GEOLOGICAL CROSS SECTIONS

SEE OVER FOR:

1. REFERENCE FOR CROSS SECTIONS, DWG. NO. SKR 212.
2. NOTES TO ACCOMPANY CROSS SECTIONS.

NOTES TO ACCOMPANY GEOLOGICAL CROSS SECTIONS

The cross sections included here were originally constructed at a scale of 1 inch equals 25 feet and subsequently reduced by half for inclusion in this report at a convenient size. Sections at the original scale are held in the offices of Brascan Resources Limited, Calgary, and at Sukunka Mine, Chetwynd.

The cross sections have been constructed both transverse and longitudinal to the regional strike, and are identified by the prefix T or L, respectively. The position of the sections is shown on the Geological Map, Map 1; the topographic profiles were constructed from the Topographic Map, Map 2, surveyed expressly for this project. The following data have been used in constructing the sections:-

(1) The detailed logs of the drill holes adjacent to the cross sections, transferred directly onto the sections.

(2) The structure contour and surficial geology maps where drill hole control was lacking.

(3) Outcrop observations, particularly from previous field programmes, have provided information on the general attitude of the strata, and the general nature of the folds.

(4) The position of the trace of the Chamberlain Fault has been transferred from the 1 inch equals 1,000 feet Structure Map, Map 6, of the 1972 Geological Report, wherein it has been established on a regional basis.

(5) The base of overburden has been omitted as a lithologic unit, due to it minimal thickness.

LITHOLOGY SYMBOLS

- CONGLOMERATE pebble to granule
- BRECCIA
- SANDSTONE
- SILTSTONE
- CLAYSTONE
- STONE COALY or CLAYSTONE CARBONACEOUS
- MUDSTONE
- COAL, UNDIFFERENTIATED
- SOIL, WEATHERED and UNCONSOLIDATED MATERIAL
- INTERBEDDED
- LAMINITE
- 45° INCLINED STRATA
- FAULT established / probable / possible

STRATIGRAPHIC UNITS

Kmb — MOOSEBAR FORMATION

LOWER CRETACEOUS

GETHING FORMATION

UPPER GETHING SEQUENCE (Kgu)

Kgu

- BIRD SEAM
- Kguu — UPPER SANDSTONE
- Kgus — SILTSTONE – CLAYSTONE SEQUENCE
- Kgul — LOWER SANDSTONE
- SKEETER SEAM
- Kgui — INTERSEAM SEDIMENTS
- Kgur — SILTSTONE – MUDSTONE LAMINITE
- CHAMBERLAIN SEAM

LOWER GETHING SEQUENCE (Kgl)

Kglu — UPPER SANDSTONE

LEGEND

DDH P1-26 — DRILL HOLE LOCATION AND LITHOLOGY PENETRATED

GEOLOGICAL BOUNDARY
- POSITION ACCURATE
- POSITION APPROXIMATE
- POSITION INFERRED

FAULT TRACE SHOWING DIRECTION OF MOVEMENT
- POSITION ACCURATE
- POSITION APPROXIMATE
- POSITION INFERRED

P1-25A — FAULT NAME

T 750 — INTERSECTING CROSS SECTIONS

4000' 0 200 400 — RELATIVE ELEVATION AND POSITION FROM T0 OR L0

REFERENCE FOR CROSS SECTIONS

PREPARED BY CLIFFORD McELROY & ASSOCIATES PTY LIMITED

COALITION MINING LIMITED

SUKUNKA COAL PROJECT

MARCH 12, 1975

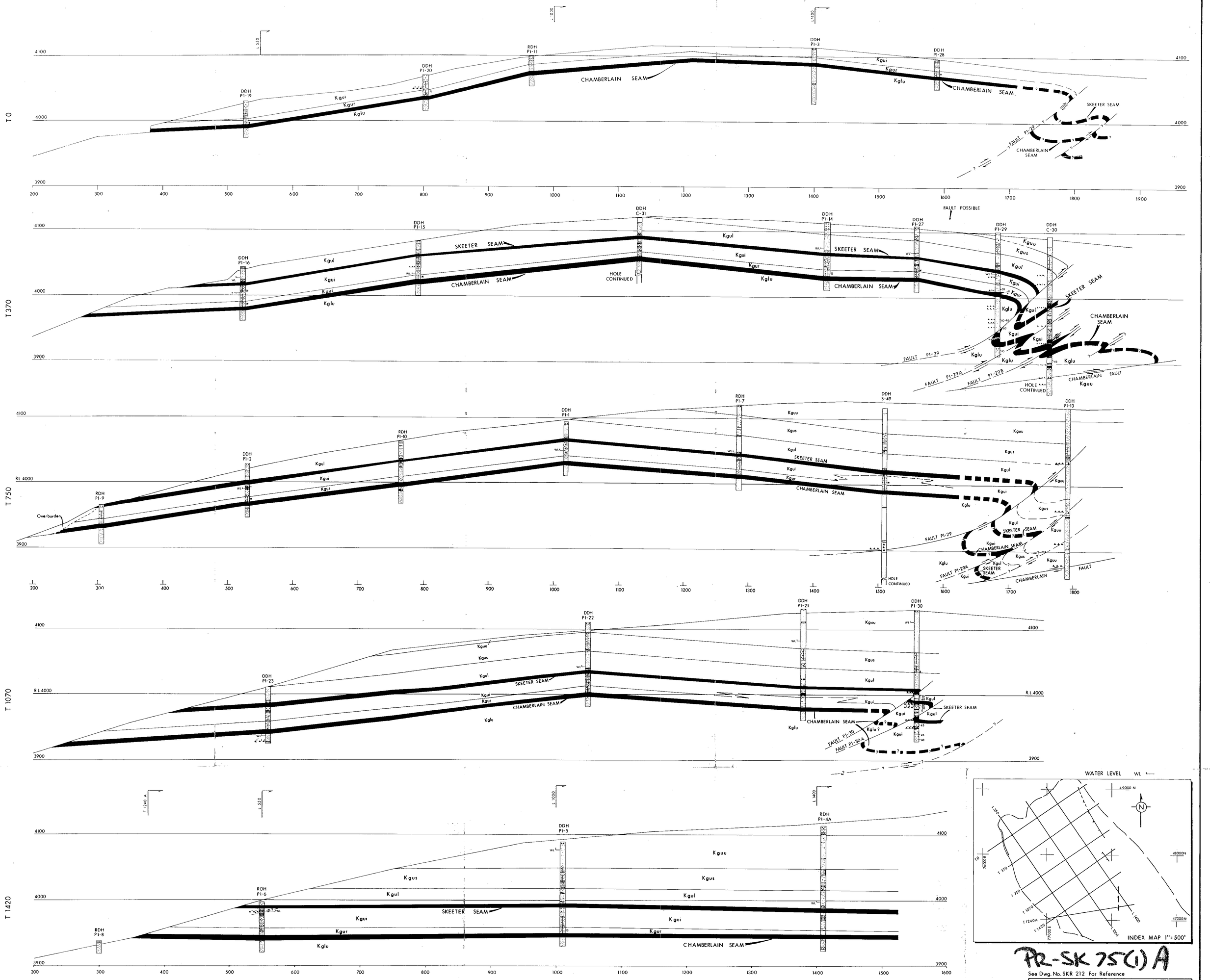
Dwg. No. SKR. 212

E R R A T A

CROSS SECTIONS

T 750 Skeeter Seam in incorrect position in D.D.H. P1-9. Seam should be connected to blank part of borehole section.

T 1420 Moosebar Formation omitted from east of R.D.H. P1-4.



PR-SK 75(1) A

See Dwg. No. SKR 212 For Reference

COALITION MINING LTD.

SUKUNKA COAL PROJECT

PLATE 1 AREA

COMPOSITE OF CROSS SECTIONS

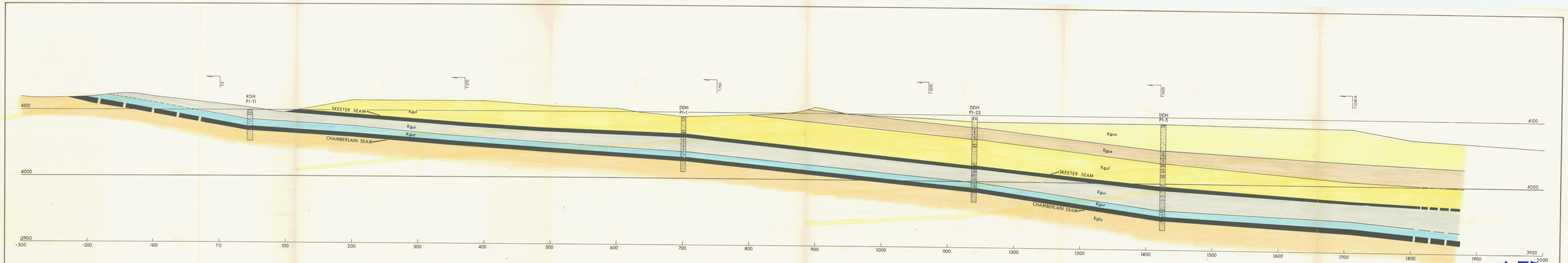
T0 - T1420

657

DATE : MARCH 12, 1975

DWG. No. : SKR 223

PREPARED BY : CLIFFORD McELROY & ASSOC. PTY. LTD.
TO ACCOMPANY REPORT No. 1/4/20



SCALE 1"=50'

0 25 75 150 250 (FEET)

NOTE: See Notes To Accompany Cross Sections.

PREPARED BY CUFFORD McELROY & ASSOC. PTY. LTD.
TO ACCOMPANY REPORT No. 1/4/70

657

See Dwg. No. SKR 212 For Reference

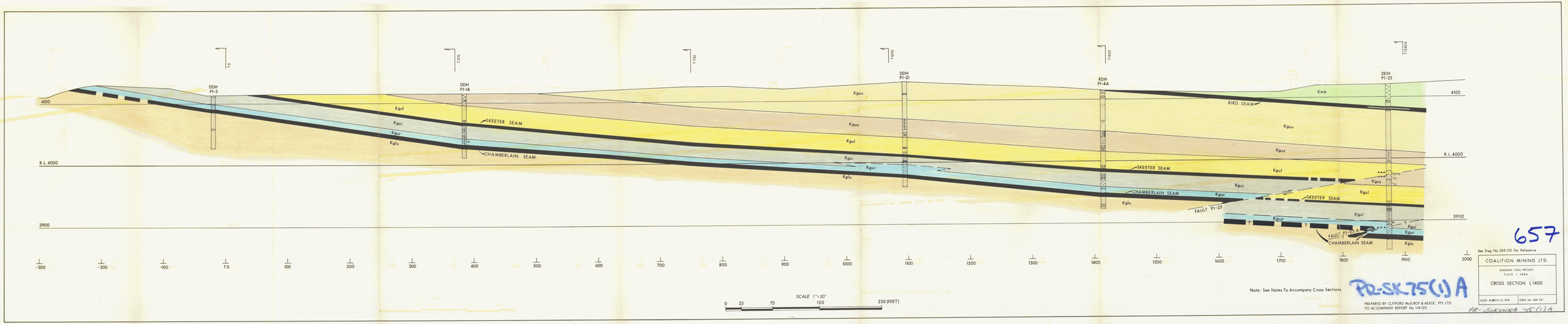
COALITION MINING LTD.

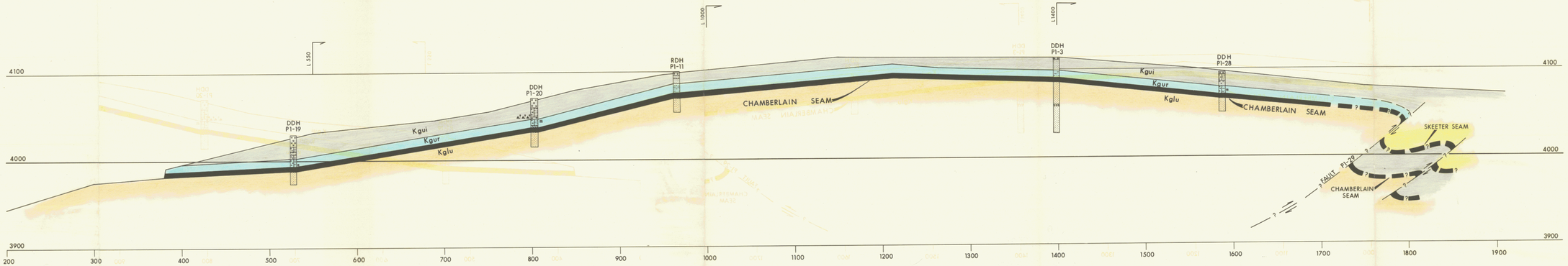
SUKUNKA COAL PROJECT
PLATE 1 AREA

CROSS SECTION L 1000

DATE: MARCH 12, 1970 | DWG. No. SKR 220

RR-SK-75(1)A


T0
T370
T750
T1200
T1420
T1240-A
DDH PI-3
DDH PI-14
DDH PI-21
RDH PI-4A
DDH PI-25
4100
R.L. 4000
3900
Kgul
Kgui
Kgur
Kglu
Kguu
Kgus
Kmb
SKEETER SEAM
CHAMBERLAIN SEAM
BIRD SEAM
FAULT PI-25
FAULT PI-14-A
-300
-200
-100
T0
100
200
300
400
500
600
700
800
900
1000
1100
1200
1300
1400
1500
1600
1700
1800
1900
2000
SCALE 1"=50'
0 25 75 150 250 (FEET)
Note: See Notes To Accompany Cross Sections
PREPARED BY CLIFFORD McELROY & ASSOC. PTY. LTD.
TO ACCOMPANY REPORT No. 1/4/20
See Dwg. No. SKR 212 For Reference
COALITION MINING LTD.
SUKUNKA COAL PROJECT
PLATE 1 AREA
CROSS SECTION L 1400
DATE: MARCH 12, 1975
DWG. No. SKR 221
657
PR-SK 75(1) A
PR-SUKUNKA 75(1)A



NOTE: 1 - See Notes To Accompany Cross Sections.
2 - The presence of Fault P1-29, as inferred from all available data, is regarded as being highly probable. The degree of deformation between the two faults can only be inferred from Sections T370 & T750, consequently the style of folding illustrated is regarded as diagrammatic only on this section.

SCALE 1" = 50'

0 25 75 150 250 (FEET)

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TO ACCOMPANY REPORT No. 1/4/20

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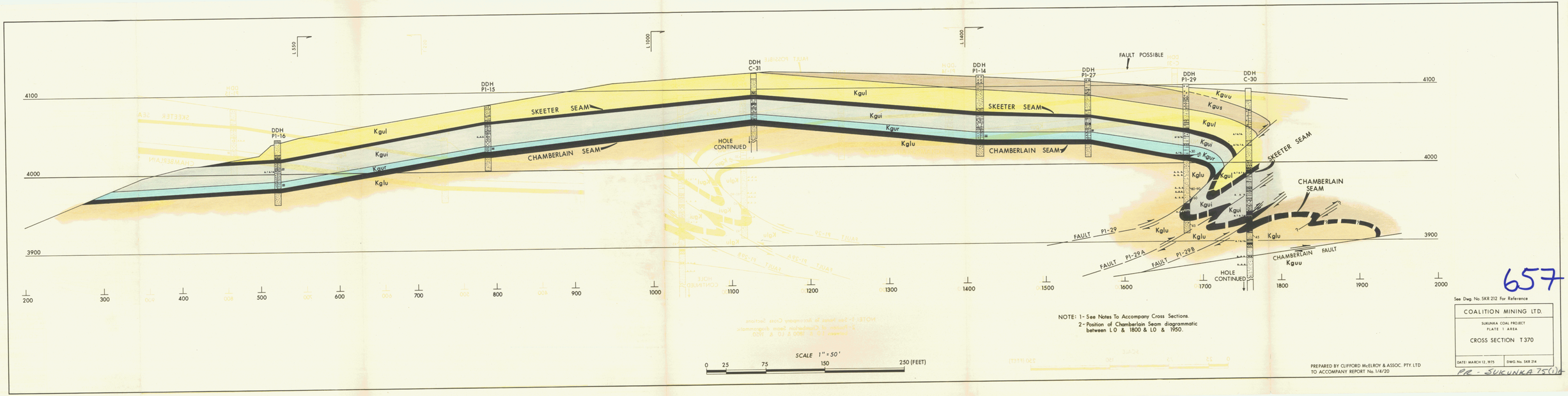
See Dwg. No. SKR 212 For Reference

COALITION MINING LTD.	
SUKUNKA COAL PROJECT PLATE 1 AREA	
CROSS SECTION T 0	
DATE MARCH 12, 1975	DWG. No. SKR 213

PR- SUKUNKA 75 (1)A



NOTE: 1- See Notes To Accompany Cross Sections.
2- Position of Chamberlain Seam diagrammatic between L 0 & 1800 & L 0 & 1950.

See Dwg. No. SKR 212 For Reference

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COALITION MINING LTD.

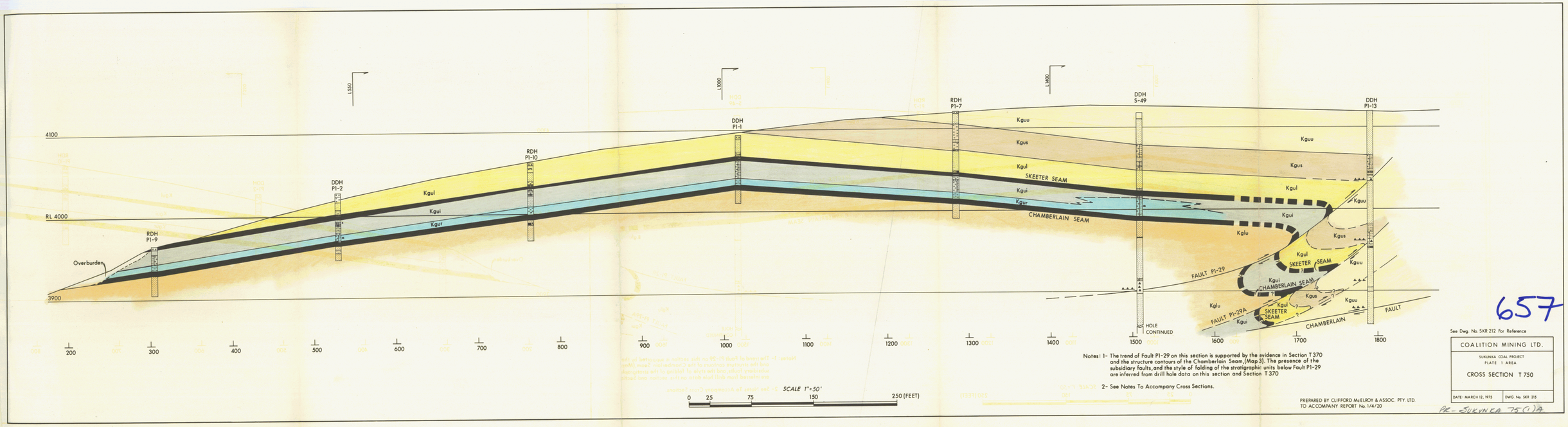
SUKUNKA COAL PROJECT
PLATE 1 AREA

CROSS SECTION T 370

DATE: MARCH 12, 1975 | DWG. No. SKR 214

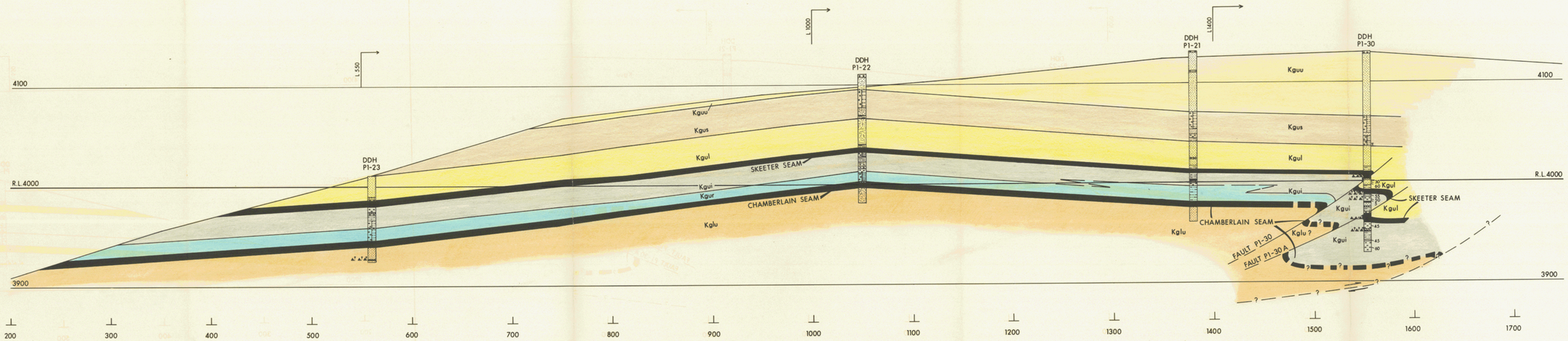
PREPARED BY CLIFFORD McELROY & ASSOC. PTY. LTD
TO ACCOMPANY REPORT No. 1/4/20

PR - SUKUNKA 75(1)



Notes: 1- The trend of Fault P1-29 on this section is supported by the evidence in Section T 370 and the structure contours of the Chamberlain Seam, (Map 3). The presence of the subsidiary faults, and the style of folding of the stratigraphic units below Fault P1-29 are inferred from drill hole data on this section and Section T 370

2- See Notes To Accompany Cross Sections.



NOTES: 1- See Notes To Accompany Cross Sections
2- DDH-P1-22 has been adjusted in elevation on the basis of the structure contours.

SCALE 1"=50'

0 25 75 150 250 (FEET)

PREPARED BY CLIFFORD McELROY & ASSOC. PTY. LTD.
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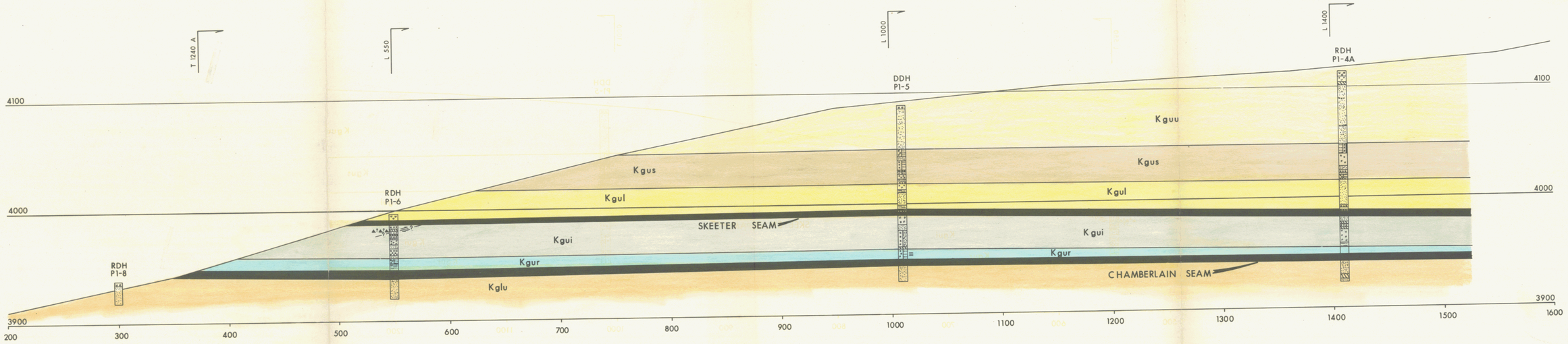
COALITION MINING LTD.

SUKUNKA COAL PROJECT
PLATE 1 AREA

CROSS SECTION T 1070

DATE: MARCH 12, 1975 | DWG. No. SKR 216

PR-SUKUNKA 75(1)A.



657

NOTE: See Notes To Accompany Cross Sections.

See Dwg. No. SKR 212 For Reference

SCALE 1"=50'

0 25 75 150 250 (FEET)

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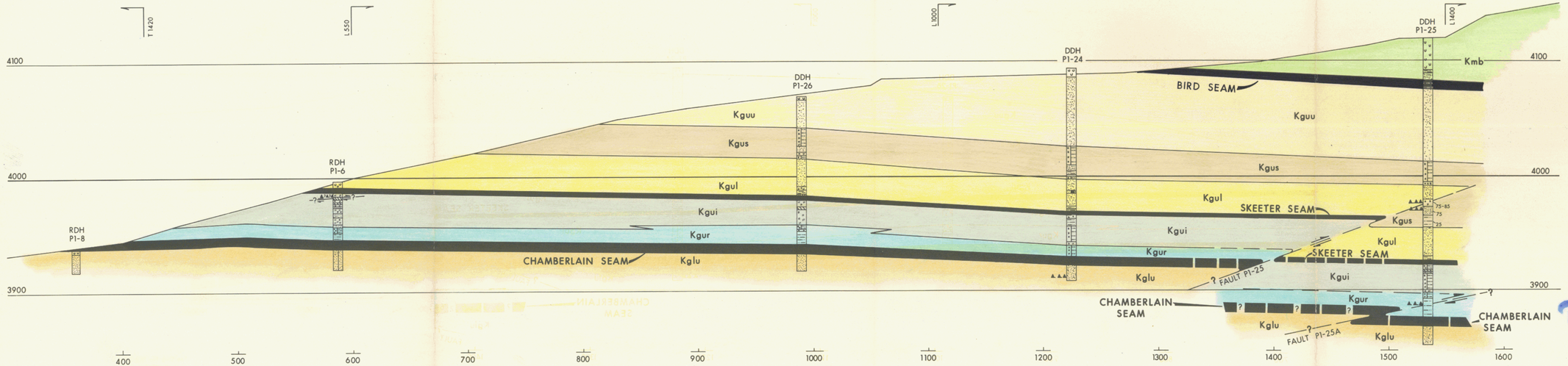
TO ACCOMPANY REPORT No. 1/4/20

COALITION MINING LTD.	
SUKUNKA COAL PROJECT PLATE 1 AREA	
CROSS SECTION T 1420	
DATE MARCH 12, 1975	DWG. No. SKR 217

PR-SUKUNKA 75(1)A



SCALE 1"=50'

0 25 75 150 250 (FEET)

NOTES: 1- See Notes To Accompany Cross Sections

2- The trend of Faults P1-25 and P1-25A have not been established due to lack of spatial control.

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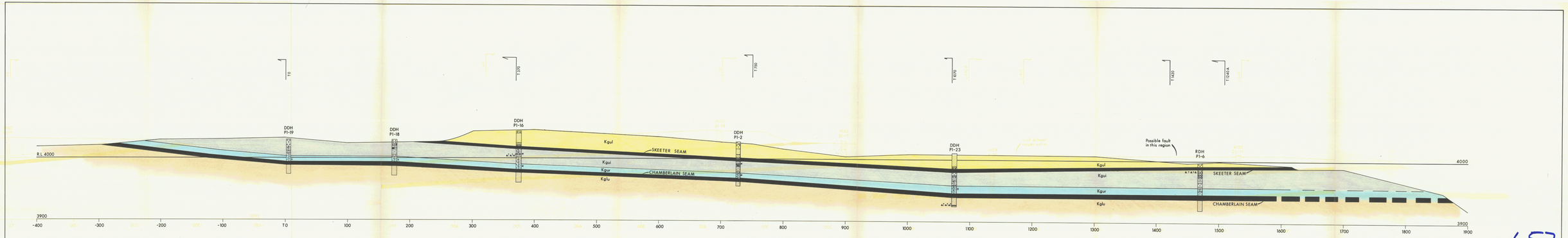
PR-SK 75(1)A

See Dwg. No. SKR 212 For Reference

COALITION MINING LTD.	
SUKUNKA COAL PROJECT PLATE 1 AREA	
CROSS SECTION T1240A	
DATE: MARCH 12, 1975	DWG. No. SKR 218



SCALE 1"=50'

0 25 75 150 250 (FEET)

Note: See Notes To Accompany Cross Sections

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TO ACCOMPANY REPORT No. 1/4/20

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See Dwg. No. SKR 212 for Reference

COALITION MINING LTD.

SURUNKA COAL PROJECT
PLATE 1 AREA

CROSS SECTION L 550

DATE: MARCH 12,1975 | DWG. No. SKR 219

PR-SK 75(1)A

PR-SURUNKA 75(1)A

PR- SUKUNKA 75(2)A

SUKUNKA COAL PROJECT
PLATE 1 AREA

VOLUME 2

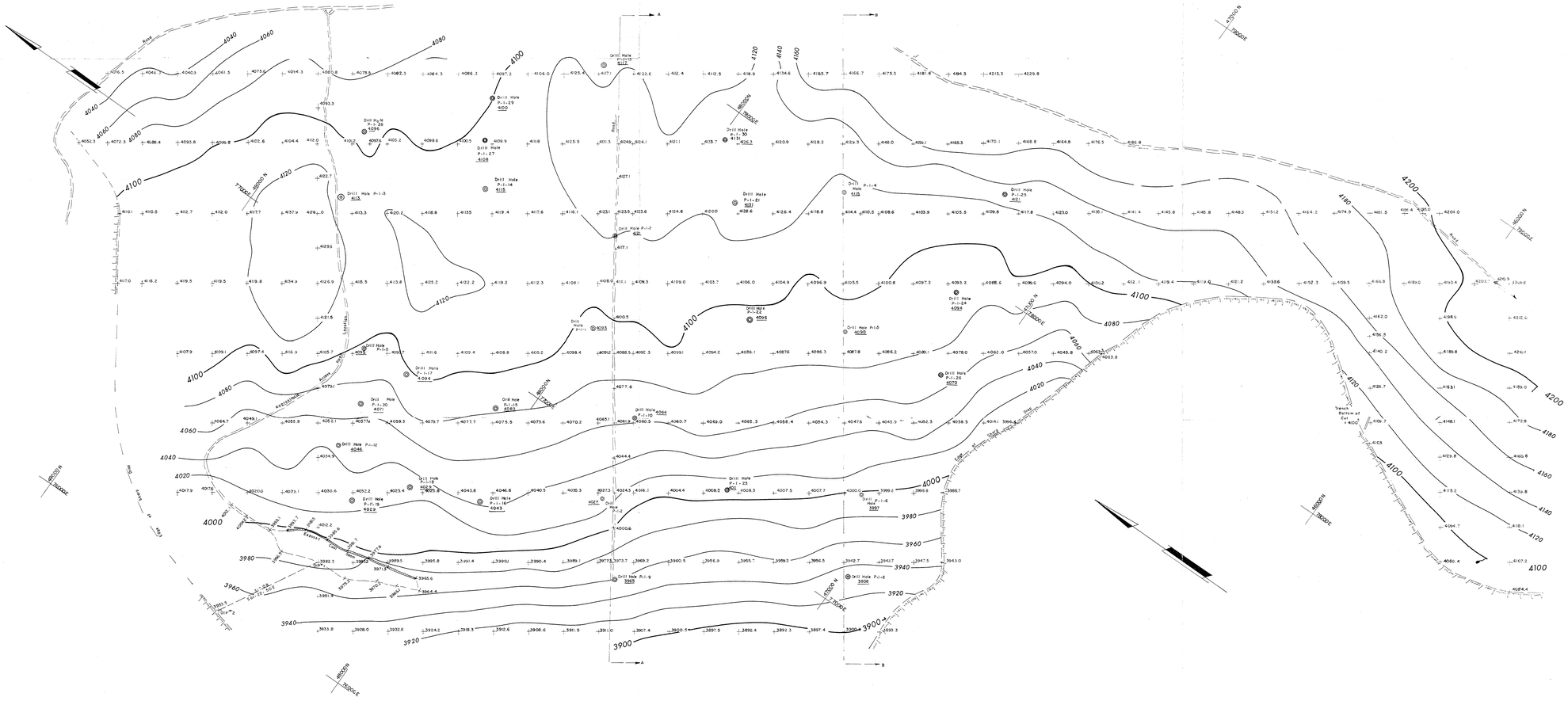
MAPS ACCOMPANYING REPORT

See Over for List of Maps

Prepared by CLIFFORD McELROY & ASSOCIATES PTY. LIMITED

Report No. 1/4/20 March, 1975

CO-ORDINATES AND DRILL HOLES PLATE No.1			
DRILL HOLE	LATITUDE	DEPARTURE	ELEVATION
P1-1	+47,989	+77,234	4093
P1-2	+47,690	+76,870	4027
P1-3	+48,784	+77,150	4113
P1-4	+47,623	+77,984	4115
P1-5	+47,393	+77,659	4090
P1-6	+47,090	+77,302	3997
P1-7	+48,090	+77,310	4121
P1-8	+46,986	+77,085	3938
P1-9	+47,538	+76,701	3965
P1-10	+47,748	+77,116	4064
P1-11	+48,693	+76,834	4099
P1-12	+48,395	+76,566	4046
P1-13	+48,399	+77,890	4117
P1-14	+48,469	+77,404	4115
P1-15	+48,085	+76,906	4083
P1-16	+47,969	+76,660	4043
P1-17	+48,330	+76,842	4094
P1-18	+48,157	+76,581	4029
P1-19	+48,270	+76,454	4029
P1-20	+48,411	+76,696	4071
P1-21	+47,867	+77,779	4131
P1-22	+47,640	+77,534	4097
P1-23	+47,616	+77,092	4011
P1-24	+47,199	+77,932	4096
P1-25	+47,244	+78,238	4121
P1-26	+47,100	+77,712	4070
P1-27	+48,549	+77,520	4108
P1-28	+48,846	+77,344	4096
P1-29	+48,602	+77,632	4100
P1-30	+47,991	+77,911	4131



SCALE

0 50 100 300 600 1000 (FEET)

SURVEYED NOVEMBER 1974.

C.N. STABLES B.C.L.S.

Rev.	Details	
3	Added D.H.'s 23-30	
2	Corrected Elevation D.H. P-1-17	
1	Added D.H.'s 13-22	

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COALITION MINING LIMITED

PLAN SHOWING GROUND ELEVATIONS & CONTOURS
OVER PROPOSED STRIP MINING SITE
VICINITY MINESITE 4

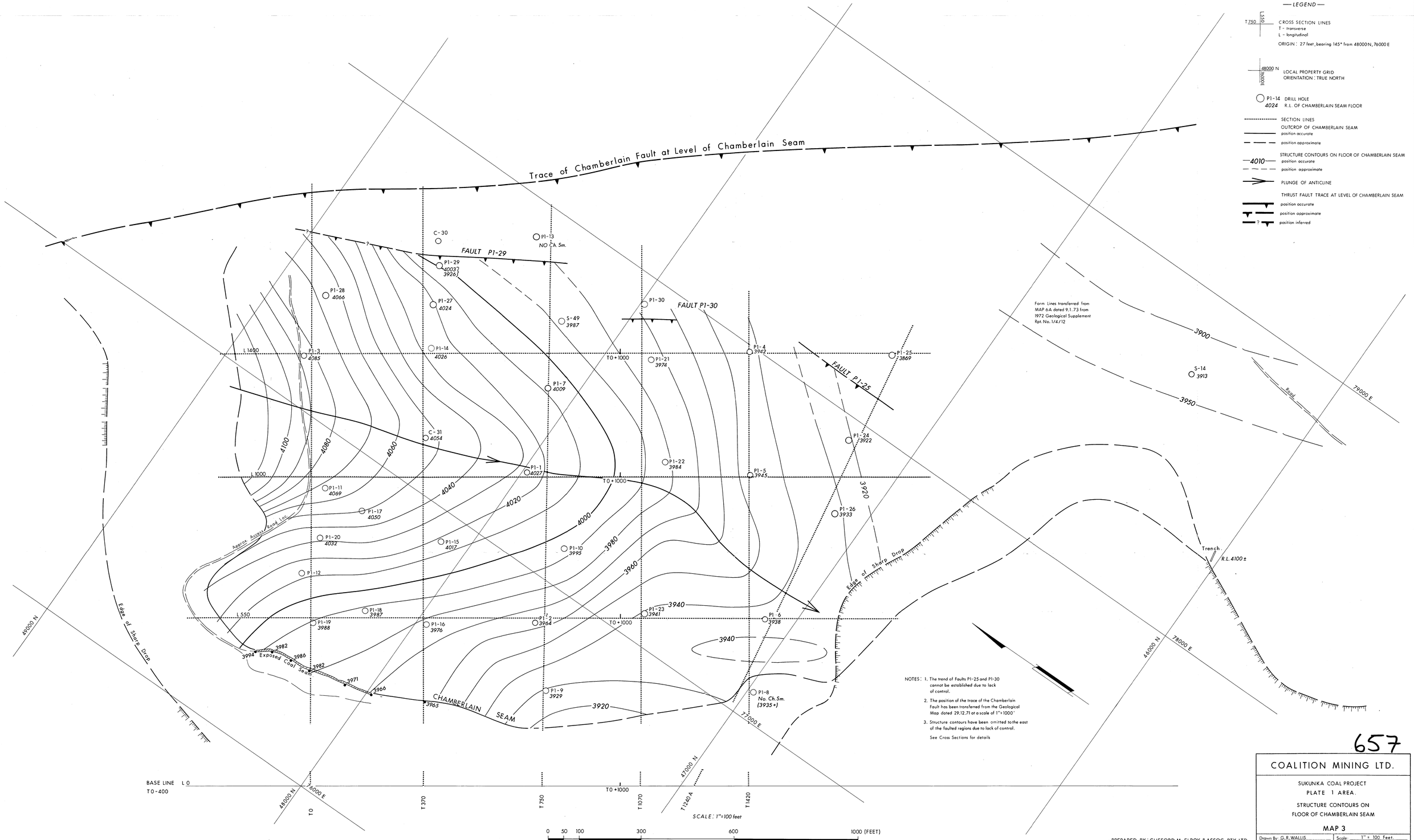
Scale 1" = 100'

MAP No. 2

C.N. STABLES AND ASSOCIATES
SURVEYORS AND ENGINEERS, TERRACE, B.C.

PROJECT SKE 203

PR-SUKUNKA 75(2)A.



— LEGEND —

T750 L550 — CROSS SECTION LINES
T – transverse
L – longitudinal
ORIGIN: 27 feet, bearing 145° from 48000 N, 76000 E

48000 N 76000 E — LOCAL PROPERTY GRID
ORIENTATION: TRUE NORTH

P1-14 4024 — DRILL HOLE
R.L. OF CHAMBERLAIN SEAM FLOOR

SECTION LINES

OUTCROP OF CHAMBERLAIN SEAM
position accurate
position approximate

4010 — STRUCTURE CONTOURS ON FLOOR OF CHAMBERLAIN SEAM
position accurate
position approximate

PLUNGE OF ANTICLINE

THRUST FAULT TRACE AT LEVEL OF CHAMBERLAIN SEAM
position accurate
position approximate
? position inferred

NOTES: 1. The trend of Faults P1-25 and P1-30 cannot be established due to lack of control.

2. The position of the trace of the Chamberlain Fault has been transferred from the Geological Map dated 29.12.71 at a scale of 1"=1000'

3. Structure contours have been omitted to the east of the faulted regions due to lack of control.

See Cross Sections for details

657

COALITION MINING LTD.

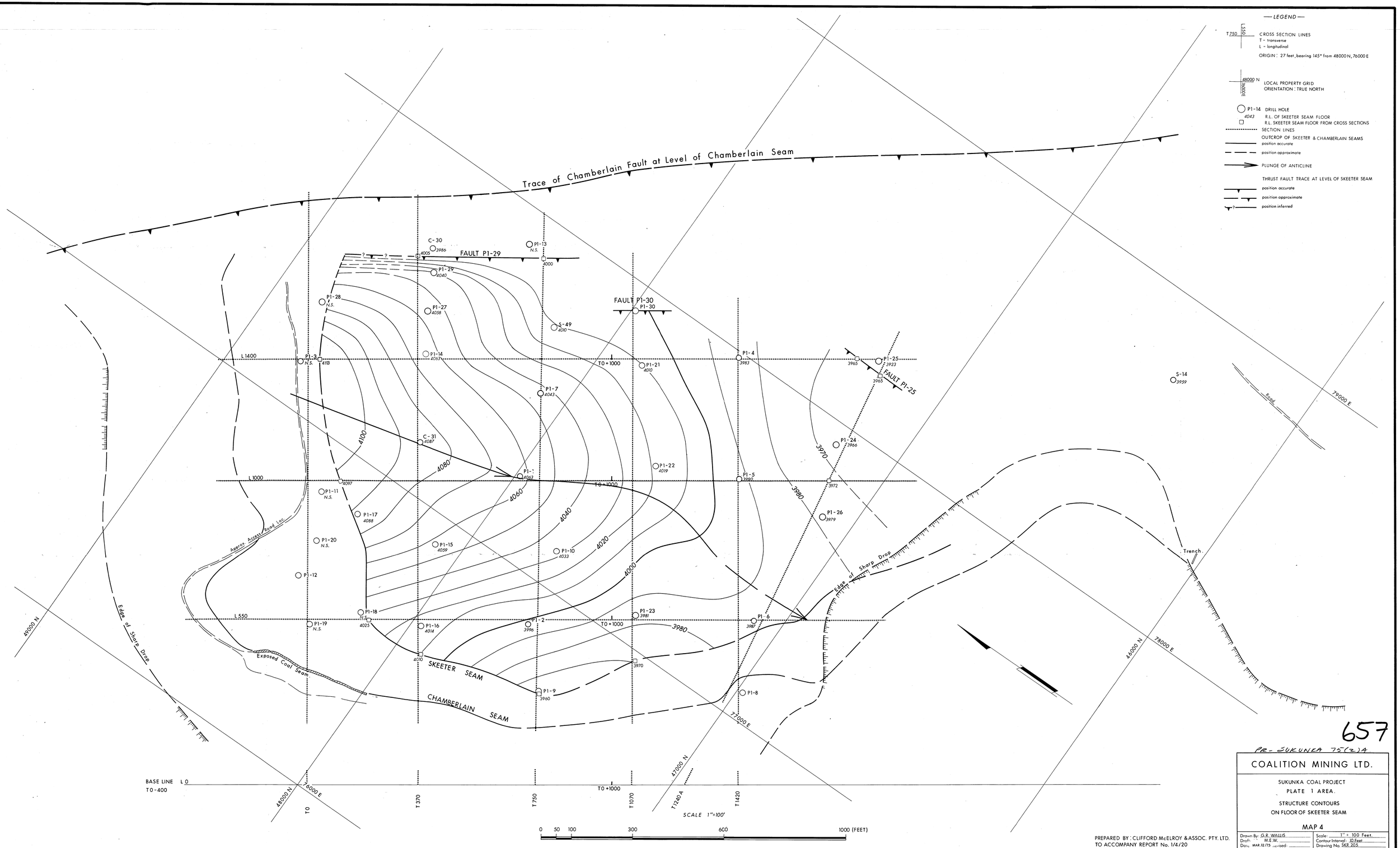
SUKUNKA COAL PROJECT
PLATE 1 AREA.
STRUCTURE CONTOURS ON FLOOR OF CHAMBERLAIN SEAM

MAP 3

Drawn By: G.R. WALLIS	Scale: 1" = 100 Feet.
Draft: M.E.W.	Contour Interval: 10 FEET
Date: MAR.12/75 revised:	Drawing No. SKR 204

PREPARED BY: CLIFFORD McELROY & ASSOC. PTY. LTD.
TO ACCOMPANY REPORT No. 1/4/20

PE-SUKUNKA 75(2)14.



657

PR-SUKUNKA 75(2)A

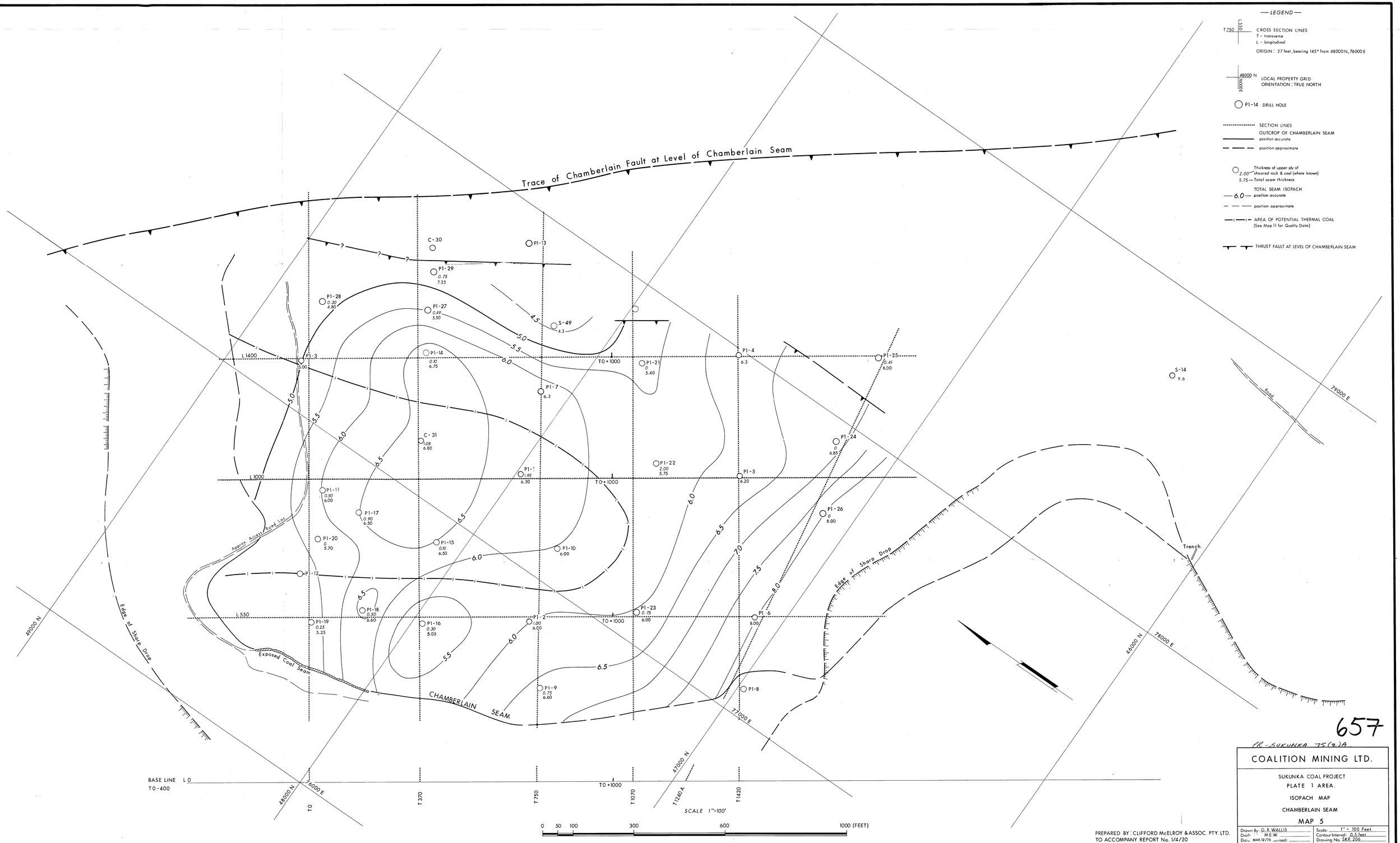
COALITION MINING LTD.

SUKUNKA COAL PROJECT
PLATE 1 AREA.
STRUCTURE CONTOURS
ON FLOOR OF SKEETER SEAM

MAP 4

Drawn By: G.R. WALLIS	Scale: 1" = 100 Feet.
Draft: M.E.W.	Contour Interval: 10 Feet
Date: MAR.12/75 Revised:	Drawing No. SKR 205

PREPARED BY: CLIFFORD McELROY & ASSOC. PTY. LTD.
TO ACCOMPANY REPORT No. 1/4/20



657

PR-SUKUNKA 75(2)A

COALITION MINING LTD.

SUKUNKA COAL PROJECT

PLATE 1 AREA.

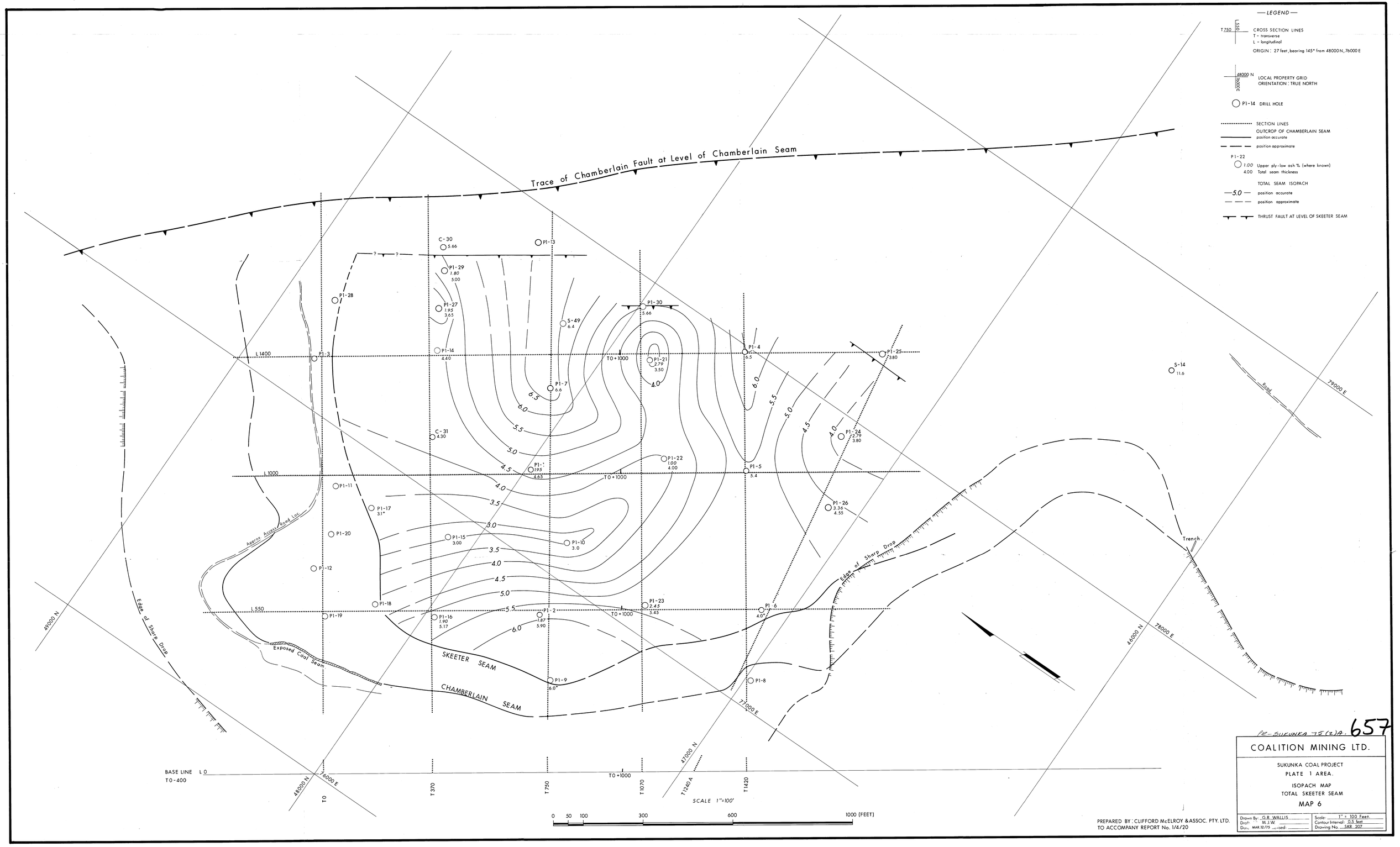
ISOPACH MAP

CHAMBERLAIN SEAM

MAP 5

Drawn By: G. R. WALLIS	Scale: 1" = 100 Feet.
Draft: " M.E.W.	Contour Interval: 0.5 feet.
Date: MAR.12.75 revised:	Drawing No. SK8 206

PREPARED BY : CLIFFORD McELROY & ASSOC. PTY. LTD.
TO ACCOMPANY REPORT No. 1/4/20



PREPARED BY: CLIFFORD McELROY & ASSOC. PTY. LTD.
TO ACCOMPANY REPORT No. 1/4/20

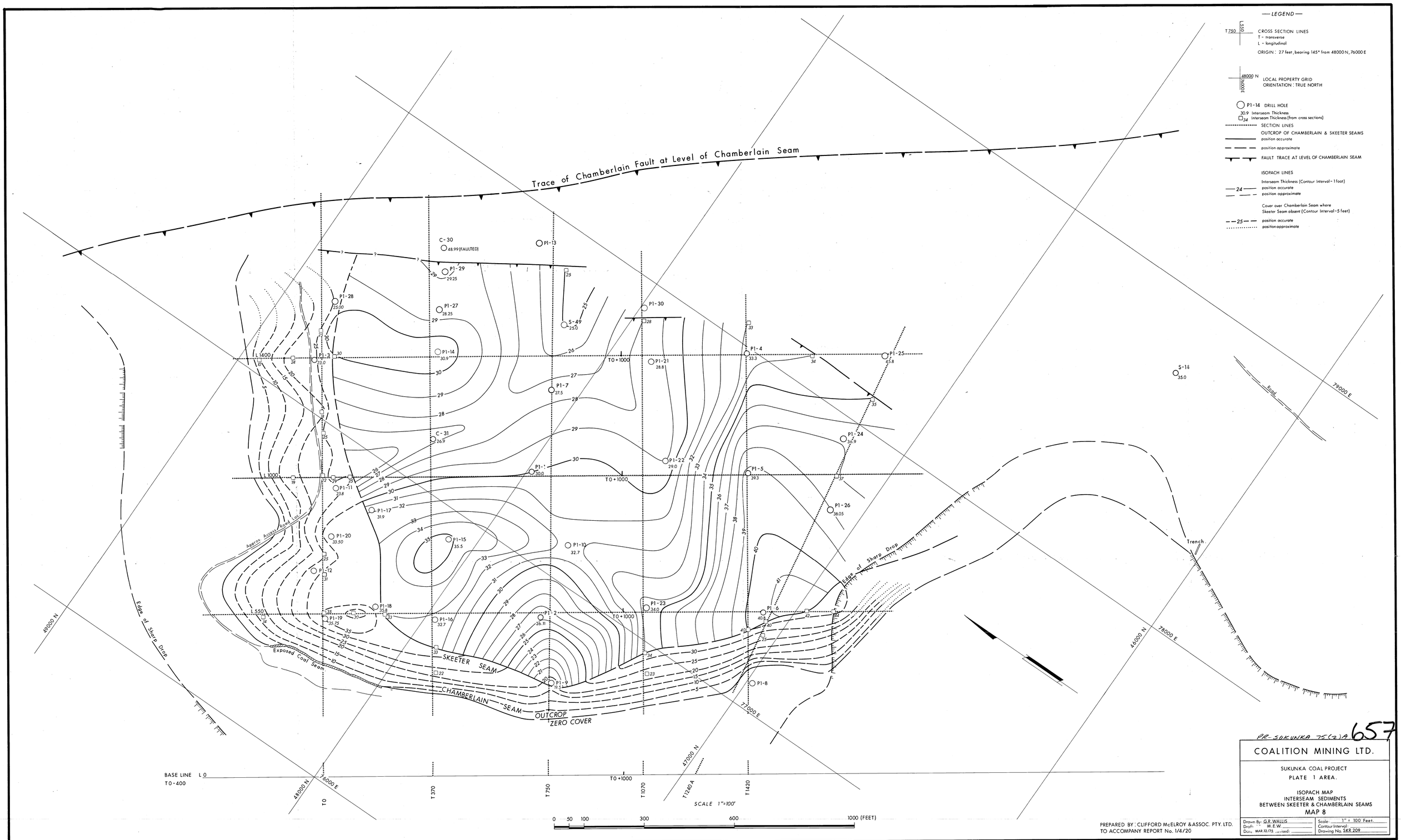
PR-SUKUNKA 75(2)A. 657

COALITION MINING LTD.

SUKUNKA COAL PROJECT
PLATE 1 AREA.
ISOPACH MAP
TOTAL SKEETER SEAM
MAP 6

Drawn By: G.R. WALLIS	Scale: 1" = 100 Feet
Drafted: M.J.W.	Contour Interval: 0.5 feet
Date: MAR.12/75 Revised:	Drawing No. SKR 207


Trace of Chamberlain Fault at Level of Chamberlain Seam
SKEETER SEAM OUTCROP
ZERO COVER
CHAMBERLAIN SEAM
Exposed Coal Seam
Edge of Sharp Drop
Approx Access Road Loc.
Trench
L 1400
L 1000
L 550
T0 + 1000
BASE LINE L 0
T0 - 400
T0
T370
T750
T1070
T1240 A
T1420
48000 N
46000 N
47000 N
49000 N
76000 E
77000 E
78000 E
SCALE 1"=100'
0 50 100 300 600 1000 (FEET)
— LEGEND —
CROSS SECTION LINES
T - transverse
L - longitudinal
ORIGIN: 27 feet, bearing 145° from 48000 N, 76000 E
LOCAL PROPERTY GRID
ORIENTATION: TRUE NORTH
P1-14 DRILL HOLE
4720 DEPTH TO SKEETER SEAM
112 DEPTH TO SKEETER SEAM (from cross sections)
SECTION LINES
OUTCROP OF CHAMBERLAIN & SKEETER SEAMS
position accurate
position approximate
FAULT TRACE AT LEVEL OF SKEETER SEAM
ISOPACH LINE
100 position accurate
position approximate
125 5' contours
CONTOUR INTERVAL
10 feet except for 25, 35, 55, 95 & 125 feet contour lines included for additional detail
657
PR-SUKUNKA 75(2)4
COALITION MINING LTD.
SUKUNKA COAL PROJECT
PLATE 1 AREA.
ISOPACH MAP
COVER OVER SKEETER SEAM
MAP 7
Drawn By: G.R. WALLIS
Draft: M.E.W.
Date: MAR. 12/75 revised:
Scale: 1" = 100 Feet.
Contour Interval:
Drawing No. SKR 208
PREPARED BY: CLIFFORD McELROY & ASSOC. PTY. LTD.
TO ACCOMPANY REPORT No. 1/4/20



PR-SUKUNKA 75(2)A 657

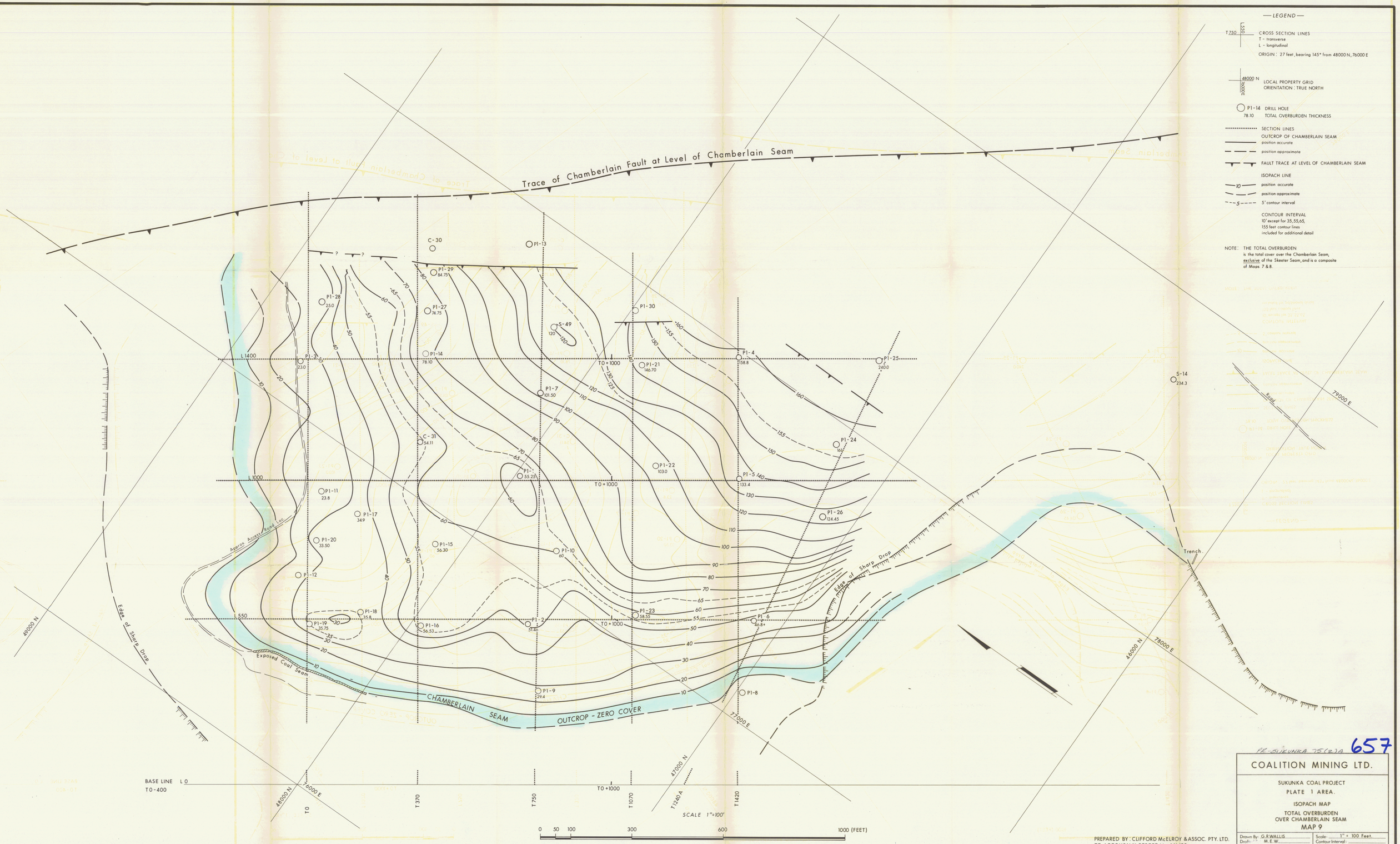
PREPARED BY: CLIFFORD McELROY & ASSOC. PTY. LTD.
TO ACCOMPANY REPORT No. 1/4/20

COALITION MINING LTD.

SUKUNKA COAL PROJECT
PLATE 1 AREA.

ISOPACH MAP
INTERSEAM SEDIMENTS
BETWEEN SKEETER & CHAMBERLAIN SEAMS
MAP 8

Drawn By: G.R. WALLIS	Scale: 1" = 100 Feet.
Draft: M.E.W.	Contour Interval:
Date: MAR.12/73 Revised:	Drawing No: SKR 209



— LEGEND —

T 750 / L 550 — CROSS SECTION LINES
T - transverse
L - longitudinal

ORIGIN : 27 feet, bearing 145° from 48000 N, 76000 E

48000 N / 76000 E — LOCAL PROPERTY GRID
ORIENTATION : TRUE NORTH

P1-14 — DRILL HOLE
78.10 — TOTAL OVERBURDEN THICKNESS

SECTION LINES

OUTCROP OF CHAMBERLAIN SEAM
position accurate
position approximate

FAULT TRACE AT LEVEL OF CHAMBERLAIN SEAM

ISOPACH LINE
10 — position accurate
position approximate
5 — 5' contour interval

CONTOUR INTERVAL
10' except for 35, 55, 65,
155 feet contour lines
included for additional detail

NOTE: THE TOTAL OVERBURDEN
is the total cover over the Chamberlain Seam,
exclusive of the Skeeter Seam, and is a composite
of Maps 7 & 8.

PREPARED BY : CLIFFORD McELROY & ASSOC. PTY. LTD.
TO ACCOMPANY REPORT No. 1/4/20

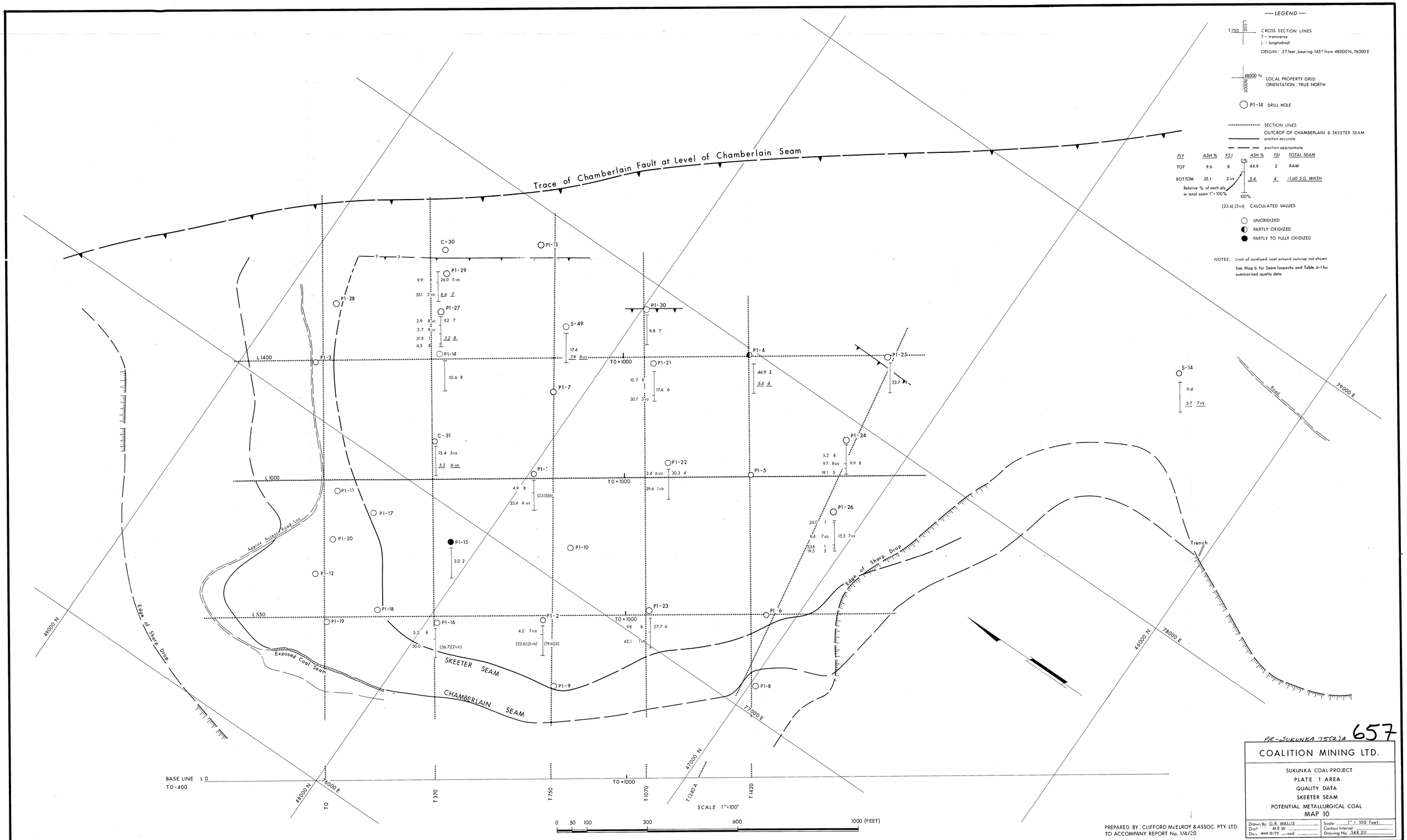
RE-SUKUNKA 75(2)A 657

COALITION MINING LTD.

SUKUNKA COAL PROJECT
PLATE 1 AREA.

ISOPACH MAP
TOTAL OVERBURDEN
OVER CHAMBERLAIN SEAM
MAP 9

Drawn By: G.R.WALLIS	Scale: 1" = 100 Feet.
Draft: M.E.W.	Contour Interval:
Date: MAR.12/75 Revised:	Drawing No. SKR 210



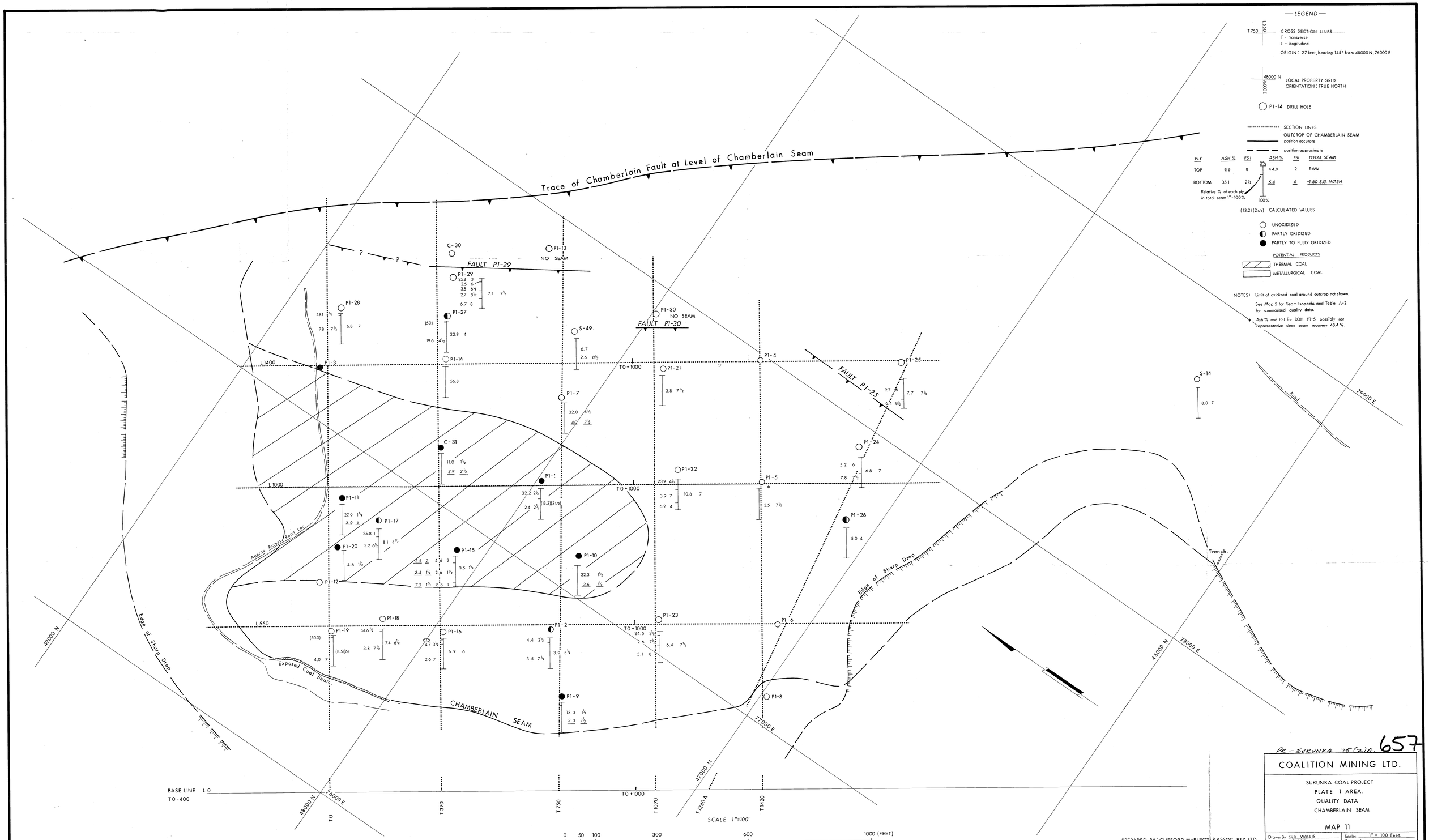
PR-SUKUNKA 75(2)A 657

COALITION MINING LTD.

SUKUNKA COAL PROJECT
PLATE 1 AREA.
QUALITY DATA
SKEETER SEAM
POTENTIAL METALLURGICAL COAL
MAP 10

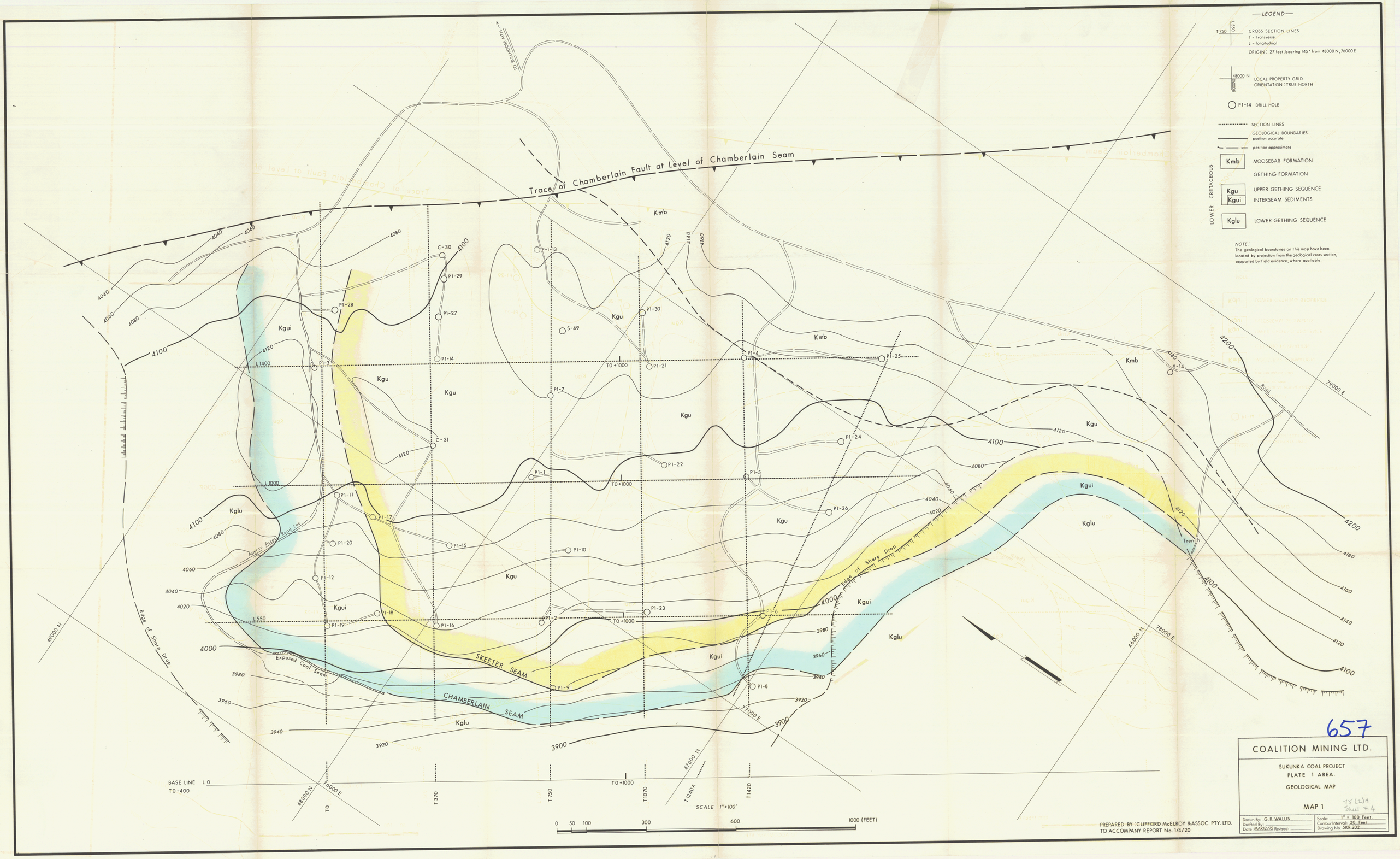
Drawn By: G.R. WALLIS
Draft: M.E.W.
Date: MAR.12/75 Revised:
Scale: 1" = 100 Feet
Contour Interval:
Drawing No. SKR 211

PREPARED BY: CLIFFORD McELROY & ASSOC. PTY. LTD.
TO ACCOMPANY REPORT No. 1/4/20



Pre-SUKUNKA 75(2)A. 657

SK 72 (2) A


LEGEND
T 750 L 550
CROSS SECTION LINES
T - transverse
L - longitudinal
ORIGIN: 27 feet, bearing 145° from 48000 N, 76000 E
48000 N 76000 E
LOCAL PROPERTY GRID
ORIENTATION: TRUE NORTH
P1-14 DRILL HOLE
SECTION LINES
GEOLOGICAL BOUNDARIES
position accurate
position approximate
LOWER CRETACEOUS
Kmb MOOSEBAR FORMATION
GETHING FORMATION
Kgu UPPER GETHING SEQUENCE
Kgui INTERSEAM SEDIMENTS
Kglu LOWER GETHING SEQUENCE
NOTE:
The geological boundaries on this map have been located by projection from the geological cross section, supported by field evidence, where available.
TO BULKLEY MTN.
Trace of Chamberlain Fault at Level of Chamberlain Seam
Kmb
Kgu
Kgui
Kglu
Edge of Sharp Drop
Exposed Coal Seam
SKEETER SEAM
CHAMBERLAIN SEAM
Aquatic Access Road Loc.
Road
Trench
79000 E
78000 E
77000 E
49000 N
48000 N
47000 N
BASE LINE L 0
T0 -400
T0
T 370
T 750
T0 +1000
T1070
T1240A
T1420
L 1400
L 1000
L 550
SCALE 1"=100'
0 50 100 300 600 1000 (FEET)
657
COALITION MINING LTD.
SUKUNKA COAL PROJECT
PLATE 1 AREA.
GEOLOGICAL MAP
MAP 1
75(2)9 Sheet #4
Drawn By: G. R. WALLIS
Drafted By:
Date: MAR12/75 Revised:
Scale: 1" = 100 Feet.
Contour Interval: 20 Feet
Drawing No. SK8.202
PREPARED BY: CLIFFORD McELROY & ASSOC. PTY. LTD.
TO ACCOMPANY REPORT No. 1/4/20