS	MAIN	MINOR	DESCRIPTION	DEPTH (M)	ANGLE	NUMBER	% RCVRY
0.00	23.00	23.00	Till	Gravels					
23.00	27.20	4.20	SLST		Dark grey, micaceous Thin interbeds of light grey SS1 Occ. thin calcite stringer Minor thin coal lenses	26.00 27.00	61° 71°		
27.20	30.20	3.00	SLST	SS2	Dark grey SLST interbedded with salt and pepper SS2 SS2 contains abn coaly blebs and wood fragments Scour surfaces at base of the SS2 bands	28.00 28.70 29.28 30.10	72° 61° 69° 68°		
30.20	33.00	2.80	SLST		Sandy, dark grey, micaceous Occ. thin lenticular bands of light grey SS1 Gradational contact at base	32.58	81°		
33.00	36.85	3.85	SLST	SS1	Dark grey SLST interbedded with thin bands of light grey SS1	34.00	74°		
36.85	37.40	0.55	SS1		Light grey, abn iron carbonate, very hard, heavy	37.10	72°		
37.40	39.20	1.80	SLST	SS1	Dark grey SLST interbedded with light grey SS1 Thin lenticular bands of SS3 (2cm Pebbles)	38.84	72°		

DEPTH (METRES)			LITHOLOGY			BEDDING ANGLE		SAMPLE	
FROM	TO	THICK-NESS	MAIN	MINOR	DESCRIPTION	DEPTH (M)	ANGLE	NUMBER	% RCVRY
39.20	39.50	0.30	SS3		Pebbly S & P conglomeratic SS3 Abn coal blebs and rip up clasts Abrupt contacts, lower contact is scour surface Abn calcite stringers				
39.50	39.78	0.28	SLST		Dark grey, carbonaceous Thin bands of iron carbonate				
39.78	39.94	0.16	SS3		Pebbly S & P, conglomeratic SS3 Abn coal blebs and rip up clasts Abrupt contact to coal, lower contact is scour surface Abn calcite stringers				
39.94	40.20	0.26	COAL					01	72
40.20	40.31	0.11	MDST		Black			02	72
40.31	40.46	0.15	COAL					02	72
40.46	40.55	0.09	MDST		Abn slickensides			02	72
40.55	40.68	0.13	COAL					02	72
40.68	40.88	0.20	MDST		Black			02	72
40.88	41.30	0.42	COAL					03	72
41.30	41.40	0.10	MDST		Carb, grey minor slickensides Fairly abrupt contact with above unit				
41.40	41.80	0.40	IRST		Light grey, hard, heavy				
41.80	43.29	1.49	MDST		Black carb				
43.29	43.44	0.15	COAL		Dirty				

DEPTH (METRES)			LITHOLOGY			BEDDING ANGLE		SAMPLE	
FROM	TO	THICK-NESS	MAIN	MINOR	DESCRIPTION	DEPTH (M)	ANGLE	NUMBER	% RCVRY
43.44	43.65	0.21	MDST		Dark grey, carb				
43.65	43.73	0.08	MDST		Slickensides near base			04	84
43.73	43.95	0.22	COAL		Gradational contact with above unit			04	84
43.95	44.70	0.75	COAL					05	84
44.70	44.92	0.22	COAL					06	84
44.92	45.00	0.08	MDST		Dark grey carb Soft gradational contact with above unit				
45.00	45.30	0.30	MDST		Dark grey carb				
45.30	47.48	2.18	SS1		Light grey, greenish hue Thin MDST and coal bands & lenses Small scale normal faults Occ. IRST nodule	45.50 47.02	48° 69°		
47.48	47.62	0.14	COAL		Dirty, slickensided				
47.62	48.44	0.82	MDST		Thin interbeds of light grey/ green SS1 Dark grey Convoluted bedding	48.00	50°		
48.44	48.80	0.36	COAL		Occ. slickenside near base Abrupt upper contact			07	100
48.80	48.88	0.08	MDST		Gradational contact with above unit				
48.88	50.30	1.42	MDST		Black, carb Becomes silty near base				

DEPTH (METRES)			LITHOLOGY			BEDDING ANGLE		SAMPLE	
FROM	TO	THICK-NESS	MAIN	MINOR	DESCRIPTION	DEPTH (M)	ANGLE	NUMBER	% RCVRY
50.30	50.50	0.20	FAULT		Zone of intense slickensides				
50.50	52.00	1.50	SLST		Dark grey, black, micaceous Abn coal blebs with pyrite halos Grade to SS1 at base Gradational lower contact	50.60	55°		
52.00	54.01	2.01	SS1		Light grey/greenish hue Fines upward S & P SS3 at base Thin interbeds of MDST Small micro faults	53.00	65°		
54.01	54.09	0.08	MDST		Black, carb, MDST Gradational contact with coal			08	96
54.09	54.31	0.22	COAL		Gradational contact with above unit			08	96
54.31	54.94	0.63	COAL					09	96
54.94	55.24	0.30	COAL		Abrupt lower contact			10	96
55.24	56.21	0.97	SS1	SLST	Interbedded light grey SS1 with dark grey SLST				
56.21	56.29	0.08	MDST		Dark grey MDST Gradational upper contact			11	89
56.29	56.87	0.68	COAL		Abrupt lower contact			11	89
56.87	63.33	6.46	SLST	SS1	Dark grey SLST (micaceous) with thin interbeds of light grey/green SS1 (lenticular) Occ. thin IRST bands (con't)	59.00 61.28 63.00	68° 39° 69°		

DEPTH (METRES)			LITHOLOGY			BEDDING ANGLE		SAMPLE	
FROM	TO	THICK-NESS	MAIN	MINOR	DESCRIPTION	DEPTH (M)	ANGLE	NUMBER	% RCVRY
					Some small scale normal faults Occ. thin pyrite bands Thin 12cm band of SS3 S & P				
63.33	63.66	0.33	COAL		Abrupt contact with above unit			12	100
63.66	64.89	1.23	COAL		4cm light grey/brown clay band at 63.88 Visible calcite along cleats in vitrinite Gradational lower contact	64.80	70°	13	100
64.89	65.00	0.11	COAL		Boney coal			13	100
65.00	65.21	0.21	COAL		Slightly boney coal Gradational lower contact			14	100
65.21	66.41	1.20	COAL					14	100
66.41	66.63	0.22	COAL					15	100
66.63	66.71	0.08	SLST		Gradational contact with above unit			15	100
66.71	66.80	0.09	SLST		Black, carb Gradational contact with coal				
66.80	75.20	8.40	SLST	SS1	Dark grey SLST with thin lenticular interbeds of light grey SS1 & SS2 Some soft sed deformation Abn 10cm IRST bands	68.88 70.55 72.00 74.80	72° 71° 72° 70°		
75.20	76.00	0.80	SS1		Silty v.f.g. SS1 Medium grey, massive				

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CORE DESCRIPTION

PROJECT Telkwa **HOLE I.D.** TW-907-89 **EXAMINER** S.J. Cameron **DATE** Oct. 13/89

DEPTH (METRES)			LITHOLOGY			BEDDING ANGLE		SAMPLE	
FROM	TO	THICK-NESS	MAIN	MINOR	DESCRIPTION	DEPTH (M)	ANGLE	NUMBER	% RCVRY
0.00	13.35	13.35	O.B.		Abundant boulders in till Drilled boulders				
13.35	16.90	3.55	MDST		Dark grey massive Occ. thin bands of coal				
16.90	17.70	0.80	SS		FG with dark grey MDST bands	17.40	84°		
17.70	22.56	4.86	MDST		Silty light grey inter-laminations Occ. thin coal bands Silty at base of unit				
22.56	22.64	0.08	COAL		Excellent separation Good colour contrast			139	100
22.64	23.74	1.10	COAL		6m good clean stick core			140	100
23.74	23.82	0.08	MDST		Excellent colour separation Good separation			141	100
23.82	24.37	0.55	MDST		Coaly, slickensided, carb				
24.37	24.45	0.08	MDST		Coaly, slicked, carb			142	94.5
24.45	24.75	0.30	COAL		Poor colour contrast			143	94.5
24.75	25.52	0.77	COAL					144	94.5
25.52	26.40	0.88	COAL		Stick core Occ. thin bands of coarse cleats			145	94.5

DEPTH (METRES)			LITHOLOGY			BEDDING ANGLE		SAMPLE	
FROM	TO	THICK-NESS	MAIN	MINOR	DESCRIPTION	DEPTH (M)	ANGLE	NUMBER	% RCVRY
26.40	27.26	0.86	COAL					146	
27.26	27.56	0.30	COAL					147	
27.56	27.64	0.08	SLST					148	
27.64	27.88	0.24	SLST						
27.88	27.96	0.08	SLST		Med. grey, massive			149	
27.96	28.78	0.82	COAL					150	93.9
28.78	31.01	2.23	MDST		Good colour contrast Good separation				
31.01	31.09	0.08	MDST		Concretionery Grey green to dark grey, massive Occ. blebs of pyrite near hw of 5 seam Plant debris and rafts of coaly plant matter			151	
31.09	31.39	0.30	COAL		Poor colour contrast Weak separation			152	
31.39	32.92	1.53	COAL		Very clean Stick core			153	100
32.92	33.22	0.30	COAL					154	
33.22	34.60	1.38	SLST		Interlaminated light and dark grey Concretions	34.40	84°		

DEPTH (METRES)			LITHOLOGY			BEDDING ANGLE		SAMPLE	
FROM	TO	THICK-NESS	MAIN	MINOR	DESCRIPTION	DEPTH (M)	ANGLE	NUMBER	% RCVRY
34.60	37.32	2.72	SS		Pale grey-green concretionery FG with annealed cc fractures Interlaminations of dark grey SLST (wispy)				
37.32	38.49	1.17	MDST		Medium grey, massive, silty	37.40	81°		
38.49	38.77	0.28	COAL		Good colour contrast Good separation			155	
38.77	39.48	0.71	COAL		Coarse cliat			156	100
39.48	39.64	0.16	MDST		Dark grey, massive			157	100
39.64	40.82	1.02	COAL		Occ. thin wall cc fractures			158	100
40.82	40.90	0.08	MDST		Strongly rooted contact Poor colour separation Weak separation			159	
40.90	44.30	3.48	MDST		Dark grey, massive Occ. coaly plant debris cc slicked fractures				
44.30	45.30	1.00	SLST		Interlaminated light and dark grey	44.50	84°		
45.30	46.65	1.35	SS		Light grey - FG-MG Silty				
46.65	48.20	1.55	SLST		Striped dark grey-light grey interlaminated Bioturbated Micro-fractures	47.10	76°		

DEPTH (METRES)			LITHOLOGY			BEDDING ANGLE		SAMPLE	
FROM	TO	THICK-NESS	MAIN	MINOR	DESCRIPTION	DEPTH (M)	ANGLE	NUMBER	% RCVRY
48.20	49.58	1.38	MDST		Poor colour contract Weak contact Massive, coaly, dark grey				
49.58	49.66	1.46	MDST		Shaley at top			160	
49.66	50.18	0.52	COAL		White cc veins common in coal			161	100
50.18	50.26	0.08	MDST					162	61
50.26	50.51	0.25	MDST						
50.51	50.59	0.08	MDST			50.40	81°	163	
50.59	51.06	0.47	COAL		White cc veins common in coal			164	65
51.06	51.14	0.08	MDST					165	
51.14	51.88	0.74	MDST						
51.88	51.96	0.08	MDST					166	
51.96	52.26	0.30	COAL					167	
52.26	52.90	0.64	COAL					168	
52.90	53.10	0.20	MDST						
53.10	53.42	0.32	COAL					169	
53.42	53.60	0.18	COAL					170	
53.60	54.49	0.89	COAL					171	94.4

DEPTH (METRES)			LITHOLOGY			BEDDING ANGLE		SAMPLE	
FROM	TO	THICK-NESS	MAIN	MINOR	DESCRIPTION	DEPTH (M)	ANGLE	NUMBER	% RCVRY
54.49	55.24	0.75	COAL					172	
55.24	55.54	0.30	COAL		0.35cm banded Pyrite at 53.32m	53.20	77°	173	
55.54	56.50	0.96	MDST		Dark grey, massive, coaly	56.40	76°		
56.50	62.80	6.30	SS	SLST	Soft sed deformation Strongly bioturbated at top Thin laminations of light grey SS Concretions Core to 62.8	57.00 58.60	79° 81°		

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CORE DESCRIPTION

PROJECT Telkwa **HOLE I.D.** TW-931-89 **EXAMINER** S.J. Cameron **DATE** Nov. 3/89

DEPTH (METRES)			LITHOLOGY			BEDDING ANGLE		SAMPLE	
FROM	TO	THICK-NESS	MAIN	MINOR	DESCRIPTION	DEPTH (M)	ANGLE	NUMBER	% RCVRY
0.00	21.20	21.20							
21.20	34.77	13.57	SLST	MDST	Thin interlaminations of light grey/green SLST and dark grey MDST Concretions common and often associated cc veining Very contorted bedding at lower contact	23.87 25.00 29.20 34.42	70° 72° 80° 60°		
34.77	35.11	0.34	MDST		Dark grey, coaly and slicked surfaces Poor colour contrast at upper contact Good separation at upper contact				
35.11	35.85	0.74	COAL		Rubbley coal Some rooting Poor colour contrast at upper contact Medium separation at upper contact			174	73
35.85	39.95	4.10	MDST		Silty, medium grey, massive Thin cc veins associated with fractures Good separation at upper contact Good colour contrast at upper contact				
39.95	40.03	0.08	COAL					175	100
40.03	40.44	0.41	COAL					176	100

DEPTH (METRES)			LITHOLOGY			BEDDING ANGLE		SAMPLE	
FROM	TO	THICK-NESS	MAIN	MINOR	DESCRIPTION	DEPTH (M)	ANGLE	NUMBER	% RCVRY
40.44	40.64	0.20	MDST		Very coaly Poor colour contrast at upper contact			177	100
40.64	40.94	0.30	COAL					178	100
40.94	41.95	1.01	COAL		Rubble to semi-stick Clean looking at top			179	100
41.95	42.25	0.30	COAL					180	100
42.25	42.33	0.08	SHALE		Very coaly sheared shale Very poor upper contact Very poor colour contrast			181	100
42.33	42.96	0.63	SHALE						
42.96	43.04	0.08	SHALE					182	100
43.04	43.34	0.30	COAL		Good colour contrast Good separation			183	100
43.34	44.34	1.00	COAL		Good stick to semi-stick core Very clean looking coal			184	100
44.34	45.33	0.99	COAL					185	100
45.33	45.63	0.30	COAL					186	100
45.63	45.71	0.08	SLST	MDST	Moderate separation with above unit Poor colour contrast with above unit			187	100
45.71	47.80	2.09	SLST	MDST	Medium bedding	46.54	82°		

DEPTH (METRES)			LITHOLOGY			BEDDING ANGLE		SAMPLE	
FROM	TO	THICK-NESS	MAIN	MINOR	DESCRIPTION	DEPTH (M)	ANGLE	NUMBER	% RCVRY
47.80	51.90	4.10	SS		Light grey/green f.g. Occ. thin dark grey SLST bands cc bands + veins + fractures	50.52	75°		
51.90	54.28	2.38	SLST	MDST	Interbedded thick medium grey SLST and dark grey MDST	53.00	85°		
54.28	54.37	0.09	SLST	MDST	Pyrite blebs above contact			188	100
54.37	54.67	0.30	COAL		Calcite fractures and rooting in coal			189	100
54.67	55.82	1.15	COAL		Clean cole with occ. thin coarse cleat bands			190	100
55.82	56.12	0.30	COAL					191	100
56.12	56.20	0.08	MDST	SLST	Very good colour contrast with above unit Good separation with above unit			192	100
56.20	58.40	2.20	MDST	SLST	Dark grey/Medium grey thinly laminated Very contorted bedding at base Small fault at 58.00	57.44	85°		
58.40	59.40	1.00	SS		Slightly fractured (cc filled) fg-mg, light grey				
59.40	60.77	1.37	SLST		Dark grey, laminated				

DEPTH (METRES)			LITHOLOGY			BEDDING ANGLE		SAMPLE	
FROM	TO	THICK-NESS	MAIN	MINOR	DESCRIPTION	DEPTH (M)	ANGLE	NUMBER	% RCVRY
60.77	63.00	2.23	SS	SLST	Interlaminated Moderately bedded	62.55	80°		
63.00	64.56	1.56	MDST		Very dark at base but medium grey at top Very thinly bedded				
64.56	64.64	0.08	MDST		Thin pyrite above contact			193	100
64.64	65.62	0.98	COAL		Moderate to poor contrast with above unit Coal is dull			194	100
65.62	65.93	0.31			Very poor colour contrast Pyrite blebs			195	100
65.93	66.17	0.24	COAL		Pyrite nodules and coarse cleats Heavily rooted at base			196	100
66.17	66.25	0.08						197	100
66.25	67.12	0.87	SLST		Laminated, thinly bedded				
67.12	67.20	0.08	SLST					198	100
67.20	67.78	0.58	COAL		Dull with occ. bright bands Good separation with above unit Good colour contrast with above unit			199	100
67.78	67.86	0.08	MDST		Poor colour contrast with above unit Py below contrast with above unit			200	100

DEPTH (METRES)			LITHOLOGY			BEDDING ANGLE		SAMPLE	
FROM	TO	THICK-NESS	MAIN	MINOR	DESCRIPTION	DEPTH (M)	ANGLE	NUMBER	% RCVRY
67.86	70.20	2.36	MDST		Dark grey, featureless Coaly plant fragments				
70.20	75.30	5.10	SLST	MDST	Thinly to moderately bedded Laminated Concretions are light brown	71.50 74.28	78° 83°		
75.30	78.66	3.36	MDST		Dark grey, coaly, massive Coaly rooted plant material				
78.66	78.74	0.08	MDST					201	100
78.74	79.04	0.30	COAL		Poor colour contrast with above unit Good separation with above unit			202	95.8
79.04	80.52	1.48	COAL		Semi-stick to stick coal Very clean Occ. why thin cc veinlets and roots			203	95.8
80.52	82.04	1.52	COAL		Rooted at base			204	95.8
82.04	82.34	0.30	COAL					205	95.8
82.34	92.20	9.86	SLST	MDST	Laminated light grey and dark grey Very thinly bedded Concretions are light brown Some convoluted bedding at top Excellent colour contrast with above unit Very good separation with above unit	84.00 88.00 91.32	82° 84° 80°		

DEPTH (METRES)			LITHOLOGY			BEDDING ANGLE		SAMPLE	
FROM	TO	THICK-NESS	MAIN	MINOR	DESCRIPTION	DEPTH (M)	ANGLE	NUMBER	% RCVRY
92.20	94.50	2.30	MDST		Dark grey, silty MDST Massive, featureless				
94.50	97.00	2.50	SS		Light grey/green, massive Occ. thin why cc veinlets Poorly bedded				

GEO-PHYSI-CON

DIRECT CURRENT PROFILING SURVEY
TELKWA COAL PROJECT
SMITHERS, BRITISH COLUMBIA

Prepared For

CROWS NEST RESOURCES LTD
CALGARY, ALBERTA

Prepared By

GEO-PHYSI-CON CO. LTD.
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GEO-PHYSI-CON

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18 - Line 11 - Direct Current Profile
19 - Line 12 - Direct Current Profile
20 - Line 13 - Direct Current Profile
21 - Line 14 - Direct Current Profile

1.0 INTRODUCTION

This report presents the results of an electrical resistivity survey on the Crows Nest Resources Ltd, Telkwa coal project near Smithers, British Columbia (Figure 1). The purpose of the survey was to delineate coal subcrop using direct current methods in the profiling mode.

Authorization for the work was granted under Crows Nest Resources Ltd., Purchase Order 25043 dated July 7, 1989.

2.0 LOGISTICS AND DATA ACQUISITION

The geophysical surveys were performed by a three man crew between September 27 and October 14, 1989. The crew lodged at commercial facilities in Smithers, British Columbia and travelled daily to the site by truck.

The direct current profiling (DCP) survey was carried out along 14 survey lines for a total length of 15.7 km (Figures 2 to 4). All survey lines were located, slashed and chained by Crows Nest Resources Ltd.

The DCP survey used a 20 metre station interval with the measurement array oriented along the direction of the survey line. At each station, measurements were made to four different effective depths of exploration. Table 1 lists the separation of current electrodes, potential electrodes and an estimate of the effective depth of exploration for each of the four configurations.

Table 1

DCP Measurement Arrays

Current Electrode Separation (m)	Potential Electrode Separation (m)	Estimated Effective Depth of Exploration (m)
20	2	5
60	20	15
100	20	25
140	20	35

Appendix A contains notes describing the technical principles for these measurements. Appendix B contains the Manufacturer's technical description of the instrumentation used.

3.0 DATA PRESENTATION

The DCP measurements have been converted to apparent resistivity using well known relationships involving measurement array geometry. The apparent resistivity is the total resistivity measured at ground surface due to the combined effect of subsurface layers of various thickness and resistivity within the effective exploration depth of the survey array used.

Direct current profiles of apparent resistivity for each of the four measurement arrays used have been plotted on a linear scale versus midpoint station location along all survey lines. Areas underlain by coal are characterized by larger apparent resistivities. The subcrop of coal is characterized by relatively sharp reductions to lower apparent resistivity levels. Other geological features such as intrusive rocks or thick coarse grained overburden may produce high resistivity values as well.

The data has also been presented as apparent resistivity pseudosections. The pseudosections show the resistivity stratification with depth based on the effective depth of exploration of the various instrument modes using a constant datum.

4.0 RESULTS

4.1 Plant Site

The plant site area is generally flat lying to undulating with a few ridges and small gullies. In this area, 6 parallel lines were surveyed to map subsurface resistors which may be related to coal subcrop.

A compilation of the geophysical results are shown in Figure 5. In general, higher resistivity values over the southeast portion of the plant site were found to correlate with intrusive bedrock as encountered in drill holes TW12 and 916. The northwest part of the site is underlain by more conductive sedimentary rocks, as indicated in drill holes 919, 918, and 917. Coal was intersected in drill hole 918 and 917. Higher resistivity values at the west end of Line 4 suggest that coal may subcrop in this area.

The cause of the broad resistivity anomaly on Line 6, west of drill hole 917, is presently unresolved. The geophysical results are discussed on a line by line basis below.

4.4.1 Line 1

The DC profiling data along Line 1 are shown in Figure 6. The figure shows that the subsurface materials are more resistive to the east of station 440 then to the west. The resistive materials to the east of station 440 have been interpreted to represent intrusive crystalline bedrock, as encountered in drill holes TW12 and 916 along Line 3. The more conductive materials to the west of station 440 have been interpreted to represent sedimentary bedrock materials. Drill hole 919 at station 775 was drilled into sedimentary rocks but did not intersect coal. This is consistent with the geophysical data at this location.

A narrow resistivity high centred at station 400 may indicate a resistive body with significant depth extent at this location. It could also represent the edge of a thick resistive overburden layer.

From the shallowest measurement configuration there appears to be a change in overburden type along the line. Higher resistivity values between stations 0 and 300, stations 525 and 675 and to the west of station 800 indicate more resistive overburden materials at these locations.

4.1.2 Line 2

The DC profiling data along Line 2 are shown in Figure 7. The profile shows that resistivities are generally higher to the east of station 925. This area is expected to be underlain by crystalline bedrock as observed in drill holes TW12 and 916. The lower resistivities to the west of station 925 have been interpreted to represent the sedimentary sequences. The very high resistivities between stations 600 and 750 are probably due to thicker, dry, coarse grained overburden materials.

Generally higher resistivity values obtained with the shallow measurement configuration to the west of station 860 are probably due to more coarse grained overburden material.

4.1.3 Line 3

The DC profiling data along Line 3 are shown in Figure 8. The profile shows a large resistivity anomaly centred at station 500. This resistivity anomaly is coincident with a low ridge which, is likely to be composed of dry, coarse grained material.

The deep measurement configurations show resistivity values which are moderately high (greater than 40 ohm-m) between stations 0 to 1260. Drill holes TW12 and 916 at stations 830 and 460, respectively both intersect crystalline bedrock. These higher resistivity values have therefore been interpreted to represent crystalline bedrock. Lower resistivity values west of station 1260 would suggest sedimentary type bedrock as encountered in drill hole 919 along Line 1.

4.1.4 Line 4

The DC profiling data along Line 4 are shown in Figure 9. The profile shows a broad resistivity high between stations 0 and 820. This area has been interpreted to represent crystalline bedrock. West of station 820 resistivities decrease indicating the presence of sedimentary bedrock.

A lower amplitude resistivity high is centred at station 1060. This anomaly has been attributed to the presence of coal which was intersected in drill hole 918 along Line 5.

The shallow resistivities between stations 600 and 900 indicate more resistive overburden material in this area. The low

resistivity values in the vicinity of station 940 are related to the presence of a gully.

4.1.5 Line 5

The DC profiling data along Line 5 are shown in Figure 10. Drill hole 918 at station 936 intersected two coal seams with shallow dip to the east. This correlates well with the resistivity high between station 920 and the west end of the line.

To the east of station 920 to approximately station 650, the deep resistivities are relatively low and have been interpreted to represent sedimentary type rocks. East of station 650 the deep measurement configurations increase to around 60 ohm-m. This area has been interpreted to represent more resistive crystalline rocks.

The near surface resistivities are high between station 650 and 860 which indicates the presence of more resistive overburden. The very high (greater than 300 ohm-m) shallow resistivity at station 400 corresponds to the top of a dry, bouldery ridge.

4.1.6 Line 6

The DC profiling data along Line 6 are shown in Figure 11. Line 6 originally extended only 500 metres to the west but was extended to map the extent of the high resistivities located at the west end of the line.

Drill hole 917 at station 340 intersected a single thin coal seam. On the basis of the large resistivity anomaly between station 200 and 800, it is expected that additional resistive material at depth would occur to the west of drill hole 918.

The shallow resistivity high centred at station 760 indicates significantly more resistive overburden at this location. No topographic features were observed to correlate with this anomaly.

4.2 Pit 7

The Pit 7 area is located on a south facing slope. The lines were located in bush with some open fields. The geophysical work was carried out to provide a geophysical signature over known subcropping coal seams. In total, 4 east-west lines were surveyed in this area.

A compilation of the geophysical results are shown in Figure 12. From the figure, a broad area of high resistivities are located through the central portion of the survey lines. This area of high resistivity correlated well with subcropping coal seams identified by drilling. The geophysical results are discussed on a line by line basis below.

4.2.1 Line 7

The DC profiling data along Line 7 are shown in Figure 13. Drill holes 216 and 907 intersected a number of coal seams with shallow dip to the east. This correlates well with the broad resistivity high between stations 580 and 980. The resistivity peak at station 670 suggests that there may be a coal seam subcrop to the east of drill hole 216. The deep resistivity values over the rest of the line are low. This is consistent with drill hole 915 which intersected no coal at the west end of the line.

The near surface resistivities are high near station 300. This area correlates with the top of a steep bank, and may indicate the presence of dry, coarse grained materials at this location.

4.2.2 Line 8

The DC profiling data along Line 8 are shown in Figure 14. Drill holes 929, 504, 905, and 920 intersected a number of coal seams with shallow easterly dips between stations 600 and 900.

Drill hole 903 at station 310 intersected another series of east dipping coal seams in what has been interpreted as an upfaulted block. Linear extrapolation of these seams to surface suggests that they subcrop around station 520.

These drilling results correlate well with the DC data which shows a broad multi-peaked resistivity high between station 460 and 900. It is expected that individual peaks would correspond to coal subcrops.

The deep resistivity values over the rest of the line are relatively low indicating an absence of resistors within the effective depth of exploration of the various measurement modes. There is an increase in the shallow resistivity values east of station 400, indicating the presence of more resistive overburden in this area.

4.2.3 Line 9

The DC profiling data along Line 9 are shown in Figure 15. Drill holes 442, 906, 218, and 931 intersected a number of coal seams with shallow easterly dips between station 450 and 900. Drill hole 444 intersected several coal seams with steeper easterly dips at greater depth at station 300.

In general, the geophysical results show a broad multi-peaked resistivity high between station 350 and 900 which correlates well with the drilling results.

The resistivity peak at station 790 suggests coal subcrop at this location, however no shallow seam was intersected in drill hole 906 located immediately to the east. The resistivity peak at station 530 suggest coals subcrop immediately to the east of drill hole 931.

The deep resistivity values over the rest of the line are relatively low. There is an increase in the shallow resistivity values to the east of station 400 which may indicate the presence of more resistive overburden in this area.

4.2.4 Line 10

The DC profiling data along Line 10 are shown in Figure 16. Drill holes 930 and 904 intersected multiple coal seams with shallow easterly dips. This correlates well with the geophysical results showing a broad multi-peaked resistivity between station 350 and 750.

Due to a fault in the receiver cable the deepest penetrating resistivity data was shifted to higher values and distorted to some extent. When this is taken into account, the deep resistivity values over the rest of the line are relatively low. High shallow resistivities in the vicinity of stations 200 and 1100 indicate more resistive overburden at these locations. The resistivity high near station 1100 correlates with a small topographic high which may be composed of dry, coarse grained materials.

4.3 Pit 8 - Dump Site

The Pit 8 Dump Site is located on a southwest facing slope. In this area four subparallel lines were surveyed to map bedrock resistors which may be related to possible coal subcrop. Anomalous zones could then be tested during subsequent programs.

A compilation of the geophysical results are shown in Figure 17. In general, this is an increase in the deep resistivity values along the southwest portions of Lines 12, 13, and 14. The geophysical results are discussed on a line by line basis below.

4.3.1 Line 11

The DC profiling data along Line 11 are shown in Figure 18. The resistivity values are relatively low and uniform for all measurement array separations. Based on these results, no significant resistivity contrasts in the overburden or bedrock are expected along this line.

4.3.2 Line 12

The DC profiling data along Line 12 are shown in Figure 19. The resistivity values are relatively low and uniform along most of the line. The resistivity values at the south end of the line show a measurable increase. Due to limited coverage, the extent of this high resistivity area is unknown.

The shallow resistivity values in the vicinity of station 180 are high which may indicate the presence of more resistive overburden

at this location. Resistivity measurements of the shallow subsurface are generally lower south of station 550 than to the north indicating the presence of fine grained material to the south.

4.3.3 Line 13

The DC profiling data along Line 13 are shown in Figure 20. The resistivity values are relatively low and uniform along most of the line. Slightly higher resistivity values between stations 440 and 670 indicate the presence of more resistive material at depth. This would be an area of possible coal seam subcrop. Shallow resistivity values between stations 0 and 80 indicate the presence of more resistive overburden in this area.

4.3.4 Line 14

The DC profiling data along Line 14 are shown in Figure 21. Resistivity highs in the deeper penetrating measurement configurations are apparent between stations 220 and 420 and also south of station 520. This would be an area of possible coal subcrop.

The shallow resistivity data shows increasing resistivity values from station 320 to 450 and south of station 540 indicating the presence of resistive overburden materials at these locations.

5.0 CONCLUSIONS AND RECOMMENDATIONS

The direct current profiling method was used to locate electrical resistivity anomalies within the upper 35 metres of the subsurface at the Telkwa project area. Drilling on Lines 7 to 10 has located coal seams which correlate well with areas of high resistivity. Additional drilling along these lines is recommended to test some of the presently unexplained peaks in the resistivity data.

In the Plant site area (Lines 1 to 6) drilling intersected crystalline basement rock, non-coal bearing sedimentary rocks or sedimentary rocks with thin coal sequences. In this area it is recommended that:

i) The resistivity high at the west end of Line 6 be further tested by drilling,

ii) The unexplained resistivity anomaly on Line 3 and drill hole 916 be re-examined together with the surficial and bedrock geology in an effort to identify the source of this anomaly, and

iii) The magnetic method be considered for future surveys to assist in distinguishing between resistivity anomalies due to coal or due to intrusive rocks.

In the Pit 8 area (Lines 11 to 14), it is recommended that Lines 12 and 14 be extended to the south to cover the resistivity highs located at the ends of these lines. Also, the two resistivity highs on Line 14 could be considered as favourable targets for drilling follow-up.

It is also recommended that further data processing be carried out to determine if coal subcrop for the individual coal seams can be mapped. Ideal lines for this exercise would be those in the Pit 7 area where drilling information is currently available.

Respectfully submitted

Geo-Physi-Con Co. Ltd.

PERMIT TO PRACTICE
GEO-PHYSI-CON CO. LTD.
Signature
Date MARCH 1 '90
PERMIT NUMBER: P 2802
The Association of Professional Engineers, Geologists and Geophysicists of Alberta

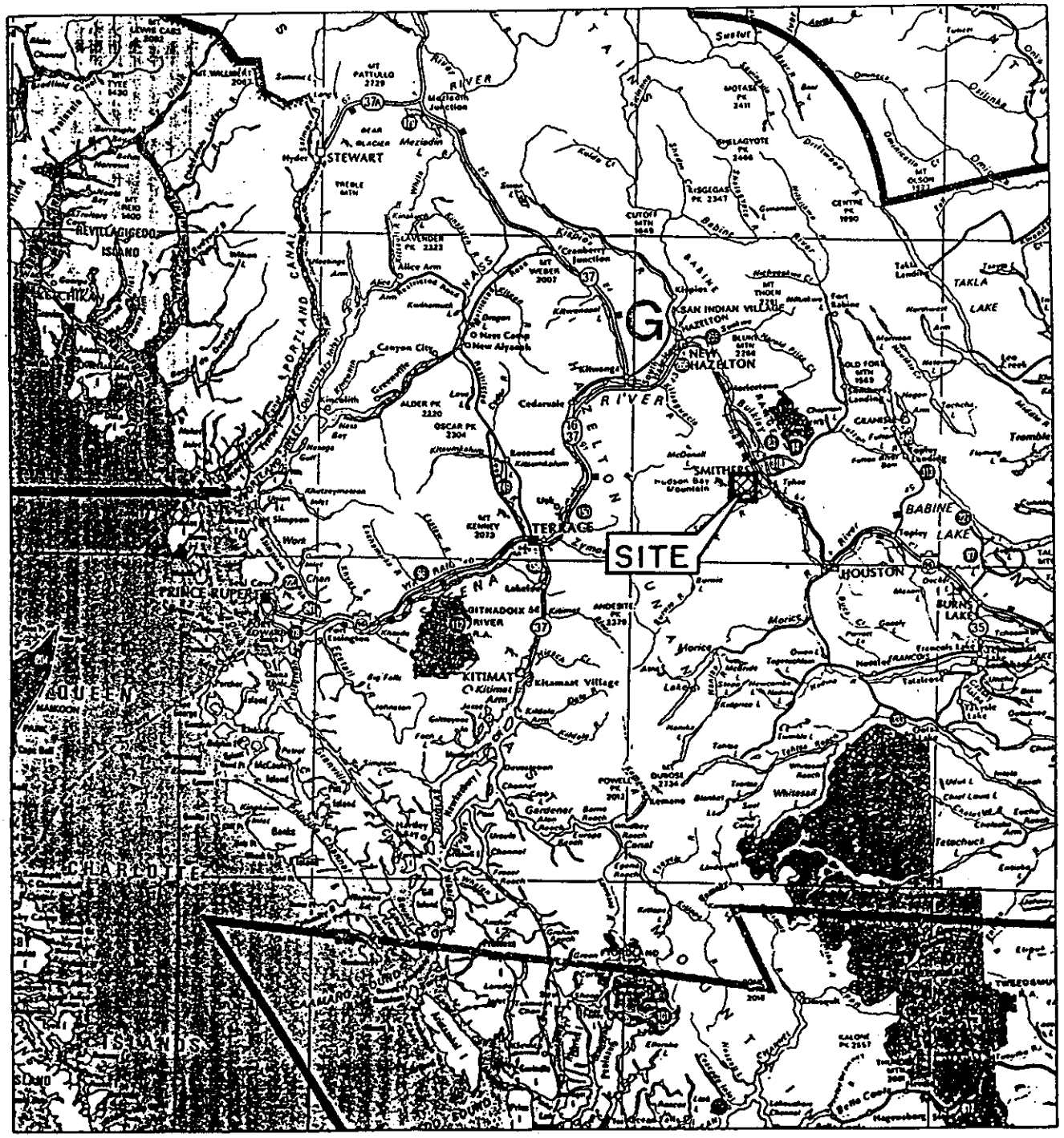
Per:

Alan King, P.Geoph.
Project Geophysicist

Reviewed by:

Michael Pesowski, P.Geoph.
Project Geophysicist

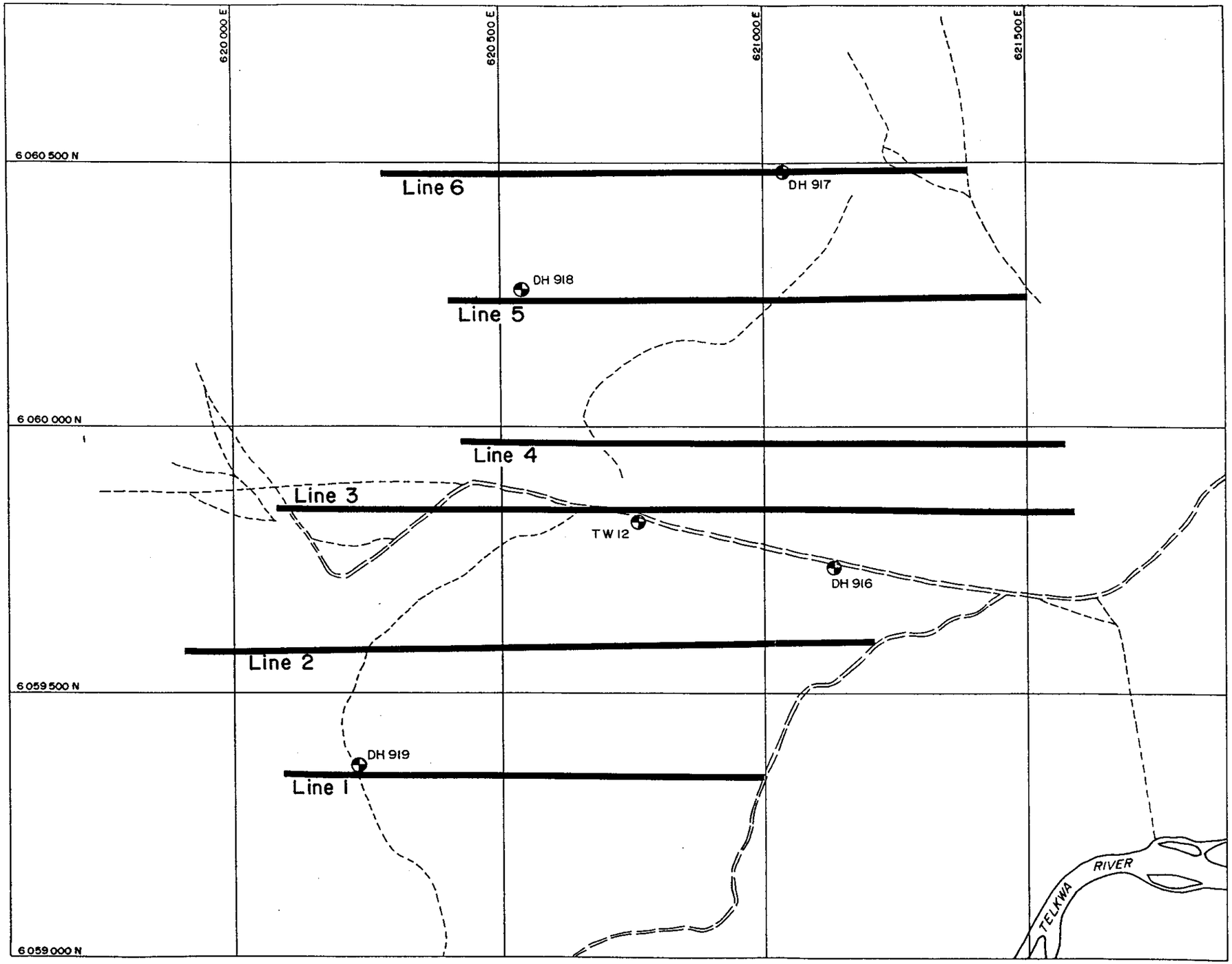
Calgary, Alberta
February 1990
C89-37



CROWS NEST RESOURCES LIMITED
TELKWA COAL PROJECT

SITE LOCATION MAP

GEO·PHYSI·CON	SCALE	DRAWN BY	DATE Jan., 1990
	N.T.S.	PROJECT C89-37	FIGURE 1



LEGEND

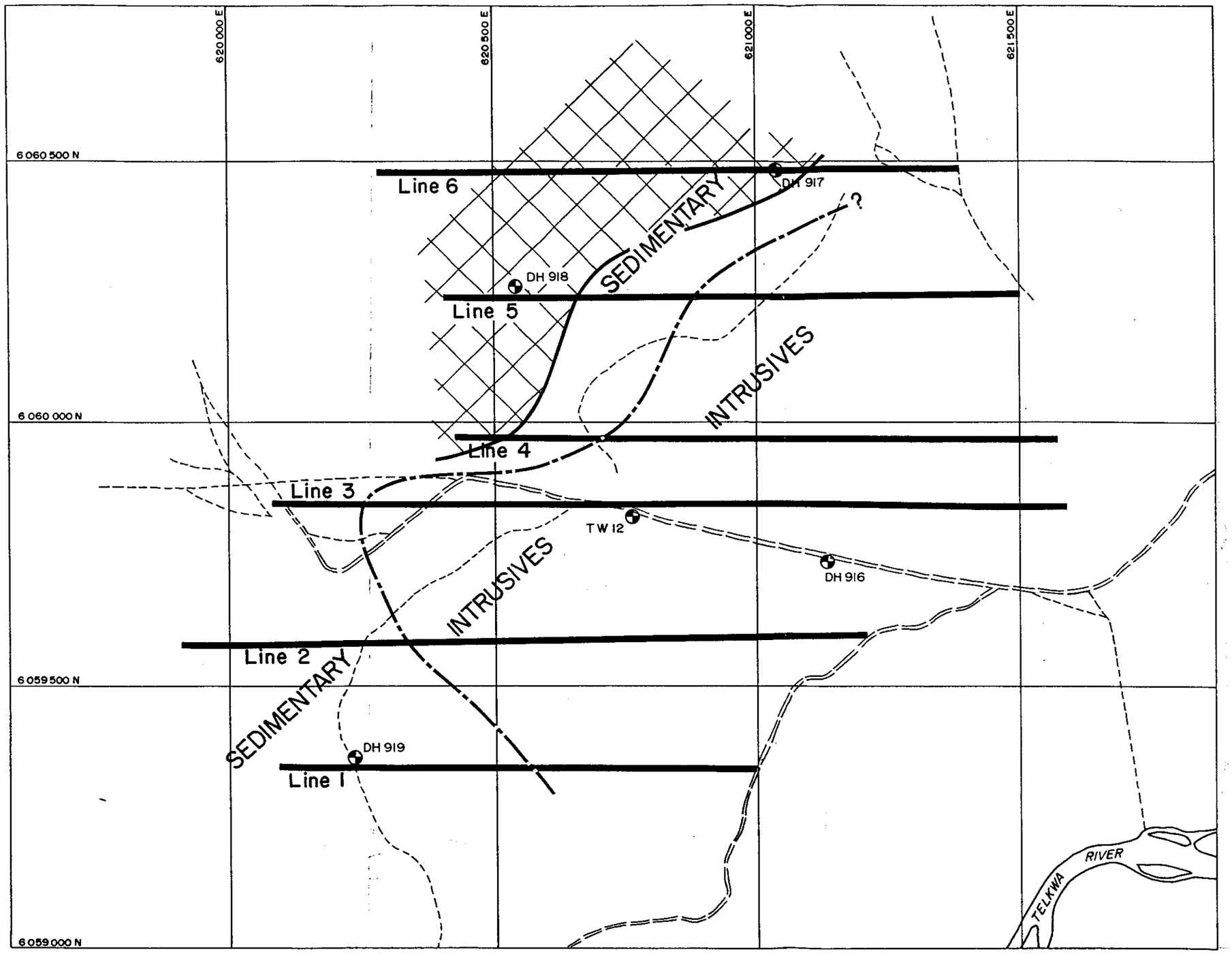
- Geophysical Survey Line
- Secondary Road
- Track or Trail
- Drill Hole

NOTE : Taken from Crows Nest Resources Limited Drawing No. 102A, Date 82-06-02

0 100 200 300 metres
SCALE

CROWS NEST RESOURCES LIMITED
TELKWA COAL PROJECT
LINE LOCATION MAP
PLANT SITE

GEO-PHYSI-CON	SCALE As shown	DRAWN BY	DATE Jan., 1990
	NTS	PROJECT C 89-37	FIGURE 2



LEGEND

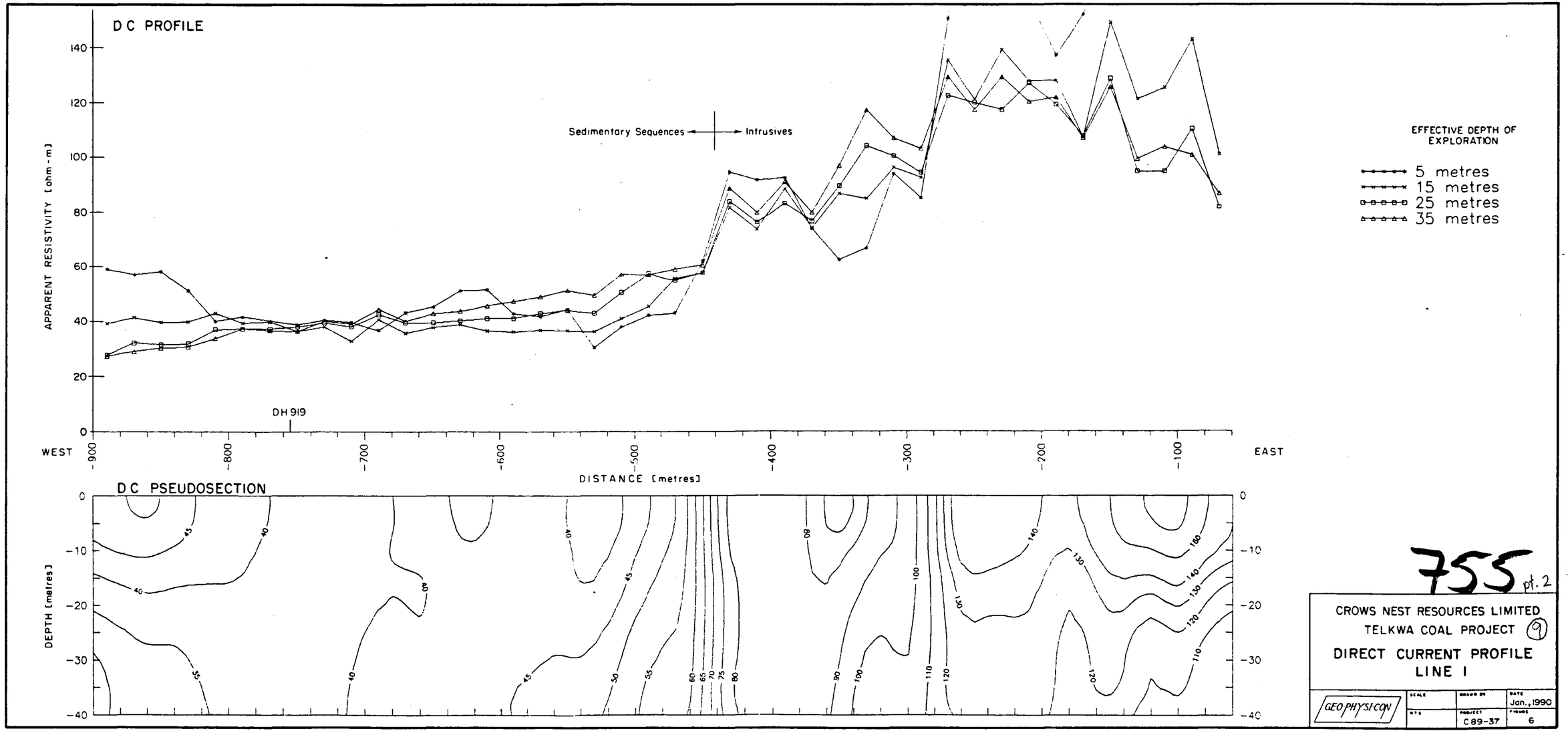
- Geologic Boundary
- High Resistivity - Possible Coal
- Geophysical Survey Line
- Secondary Road
- Track or Trail
- Drill Hole

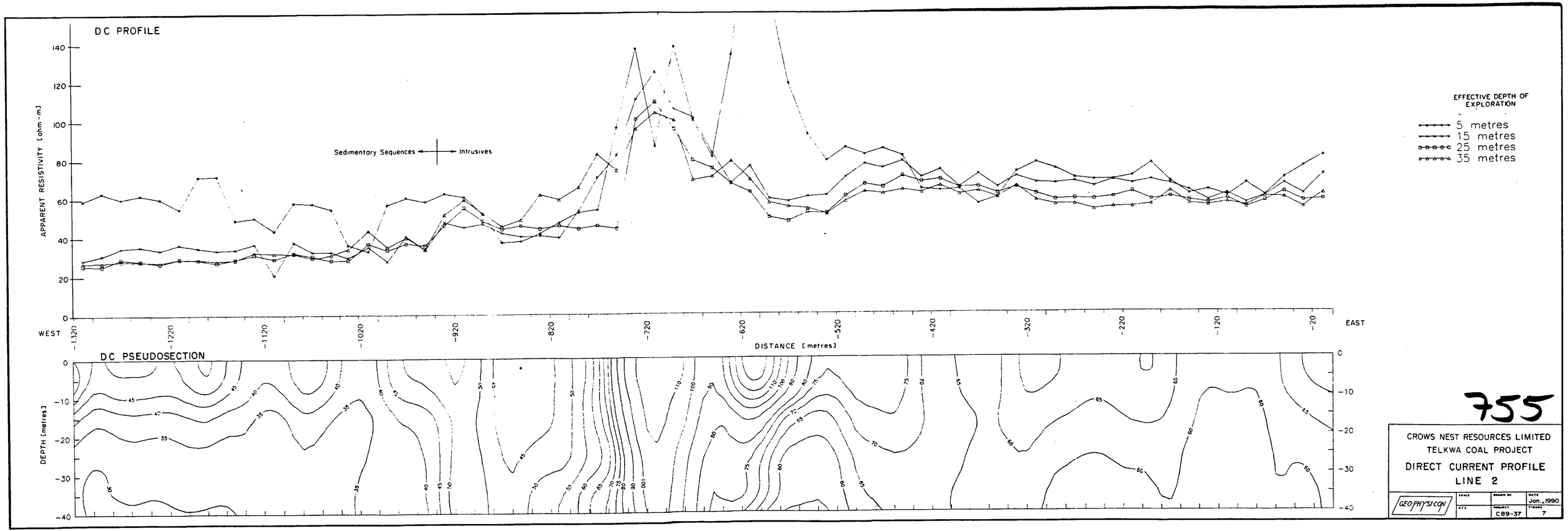
NOTE : Taken from Crows Nest Resources Limited Drawing No. 102A, Date 82-06-02

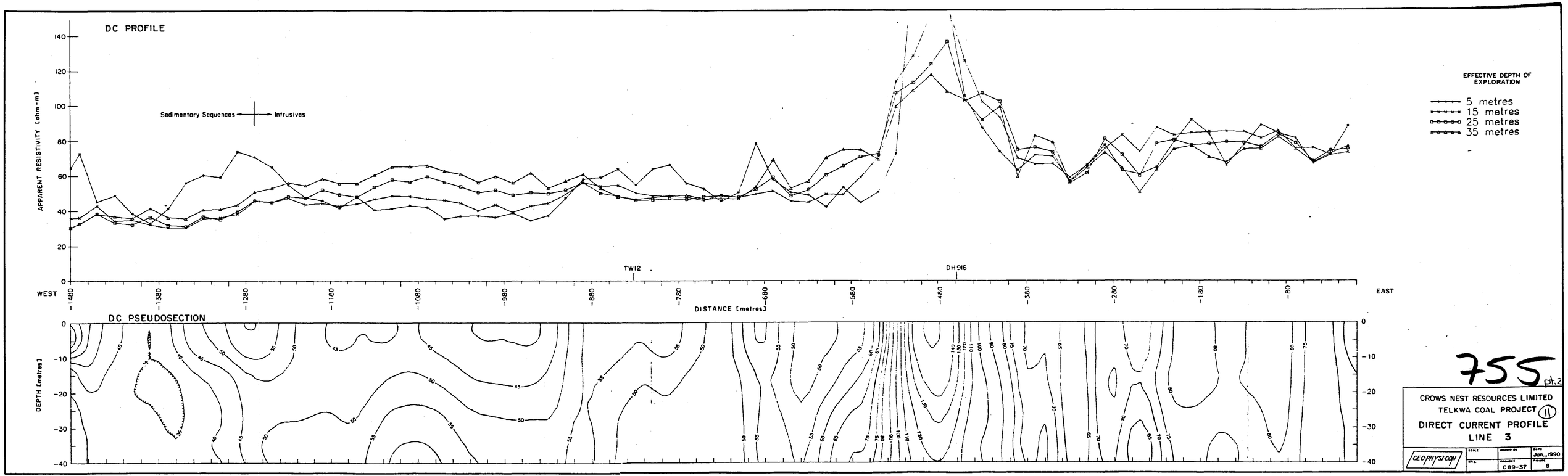
0 100 200 300 metres
SCALE

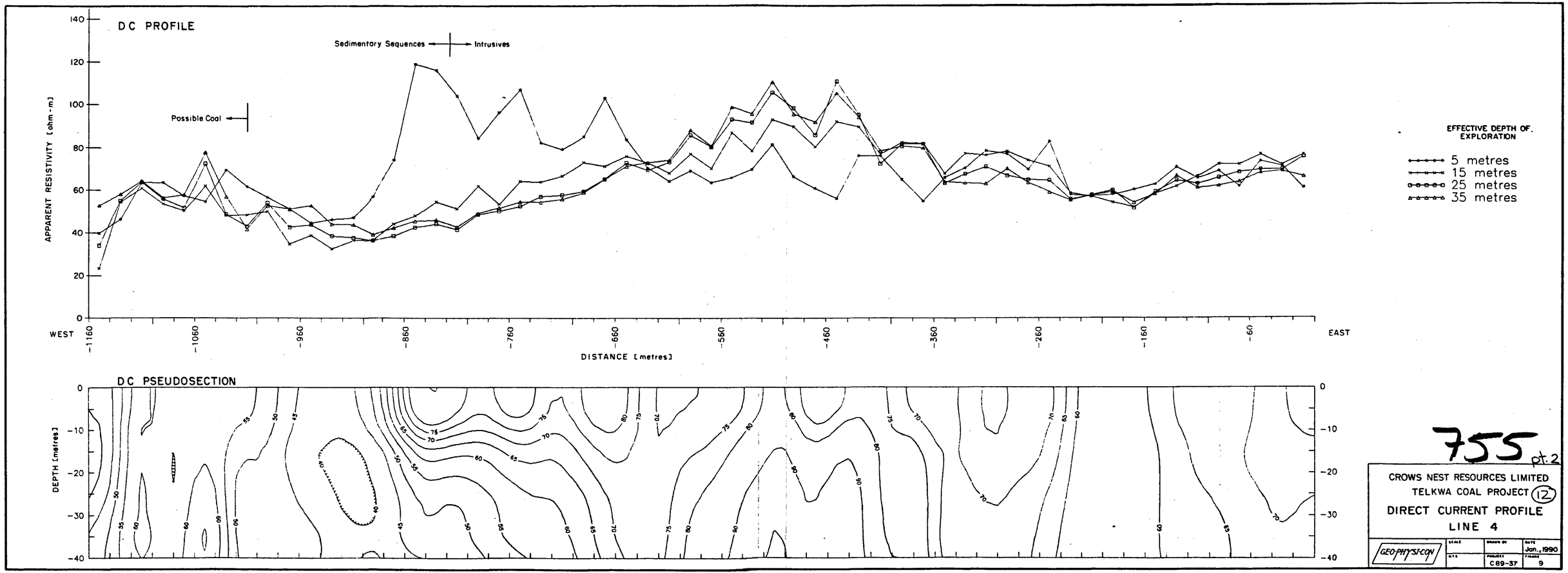
CROWS NEST RESOURCES LIMITED
TELKWA COAL PROJECT
GEOPHYSICAL INTERPRETATION
PLANT SITE

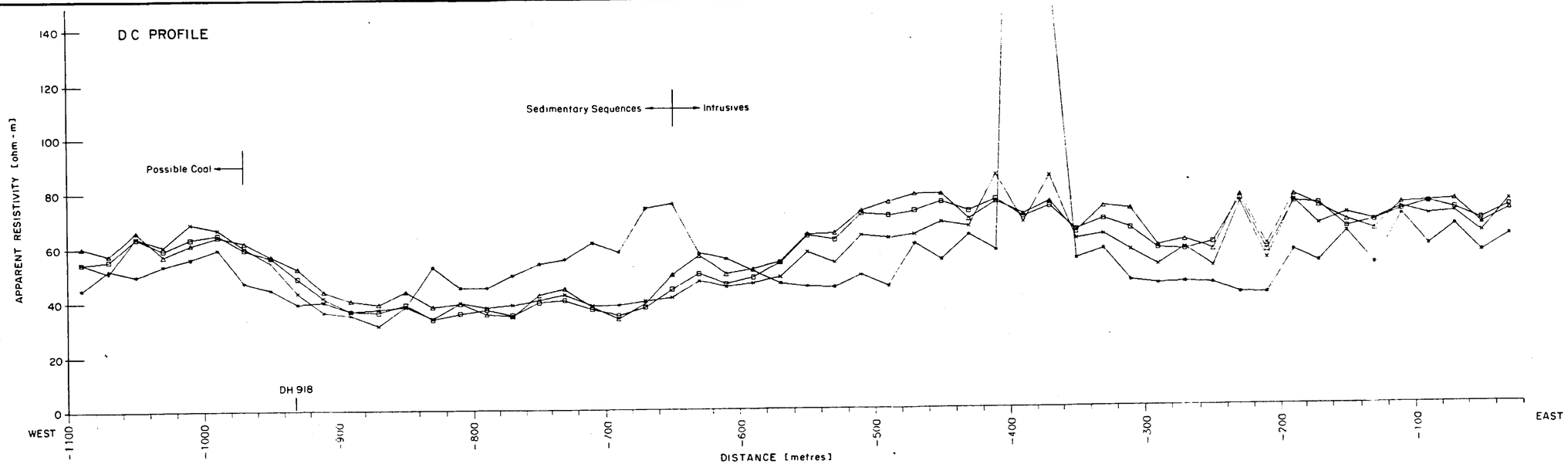
GEOPHYSICON	SCALE As shown	DRAWN BY	DATE Jan., 1990
	N.T.S.	PROJECT C 89-37	FIGURE 5

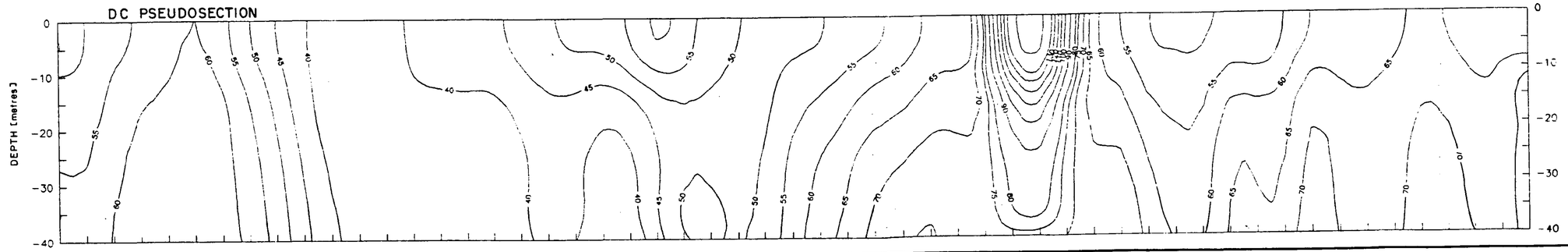

DC PROFILE
APPARENT RESISTIVITY [ohm-m]
Sedimentary Sequences
Intrusives
DH 919
WEST
EAST
DISTANCE [metres]
EFFECTIVE DEPTH OF EXPLORATION
5 metres
15 metres
25 metres
35 metres
DC PSEUDOSECTION
DEPTH [metres]
755 pt. 2
CROWS NEST RESOURCES LIMITED
TELKWA COAL PROJECT
DIRECT CURRENT PROFILE
LINE I
GEOPHYSICON
SCALE
DRAWN BY
DATE
Jan., 1990
NTS
PROJECT
C89-37
FIGURE
6


DC PROFILE
APPARENT RESISTIVITY [ohm-m]
Sedimentary Sequences
Intrusives
EFFECTIVE DEPTH OF EXPLORATION
5 metres
15 metres
25 metres
35 metres
WEST
EAST
DISTANCE [metres]
DC PSEUDOSECTION
DEPTH [metres]
755
CROWS NEST RESOURCES LIMITED
TELKWA COAL PROJECT
DIRECT CURRENT PROFILE
LINE 2
GEOPHYSICON
SCALE
DRAWN BY
DATE
Jan., 1990
NTS
PROJECT
C89-37
FIGURE
7


DC PROFILE
APPARENT RESISTIVITY (ohm-m)
Sedimentary Sequences
Intrusives
EFFECTIVE DEPTH OF EXPLORATION
5 metres
15 metres
25 metres
35 metres
TW12
DH916
WEST
EAST
DISTANCE (metres)
DC PSEUDOSECTION
DEPTH (metres)
755 pt.2
CROWS NEST RESOURCES LIMITED
TELKWA COAL PROJECT (11)
DIRECT CURRENT PROFILE
LINE 3
GEOPHYSICON
SCALE
DRAWN BY
DATE Jan., 1990
STYL
PROJECT C89-37
FIGURE 8


DC PROFILE
Sedimentary Sequences
Intrusives
Possible Coal
APPARENT RESISTIVITY [ohm-m]
140
120
100
80
60
40
20
0
WEST
EAST
-1160
-1060
-960
-860
-760
-660
-560
-460
-360
-260
-160
-60
DISTANCE [metres]
EFFECTIVE DEPTH OF EXPLORATION
5 metres
15 metres
25 metres
35 metres
DC PSEUDOSECTION
DEPTH [metres]
0
-10
-20
-30
-40
755 pt. 2
CROWS NEST RESOURCES LIMITED
TELKWA COAL PROJECT (12)
DIRECT CURRENT PROFILE
LINE 4
GEOPHYSICON
SCALE
DRAWN BY
DATE
Jan., 1990
NTS
PROJECT
C89-37
FIGURE
9



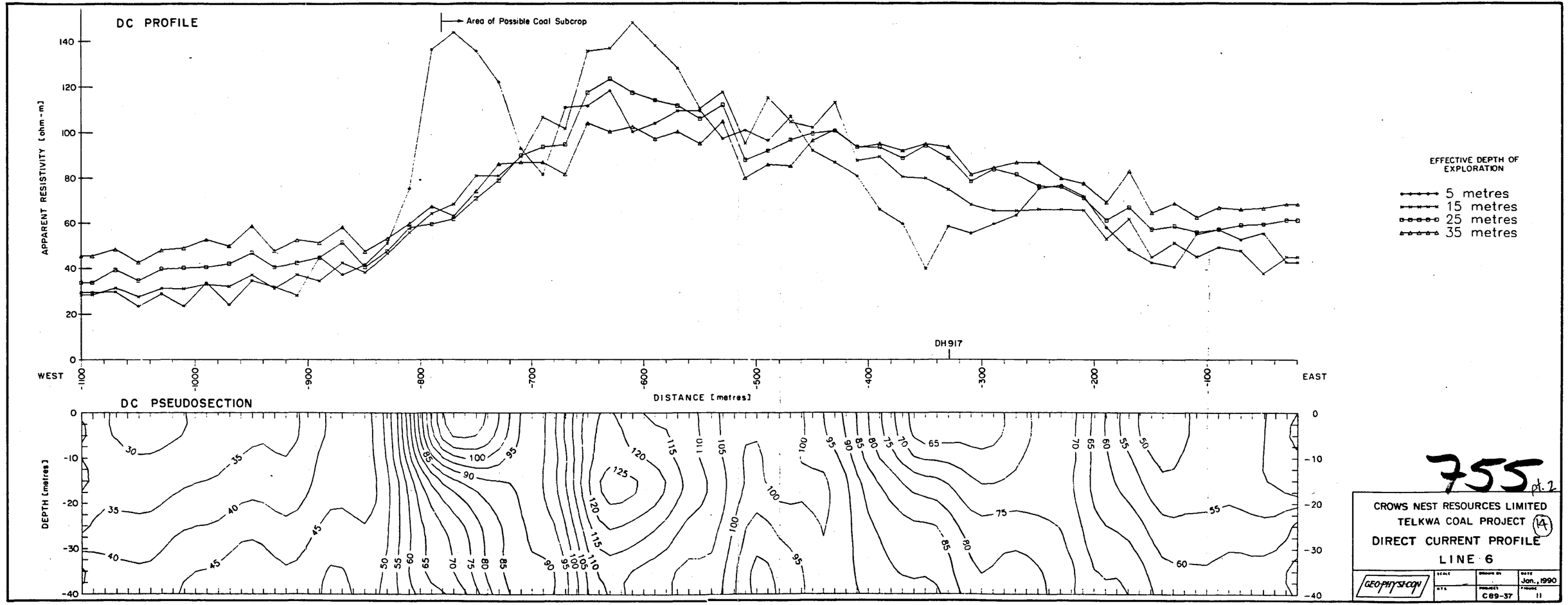


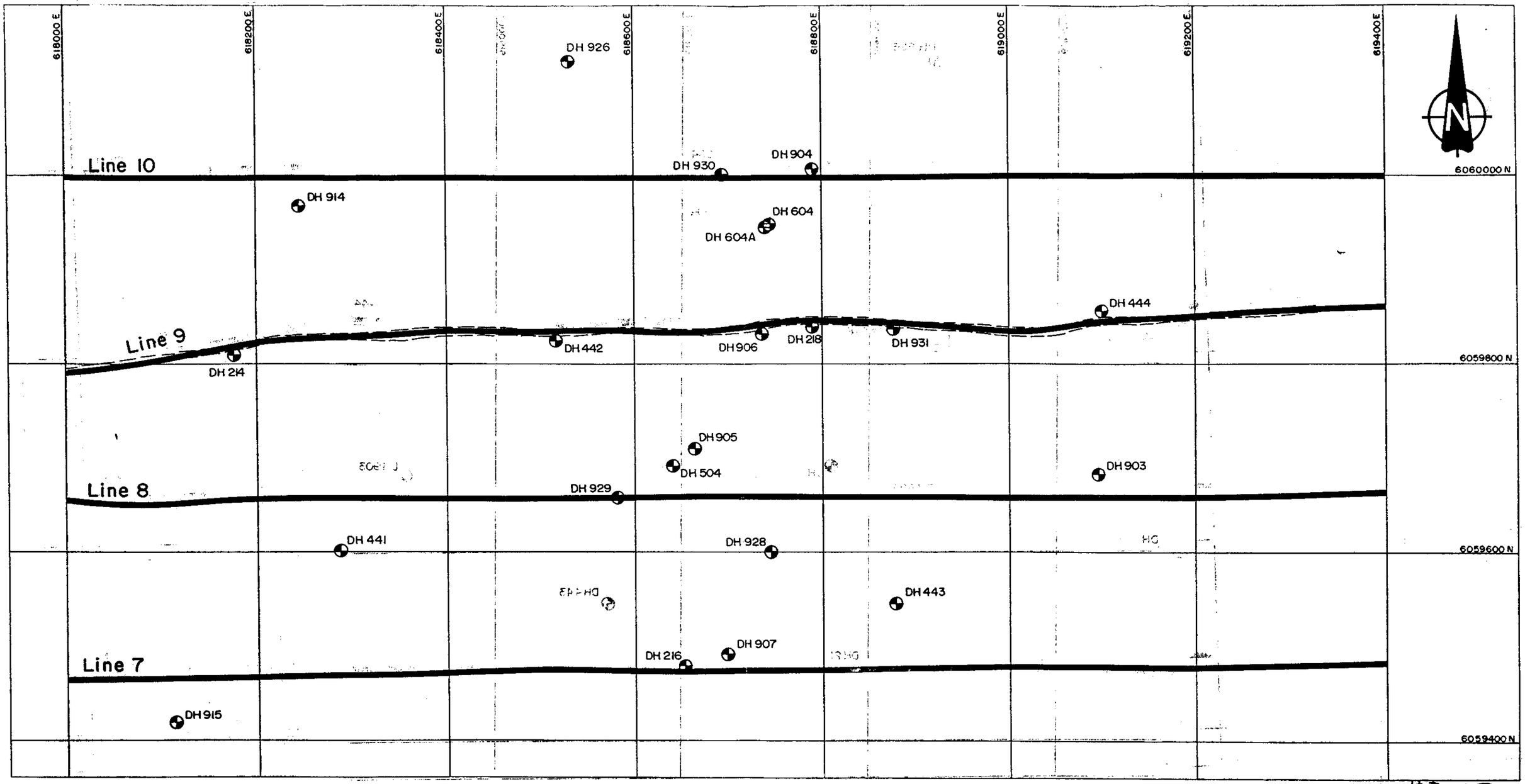
755 pt. 2

CROWS NEST RESOURCES LIMITED
TELKWA COAL PROJECT
DIRECT CURRENT PROFILE
LINE 5 (13)

GEOPHYSICON

SCALE	DRAWN BY	DATE
NTS		Jan., 1990
	PROJECT C89-37	FIGURE 10


DC PROFILE
Area of Possible Coal Subcrop
APPARENT RESISTIVITY [ohm-m]
140
120
100
80
60
40
20
0
DH917
WEST
-1100
-1000
-900
-800
-700
-600
-500
-400
-300
-200
-100
EAST
DISTANCE [metres]
EFFECTIVE DEPTH OF EXPLORATION
5 metres
15 metres
25 metres
35 metres
DC PSEUDOSECTION
DEPTH [metres]
0
-10
-20
-30
-40
755 pt. 2
CROWS NEST RESOURCES LIMITED
TELKWA COAL PROJECT
14
DIRECT CURRENT PROFILE
LINE 6
GEOPHYSECON
SCALE
NTS
DRAWN BY
DATE
Jan., 1990
PROJECT
C89-37
FIGURE
11



#755

0 50 100 150 200 metres

SCALE

LEGEND

Geophysical Survey Line

Secondary Road

Drill Hole

NOTE : Taken from Crows Nest Resources Limited Drawing

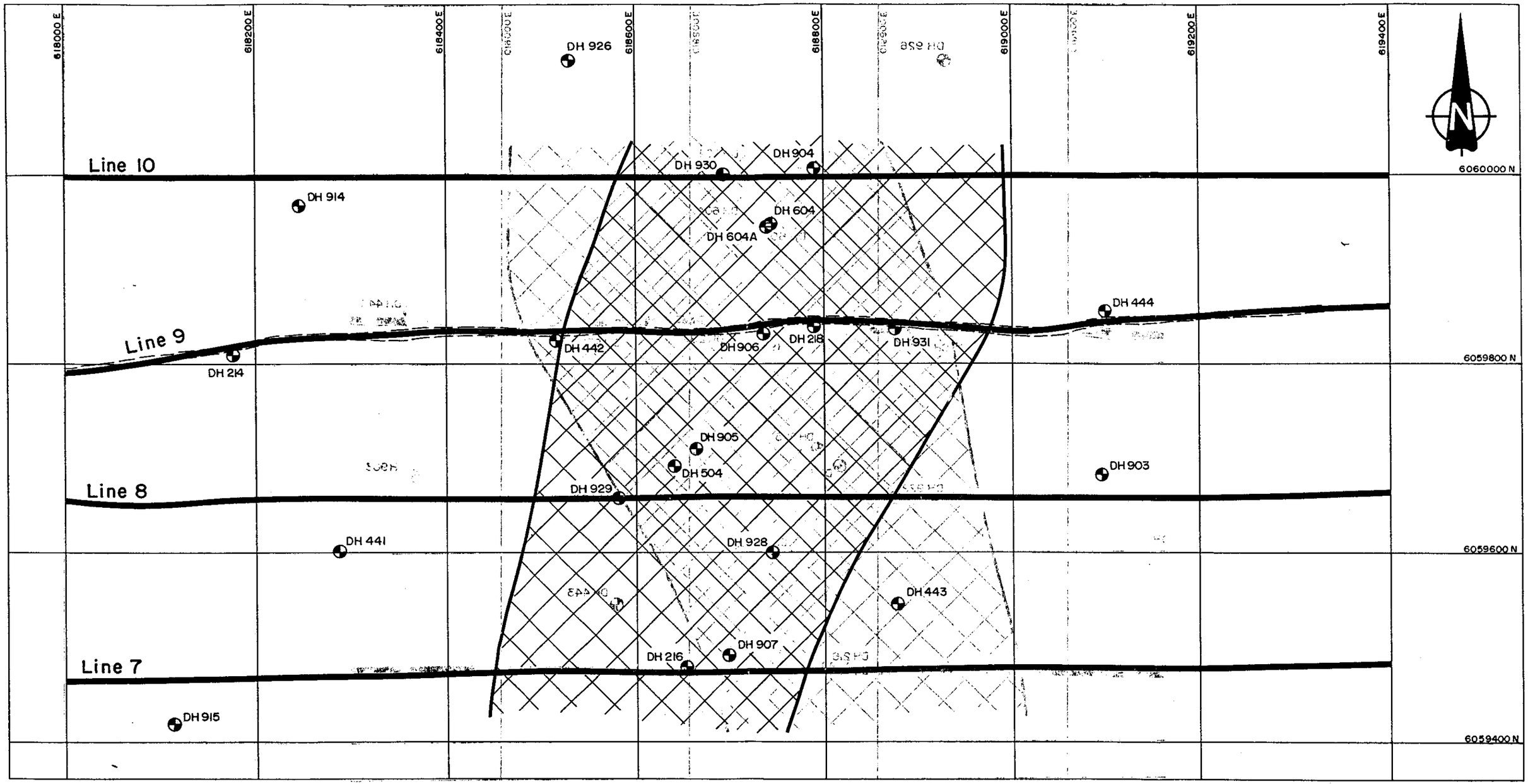
CROWS NEST RESOURCES LIMITED

TELKWA COAL PROJECT

LINE LOCATION MAP

PIT 7

GEO-PHYSI-CON	SCALE 1:5000	DRAWN BY	DATE Jan., 1990
	N.T.S.	PROJECT NO C 89-37	FIGURE 3



#755

LEGEND

- High Resistivity-Probable Coal
- Geophysical Survey Line
- Secondary Road
- Drill Hole

0 50 100 150 200 metres

SCALE 1:5000

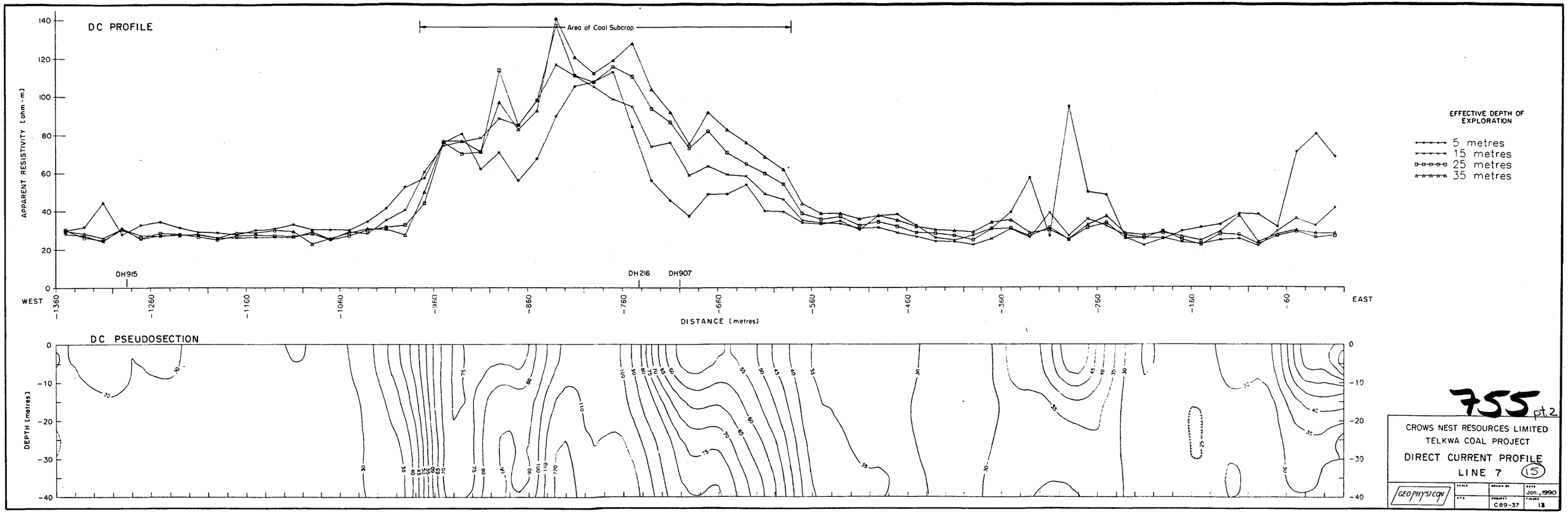
NOTE : Taken from Crows Nest Resources Limited Drawing

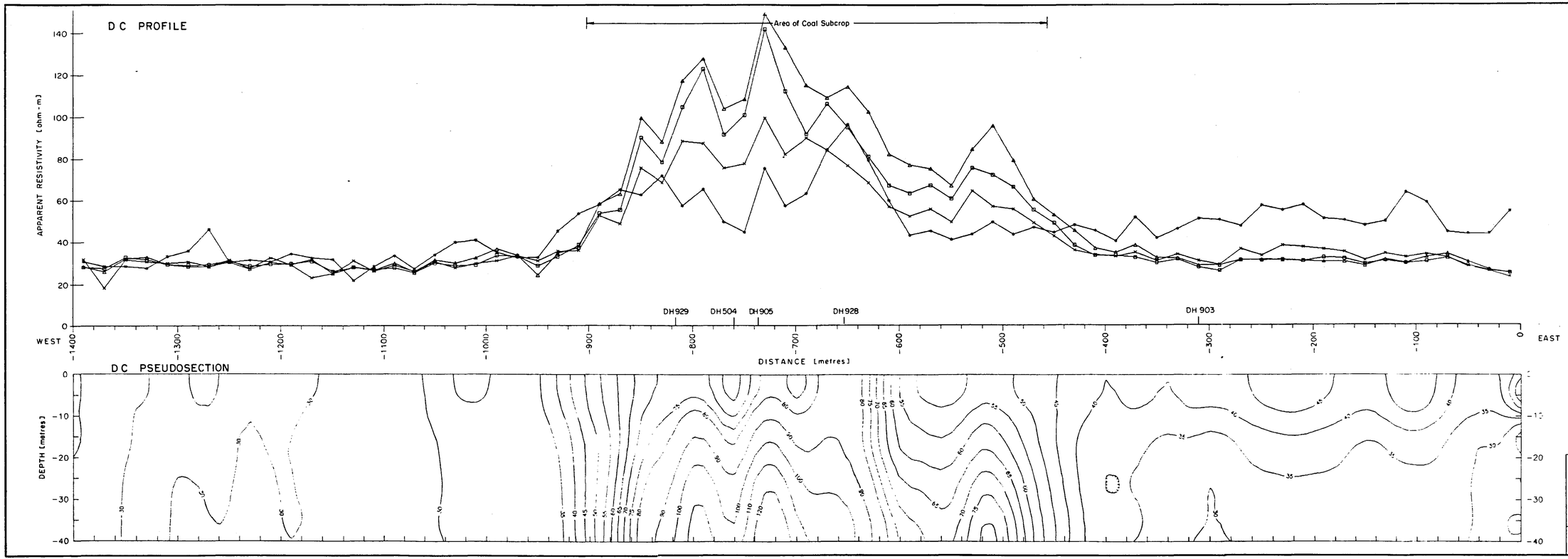
CROWS NEST RESOURCES LIMITED

TELKWA COAL PROJECT

GEOPHYSICAL INTERPRETATION PIT 7

GEOPHYSICON	SCALE 1:5000	DRAWN BY	DATE Jan., 1990
	N.T.S.	PROJECT NO. C 89-37	FIGURE 12

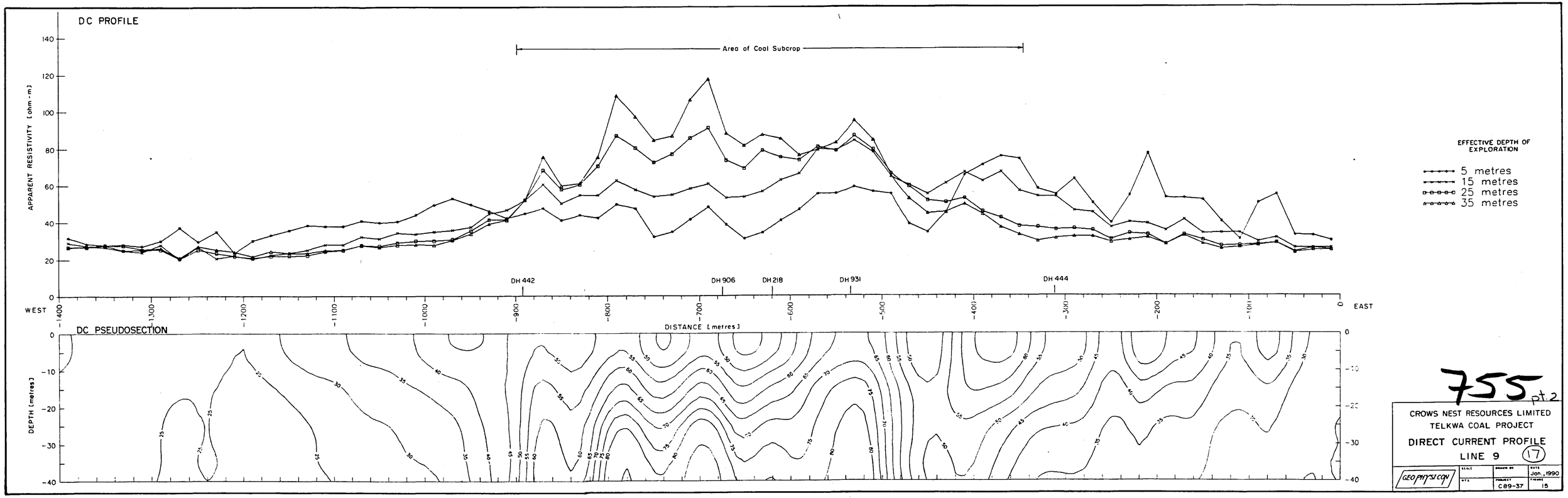

DC PROFILE
Area of Coal Subcrop
APPARENT RESISTIVITY [ohm-m]
140
120
100
80
60
40
20
0
DH915
DH216
DH907
WEST
EAST
-1360
-1260
-1160
-1060
-960
-860
-760
-660
-560
-460
-360
-260
-160
-60
DISTANCE [metres]
EFFECTIVE DEPTH OF EXPLORATION
5 metres
15 metres
25 metres
35 metres
DC PSEUDOSECTION
DEPTH [metres]
0
-10
-20
-30
-40
755 pt.2
CROWS NEST RESOURCES LIMITED
TELKWA COAL PROJECT
DIRECT CURRENT PROFILE
LINE 7
15
GEOPHYSICON
SCALE
DATE
Jan., 1990
DRAWN BY
PROJECT
C89-37
FIGURE
13

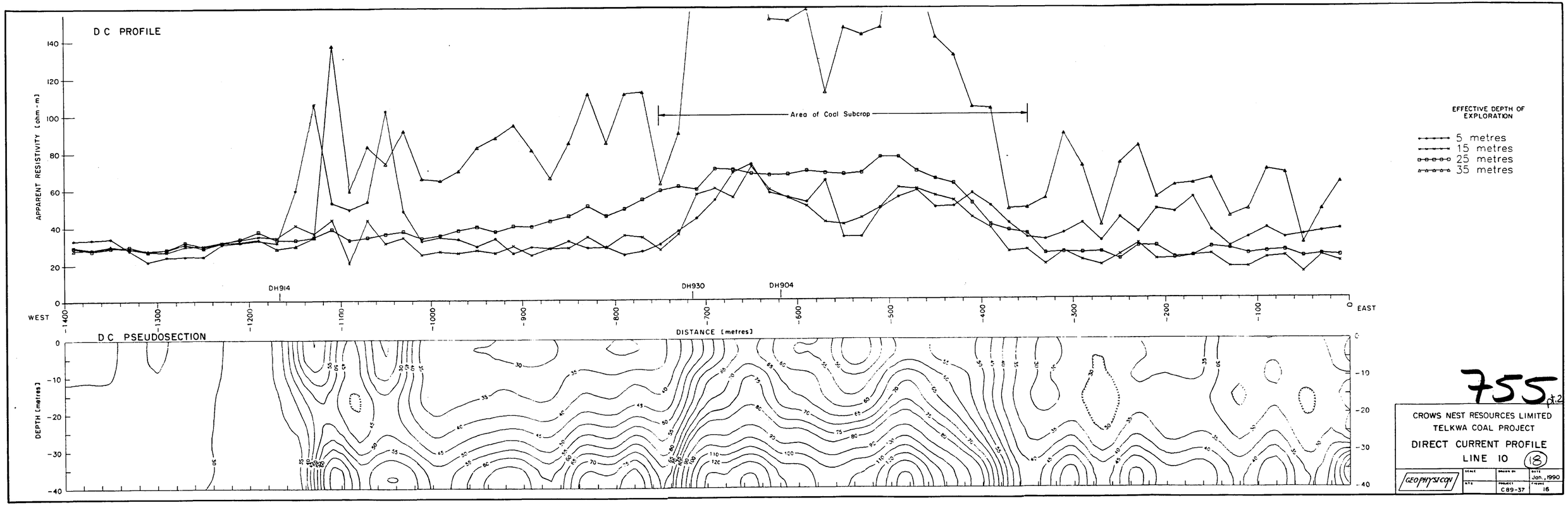


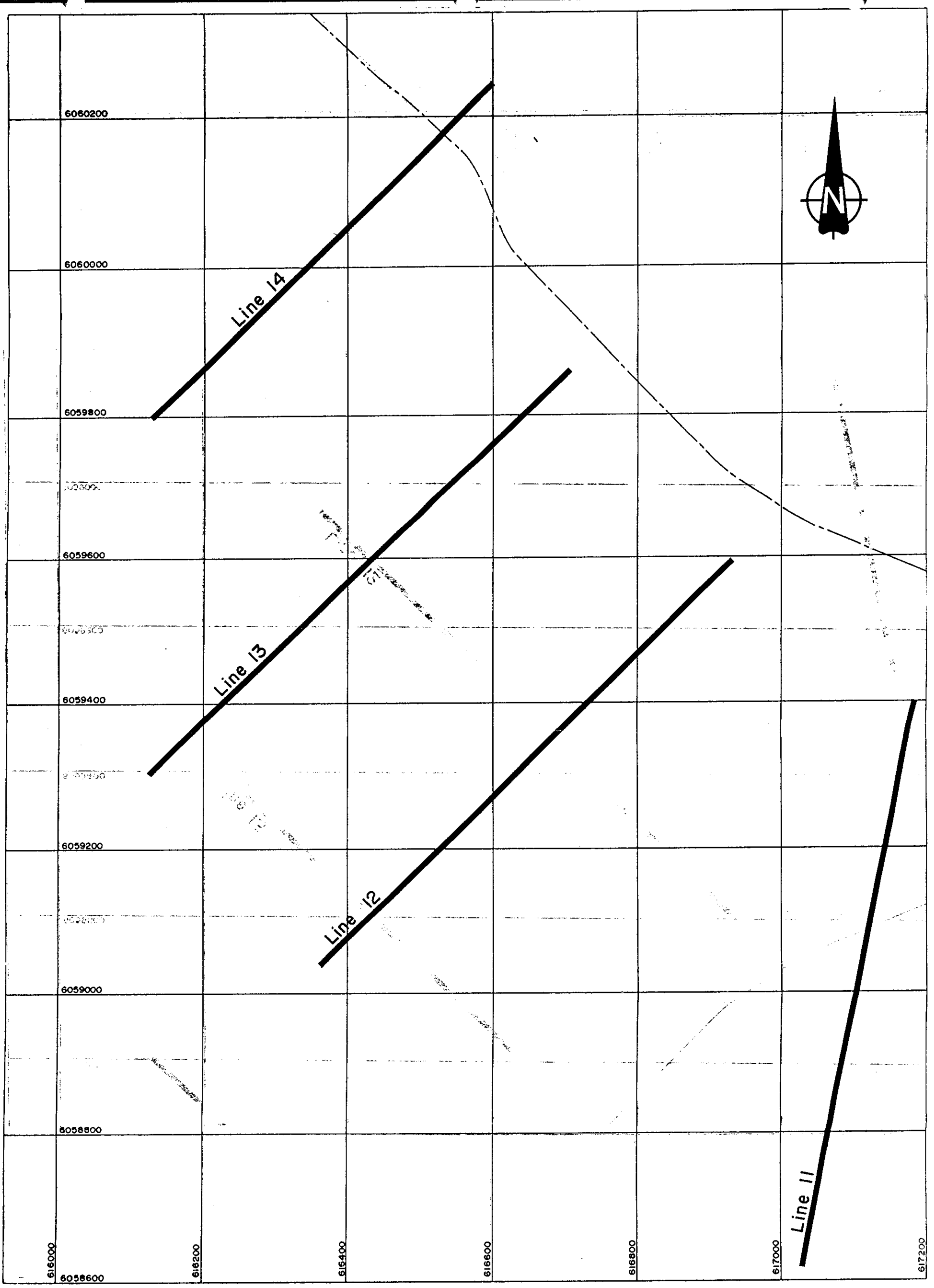
755 pt. 2

CROWS NEST RESOURCES LIMITED
TELKWA COAL PROJECT
DIRECT CURRENT PROFILE
LINE 8 (16)

GEOPHYSICON	SCALE	DRAWN BY	DATE Jan., 1990
	NTS	PROJECT C89-37	FIGURE 14


DC PROFILE
Area of Coal Subcrop
APPARENT RESISTIVITY [ohm-m]
140
120
100
80
60
40
20
0
DH 442
DH 906
DH 218
DH 931
DH 444
WEST
EAST
-1400
-1300
-1200
-1100
-1000
-900
-800
-700
-600
-500
-400
-300
-200
-100
0
DISTANCE [metres]
EFFECTIVE DEPTH OF EXPLORATION
5 metres
15 metres
25 metres
35 metres
DC PSEUDOSECTION
DEPTH [metres]
0
-10
-20
-30
-40
755 pt.2
CROWS NEST RESOURCES LIMITED
TELKWA COAL PROJECT
DIRECT CURRENT PROFILE
LINE 9
17
GEOPHYSICON
SCALE
DRAWN BY
DATE
Jan., 1990
NTS
PROJECT
C89-37
FIGURE
15


D C PROFILE
APPARENT RESISTIVITY [ohm-m]
Area of Coal Subcrop
DH914
DH930
DH904
WEST
EAST
DISTANCE [metres]
EFFECTIVE DEPTH OF EXPLORATION
5 metres
15 metres
25 metres
35 metres
D C PSEUDOSECTION
DEPTH [metres]
755
CROWS NEST RESOURCES LIMITED
TELKWA COAL PROJECT
DIRECT CURRENT PROFILE
LINE 10
18
GEOPHYSICON
Jan., 1990
C89-37
16



#755

LEGEND

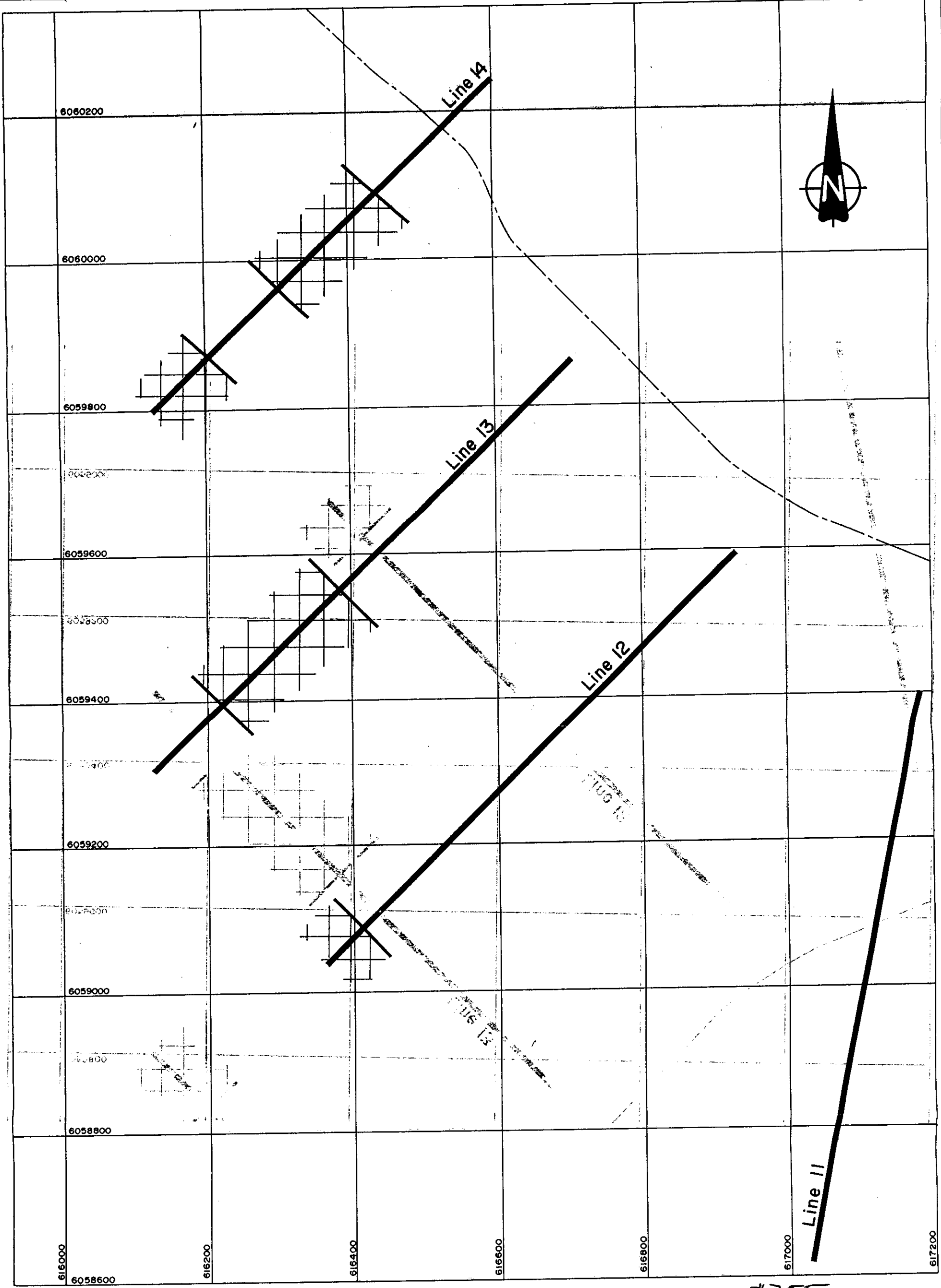
Geophysical Survey Line

Ultimate Pit 8 Limit

NOTE · Taken from Crows Nest Resources Limited Drawing.
Date 89-02-22

CROWS NEST RESOURCES LIMITED
TELKWA COAL PROJECT
LINE LOCATION MAP
PIT 8 - DUMP

GEO-PHYSI-CON	SCALE 1:5000	DRAWN BY	DATE Jan., 1990
	N.T.S.	PROJECT NO. C 89-37	FIGURE 4



#755

0 50 100 150 200 metres
SCALE

LEGEND

High Resistivity - Possible Coal

Geophysical Survey Line

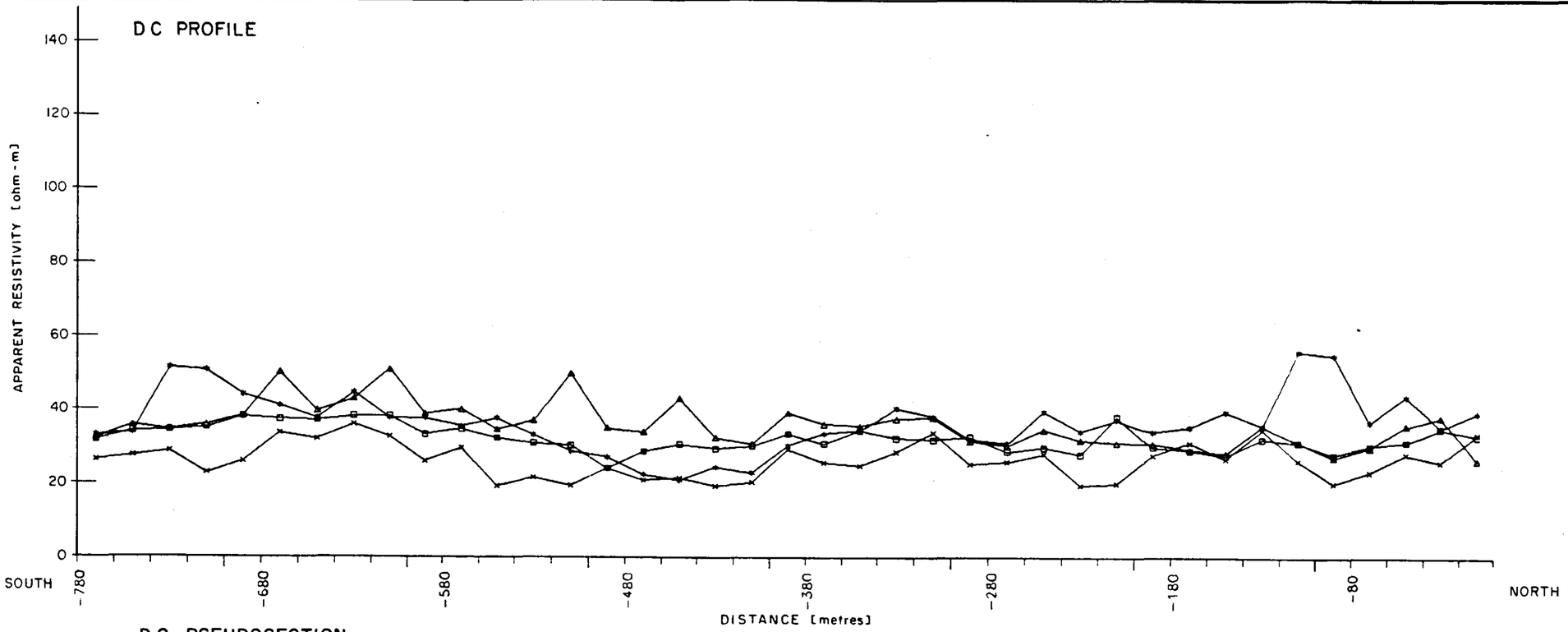
Ultimate Pit 8 Limit

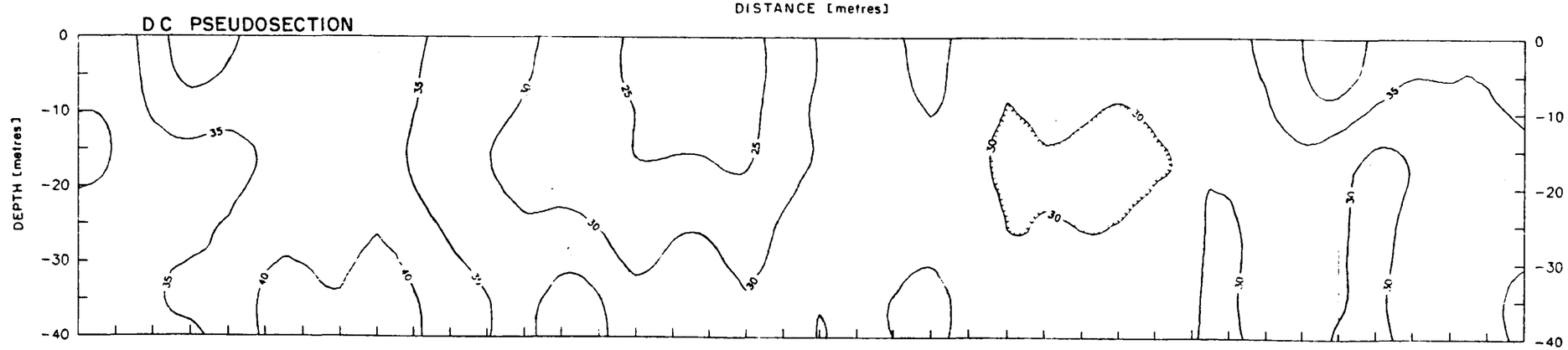
NOTE: Taken from Crows Nest Resources Limited Drawing.
Date 89-02-22

CROWS NEST RESOURCES LIMITED
TELKWA COAL PROJECT

GEOPHYSICAL INTERPRETATION
PIT 8 - DUMP

GEO-PHYSI-CON	SCALE 1:5000	DRAWN BY	DATE Jan., 1990
	N.T.S.	PROJECT NO. C 89-37	FIGURE 17



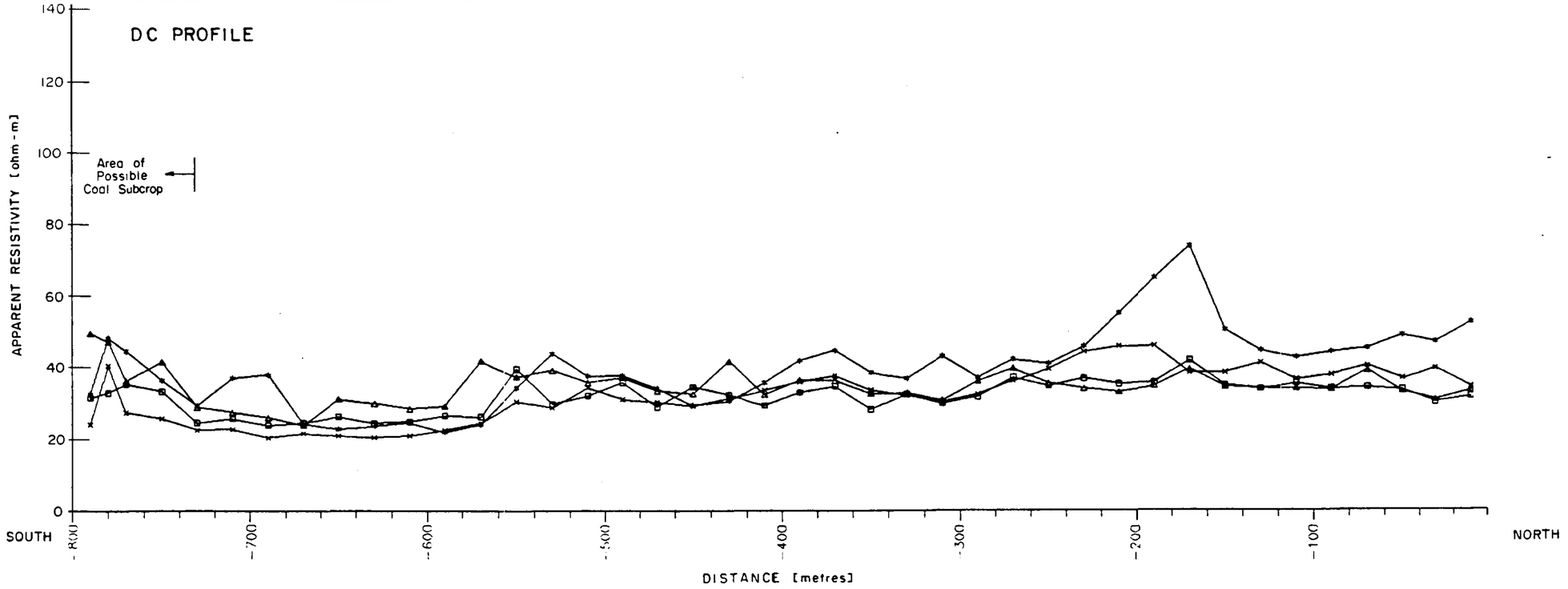


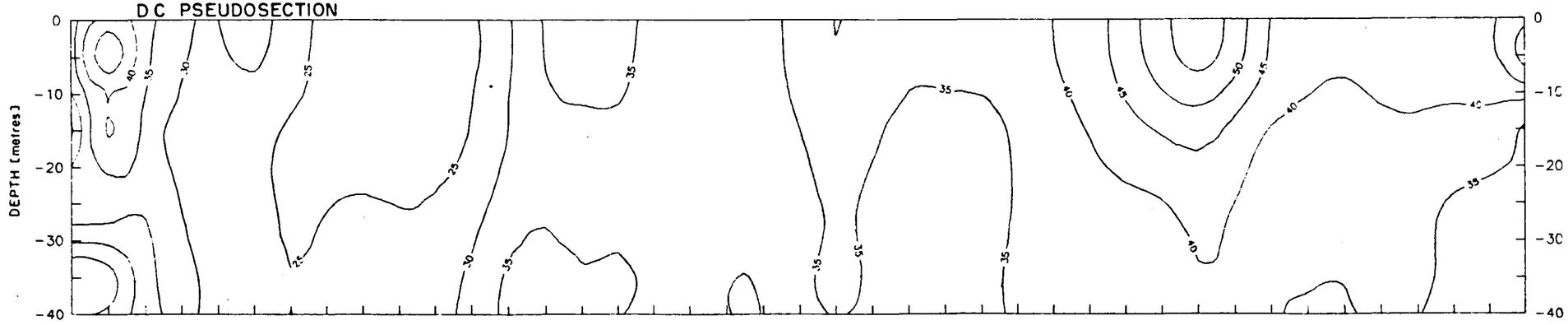
755 pt.2

CROWS NEST RESOURCES LIMITED
TELKWA COAL PROJECT

DIRECT CURRENT PROFILE
LINE II (19)

GEO-PHYSICON	SCALE	DRAWN BY	DATE Jan., 1990
	N.T.S.	PROJECT C89-37	FIGURE 18



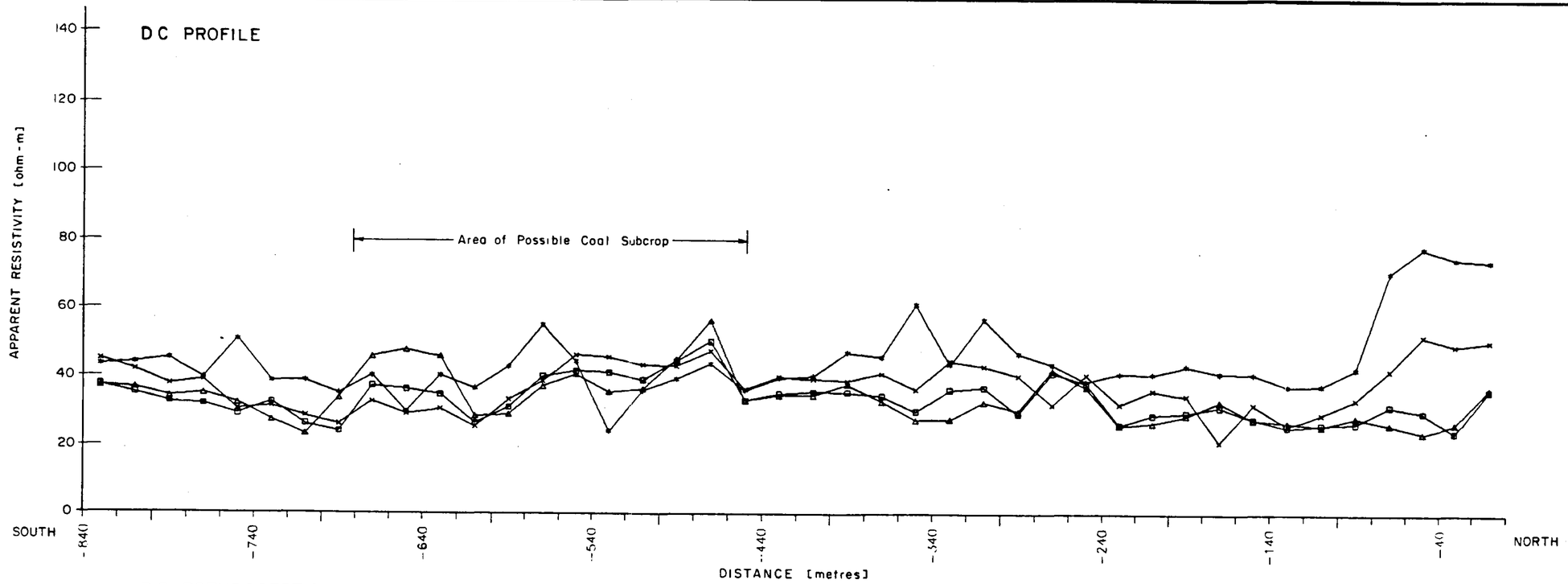


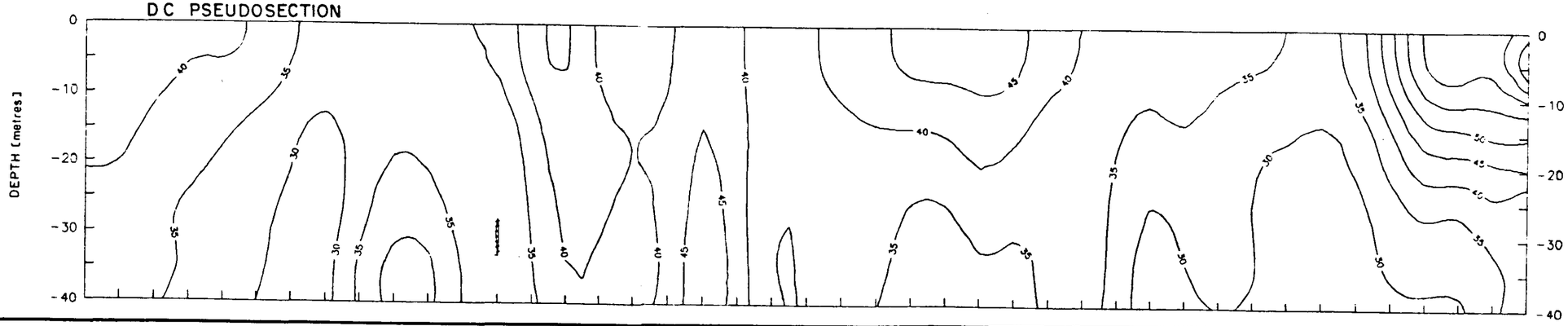
755 pt. 2

CROWS NEST RESOURCES LIMITED
TELKWA COAL PROJECT (20)

DIRECT CURRENT PROFILE
LINE 12

GEOPHYSICON	SCALE	DRAWN BY	DATE Jan., 1990
	N.T.S.	PROJECT C89-37	FIGURE 19

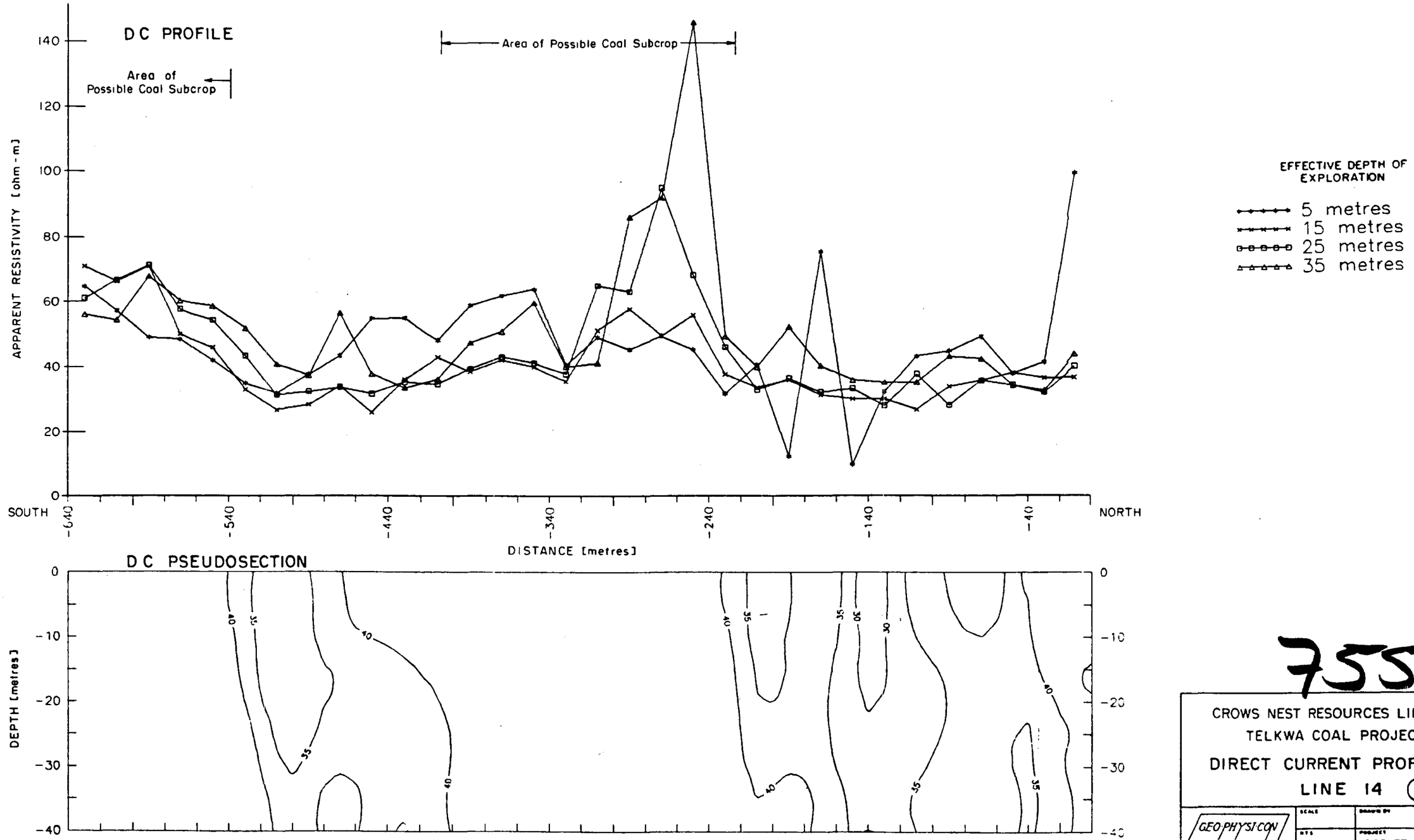




755 pt 2

CROWS NEST RESOURCES LIMITED
TELKWA COAL PROJECT
DIRECT CURRENT PROFILE
LINE 13 (21)

GEOPHYSICON	SCALE	DRAWN BY	DATE Jan., 1990
	REV.	PROJECT C89-37	FIGURE 20



755 pt. 2

CROWS NEST RESOURCES LIMITED
TELKWA COAL PROJECT
DIRECT CURRENT PROFILE
LINE 14 (22)

GEOPHYSICON	SCALE	DRAWN BY	DATE Jan., 1990
	DTS	PROJECT C89-37	FIGURE 21

APPENDIX A

PHYSICAL AND INTERPRETATIVE PRINCIPLES FOR SURFACE ELECTRICAL METHODS

Electrical conductivity and resistivity are inversely related. Either can be measured depending on the equipment used.

The major factors affecting terrain resistivity include:

1. the soil or rock type
2. the thermal state, and
3. the conductivity of groundwater.

In permafrost free terrain, soil and rock types exhibit a wide range of electrical resistivity, as illustrated in Figures A1(a,b). In permafrost terrain, the resistivity of frozen and unfrozen soil or rock of the same type may differ substantially (Figure A2a). Frozen materials having a high ice content (Figure A2b) often exhibit an increase in resistivity proportional to ice content. The presence of ion-rich groundwater can create a large increase in terrain conductivity, irrespective of soil or rock type.

profiling data are obtained using a symmetric configuration (Schlumberger array) consisting of two outer current injection electrodes and two inner potential difference measurement electrodes, there is a natural correspondence between the two data sets that can be used to verify data reliability and repeatability.

Direct current soundings are one of the oldest and most commonly used methods for determining stratification of earth resistivity. Operation of the system in the Schlumberger configuration, as used during the survey, is illustrated in Figure A3.

Current is driven into the ground through one pair of electrodes (I_1 and I_2). The potential difference established in the earth by this current is measured with a second pair of electrodes (P_1 and P_2). To study the variation in resistivity with depth, the spacing between the current electrodes is altered. Figure A3 shows schematically the distribution of current flow at two electrode spacings. At close electrode spacing (Figure A3a), the currents dominantly flow near the surface and the potential field is virtually not influenced by deeper strata. With increased spacing, part of the current flow is located in deeper layers, and the potential measured is influenced by the resistivities of these layers.

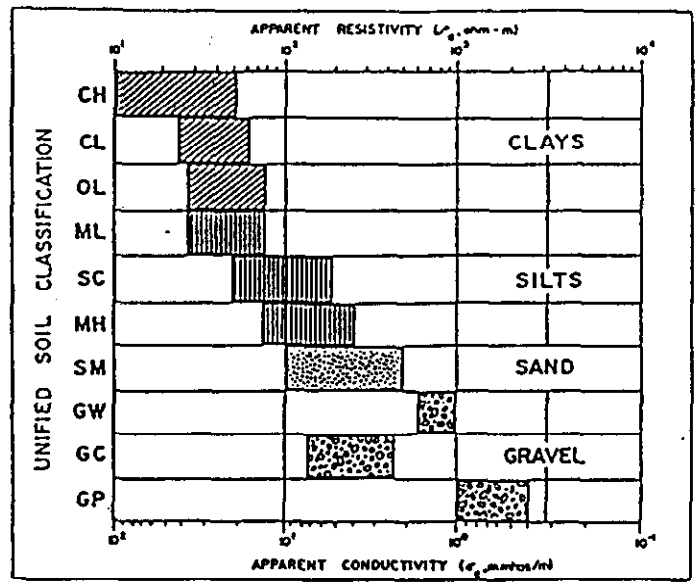
The direct current sounding data are converted to apparent resistivities and plotted against one half the current electrode separation, on a log-log scale. The resulting curves are compared to a set of master curves to determine preliminary estimates of the resistivity and thickness for distinctive subsurface strata. The resistivity and thickness of each layer are then adjusted, using computer algorithms, until a match of the field and model data is found.

The fact that the current electrode separations need be 4 to 5 times greater than the depth of exploration illustrates the dependence of the method on lateral homogeneity in earth resistivity. This impacts the orientations allowed for the measurement array when working across laterally constrained areas such as coal seam subcrops. The availability of direct current profiling data to monitor the lateral variation in earth resistivity can assist locating suitable sites for soundings.

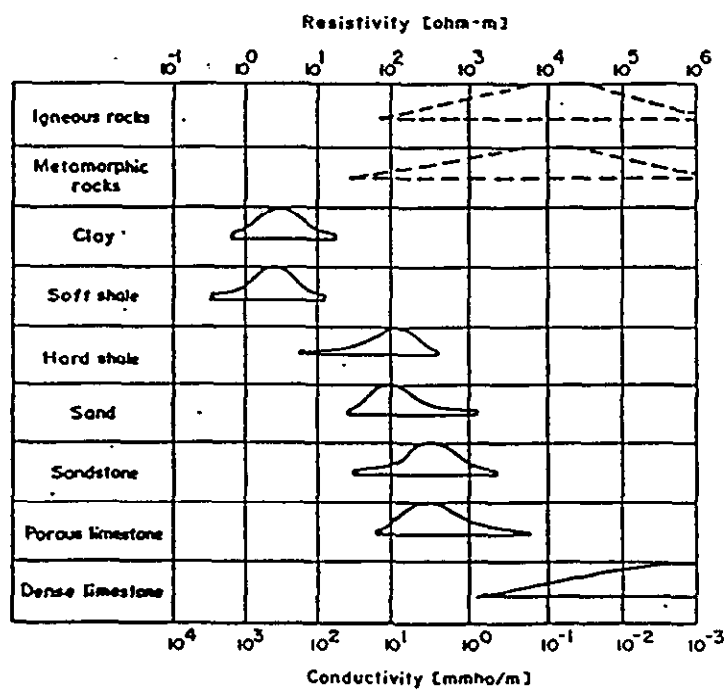
Interpretations based on direct current soundings data generally require correlation with drilling. This occurs due to the fact that a range of resistivities and thicknesses can be assigned to a particular subsurface layer, each combination of which yields nearly

the same apparent resistivity curve, within the acceptable error of measurement.

Direct current profiling is essentially the same as direct current sounding, except that fewer current electrode separations are used but at a greater density of measurement stations. The variation in apparent resistivity observed along survey lines can be correlated to the lateral extent of subsurface strata characterized by distinct contrasts in electrical resistivity.



a) Soil Type - Conductivity Relations

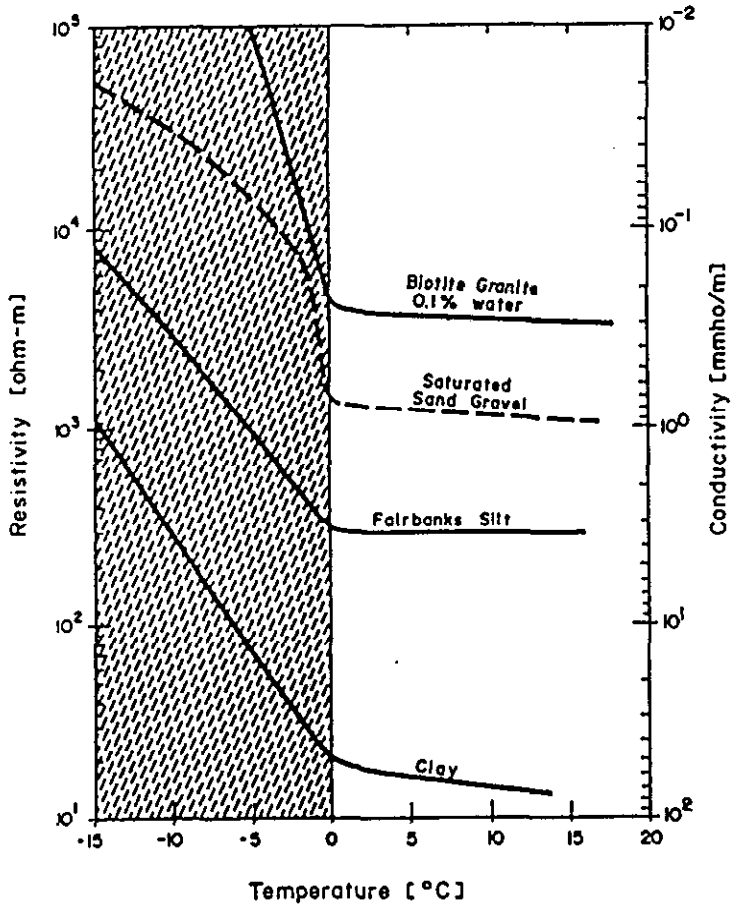


b) Rock Type - Conductivity Relations

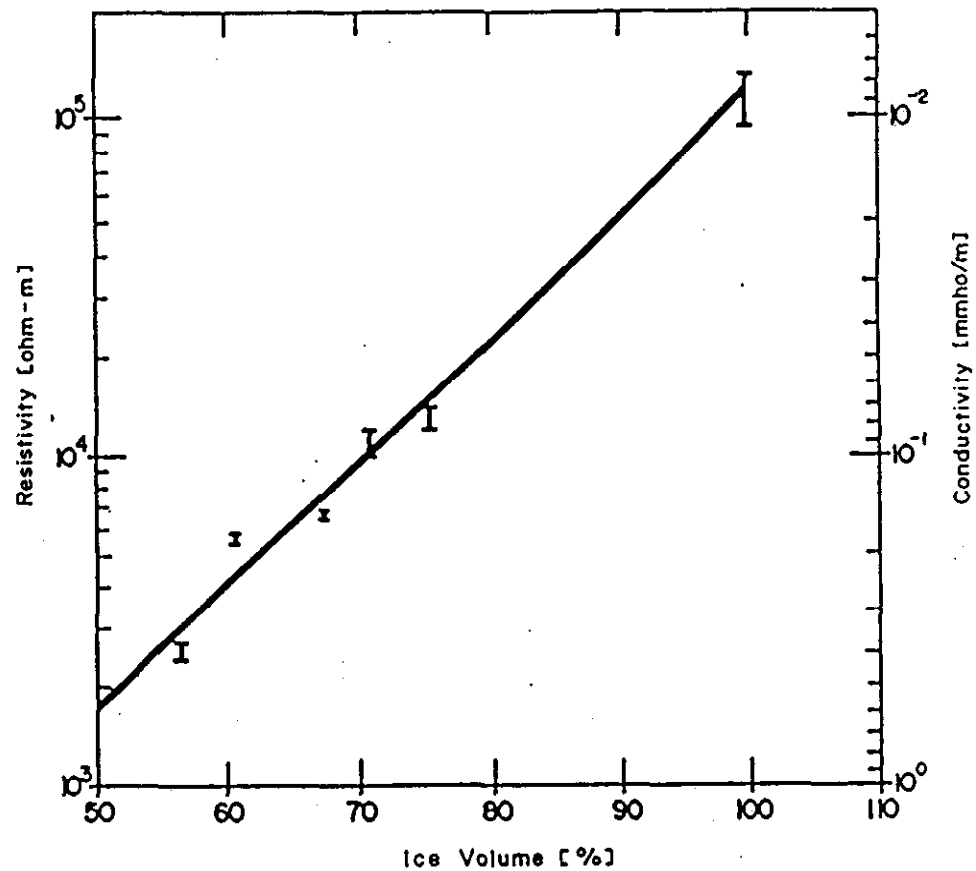
GEO-PHYSI-CON

TYPICAL
CONDUCTIVITY VARIATION
OF SOILS AND ROCKS

Figure A-1



a) Temperature - Conductivity Relations

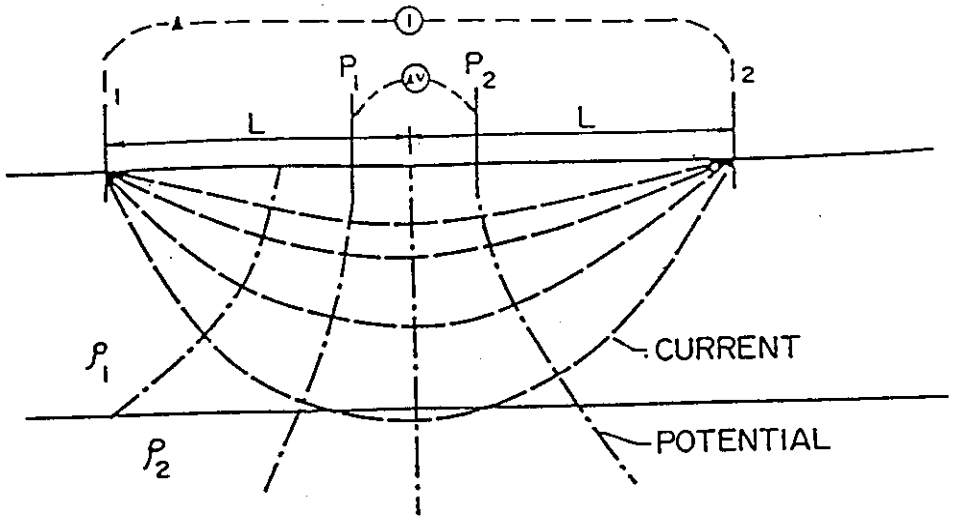


b) Ice Content - Conductivity Relations

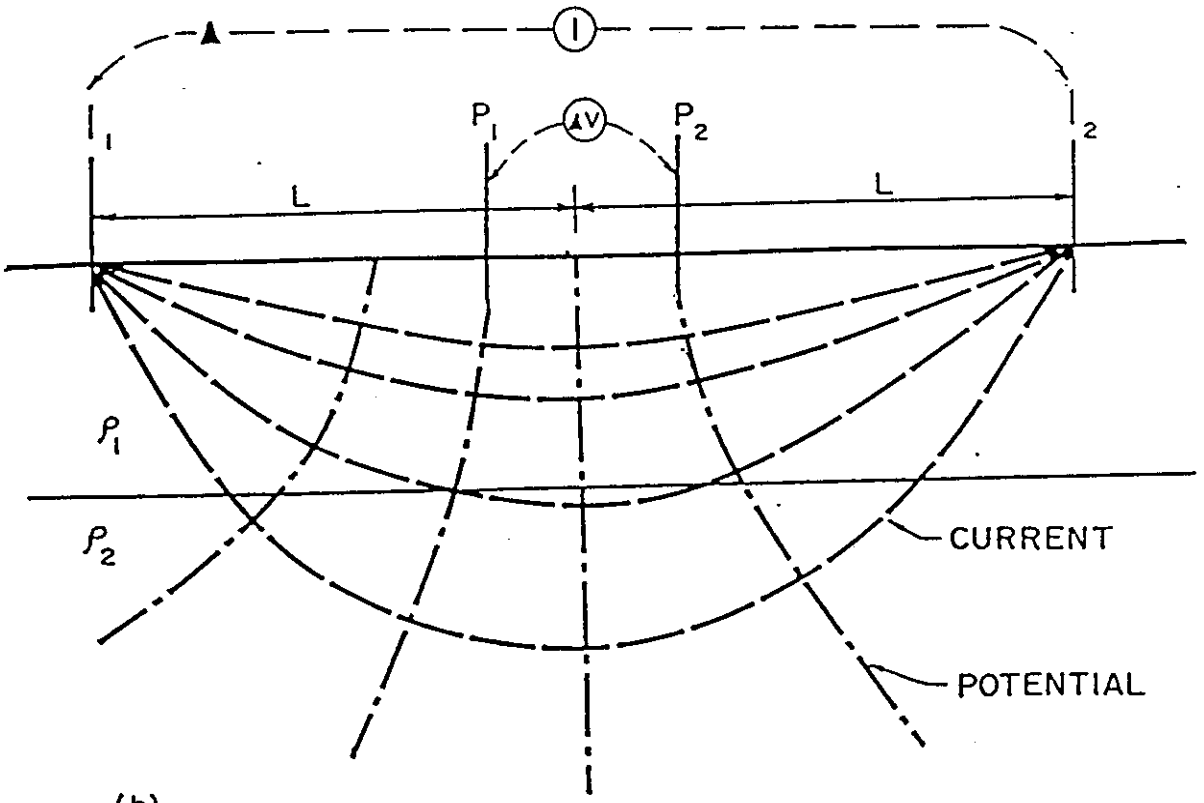
GEO-PHYSI-CON

CONDUCTIVITY · VARIATION WITH TEMPERATURE AND ICE CONTENT

Figure A-2



(a)



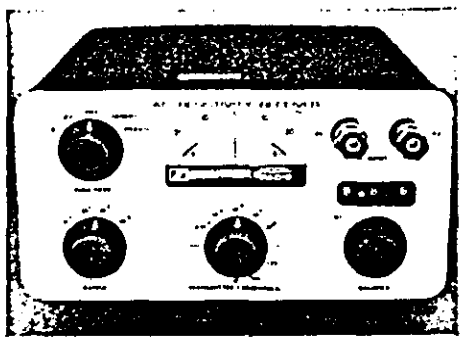
(b)

GEO-PHYSI-CON

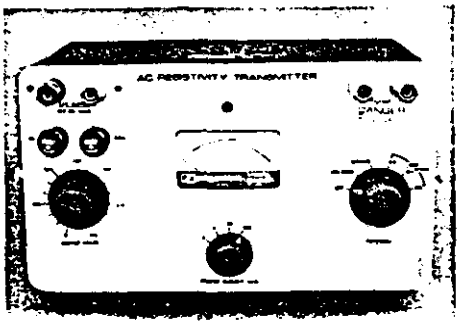
SCHEMATIC OF CURRENT AND POTENTIAL DISTRIBUTION FOR THE D.C.S. METHOD

Figure A-3

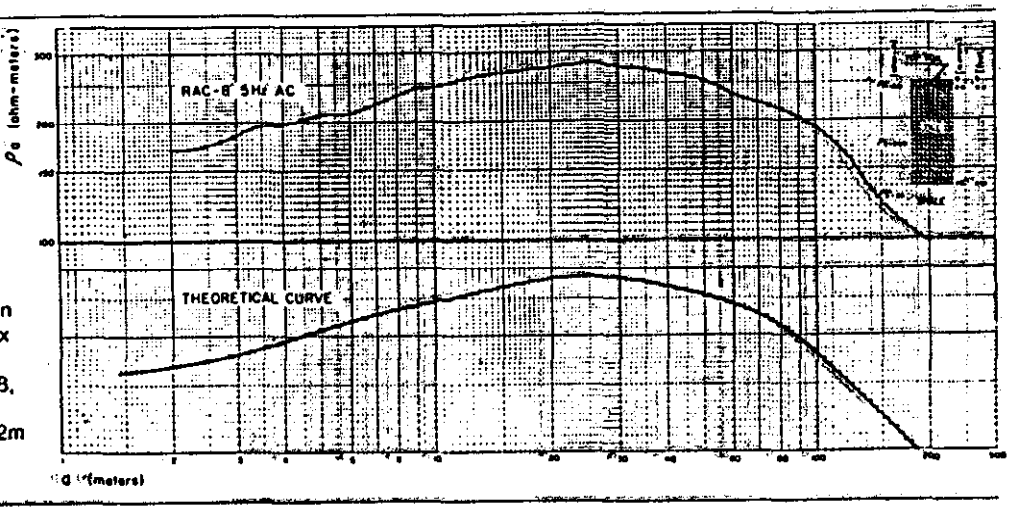
Technical Description of RAC-8 Low Frequency Resistivity System



Complete System	
Measurement Range	.0001 to 10,000 ohms
Accuracy	In range .0001 to .0003 ohms, ±5% In range .0003 to 10,000 ohms, ±2%
Operating Temperature Range	−10° to +50°C
Operating Frequency	5 Hz square-wave
Total Weight	11.8 kg
Receiver	
Range	.0001 to 1.0 volt
Input Impedance	10 Megohms
Instrument Noise	Less than 0.3 microvolt rms (about 1.5 microvolts peak-to-peak) on most sensitive range with input shorted.
Band Width	±0.185 Hz
Powerline Noise Rejection	An applied 50 or 60 Hz disturbance 150 times (43.5 dB) greater than a normal input signal will not affect the reading at any range. Both the signal and disturbance on the input should never exceed 3 V peak to peak in order to maintain accuracy ±2%. When ordering an RAC-8, the purchaser should specify the frequency of powerlines in the proposed survey area. For universal operation, a filter for the other frequency is offered as an option.
Common Mode Noise Rejection	A common mode voltage (applied between case and shorted "INPUT" terminals) of 1 volt peak to peak for a 5 Hz square-wave, or 7 volts peak to peak for a 50-60 Hz sine wave will not affect reading on any range.
Power Supply	Two 6V-1 Ampere-hour Globe GC 610-1 internally mounted, sealed lead acid accumulators. Connector provided for external charger. Batteries provide over 100 hours of operation in field work on a 25% duty cycle.
Dimensions	268 mm x 190 mm x 95 mm
Weight	3.2 kg
Transmitter	
Output Current Levels	0.1, 1, 10, 100, 333 mA, switch selectable
Current Stabilization	0.5%



Output Voltage	Maximum 1000 V peak-to-peak. Actual output voltage depends on the current level and load resistance.
Output Power	Maximum 80 W
Operating Frequency	5 Hz square-wave
Operating Position	Transmitter must be operated vertically within ±30° maximum. For transportation this is not required and instrument can be stored in any position.
Protection	Automatic circuit breaker turns off when the load on the "OUTPUT" terminals is interrupted, or if it is shorted while voltage is set over 60 V.
Load Precautions	Not more than one fully wound reel of wire (1000 m, inductance ±0.2 Henry) can be in series with the transmitter load, in order not to affect measuring accuracy. With large electrode separations (several km) no reeled wire should be in the transmitter circuit, particularly if a high current level is required, to prevent inductive surges.
Power Supply	The power supply is composed of two independent battery sets mounted in a common detachable compartment, which is attached to the bottom of the transmitter housing. Set No. 1: Two 6 V — 1 Ampere-hour Globe GC610-1 sealed lead-acid accumulators providing a supply for electronic circuits of the constant current regulator. Capacity is sufficient for over 100 hours of operation in the field. Set No. 2: Two 6 V — 6 Ampere-hour Globe GC660-1 sealed lead-acid accumulators providing a main power supply with 80 W maximum. This battery set limits actual field work duty of the instrument to maximum 40 hours.



Wenner array depth sounding using RAC-8 in electrically noisy industrial area near Scintrex plant in Concord, Ontario. The section is interpreted as a 3 layer case with ρ_1 = 158, ρ_2 = 290 and ρ_3 = 55 ohm-meters. The upper layer is 2.8 m of topsoil followed by 72m of till overlying shale.