K-Tent Mountain #6(4)A
CCA

Addendum.

GEOLOGICAL BRANCH
ASSESSMENT REPORT

00 450

4 of 7

Warnock Hersey Professional Services Ltd.

CLIENT - Coleman Collieries

Sample Identification - Well # 77 - 119

Lab. No. - 77 - 3075

Footage - 308.5 to 340.4

Recovery - 37.9%

	CLEAN - 1.60 Float	RAW COAL
As Analyzed Basis		
Moisture % (Inherent) -	1.3	
Ash % -	16.8	
Volatile Matter % -	26.5	
Fixed Carbon % -	55.4	
Total -	100.0	
Sulphur % -	0.47	
FSI -	5	
Btu per lb. -	12,249	
Equilibrium Moisture % -	---	
Hardgrove Grindability -	---	
Specific Gravity (20 mesh) -	---	
Dry Basis		
Ash % -	17.0	
Volatile % -	26.9	
Btu per lb. -	12,404	
Dry, Ash - Free Basis		
Volatile % -	32.4	
Btu per lb. -	14,938	

Yield - 38.3 % @ 16.7% Ash

Warnock Hersey Professional Services Ltd.
1423 D 45th Avenue N.E. Calgary Alberta T2E 2P3 Tel.264-9120

Sample Identification: Coleman Collieries - Well # 77 - 119

Size fraction: ¼" x 28 m

Lab. No. (s): 77 - 3075

Wt % of head sample: 79.6

FLOAT AND SINK ANALYSIS %

Specific Gravity Sink	Specific Gravity Float	Elementary Weight	Elementary Ash	F.S.I.	Cumulative Float Weight	Cumulative Float Ash	Cumulative Float Sulphur	Cumulative Sink Weight	Cumulative Sink Ash	Cumulative Sink Shulphur
	1.60	40.6	16.7	3½	40.6	16.7		100.0	53.9	
1.60		59.4	79.3	1	100.0	53.9		59.4	79.3	
	Total -	100.0	53.9							

Wallbridge Hersey Professional Services Ltd
1423 D 45th Avenue N.E. Calgary Alberta T2E 2P3 Tel.264-9120

Sample Identification: Coleman Collieries – Well # 77 – 119

Size fraction: 28 m x 100 m

Lab. No. (s): 77 – 3075

Wt % of head sample: 12.9

FLOAT AND SINK ANALYSIS %

Specific Gravity Sink	Specific Gravity Float	Elementary Weight	Elementary Ash	Elementary Sulphur ~~Sulphur~~ F.S.I.	Cumulative Float Weight	Cumulative Float Ash	Cumulative Float Sulphur	Cumulative Sink Weight	Cumulative Sink Ash	Cumulative Sink Shulphur
	1.60	46.4	16.4	4½	46.4	16.4		100.0	35.9	
1.60		53.6	52.8	1	100.0	35.9		53.6	52.8	
Total –		100.0	35.9							

Warnock Hersey Professional Services Ltd.

1423-D 45th Ave. N.E. Calgary Alberta

T2E 2P3 Tel: 276 - 9138

Sample Identification: Coleman Collieries - Hole # Well # 77 - 119

Lab. No(s).: 77 - 3075

Froth Flotation Tests

	28 mesh x 0			100 mesh x 0		
	Weight %	Ash%	FSI	Weight %	Ash %	FSI
Froth 1 minute	45.7	20.2	3½	88.7	31.8	1½
Froth 2 minutes	6.4	26.2	3	3.6	36.2	1½
Tailings	47.9	49.2	1	7.7	57.8	1
Total	100.0	34.5		100.0	34.0	

Conditions

Solids Concentration - 10%

Reagent Dosage - 0.50 lb / ton 3:1 diesel fuel/MIBC

Conditioning - 1 minute

Warnock Hersey Professional Services Ltd.

CLIENT - Coleman Collieries

Sample Identification - Well # 77 - 119

Lab. No. - 77 - 3076

Footage - 363.5 - to - 373.7

Recovery - 81.4%

	CLEAN - 1.60 Float	RAW COAL
As Analyzed Basis		
Moisture % (Inherent) -	0.8	
Ash % -	14.6	
Volatile Matter % -	26.9	
Fixed Carbon % -	57.7	
Total -	100.0	
Sulphur % -	0.47	
FSI -	4½	
Btu per lb. -	12,796	
Equilibrium Moisture % -	- - -	
Hardgrove Grindability -	- - -	
Specific Gravity (20 mesh) -	- - -	
Dry Basis		
Ash % -	14.7	
Volatile % -	27.1	
Btu per lb. -	12,904	
Dry, Ash - Free Basis		
Volatile % -	31.8	
Btu per lb. -	15,127	

Yield - 76.2% @ 14.5% Ash

Womock Hersey Professional Services Ltd
1423 D 45th Avenue N.E. Calgary Alberta T2E 2P3 Tel 264-9120

Sample Identification Coleman Collieries - Well # 77 - 119 **Size fraction** ¼" x 28 m

Lab. No. (s) 77 - 3076 **Wt % of head sample** 84.6

Specific Gravity Sink	Specific Gravity Float	FLOAT AND SINK ANALYSIS % Elementary Weight	Elementary Ash	Elementary ~~Sulphur~~ F.S.I.	Cumulative Float Weight	Cumulative Float Ash	Cumulative Float Sulphur	Cumulative Sink Weight	Cumulative Sink Ash	Cumulative Sink Shulphur
	1.40	40.8	9.7	6	40.8	9.7		100.0	24.5	
1.40	1.50	31.9	17.2	2	72.7	13.0		59.2	34.7	
1.50	1.60	7.7	27.6	1	80.4	14.4		27.3	55.2	
1.60		19.6	66.1	-	100.0	24.5		19.6	66.1	
	Total -	100.0	24.5							

Wamock Hersey Professional Services Ltd.
1423 D 45th Avenue N.E. Calgary Alberta T2E 2P3 Tel.264-9120

Sample Identification: Coleman Collieries - Well # 77 - 119

Size fraction: 28 m x 100 m

Lab. No. (s): 77 - 3076

Wt % of head sample: 11.0

FLOAT AND SINK ANALYSIS %

Specific Gravity Sink	Specific Gravity Float	Elementary Weight	Elementary Ash	Elementary ~~Sulphur~~ F.S.I.	Cumulative Float Weight	Cumulative Float Ash	Cumulative Float Sulphur	Cumulative Sink Weight	Cumulative Sink Ash	Cumulative Sink Shulphur
	1.40	35.5	12.6	5½	35.5	12.6		100.0	24.6	
1.40	1.50	28.4	16.4	3	63.9	14.3		64.5	31.2	
1.50	1.60	10.7	22.5	2	74.6	15.5		36.1	42.8	
1.60		25.4	51.4	-	100.0	24.6		25.4	51.4	
	Total -	100.0	24.6							

Warnock Hersey Professional Services Ltd.

1423-D 45th Ave. N.E. Calgary Alberta

T2E 2P3 Tel: 276 - 9138

Sample Identification : Coleman Collieries - Hole # Well # 77 - 119

Lab. No (s). : 77 - 3076

Froth Flotation Tests

	28 mesh x 0			100 mesh x 0		
	Weight %	Ash%	FSI	Weight %	Ash %	FSI
Froth 1 minute	74.2	17.7	4	98.8	22.4	4
Froth 2 minutes	4.5	27.1	I.S.	0.6	I.S.	I.S.
Tailings	21.3	38.7	2	0.6	I.S.	I.S.
Total	100.0	22.6		100.0	22.4	

Conditions

Solids Concentration - 10%

Reagent Dosage - 0.50 lb / ton 3:1 diesel fuel/MIBC

Conditioning - 1 minute

Warnock Hersey Professional Services Ltd.

CLIENT - Coleman Collieries

Sample Identification - Well # - 77 - 119

Lab. No. - 77 - 3077

Footage - 826.5 to 860.2

Recovery - 74.2%

	CLEAN - 1.60 Float	RAW COAL
As Analyzed Basis		
Moisture % (Inherent) -	0.7	
Ash % -	14.6	
Volatile Matter % -	26.9	
Fixed Carbon % -	57.8	
Total -	100.0	
Sulphur % -	0.50	
FSI -	5	
Btu per lb. -	12,753	
Equilibrium Moisture % -	---	
Hardgrove Grindability -	---	
Specific Gravity (20 mesh) -	---	
Dry Basis		
Ash % -	14.7	
Volatile % -	27.1	
Btu per lb. -	12,844	
Dry, Ash - Free Basis		
Volatile % -	31.8	
Btu per lb. -	15,076	

Yield - 58.1% @ 14.5% Ash

Warnock Hersey Professional Services Ltd.
1423 D 45th Avenue N.E. Calgary Alberta T2E 2P3 Tel.264-9120

Sample Identification Coleman Collieries – Well # – 77 – 119 **Size fraction** ¼" × 28m

Lab. No. (s) 77 – 3077 **Wt % of head sample** 81.4

Specific Gravity Sink	Specific Gravity Float	Elementary Weight	Elementary Ash	~~Sulphur~~ F.S.I.	Cumulative Float Weight	Cumulative Float Ash	Cumulative Float Sulphur	Cumulative Sink Weight	Cumulative Sink Ash	Cumulative Sink Shulphur
	1.40	29.3	8.4	6½	29.3	8.4		100.0	32.2	
1.40	1.50	18.9	17.2	2	48.2	11.8		70.7	42.0	
1.50	1.60	12.7	26.7	1	60.9	14.9		51.8	51.1	
1.60		39.1	59.0	–	100.0	32.2		39.1	59.0	
	Total –	100.0	32.2							

Warnock Hersey Professional Services Ltd.
1423 D 45th Avenue N.E. Calgary Alberta T2E 2P3 Tel.264-9120

Sample Identification Coleman Collieries - Well # 77 - 119 **Size fraction** 28 m x 100 m

Lab. No. (s) 77 - 3077 **Wt % of head sample** 12.6

Specific Gravity Sink	Specific Gravity Float	FLOAT AND SINK ANALYSIS % Elementary Weight	Elementary Ash	~~Sulphur~~ FSI.	Cumulative Float Weight	Cumulative Float Ash	Cumulative Float Sulphur	Cumulative Sink Weight	Cumulative Sink Ash	Cumulative Sink Shulphur
	1.40	39.4	8.1	7	39.4	8.1		100.0	25.4	
1.40	1.50	19.6	16.7	3½	59.0	11.0		60.6	36.7	
1.50	1.60	8.2	23.4	1½	67.2	12.5		41.0	46.3	
1.60		32.8	52.0	-	100.0	25.4		32.8	52.0	
	Total -	100.0	25.4							

Warnock Hersey Professional Services Ltd.

1423-D 45th Ave. N.E. Calgary Alberta

T2E 2P3 Tel: 276 - 9138

Sample Identification : Coleman Collieries - Hole # Well # 77 - 119

Lab. No (s). : 77 - 3077

Froth Flotation Tests

	28 mesh x 0			100 mesh x 0		
	Weight %	Ash%	FSI	Weight %	Ash %	FSI
Froth 1 minute	59.6	15.6	5½	82.2	21.1	4
Froth 2 minutes	1.7	21.8	4	8.9	24.5	4
Tailings	38.7	36.4	2	8.9	62.1	1
Total	100.0	23.8		100.0	25.0	

Conditions

Solids Concentration - 10%

Reagent Dosage - 0.50 lb / ton 3-1 diesel fuel/MIBC

Conditioning - 1 minute

K-TENT MOUNTAIN 76(3)A

1976 EXPLORATION ON B.C. COAL LIC.
21 - 22

(COPY 1)

E.W. BELES FOR (BOOK B-1) APRIL 1977

Appendix
6.

OPEN FILE

GEOLOGICAL BRANCH
ASSESSMENT REPORT

00450

5 of 7

ROKE

SIDEWALL DENSILOG

OIL ENTERPRISES LTD. CALGARY, ALBERTA

FILE NO.

LSD
SEC.
TWP
RGE
W. M

COMPANY COLEMAN COLLIERIES LIMITED

WELL TD - 76 - 86

LOCATION VINT MOUNTAIN

FIELD COLEMAN

PROVINCE ALBERTA

Other Services: GRN

Permanent Datum GROUND LEVEL Elev.
Log Measured from KB FLOOR 1.5 Ft. Above Perm. Datum
Perf Depths Measured from KB FLOOR

K.B.
GRD.
G.L.

Run. No.	ONE
Date	13 SEPTEMBER 1976
First Reading	860
Last Reading	0
Footage Logged	860
Depth Reached	843
Depth Driller	855
Casing Rotex	
Casing Driller	
Fluid Type	AIR/WATER
Liquid Level	268
Min. Diam.	NO
Operating Time	1 1/2 HOURS
Truck No.	33

450

Recorded By JOHNSON Witnessed By BRAZEAU 5/7 (LD1)

| RUN NO. | GENERAL | | |

ROKE

GAMMA RAY NEUTRON LOG

OIL ENTERPRISES LTD. CALGARY, ALBERTA

FILE NO.
LIC. NO.
SEC.
TWP.
RGE.
M.

COMPANY: GEOPONE OIL&GAS LIMITED

WELL: 33 - 76 - 86

LOCATION: TOBY RIVER(33)

FIELD: GOLDPOND

PROVINCE: ALBERTA

Log Measured from: 3.3 Ft. Above Floor, Derrick

Drill Measured from: DRL FLOOR

Elev. K.B. ____ D.F. ____ G.L. ____

Other Services: NONE

Run. No.	ONE
Date	13-10-1976
Bot. Reading	2600
Top Reading	0
Fluid Level	Full
Fluid Type	Water
Density lb/gal	8.4
Viscosity	26
Max. Temp. °F	36
Rig	1 J.C. DRILLS
Operating Time	33
Truck No.	33
Recorded By	JOHNSON
Witnessed By	STAUFFER

450

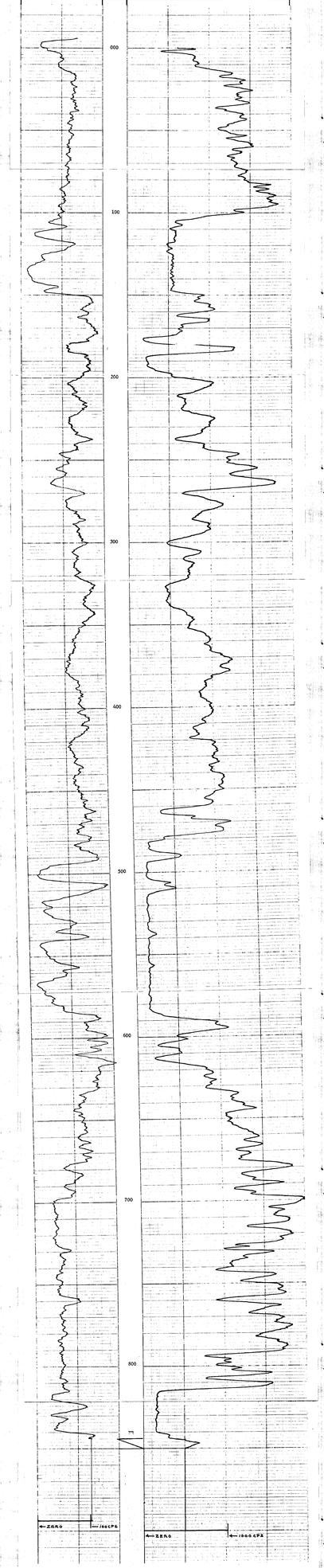
EQUIPMENT DATA

GAMMA RAY	ONE	NEUTRON	ONE
RUN NO.	ONE	RUN NO.	ONE
TOOL MODEL NO.		LOG TYPE	NEUTRON/NEUTRON
DIAMETER	1 11/16	TOOL MODEL NO.	
DETECTOR MODEL NO.		DIAMETER	1 11/16
TYPE	SCINTILLATION	DETECTOR MODEL NO.	
LENGTH	4 INCH	TYPE	PROPORTIONAL
DISTANCE TO R. SOURCE	6.7 FT.	LENGTH	8 INCH
GENERAL		SOURCE MODEL NO.	MRC-N-SS-W
		SERIAL NO.	187
HOIST TRUCK NO.	33	SPACING	17 INCH
INSTRUMENT TRUCK NO.		TYPE	AmBe
TOOL SERIAL NO.	R GEN 169-002	STRENGTH	3 CURIES

LOGGING DATA

GENERAL				GAMMA RAY					NEUTRON		
RUN NO.	DEPTH FROM	DEPTH TO	SPEED FT/MIN	T.C. SEC.	SENS SETTINGS	ZERO DIV. L OR R	API G. R. UNITS PER LOG DIV.	T.C. SEC.	SENS SETTINGS	ZERO DIV. L OR R	API N. UNITS PER LOG DIV.
1	0	850	12	5	100	0 L	14	3	500	0 L	130

REMARKS: LOGGED THROUGH NO DRILL ROD (0-180)
LOGGED THROUGH NO DRILL ROD (180 - 850)



STRATIGRAPHIC LOG

DRILL HOLE TD - 76 - 86 AREA Tent Mountain

COMPANY Coleman Collieries Ltd.

COORDINATES 1483.93 N 2519.91 E / 13875.6 N, 88316.0 E

GROUND ELEVATION 6664.4 TOTAL DEPTH 855.5

MECHANICAL LOGS RUN Gamma Ray Neutron - Sidewall Density

DRILLING METHOD Diamond drill - wire line

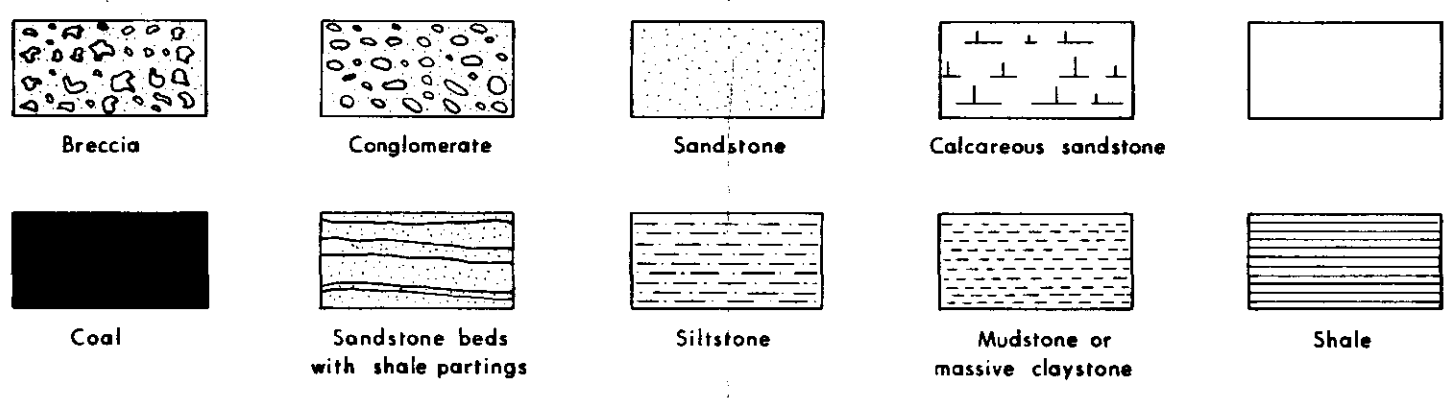
HOLE SIZE HQ - NQ DATE OF COMPLETION August 31, 1976

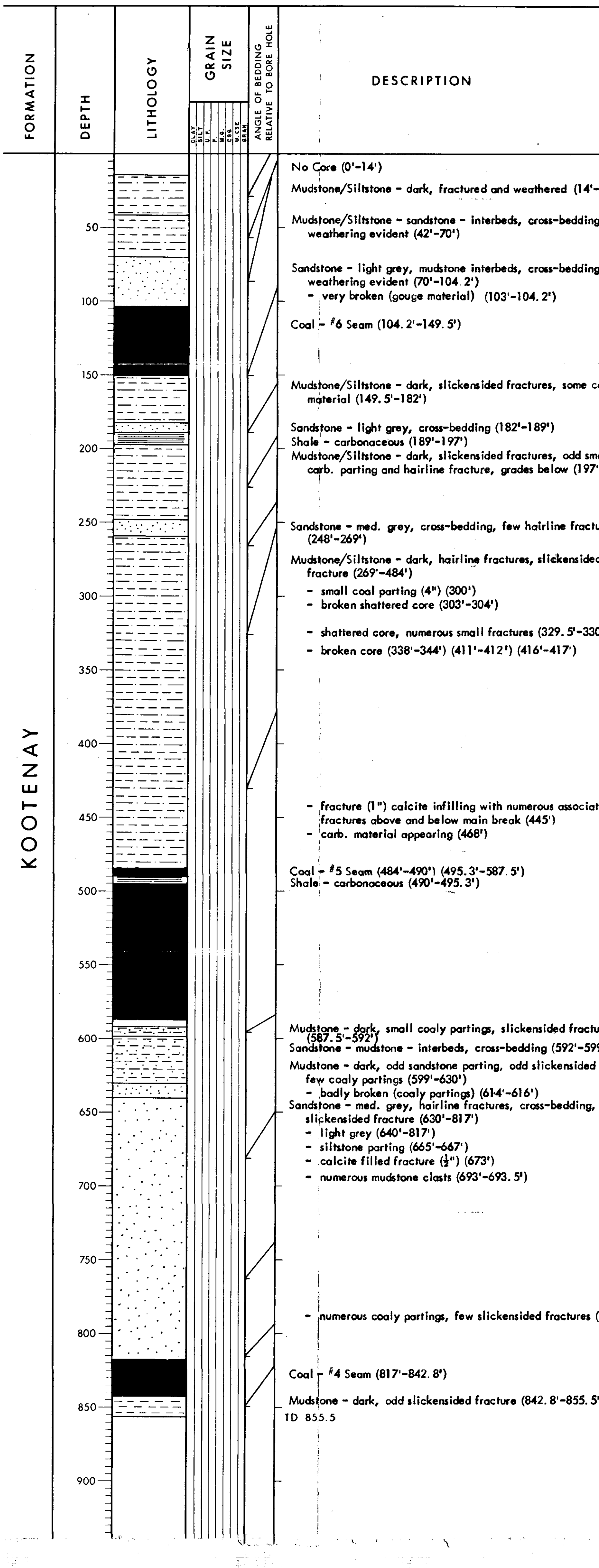
LOGGED BY Eric Beresford - Colin Brazzoni

REMARKS 450

5/7 (LD3)

LITHOLOGIC SYMBOLS





DESCRIPTION

No Core (0'-14')

Mudstone/Siltstone - dark, fractured and weathered (14'-42')

Mudstone/Siltstone - sandstone - interbeds, cross-bedding, weathering evident (42'-70')

Sandstone - light grey, mudstone interbeds, cross-bedding, weathering evident (70'-104.2')
- very broken (gouge material) (103'-104.2')

Coal - #6 Seam (104.2'-149.5')

Mudstone/Siltstone - dark, slickensided fractures, some carb. material (149.5'-182')

Sandstone - light grey, cross-bedding (182'-189')

Shale - carbonaceous (189'-197')

Mudstone/Siltstone - dark, slickensided fractures, odd small carb. parting and hairline fracture, grades below (197'-248')

Sandstone - med. grey, cross-bedding, few hairline fractures (248'-269')

Mudstone/Siltstone - dark, hairline fractures, slickensided fracture (269'-484')
- small coal parting (4") (300')
- broken shattered core (303'-304')
- shattered core, numerous small fractures (329.5'-330.5')
- broken core (338'-344') (411'-412') (416'-417')
- fracture (1") calcite infilling with numerous associated hairline fractures above and below main break (445')
- carb. material appearing (468')

Coal - #5 Seam (484'-490') (495.3'-587.5')

Shale - carbonaceous (490'-495.3')

Mudstone - dark, small coaly partings, slickensided fractures (587.5'-592')

Sandstone - mudstone - interbeds, cross-bedding (592'-599')

Mudstone - dark, odd sandstone parting, odd slickensided fracture, few coaly partings (599'-630')
- badly broken (coaly partings) (614'-616')

Sandstone - med. grey, hairline fractures, cross-bedding, odd slickensided fracture (630'-817')
- light grey (640'-817')
- siltstone parting (665'-667')
- calcite filled fracture (½") (673')
- numerous mudstone clasts (693'-693.5')
- numerous coaly partings, few slickensided fractures (795'-803')

Coal - #4 Seam (817'-842.8')

Mudstone - dark, odd slickensided fracture (842.8'-855.5')

TD 855.5

STRATIGRAPHIC LOG

DRILL HOLE TD - 76 - 96 AREA Tent Mountain

COMPANY Coleman Collieries Ltd.

COORDINATES 1269.71 N, 2808.65 E; 13709.0 N, 88634.6 E

GROUND ELEVATION 6558.1 TOTAL DEPTH 129

MECHANICAL LOGS RUN Gamma Ray Neutron - Sidewall Density

DRILLING METHOD Diamond drill - wire line

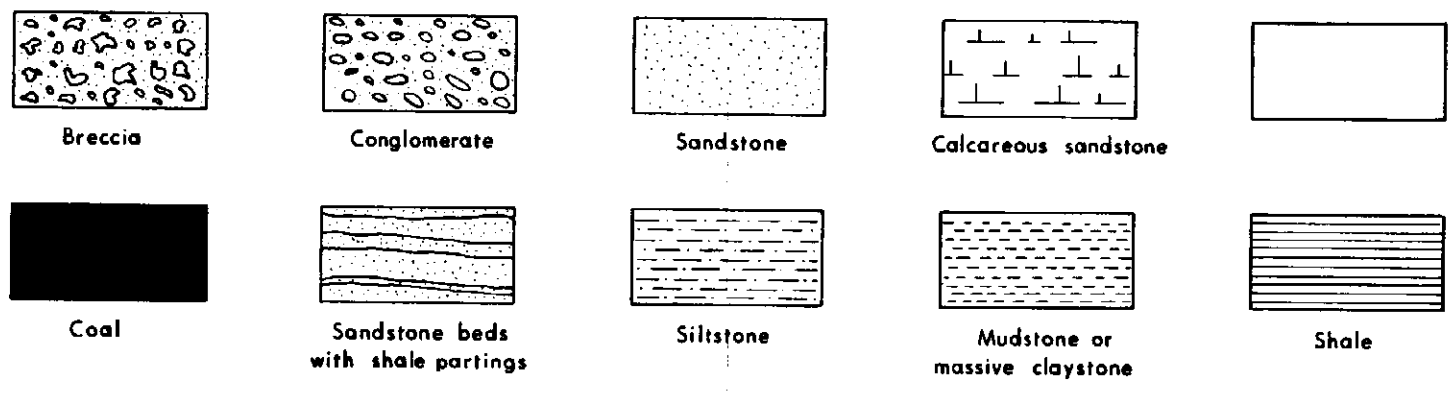
HOLE SIZE HQ - NQ DATE OF COMPLETION September 27, 1976

LOGGED BY Eric Beresford - Colin Brazzoni

REMARKS Hole angle (73° E)

450 5/7 (L04)

LITHOLOGIC SYMBOLS



FORMATION	DEPTH	LITHOLOGY	GRAIN SIZE (CLAY, SILT, U.F., F., M.G., C.SD, U.CSE, GRAN)	ANGLE OF BEDDING RELATIVE TO BORE HOLE	DESCRIPTION
	50				No Core (0'-24') Sandstone - light grey, odd carb. clast and parting (24'-85') - heavily broken and fractured, weathering (24'-34')
	100				Mudstone/Siltstone - dark grey, odd sandy portion, fractures show weathering, some carb. material (85'-100.3') Coal - #4 Seam (110.3'-120.6') Mudstone - dark grey, broken, some weathering (120.6'-123')
	150				TD 129 fault - drillers (6" cavity) (123') Mudstone/Siltstone - dark grey, broken (123.5'-129')
	200				
	250				
	300				
	350				

ROKE SIDEWALL DENSILOG

OIL ENTERPRISES LTD. CALGARY, ALBERTA

FILE NO.
LSD
SEC
TWP
RGE
W. M

COMPANY: COLEMAN COLLIERIES LIMITED
WELL: TD - 76 - 98
LOCATION: TENT MOUNTAIN
FIELD: COLEMAN

PROVINCE: ALBERTA

Other Services: CBL

Permanent Datum: GROUND LEVEL Elev.: K.B.:
Log Measured from: 830 FLOOR 1 Ft. Above Perm. Datum GSC:
MH Depth Measured from: 830 FLOOR G.L.:

Run. No.	ONE
Date	13 OCTOBER 1976
First Reading	850
Last Reading	0
Footage Logged	850
Depth Reached	853
Depth Driller	890
Casing Rules	
Casing Driller	12
Fluid Type	AIR/WATER
Liquid Level	154
Min. Open	30
Operating Time	3 HOURS
Truck No.	33

450

Recorded By: JOHNSON Witnessed By: BERESFORD

| GENERAL | | |

ROKE

GAMMA RAY NEUTRON LOG

OIL ENTERPRISES LTD. CALGARY, ALBERTA

FILE NO. 1
LOG NO. 1
RUN NO. 1
DATE 25 - 7 - 89

COMPANY: CEDRON COLLIERIES LIMITED
WELL: 23 - 24 - 89
LOCATION: 1000 MERIDIAN
FIELD: CEDRON
PROVINCE: ALBERTA

Permanent datum: GROUND LEVEL
Log measured from: KB 8FT ABOVE
Drilling Measured from: KB 8FT ABOVE

Elev. 0 FT
Elev. KB 8 FT
Elev. DF
Elev. GL

Date: 25 JULY 1989
Run No.: ONE
Depth Driller: 870
Depth Logged: 870
Top Log Int.: 0
Casing Driller: 8 5/8 @ 12
Casing Logged: 12
Bottom Log Int.: 870
Type Fluid: AIR
Level: FULL
Max. Rec. Temp.: 30C
Equipment No.: 3
Recorded By: RICHARDSON
Witnessed By: 450

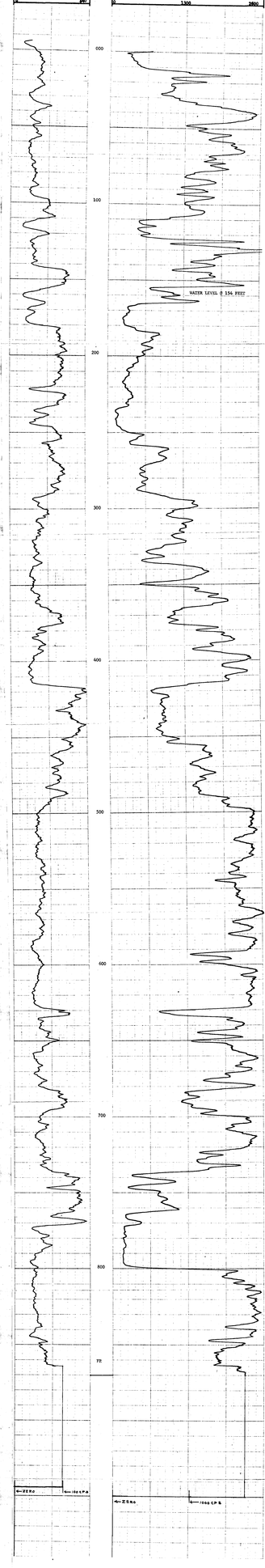
EQUIPMENT DATA

GAMMA RAY	ONE	NEUTRON	ONE
RUN NO		RUN NO	
TOOL MODEL NO		DIL TYPE	NEUTRON/NEUTRON
DIAMETER	1 11/16	TOOL MODEL NO	
DETECTOR MODEL NO		DIAMETER	1 11/16
TYPE	SCINTILLATOR	DETECTOR MODEL NO	
LENGTH	6 INCH	TYPE	PROPORTIONAL
DISTANCE TO N. SOURCE	6.2 FT	LENGTH	4 INCH
GENERAL		SOURCE MODEL NO	MRC-N-85-W
HOIST TRUCK NO	33	SERIAL NO	182
INSTRUMENT TRUCK NO		SPACING	37 INCH
TOOL SERIAL NO	S CBU 369-002	TYPE	AmBe
		STRENGTH	3 Curies

LOGGING DATA

GENERAL					GAMMA RAY			NEUTRON			
RUN NO	DEPTHS FROM	TO	SPEED F/MIN	T.C. SEC	GAIN SETTINGS	ZERO Div. / CPS	API G-R UNITS PER LOG DIV	T.C. SEC	GAIN SETTINGS	ZERO Div. / CPS	API N UNITS PER LOG DIV
1	0	870	12	3	300	0.5	14	3	500	0.5	150

REMARKS: LOGGED THROUGH 5½ DRILL ROD



STRATIGRAPHIC LOG

DRILL HOLE TD - 76 - 98 AREA Tent Mountain

COMPANY Coleman Collieries Ltd.

COORDINATES 13709.1 N , 88633.2 E

GROUND ELEVATION 6559.1 TOTAL DEPTH 876

MECHANICAL LOGS RUN Gamma Ray Neutron - Sidewall Density

DRILLING METHOD Diamond drill - wire line

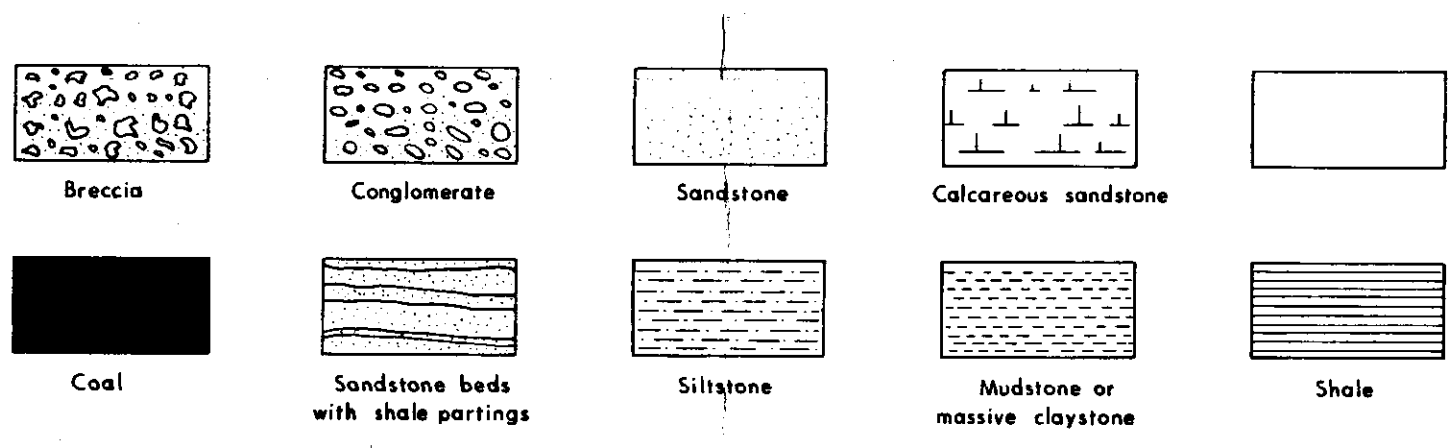
HOLE SIZE HQ - NQ DATE OF COMPLETION September 30, 1976

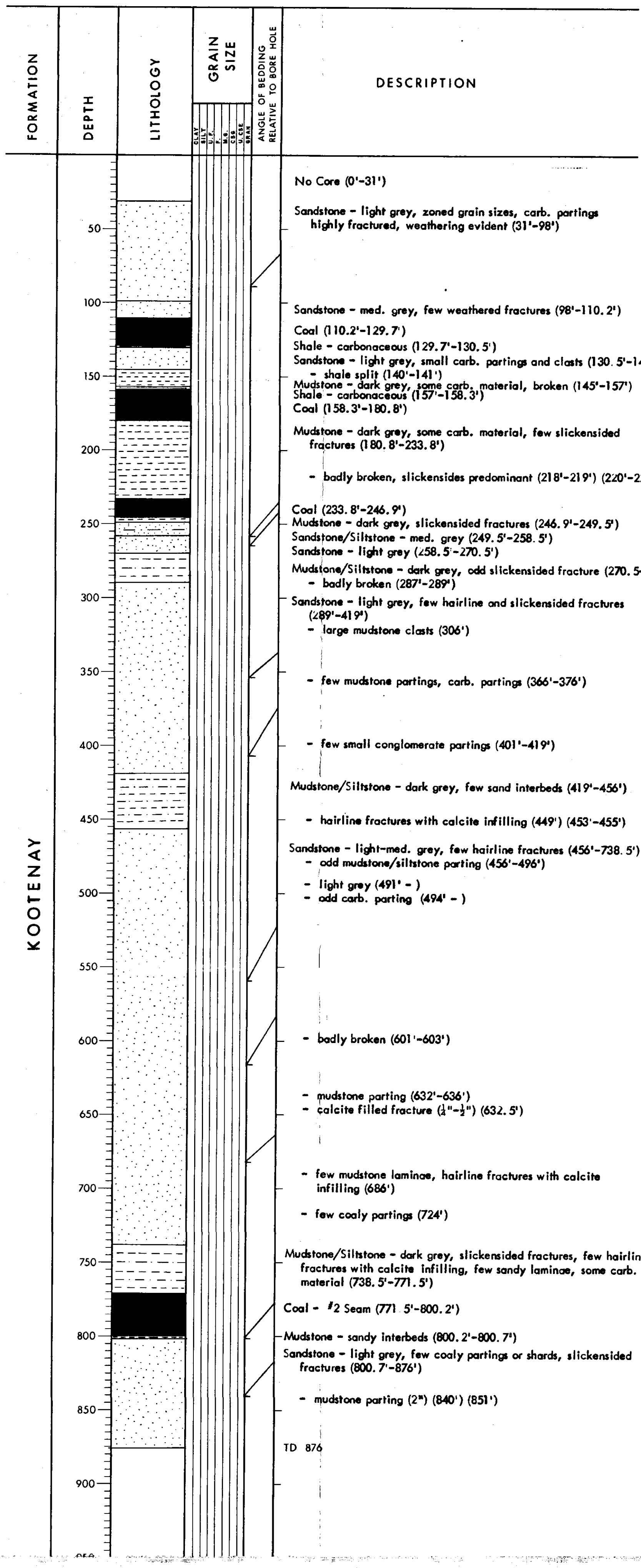
LOGGED BY Eric Beresford - Colin Brazzoni

REMARKS Hole Angle (80° E.)

450 5/7 (L07)

LITHOLOGIC SYMBOLS





No Core (0'-31')

Sandstone - light grey, zoned grain sizes, carb. partings highly fractured, weathering evident (31'-98')

Sandstone - med. grey, few weathered fractures (98'-110.2')

Coal (110.2'-129.7')

Shale - carbonaceous (129.7'-130.5')

Sandstone - light grey, small carb. partings and clasts (130.5'-145')

- shale split (140'-141')

Mudstone - dark grey, some carb. material, broken (145'-157')

Shale - carbonaceous (157'-158.3')

Coal (158.3'-180.8')

Mudstone - dark grey, some carb. material, few slickensided fractures (180.8'-233.8')

- badly broken, slickensides predominant (218'-219') (220'-222')

Coal (233.8'-246.9')

Mudstone - dark grey, slickensided fractures (246.9'-249.5')

Sandstone/Siltstone - med. grey (249.5'-258.5')

Sandstone - light grey (258.5'-270.5')

Mudstone/Siltstone - dark grey, odd slickensided fracture (270.5-289')

- badly broken (287'-289')

Sandstone - light grey, few hairline and slickensided fractures (289'-419')

- large mudstone clasts (306')

- few mudstone partings, carb. partings (366'-376')

- few small conglomerate partings (401'-419')

Mudstone/Siltstone - dark grey, few sand interbeds (419'-456')

- hairline fractures with calcite infilling (449') (453'-455')

Sandstone - light-med. grey, few hairline fractures (456'-738.5')

- odd mudstone/siltstone parting (456'-496')

- light grey (491' -)

- odd carb. parting (494' -)

- badly broken (601'-603')

- mudstone parting (632'-636')

- calcite filled fracture (¼"-½") (632.5')

- few mudstone laminae, hairline fractures with calcite infilling (686')

- few coaly partings (724')

Mudstone/Siltstone - dark grey, slickensided fractures, few hairline fractures with calcite infilling, few sandy laminae, some carb. material (738.5'-771.5')

Coal - #2 Seam (771.5'-800.2')

Mudstone - sandy interbeds (800.2'-800.7')

Sandstone - light grey, few coaly partings or shards, slickensided fractures (800.7'-876')

- mudstone parting (2") (840') (851')

TD 876

ROKE

SANTA FE ENERGY CO.

WELL	ROKE #1
FIELD	WILDCAT
COUNTY	LINCOLN
STATE	NEW MEXICO
LOCATION	330' FSL & 330' FEL
SEC. TWP. RGE.	SEC. 26, T-8S, R-18E
ELEV.	K.B. 4,150'
DATE	11-20-1989
DEPTH	1,500'
PERMANENT DATUM	GROUND LEVEL
LOG MEASURED FROM	K.B. 4' ABOVE PERM. DATUM
DRILLING MEASURED FROM	K.B.
RUN NO.	ONE
TYPE LOG	GAMMA RAY NEUTRON
BOREHOLE RECORD	BIT SIZE 7 7/8"
CASING RECORD	SURFACE 8 5/8" @ 1,500'
RECORDED BY	D. LEITNER
WITNESSED BY	NONE

4150

EQUIPMENT DATA

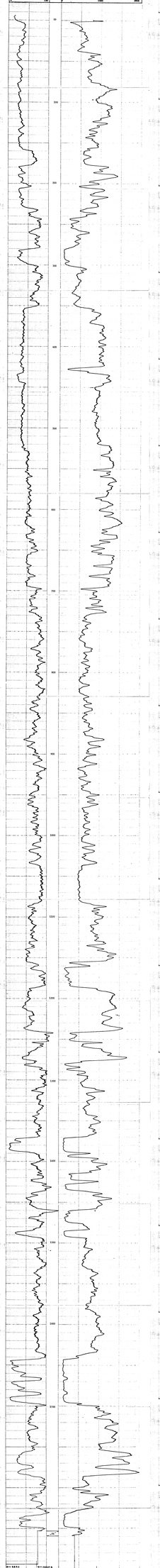
GAMMA RAY		NEUTRON	
RUN NO.	ONE	RUN NO.	ONE
TOOL MODEL NO.		TOOL TYPE	NEUTRON/NEUTRON
DETECTOR	1	DETECTOR MODEL NO.	
DETECTOR MODEL NO.		SOURCE	N
TYPE	SCINTILLATION	DETECTOR MODEL NO.	
SOURCE	N/A	TYPE	PROPORTIONAL
DISTANCE TO DETECTOR	5.5' 4"	SPACING	8 INCH
		DETECTOR MODEL NO.	MRC-1-50 HP
		SPACING	12 INCH
ARMY TRACK NO.	12	SPACING	12 INCH
NETWORK TRACK NO.		TYPE	
TOOL MODEL NO.	NUCL 110 - 205	SOURCE	N
		SPACING	

LOGGING DATA

GAMMA RAY					NEUTRON				
RUN	TIME	SPEED	T.C.	SENS.	SPEED	SENS.	AT TD @ 1,500'ft	T.C.	SENS.	SPEED	SENS. AT TD @ 1,500'ft
1	8	50	1	10	10	1,000	1,000	10	10	10	1,000

REMARKS: NATURAL GAMMA VS. NEUTRON RUN

GAMMA RAY	1	NEUTRON
GAMMA RAY INCREASES		NEUTRON INCREASES
API		API
0	150	1,000
		0



ROKE

SPECIALIZED DIVISION

CO. NO. 1 — ARMOR RESEARCH CENTER — ARMORY

FIELD — WILDCAT

COUNTY — STORM

STATE — ARIZONA

SEC. — TWP. — RGE.

ELEV. — GL — KB

DATE — 10-1-74

CASING RECORD

SIZE	WEIGHT	GRADE	THREAD	DEPTH
8	24#	J-55	ST&C	1457

DRILLING RECORD

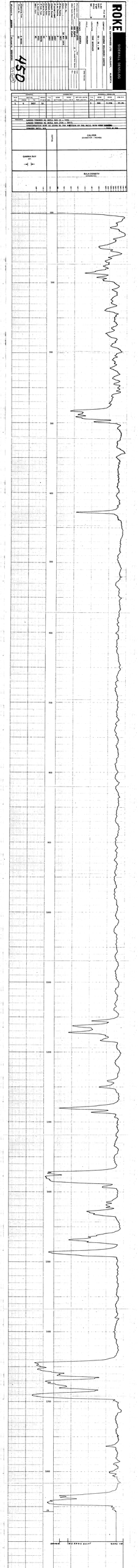
SIZE	DEPTH
8	1457

DRILL STEM TEST RECORD

NO.	DEPTH	TIME	RECOVERY
1	1457-1500	30 min	2 gal. mud

REMARKS: CASING TENDERED BY OWNER. RUN 20 m. FAIR.
CONDITIONED HOLE FOR 2 HRS. RUN 20 m. FAIR.
CONGLOMERATION NOTED ON LEVEL OF THE AMERICAN OIL FIELD. NOTED NOTED NOTED CONDITIONS.
TENDERED BOTH. RUN. TOOL & TOW

TOOL	SERIAL NO.	DEPTH	TIME
1	300	1,500	27.25



STRATIGRAPHIC LOG

DRILL HOLE TD - 76 - 99 AREA Test Mountain

COMPANY Coleman Collieries Ltd.

COORDINATES 1572.8 N , 1785.8 E
13848.97 N , 87577.01 E

GROUND ELEVATION 7007.7 TOTAL DEPTH 1884

MECHANICAL LOGS RUN Gamma Ray Neutron - Sidewall Density

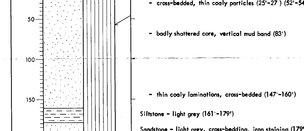
DRILLING METHOD Diamond drill - wire line

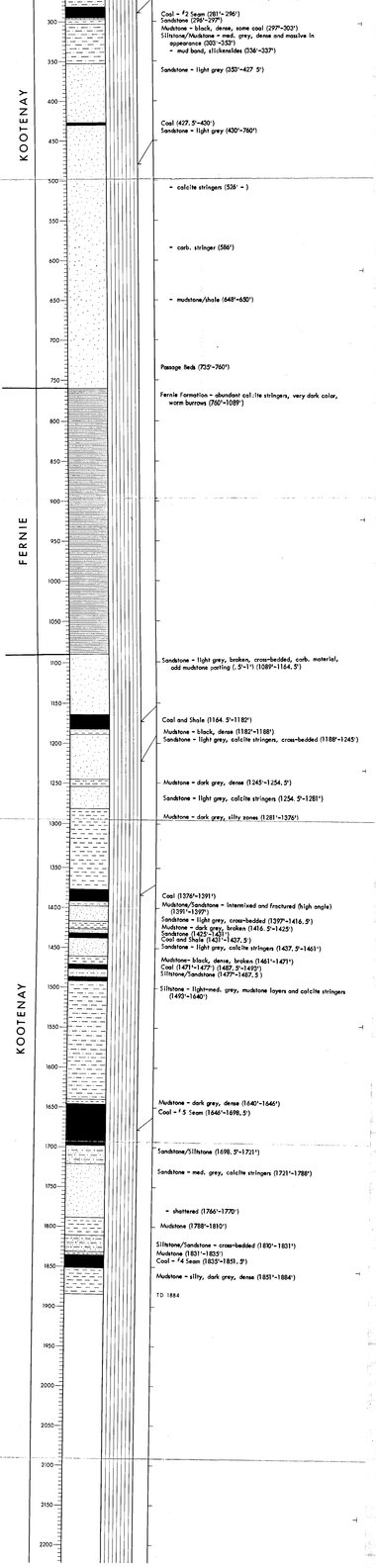
HOLE SIZE HQ - NQ DATE OF COMPLETION November 16, 1976

LOGGED BY Eric Beresford - Colin Brazzoni

REMARKS 450 5/4/10

LITHOLOGIC SYMBOLS





STRATIGRAPHIC LOG

DRILL HOLE TD - 76 - 100 AREA Tent Mountain

COMPANY Coleman Collieries Ltd.

COORDINATES 195.85 N , 1660.45 E
12469.3 N , 87667.8 E

GROUND ELEVATION 6447 TOTAL DEPTH 918

MECHANICAL LOGS RUN Gamma Ray Neutron - Sidewall Density

DRILLING METHOD Diamond drill - wire line

HOLE SIZE HQ - NQ DATE OF COMPLETION October 31st, 1976.

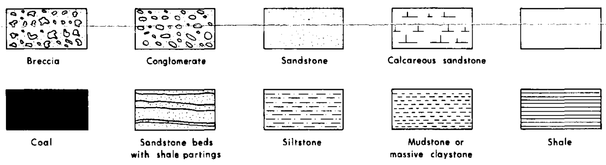
LOGGED BY Eric Beresford - Colin Brazzoni

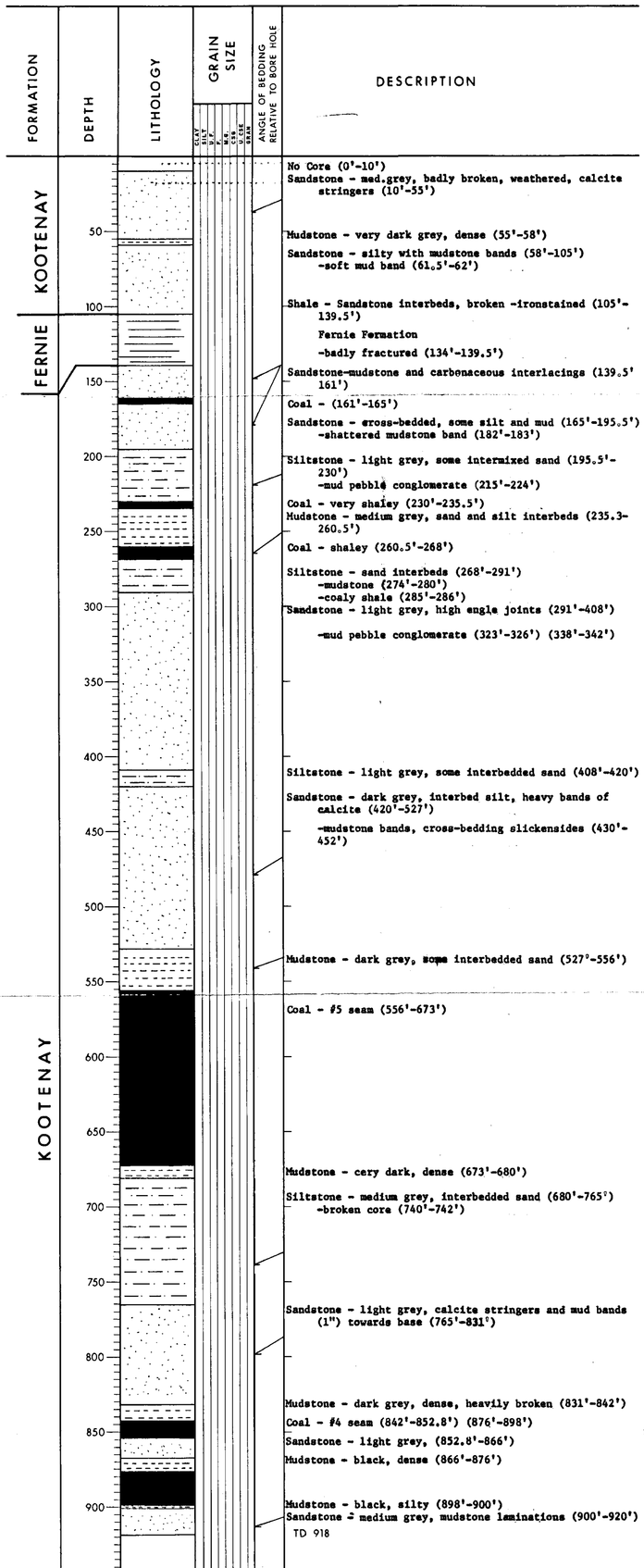
REMARKS Hole Angle (45°E)

450

5/7 (L11)

LITHOLOGIC SYMBOLS





No Core (0'-10')
Sandstone - med.grey, badly broken, weathered, calcite stringers (10'-55')

Mudstone - very dark grey, dense (55'-58')
Sandstone - silty with mudstone bands (58'-105')
-soft mud band (61.5'-62')

Shale - Sandstone interbeds, broken -ironstained (105'-139.5')
Fernie Formation
-badly fractured (134'-139.5')
Sandstone-mudstone and carbonaceous interlacings (139.5' 161')
Coal - (161'-165')
Sandstone - cross-bedded, some silt and mud (165'-195.5')
-shattered mudstone band (182'-183')

Siltstone - light grey, some intermixed sand (195.5'-230')
-mud pebble conglomerate (215'-224')
Coal - very shaley (230'-235.5')
Mudstone - medium grey, sand and silt interbeds (235.3-260.5')
Coal - shaley (260.5'-268')
Siltstone - sand interbeds (268'-291')
-mudstone (274'-280')
-coaly shale (285'-286')
Sandstone - light grey, high angle joints (291'-408')
-mud pebble conglomerate (323'-326') (338'-342')

Siltstone - light grey, some interbedded sand (408'-420')
Sandstone - dark grey, interbed silt, heavy bands of calcite (420'-527')
-mudstone bands, cross-bedding slickensides (430'-452')

Mudstone - dark grey, some interbedded sand (527'-556')

Coal - #5 seam (556'-673')

Mudstone - cery dark, dense (673'-680')
Siltstone - medium grey, interbedded sand (680'-765')
-broken core (740'-742')

Sandstone - light grey, calcite stringers and mud bands (1") towards base (765'-831')

Mudstone - dark grey, dense, heavily broken (831'-842')
Coal - #4 seam (842'-852.8') (876'-898')
Sandstone - light grey, (852.8'-866')
Mudstone - black, dense (866'-876')

Mudstone - black, silty (898'-900')
Sandstone - medium grey, mudstone laminations (900'-920')

TD 918

ROKE

SIDEWALL DENSILOG

ROKE OIL ENTERPRISES LTD. CALGARY, ALBERTA

FILE NO	
LSD	
SEC	
TWP	
RGE	
W. ... M	
COMPANY	COLDAN COLLIERIES LIMITED
WELL	TD - 76 - 100 (45°E)
LOCATION	TENT MTN
FIELD	COLDAN
PROVINCE	BRITISH COLUMBIA
Permanent Datum	GROUND LEVEL
Log Measured from	KBE FLOOR 1 Ft. Above Perm. Datum
Drill Depth Measured from	KBE FLOOR

Other Services: CBL

Elev.: K.B. ; D.F. ; G.L.

Run No.	ONE		
Date	30 OCT 1976		
Est Reading	897		
Last Reading	0		
Footage Logged	900		
Depth Reached	920		
Depth Driller			
Cutting Rate			
Casing Driller	10		
Fluid Type	WATER		
Liquid Level	FULL		
Max. Diam.	9¼		
Operating Time	3 HOURS		
Truck No.	33		

450

Recorded By JOHNSON Witnessed By BIRKSFORD 5/7/(412)

GENERAL			
RUN	FROM	DEPTH	DRILLER
1	0	897	33

GAMMA RAY			
SCALE	SPEED	SPEED	SCALE
0	1	1	0

SIDEWALL DENSILOG			
SCALE	SPEED	SPEED	SCALE
3	500	2.5 ft.	2.5 ft.

TOOL # 202

CALIPER (DIAMETER - INCHES)

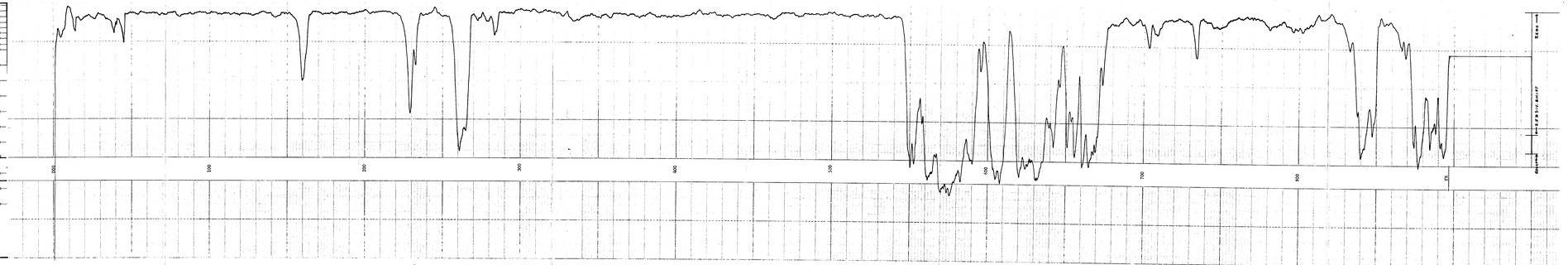
CONSIDERATION MUST BE GIVEN TO THE POSITION OF THE CURVES WHEN PLACING THE SCALES, WHEN LOOKING TOWARDS WELL BORE

BULK DENSITY (GRAM/CC)

DEPTHS

GAMMA RAY (API UNITS)

REMARKS: LOOKING TOWARDS THE WELL BORE (X = 270)
LOOKING TOWARDS THE WELL BORE (270 - 450)



ROKE

GAMMA RAY NEUTRON LOG

OIL ENTERPRISES LTD. CALGARY, ALBERTA

FILE NO.
LSD
SEC
TWP
RGE
W. M

COMPANY COLEMAN COLLIERIES LIMITED

WELL TD - 76 - 100 (45°E)

LOCATION TEN MOUNTAIN

FIELD COLEMAN

PROVINCE BRITISH COLUMBIA

Other Services: DIPS

Permanent Datum: GROUND LEVEL Elev.: K.B.
Log Measured from: KBG FLOOR 3 Ft. Above Perm. Datum: Gr.
Not Depths Measured from: KBG FLOOR G.L.

Run. No.	ONE	
Date	30 OCT 1976	
First Reading	899	
Last Reading	0	
Footage Logged	899	
Depth Reached	900	
Depth Driller	920	
Casing Pipe		
Casing Driller	330	
Fluid Type	WATER	
Liquid Level	FULL	
Min. Diam.	NI	
Rm @ °F		
Operating Time	2 HOURS	
Truck No.	33	

450

5/1/13

Recorded By JOHNSON Witnessed By BERRYMAN

EQUIPMENT DATA

GAMMA RAY: BOX NO. 1 | SERIAL NO. 1 | DIAMETER 1 1/8 | BOX NO. GRS | SERIAL NO. 1 | DIAMETER 1 1/8 | SCINTILLATOR 2 x 2 | SERIAL NO. 1 | DIAMETER 1 1/8 | SHOCK MOUNTS 2 x 7 PT | SERIAL NO. 33 | HOUSE LENGTH 6 FEET | HOUSE DIAMETER 1 1/8 | LOOK SERIAL NO. 6 GRS 119 - 002

NEUTRON: BOX NO. 1 | SERIAL NO. 1 | DIAMETER 1 1/8 | BOX NO. NEUTRON 11 | LOOK SERIAL NO. 1 | SCINTILLATOR PROPORTIONAL | SERIAL NO. 1 | DIAMETER 1 1/8 | SHOCK MOUNTS 8 INCH | LENGTH 2 FT | HOUSE LENGTH 6 FEET | HOUSE DIAMETER 1 1/8 | LOOK SERIAL NO. 1 | SHIELDING 17 INCH | SERIAL NO. 3 | DIAMETER 3 COLLAR

LOGGING DATA

GAMMA RAY: RUN 1 | DATE 30 OCT | TIME 1400 | DEPTH 899 | SPEED 30 | SENSITIVITY 1 | TC 1 | BATCH 1 | GAIN 1 | ATT. 1 | MAX. READING 1000 | ATT. & GAIN 1 | CALIBRATOR 1 | ATT. & GAIN 1

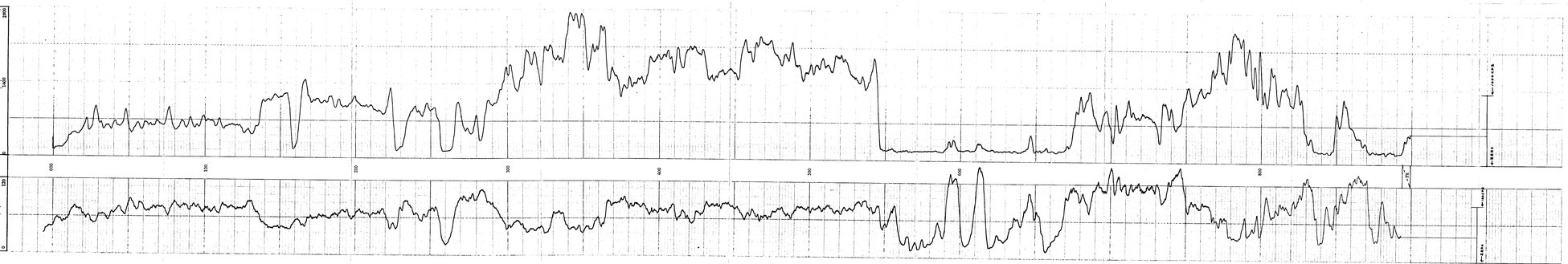
NEUTRON: RUN 1 | DATE 30 OCT | TIME 1400 | DEPTH 899 | SPEED 30 | SENSITIVITY 1 | TC 1 | BATCH 1 | GAIN 1 | ATT. 1 | MAX. READING 1000 | ATT. & GAIN 1 | CALIBRATOR 1 | ATT. & GAIN 1

REMARKS: RECORDED SIMULTANEOUSLY ON DRILL ROD

NEUTRON — NEUTRON INCREASES — ATT. 1 — 2000 — 1400 — 0

DEPTHS: 000, 100, 200, 300, 400, 500, 600, 700, 800, 900

GAMMA RAY — GAMMA RAY INCREASES — ATT. 1 — 1.4 — 120 — 0



K-TEAT MOUNTAIN 76(3) A

1976 EXPLORATION ON B.C. COAL LIC.
21 + 22

E.W. BERESFORD (Book 3-2) (copy 2) APRIL 1977

ORIGINAL FILE
GEOLOGICAL BRANCH
ASSESSMENT REPORT

00420

6 of 7

ROKE

SIDEWALL DENSILOG

OIL INTERPRETERS LTD. CALGARY, ALBERTA

FILE NO.
LOG NO.
RUN NO. 1
DATE 1-8-82
AT

COMPANY: QUADRA RESOURCES LIMITED
WELL: TD 30 - 082
FIELD:
LOCATION: SOUTH WONDER
PROVINCE OR STATE: BRITISH COLUMBIA
COUNTY OR PARISH: CARIBOO
COUNTRY: CANADA
Elev. Derrick Floor
Elev. Ground
Elev. Permanent Datum
Log Measured From
Drilling Measured From

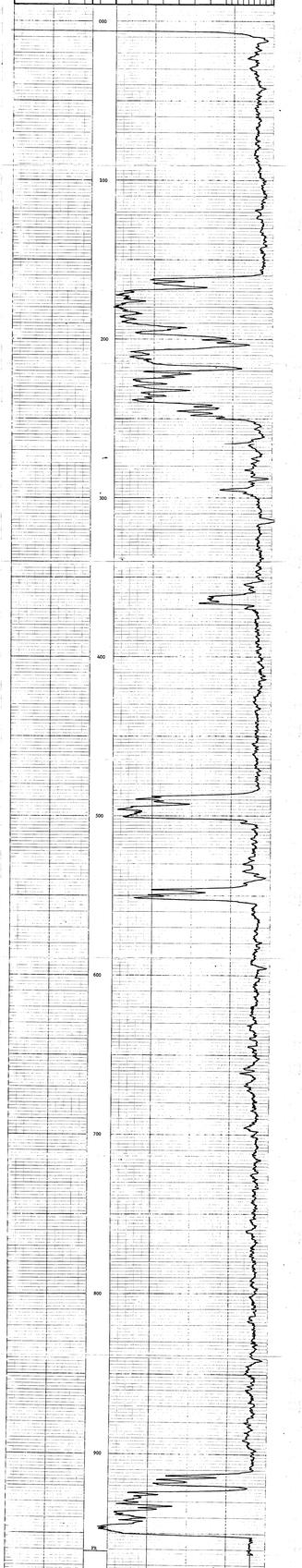
Date	1-8-82
Time Started	1:00
Time Finished	1:30
Log No.	1
Total Depth	963
Casing Size	8 5/8
Casing Type	
Casing Wgt.	24
Casing Shoe	963
Bit Size	7 7/8
Bit Type	RED/WHITE
Bit Serial	
Bit Make	HC
Fluid Type	
Fluid Level	
Max. Temp.	
Rec. Temp.	
Circ. Time	
Source of Sample	
Rm @ Meas. Temp.	
Rmf @ Meas. Temp.	
Rmc @ Meas. Temp.	
Rm @ BHT	
Rmf @ BHT	
Rmc @ BHT	
Max. Rec. Temp.	
Equipment No.	3-82/003
Recorded By	MCLAUGHLIN
Witnessed By	BERGERON

450 ft

GENERAL				GAMMA RAY			SIDEWALL DENSILOG			
RUN NO.	BOTTOM INTERVAL	BOTTOM FT.MKB	SPEED FT.MIN.	T.C. SEC.	SENS. SETTING	ZERO DIV.LOG	API U.R. UNITS PER LOG DIV.	T.C. SEC.	SENS. SETTING	ZERO DIV.LOG	CPU DIV
1	0	963						3	500	1.75	17.17

REMARKS: ANGLE BULK 55° EAST
LOGGED THROUGH HO BOD FROM 263 TO 963
LOGGED THROUGH HO BOD FROM 0 TO 265

DBHS # 663



STRATIGRAPHIC LOG

DRILL HOLE TD - 76 - 102 AREA Tent Mountain

COMPANY Coleman Collieries Ltd.

COORDINATES 147.89 N , 2160.69 E

GROUND ELEVATION 6525.4 TOTAL DEPTH 976

MECHANICAL LOGS RUN Gamma Ray Neutron - Sidewall Density

DRILLING METHOD Diamond drill - wire line

HOLE SIZE HQ - NQ DATE OF COMPLETION December 21 , 1976

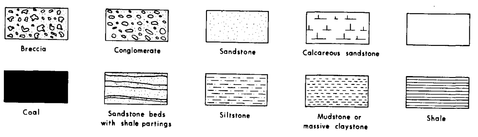
LOGGED BY Eric Beresford - Colin Brazzoni

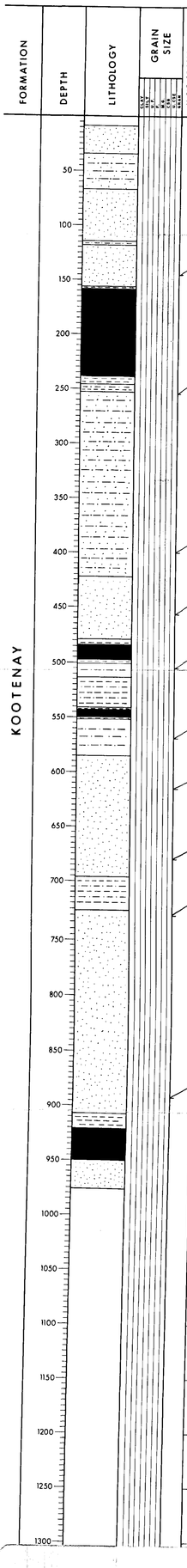
REMARKS Hole Angle (55°E)

450 6/7

L2

LITHOLOGIC SYMBOLS





DESCRIPTION

No Core (0'-4')

Sandstone - light grey, cross-bedding, carb.partings and clasts. few mudstone clasts, calcite stringers (9'-35')
- very broken (18'-20')

Siltstone/Sandstone - medium grey, well bedded, few hairline fractures (35'-68')

Sandstone - light grey, well bedded, numerous fractures with calcite infilling, odd carb. shard, some weathering (68'-115')

Mudstone-Siltstone - dark, broken with visible weathering (115'-118')

Sandstone - medium grey, mudstone laminae, cross-bedding, odd carb. clast, few hairline fractures (118'-157')

Mudstone - dark, dense (157'-158.7')

Coal - #5 seam (158.7'-239.6')

Mudstone - dark, carbonaceous (239.6'-246')

Mudstone/Siltstone - dark grey, odd slickensided fracture (246'-253')

Sandstone/Siltstone - medium grey, few mudstone interbeds, odd slickensided fracture (253'-423')

-broken, recemented (4") (405')
-grades below

Sandstone - light grey, odd hairline fracture (423'-480')
-mudstone clasts and carb.shard (423'-433')

-grades below

Mudstone - dark, dense, (480'-489.2')

Coal - #4 seam (489.2'-497.9')

Mudstone - dark carbonaceous (497.9'-501')

Sandstone/Siltstone - medium grey, hairline fractures (501'-514')

Mudstone/Siltstone - some carb. material, hairline fractures with calcite infilling (514'-542')

Mudstone - dark, dense (542'-543.5') (550'-551')

Coal and Shale (543.5'-550')

Sandstone/Siltstone - medium grey, cross-bedding (551'-585')

Sandstone - light grey, coarse zones with sandstone and carb. clasts, some cross-bedding (585'-696')

-mudstone clasts (numerous) 699'-651') (676'-677')

Mudstone/Siltstone - medium grey, sandy interbeds, (696'-727')

Sandstone - light grey, odd slickensided fracture (727'-907.6')

- appearance of coal shards and partings, odd mudstone clast (837'-)

Mudstone - dark, few coaly bands (907.6'-920.8')

Coal - #2 seam (920.8'-949')

Sandstone - light grey, odd slickensided fracture (949'-976')

TD 976

STRATIGRAPHIC LOG

DRILL HOLE TD - 76 - 104 AREA Tent Mountain

COMPANY Coleman Collieries Ltd.

COORDINATES 4238.1 N , 1311.64 E
8035.19 N , 88014.33 E

GROUND ELEVATION 5214.21 TOTAL DEPTH 1017

MECHANICAL LOGS RUN Gamma Ray Neutron - Sidewall Density

DRILLING METHOD Diamond drill - wire line

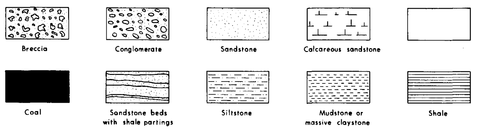
HOLE SIZE HQ - NQ DATE OF COMPLETION November 20th, 1976.

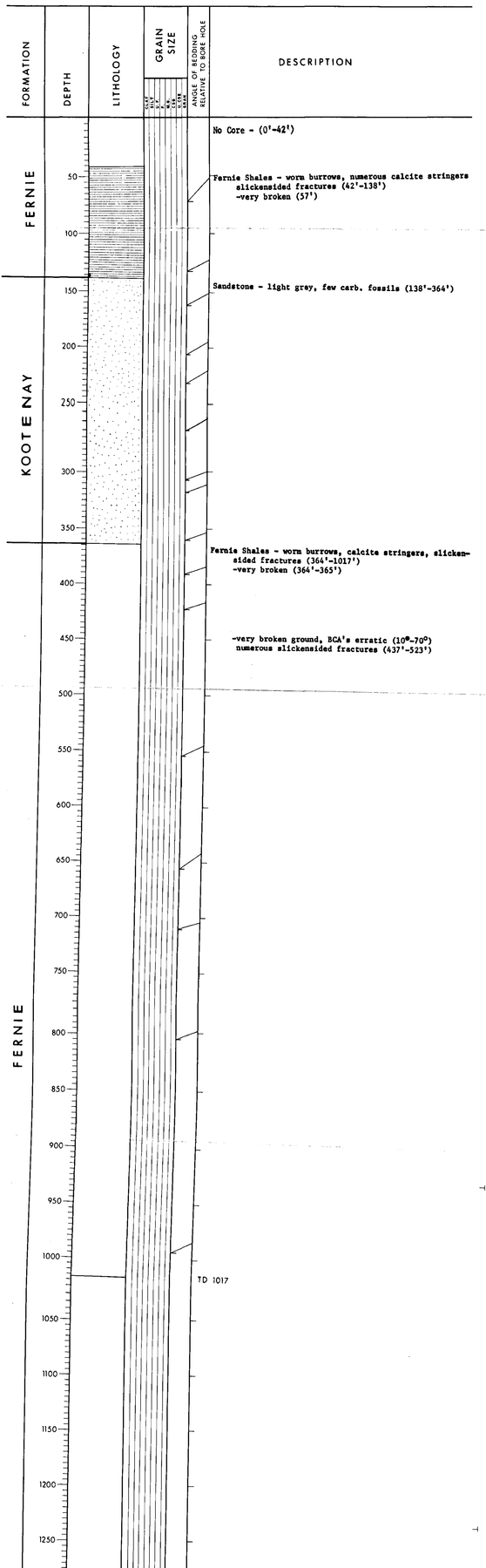
LOGGED BY Eric Beresford - Colin Brazzoni

REMARKS

(L3) 450 6/7

LITHOLOGIC SYMBOLS





STRATIGRAPHIC LOG

DRILL HOLE TD - 76 - 105 AREA Tent Mountain

COMPANY Coleman Collieries Ltd.

COORDINATES 951.2 N, 1155.0 E
13136.65 N, 87050.8 E

GROUND ELEVATION 6618 TOTAL DEPTH 1240

MECHANICAL LOGS RUN Gamma Ray Neutron - Sidewall Density

DRILLING METHOD Diamond drill - wire line

HOLE SIZE HQ - NQ DATE OF COMPLETION December 8, 1976

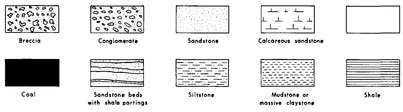
LOGGED BY Eric Beresford - Colin Brazzoni

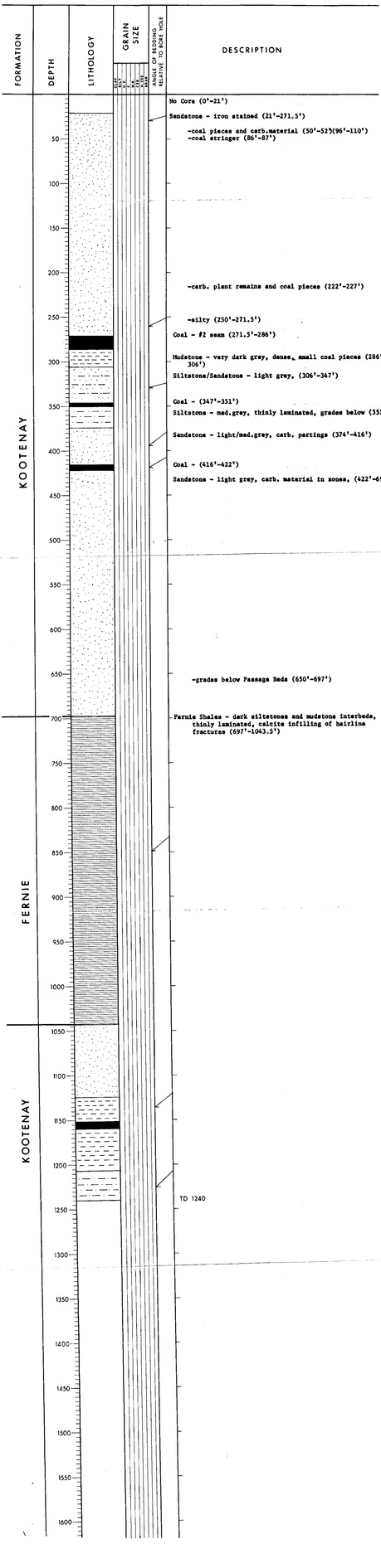
REMARKS Hole Angle (70°E)

450 ft

L4

LITHOLOGIC SYMBOLS





STRATIGRAPHIC LOG

DRILL HOLE TD - 76 - 106 AREA Tent Mountain

COMPANY Coleman Collieries Ltd.

COORDINATES 2936.59 N , 1452.28 E
9342.7 N , 87950.4 E

GROUND ELEVATION 5536.3 TOTAL DEPTH 91

MECHANICAL LOGS RUN Gamma Ray Neutron - Sidewall Density

DRILLING METHOD Diamond drill - wire line

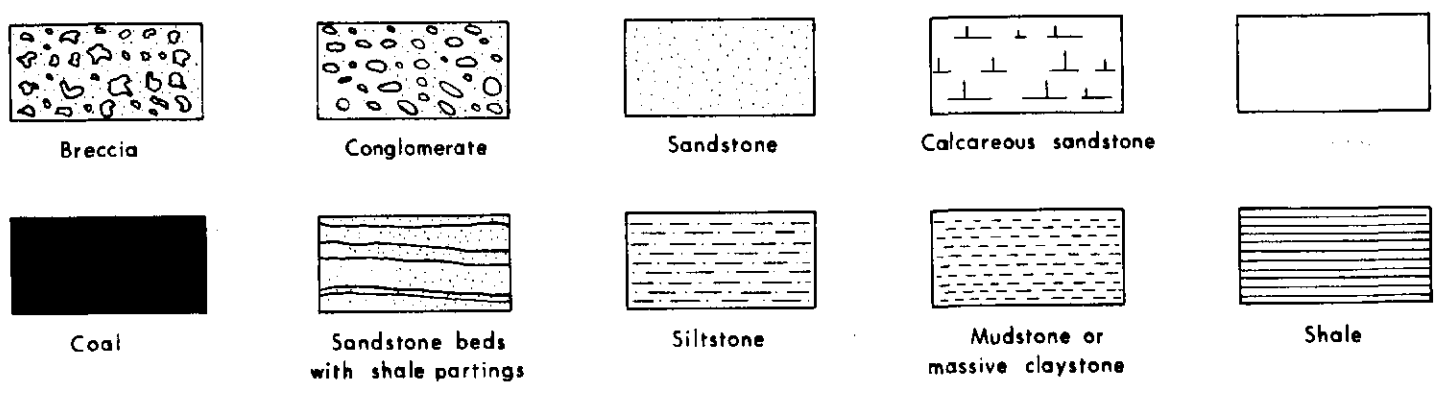
HOLE SIZE HQ - NQ DATE OF COMPLETION November 23, 1976

LOGGED BY Eric Beresford - Colin Brazzoni

REMARKS Hole Angle (60° E) - Abandoned at 91 ft. due to shattered broken zone due to faulting - started new hole on 66° angle TD-76-106A.

450 6/7 (5)

LITHOLOGIC SYMBOLS



FORMATION	DEPTH	LITHOLOGY	GRAIN SIZE (CLAY, SILT, U.F., F., M.G., CSG, U.CSE, GRAN)	ANGLE OF BEDDING RELATIVE TO BORE HOLE	DESCRIPTION
KOOTENAY	0–91				No Core (0'-18')
					Sandstone - light grey, weathered - iron stained, broken (18'-48.5')
	50				Mudstone - shattered, broken, slickensides (48.5'-91')
	100				TD 91
	150				
	200				
	250				
	300				
	350				

ROKE

OIL ENTERPRISES LTD. CALGARY, ALBERTA

GAMMA RAY NEUTRON LOG

FILE NO. 100

WELL 100

COMPANY GOFORCE DEVELOPMENTS LTD.

WELL 16-12-1-25-W4M

LOCATION DEEP ROCKY

FIELD GOFORCE

PROVINCE ALBERTA, CANADA

Permanent Datum: GROUND LEVEL Elevation: 0 ft.

Log Measured From: K.B. Elevation: 3 ft. Above Perm. Datum

Drilling Measured From: K.B.

Date: 1-Jan-1900

Run No. 1

Depth Driller 1150

Depth Logger 1150

Casing Driller 0

Casing Logger 0

Bit Size 7.875

Casing Size

Type Fluid

Dens. lb/gal

Visc. sec

pH

Fluid Loss

Source of Sample

Rm @ Meas. Temp.

Rmf @ Meas. Temp.

Rmc @ Meas. Temp.

Source Rmf / Rmc

Rm @ BHT

Time Since Circ. 0 hr

Max. Rec. Temp. 0 °F

Equip. Location

Recorded By

Witnessed By

EQUIPMENT DATA

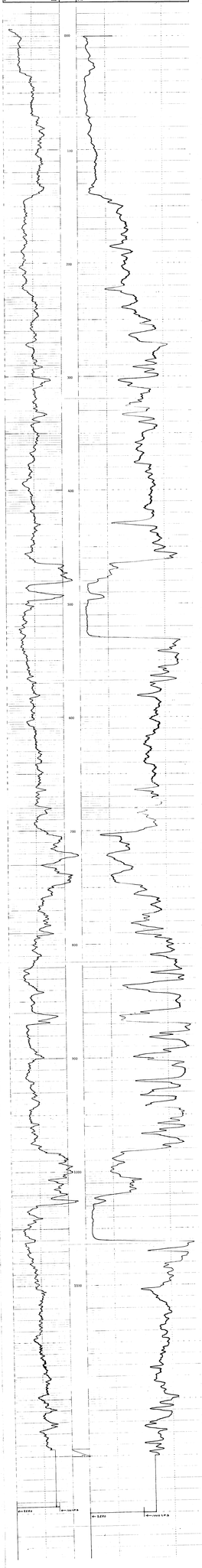
GAMMA RAY		NEUTRON	
RUN NO.	ONE	RUN NO.	ONE
TOOL MODEL NO.		LOG FROM	NEUTRON/NEUTRON
DIAMETER	1 11/16	TOOL MODEL NO.	
DETECTOR MODEL NO.	SCINTILLATOR	DIAMETER	1 11/16
LENGTH	1 INCH	DETECTOR MODEL NO.	PROPORTIONAL
DISTANCE TO K.BUSHING	3 FT	LENGTH	4 INCH
		SOURCE MODEL NO.	MRC-N-88-W
GENERAL		SERIAL NO.	141
SONDE TRUCK NO.	33	SPACING	17 INCH
INSTRUMENT TRUCK NO.		Amps	Amps
TOOL SERIAL NO.	S CDS 315 + 002	STRENGTH	9 CURIES

LOGGING DATA

GENERAL				GAMMA RAY				NEUTRON			
RUN NO.	GEOTA FROM	TO	SPEED FT/MIN	T.C. SECONDS	SENS SETTING	API G. UNITS DIV. OR IN.	T.C. SECONDS	SENS SETTING	API N. UNITS DIV. OR PER LOG DIV.		
1		1150	5	1	200	5	1	200	50	100	

REMARKS: SOCKED TENDERS AT 1621L NOD

GAMMA RAY	SCALE	NEUTRON
GAMMA RAY INCREASES		NEUTRON INCREASES
API 0 — 150		API 1400 — 1900



ROKE

SIDEWALL DENSILOG

LOG FILE NO.
DATE
TIME
AT

COMPANY: OXOCON GEOTECH LIMITED
WELL: 13 - 27 - 18W4 - 4 (10th EAST)
LOCATION: TYPE MONITOR
FIELD: GLOBOW
PROVINCE: BETTER GOODRIX
Permanent Datum: GL
Log Measured From: GL
Drilling Measured From: GL
ELEV. PERMANENT DATUM: 1.0 m Above Perm. Datum
ELEV. KB: 1.0 m Above Perm. Datum
ELEV. DF:
ELEV. GL:
Other Services: CBL

DEL ENTERPRISES LTD. CALGARY, ALBERTA.

Run No.	One
Date	2-3-88
Logging Unit	33
Truck No.	
Logged From	3.3377
Logged To	0.000
Log Interval	3.3377
Log Interval	3.3377
Log Interval	3.3377

STRATIGRAPHIC LOG

DRILL HOLE TD - 76 - 106 A AREA Tent Mountain

COMPANY Coleman Collieries Ltd.

COORDINATES 2936.59 N , 1452.28 E
9342.7 N , 87950.4 E

GROUND ELEVATION 5536.3 TOTAL DEPTH 1270

MECHANICAL LOGS RUN Gamma Ray Neutron - Sidewall Density

DRILLING METHOD Diamond drill - wire line

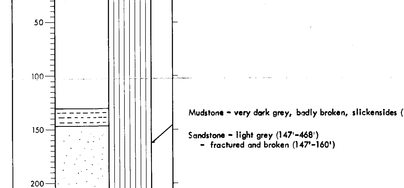
HOLE SIZE HQ - NQ DATE OF COMPLETION January 19, 1977

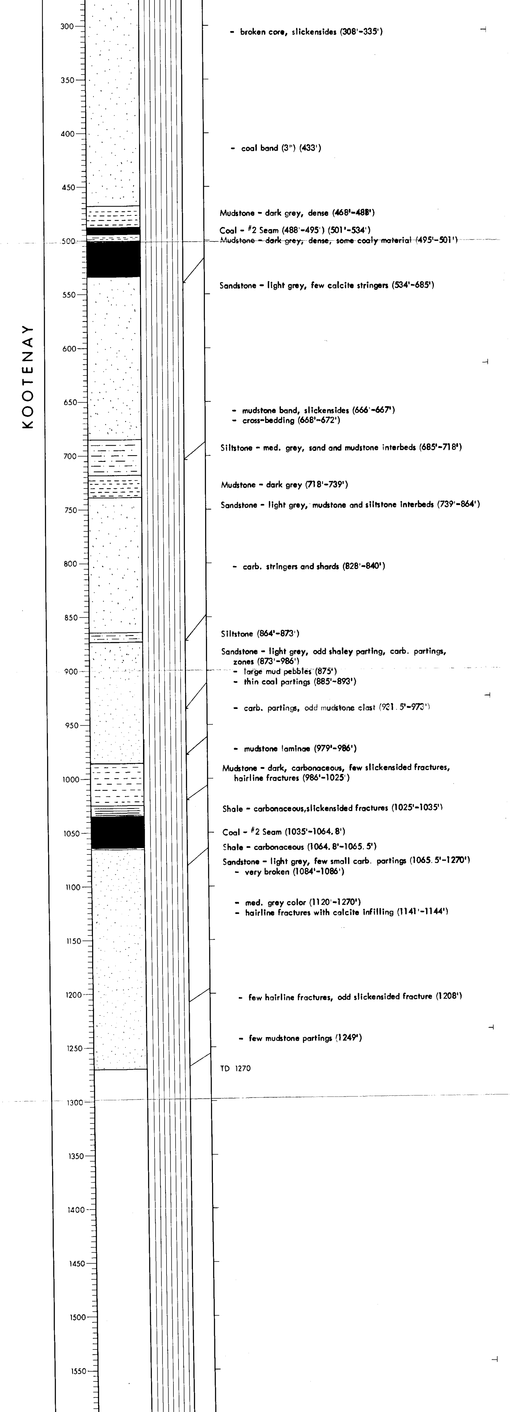
LOGGED BY Eric Beresford - Colin Brazzoni

REMARKS Hole Angle (66° E.)

(28) 450 6/7

LITHOLOGIC SYMBOLS





ROKE

GAMMA RAY NEUTRON LOG

OIL ENTERPRISES LTD. CALGARY, ALBERTA

LEG
FMC
FMC
RGE
W.....M

FILE NO.

COMPANY GROUND GULLIVERS LIMITED

WELL 35 - 26 - 107 (60 MAST)

LOCATION TOBE MERIDIAN

FIELD CHAUNAN

PROVINCE OR STATE ALBERTA

Permanent Datum: GL Elevation Above Perm. Datum
Log Measured From: KBE ZERO
Drilling Measured From: KBE ZERO

Elev.
1.5 Ft. Above Perm. Datum

Date 6 DEC 1975
Run No. ONE
Depth Driller 282
Depth Logger 282
Depth Logged Thru 282
Casing Driller 282
Casing Logger 282
Bit Size 7 7/8
Type Fluid In Hole WATER
Max. Rec. Temp. 282
Est. Cement Top 30
Equipment No. 4 DSL 1375
Location CHAUNAN
Recorded By ZOTOVICH
Witnessed By BRAATEN

Elev.
GL
KB 5.5
DF
GL

Other Services
NONE

Operating Time
Truck No.
2 HOURS
450 ft

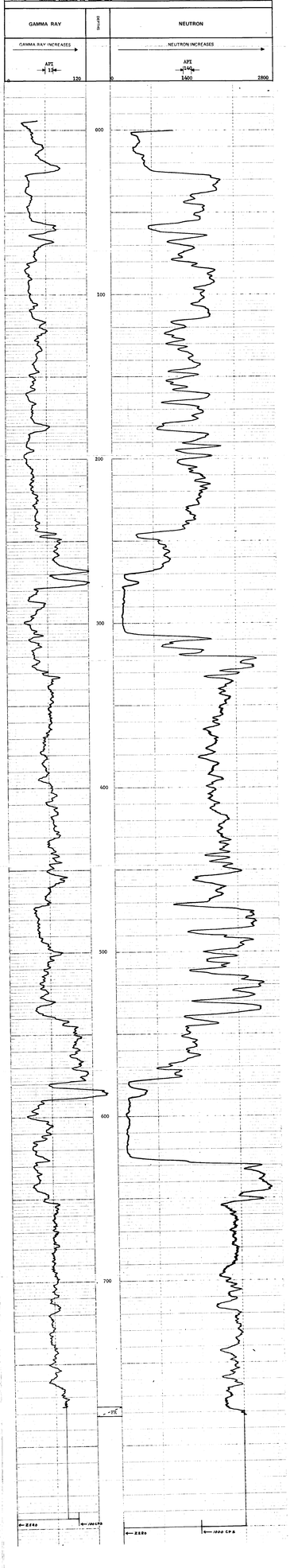
EQUIPMENT DATA

GAMMA RAY		NEUTRON	
RUN NO.	ONE	RUN NO.	ONE
TOOL MODEL NO.		LOG TYPE	NEUTRON/NEUTRON
DIAMETER	1 11/16	TOOL MODEL NO.	
DETECTOR MODEL NO.		DIAMETER	1 11/16
TYPE	SCINTILLATION	DETECTOR MODEL NO.	
LENGTH	4 INCH	TYPE	PROPORTIONAL
DISTANCE TO N. SOURCE	6.7 FT.	LENGTH	6 INCH
		SOURCE MODEL NO.	MRC-N-SS-W
GENERAL		SERIAL NO.	187
HOIST TRUCK NO.	33	SPACING	17 INCH
INSTRUMENT TRUCK NO.		TYPE	AmBe
TOOL SERIAL NO.	B GRN 169 - 002	STRENGTH	3 CURIES

LOGGING DATA

RUN NO.	DEPTHS FROM	DEPTHS TO	SPEED FT/MIN	T.C. SEC.	GAMMA RAY SENS SETTINGS	GAMMA RAY ZERO DIV. L OR R	GAMMA RAY API G. R. UNITS PER LOG DIV.	T.C. SEC.	NEUTRON SENS SETTINGS	NEUTRON ZERO DIV. L OR R	NEUTRON API N. UNITS PER LOG DIV.
1	0	782	12	5	100	OL	12	3	500	OL	140

REMARKS LOGGED THROUGH NO DRILL ROD



ROKE

SIDEWALL DENSILOG

OIL ENTERPRISES LTD. CALGARY, ALBERTA

Log No	
Sec	
Twp	
Range	
W4	M
File No	
Company	COLDPAK COLLIERIES LIMITED
Well	23 - 76 - 107 (60° EAST)
Location	FORT MOUNTAIN
Field	COLDPAK
Province	ALBERTA
Permanent Datum	GROUND LEVEL
Log Measured From	KB STACK
Drilling Measured From	KB
Elevation	3,535'
Other Services	CBL

Date	6 DEC 1976
Run No.	ONE
First Reading	780
Last Reading	250
Footage Logged	530
Footage Drilled	796
Depth Driller	796
Casing Size	247
Casing Wgt.	24
Fluid Type	WATER
Fluid Level	FULL
Mt. Diam.	
Operating Time	2 HOURS
Truck No.	33
Recorded By	JOHNSON
Witnessed By	BEAUCHOT

450

GENERAL				GAMMA RAY				SIDEWALL DENSILOG			
RUN NO.	DEPTHS FROM	DEPTHS TO	SPEED FT/MIN	T.C. SEC.	SENS SETTINGS	ZERO DIV.L OR R	API G.R. UNITS PER LOG DIV.	T.C. SEC.	SENS SETTINGS	ZERO DIV.L OR R	CPS/DIV
1	250	780	10					3	500	2.53 R	27.26

REMARKS LOGGED THROUGH NO DRILL ROD.
WHEN LOGGING THROUGH DRILL ROD, CONSIDERATION MUST BE GIVEN TO THE POSITION OF THE DRILL RODS WHEN USING BULK DENSITY SCALE

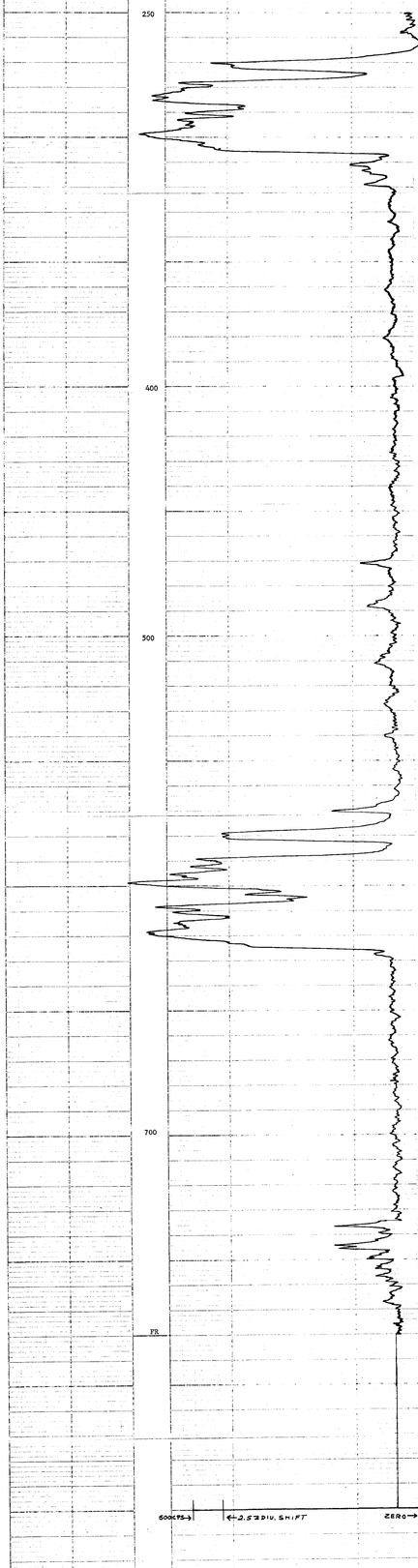
W001 & 249

CALIPER
(DIAMETER – INCHES)

DEPTHS

GAMMA RAY
API

BULK DENSITY
(GRAMS/CC)



STRATIGRAPHIC LOG

DRILL HOLE TD - 76 - 107 AREA Tent Mountain

COMPANY Coleman Collieries Ltd.

COORDINATES 3586.39 N, 1701.55 E
8739.7 N, 88297.9 E

GROUND ELEVATION 5504 TOTAL DEPTH 796

MECHANICAL LOGS RUN Gamma Ray Neutron - Sidewall Density

DRILLING METHOD Diamond drill - wire line

HOLE SIZE HQ - NQ DATE OF COMPLETION December 6th, 1976

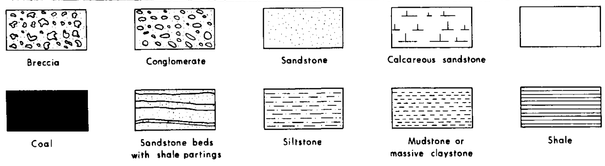
LOGGED BY Eric Beresford - Colin Brazzoni

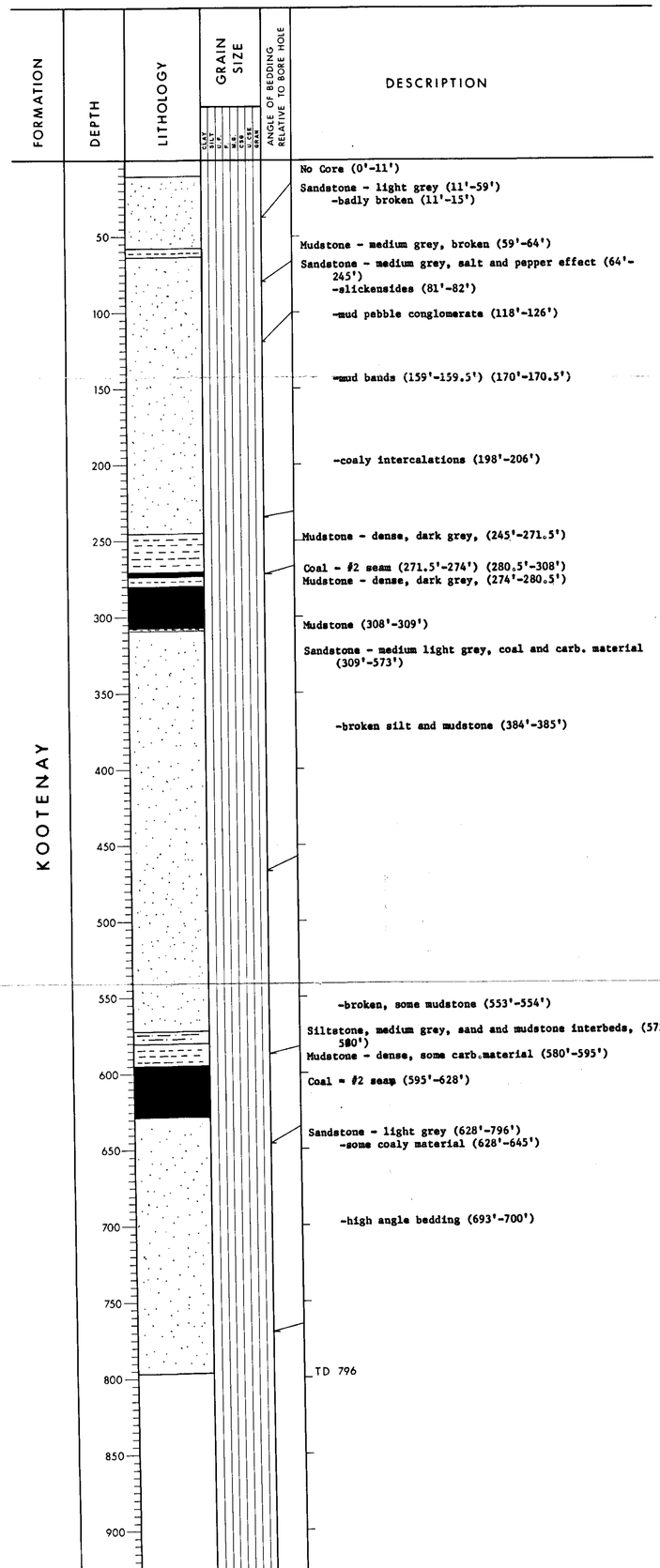
REMARKS Hole Angle (60°E)

450 6/7

L11

LITHOLOGIC SYMBOLS





STRATIGRAPHIC LOG

DRILL HOLE TD - 76 - 107 A AREA Tent Mountain

COMPANY Coleman Collieries Ltd.

COORDINATES 3586.39 N , 1701.55 E
8739.7 N , 88297.9 E

GROUND ELEVATION 5504.3 TOTAL DEPTH 61

MECHANICAL LOGS RUN Gamma Ray Neutron - Sidewall Density

DRILLING METHOD Diamond drill - wire line

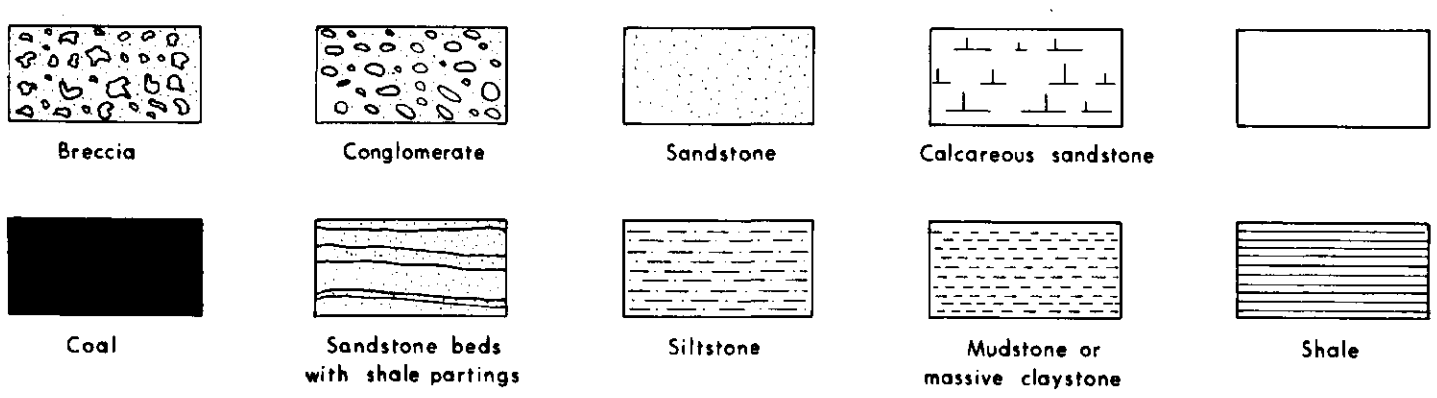
HOLE SIZE HQ - NQ DATE OF COMPLETION December 9, 1971

LOGGED BY Eric Beresford - Colin Brazzoni

REMARKS Abandoned at 61 ft. - difficult drilling conditions in shattered rock.

L12 450 6/7

LITHOLOGIC SYMBOLS



FORMATION	DEPTH	LITHOLOGY	GRAIN SIZE (CLAY, SILT, U.F., F., M.G., CSG, U.CSE, GRAN)	ANGLE OF BEDDING RELATIVE TO BORE HOLE	DESCRIPTION
KOOTENAY	50				No Core (0'-36') Sandstone - shattered (36'-48') Fault Mudstone - badly broken, some coal pieces (48'-52') TD 61 Sandstone - weathered, broken (52'-61')
	100				
	150				
	200				
	250				
	300				
	350				

ROKE

OIL ENTERPRISES LTD. CALGARY, ALBERTA

GAMMA RAY NEUTRON LOG

LOG FILE NO.
SEC
TWP
RGE
W.....M

COMPANY COLUMBIA COLLIERIES LIMITED

WELL TD - 77 - 117 - (66° EAST)

LOCATION TIMS MOUNTAIN

FIELD COLUMBIA

PROVINCE BRITISH COLUMBIA

Permanent Datum: GROUND LEVEL
Log Measured From: KB 1.4 ft. Above Perm. Datum
Drill Pipe Measured From: KB
Elev.: K.B. 3577
G.L. 3575

Other Services: SONIC

Run. No.	ONE		
Date	3-8-77		
Total Depth	638		
Last Reading	638		
Log Interval	638		
Casing Driller	10		
Depth Reached	639		
Casing Logger	10		
Liquid Level	FULL		
Max. Temp.	80		
Rm. @ °F			
Operating Time	2 HOURS		
Truck No.	33		
Recorded By	Wrennall Ep.		

450 ft

EQUIPMENT DATA

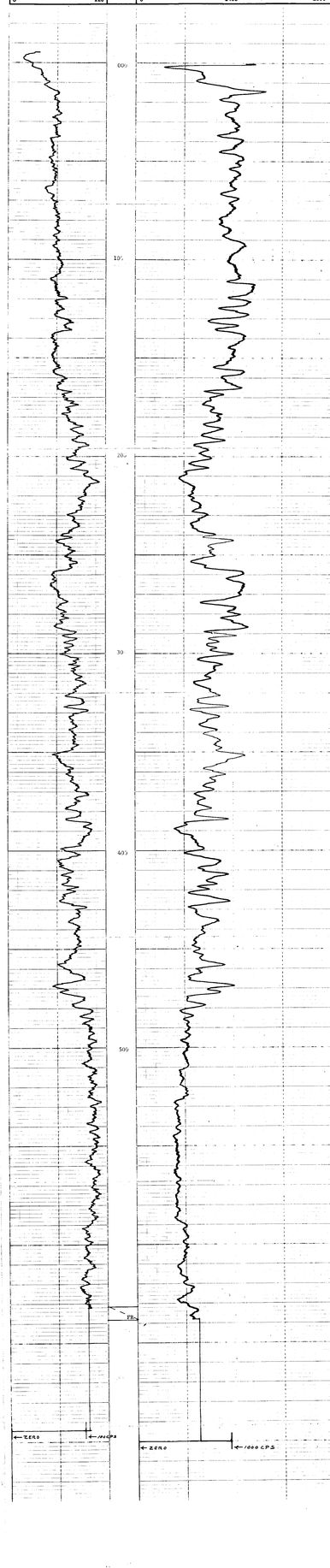
GAMMA RAY		NEUTRON	
RUN NO.	ONE	RUN NO.	ONE
TOOL MODEL NO.		LOG TYPE	NEUTRON/NEUTRON
DIAMETER	1 11/16	TOOL MODEL NO.	
DETECTOR MODEL NO.		DIAMETER	1 11/16
TYPE	SCINTILLATION	DETECTOR MODEL NO.	
LENGTH	4 INCH	TYPE	PROPORTIONAL
DISTANCE TO N. SOURCE	6.7 FT.	LENGTH	6 INCH
		SOURCE MODEL NO.	MRC-N-SS-W
GENERAL		SERIAL NO.	187
HOIST TRUCK NO.	33	SPACING	17 INCH
INSTRUMENT TRUCK NO.		TYPE	AmBe
TOOL SERIAL NO.	R GRN 169 - 002	STRENGTH	1 CURIES

LOGGING DATA

GENERAL						GAMMA RAY				NEUTRON			
RUN NO.	DEPTH FROM	DEPTH TO	SPEED FT/MIN	T.C. SEC	SENS SETTINGS	ZERO DIV. L OR R	API G. R. UNITS PER LOG DIV.	T. C. SEC.	SENS SETTINGS	ZERO DIV. L OR R	API N. UNITS PER LOG DIV.
1	0	638	12	5	100	OL	12	3	500	OL	140

REMARKS LOGGED THROUGH NO DRILL ROD

GAMMA RAY	DEPTHS	NEUTRON
GAMMA RAY INCREASES →		NEUTRON INCREASES →
API 12		API 1400
0 — 120		0 — 2800



STRATIGRAPHIC LOG

DRILL HOLE TD - 77 - 117 AREA Tent Mountain

COMPANY Coleman Collieries Ltd.

COORDINATES

GROUND ELEVATION TOTAL DEPTH 655

MECHANICAL LOGS RUN Gamma Ray Neutron - Sidewall Density

DRILLING METHOD Diamond drill - wire line

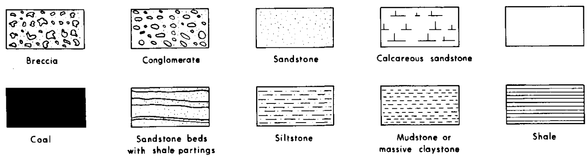
HOLE SIZE HQ - NQ DATE OF COMPLETION January 19, 1977

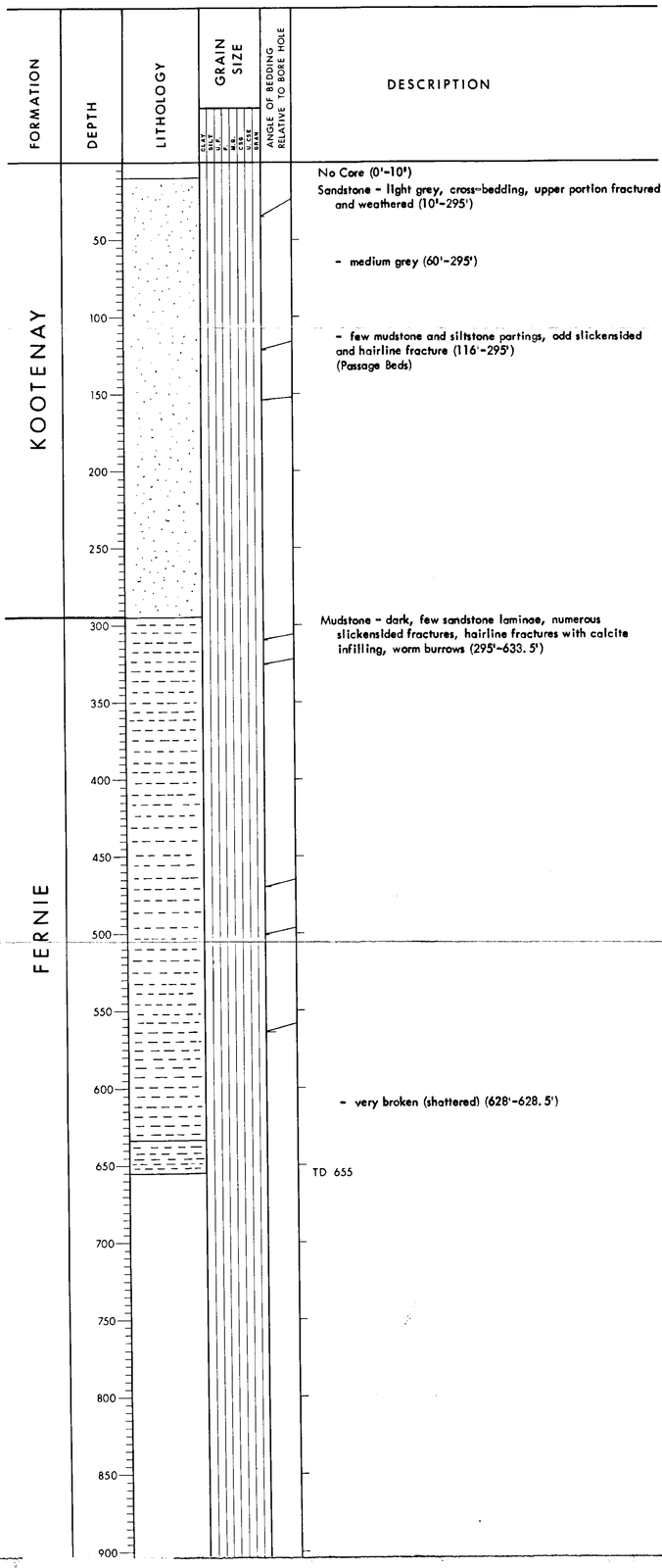
LOGGED BY Eric Beresford - Colin Brazzoni

REMARKS Hole Angle (60.5° E.)

(L14) 450 6/7

LITHOLOGIC SYMBOLS





ROKE

SIDEWALL DENSILOG

OIL SYNTHANE LTD. CALGARY, ALBERTA

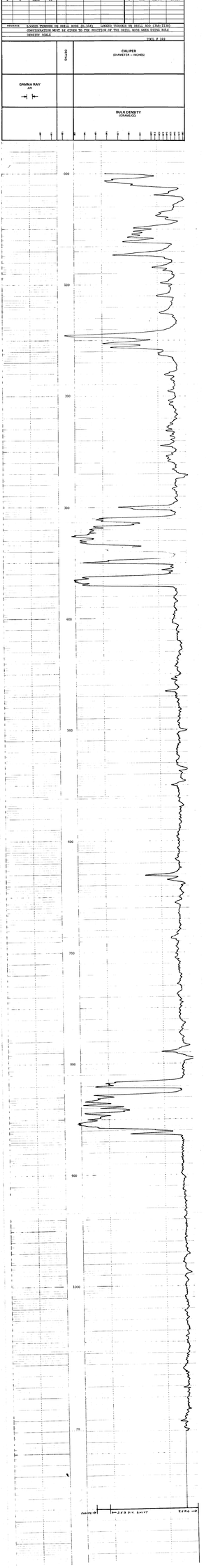
WELL	11-2 NO.
COMPANY	OIL SYNTHANE LTD.
FIELD	1-11-17-28 (AP SACT)
COUNTY	STEP MERIDIAN
PROV.	COLORADO

Date	1-2-75
Run No.	1
Depth Driller	1134
Depth Logger	1134
Bottom Log Interval	1130
Top Log Interval	0
Casing Driller	13 3/8 @ 30
Casing Logger	30
Bit Size	12 1/4
Type Fluid in Hole	WATER GEL
Dens.	9.0
Visc.	40
Ph	9.5
Fluid Loss	10
Source of Sample	PUMP
Rm @ Meas. Temp.	.7 @ 75
Rmf @ Meas. Temp.	.6 @ 75
Rmc @ Meas. Temp.	.9 @ 75
Source: Rmf / Rmc	MEASURED / CALCULATED
Rm @ BHT	.4 @ 104
Time Since Circ.	6 HRS
Max. Rec. Temp.	104
Equipment Number	3-1
Location	30 MILES
Recorded By	HOLT
Witnessed By	MR. BOYD

GENERAL				GAMMA RAY			SIDEWALL DENSILOG			
RUN NO.	DEPTH FROM	DEPTH TO	SPEED FT/MIN.	T.C. SECS	GAIN SETTINGS	API SLR UNITS PER LOG DIV.	T.C. SECS	GAIN SETTINGS	API/G DIV. LOG DIV.	CPM/DIV
1	0	1134	30				1	500	2.5/G	27.28

REMARKS: LOGGED THROUGH NO DRILL HOSE (D-PAK). LOGGED THROUGH NO DRILL HOS (7MS-13/NO
OBSTLIMATION MOVE DL ACTUS TO THE POSITION OF THE DRILL HOSE WHEN TESTING HOLE.

TOOL # 263



ROKE

GAMMA RAY NEUTRON LOG

ROKE OIL ENTERPRISES LTD. CALGARY, ALBERTA

COMPANY: ROKEMA CREATIVE LIMITED

WELL: 15-31-31-19 W4M (AOS)

LOCATION: SOUTH WEST QUARTER

FIELD: GRIFFIN

COUNTY: BITTER SASKATCHEWAN

Elev. Datum: Kelly Bushing

Elevation: 1600 ft

Log Measured From: Kelly Bushing

Drilling Measured From: Kelly Bushing

Permanent Datum: Ground Level

Date: 1-Jan-1900

Run No. 1

Depth Driller: 2500

Depth Logger: 2500

Bottom Log Interval: 2500

Top Log Interval: 100

Casing Driller: 9 5/8 @ 1911

Casing Logger: 1911

Bit Size: 8 3/4

Type Fluid in Hole: Water

Density: 1.0

Viscosity: 35

Ph: 7.5

Fluid Loss: 10

Source of Sample: Flowline

Rm @ Meas. Temp.: 0.5 @ 70

Rmf @ Meas. Temp.: 0.5 @ 70

Rmc @ Meas. Temp.: 0.5 @ 70

Rm @ Bht: 0.5 @ 70

Time Since Circulation: 12

Time Since Stop: 12

Max. Rec. Temp.: 70

Equipment No.: 2

Recorded By: BOBBY

Witnessed By: BOBBY

450 ft

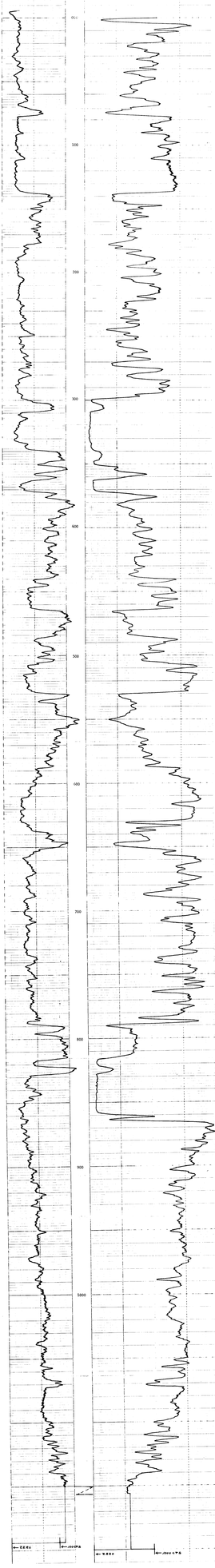
EQUIPMENT DATA

GAMMA RAY		NEUTRON	
RUN NO.	ONE	RUN NO.	ONE
TOOL MODEL NO.		TOOL TYPE	NEUTRON/NEUTRON
DIAMETER	1 11/16	TOOL MODEL NO.	
DETECTOR MODEL NO.		SHAPE SIZE	1 11/16
TYPE	SCINTILLATION	DETECTOR MODEL NO.	
LENGTH	4 INCH	TYPE	PROPORTIONAL
DISTANCE TO SOURCE	6.7 FT	LENGTH	8 INCH
GENERAL		SOURCE MODEL NO.	MSCA-5G-W
		SERIAL NO.	121
JOINT TRUCK NO.	33	SPACING	1 EXCL
INSTRUMENT TRUCK NO.		TYPE	Am-Be
TOOL SERIAL NO.	R CSG 169-002	STRENGTH	3 CURIES

LOGGING DATA

RUN	GENERAL PLOT					GAMMA RAY					NEUTRON				
	DEPTH		SPEED	T.C.	SENS	ZERO	API G. R. UNITS		T.C.	SENS	ZERO	API N. UNITS	
NO.	FROM	TO	FT/MIN	SEC.	SETTING	DIV. L OR R	PER LOG DIV.		SEC.	SETTING	DIV. L OR R	PER LOG DIV.	
1	0	1116	12	5	100	OL	12		3	500	OL	140	

REMARKS: LOGGED THROUGH 9 5/8 DRILL BOD
IN CASING (0 - 362)



STRATIGRAPHIC LOG

DRILL HOLE TD - 77 - 119 AREA Tent Mountain

COMPANY Coleman Collieries Ltd.

COORDINATES

GROUND ELEVATION TOTAL DEPTH 1155

MECHANICAL LOGS RUN Gamma Ray Neutron - Sidewall Density

DRILLING METHOD Diamond drill - wire line

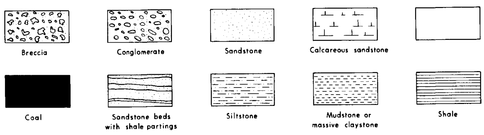
HOLE SIZE HQ - NQ DATE OF COMPLETION February 9, 1977

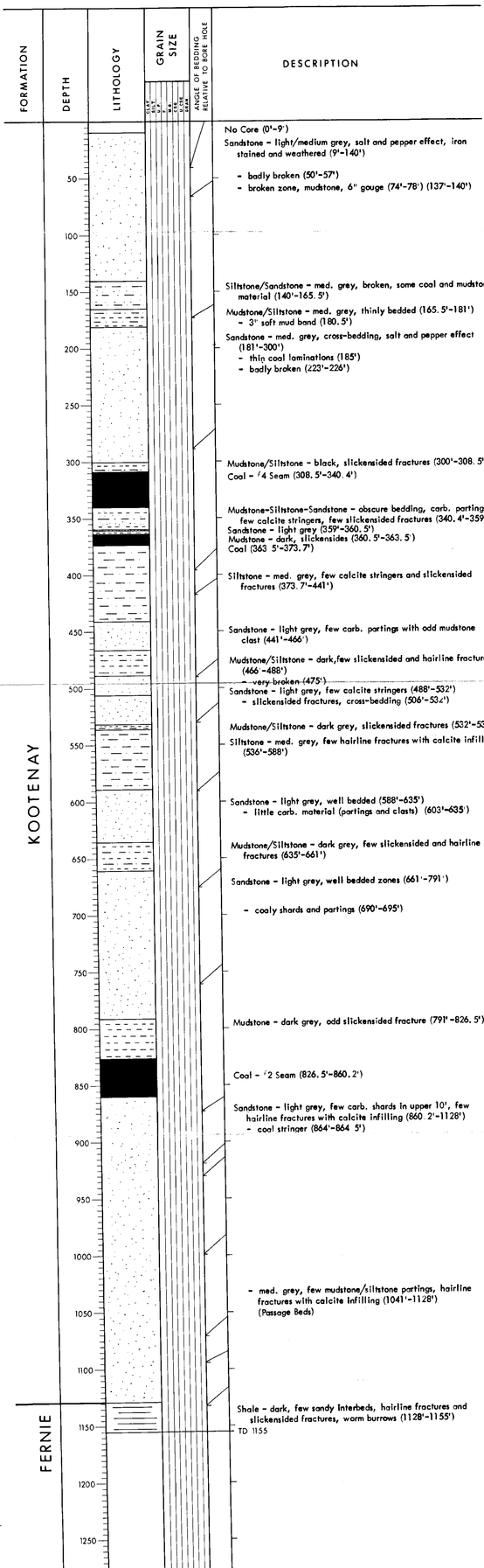
LOGGED BY Eric Beresford - Colin Brazzoni

REMARKS Hole Angle (69° E.)

L17 450 6/7

LITHOLOGIC SYMBOLS





K-TRAFT MOUNTAIN 16(E)A

1976 EXPLORATION ON B.C. COAL LIC.
21 + 22

(copy 2)

E.W. BEARESFORD

APRIL 1977

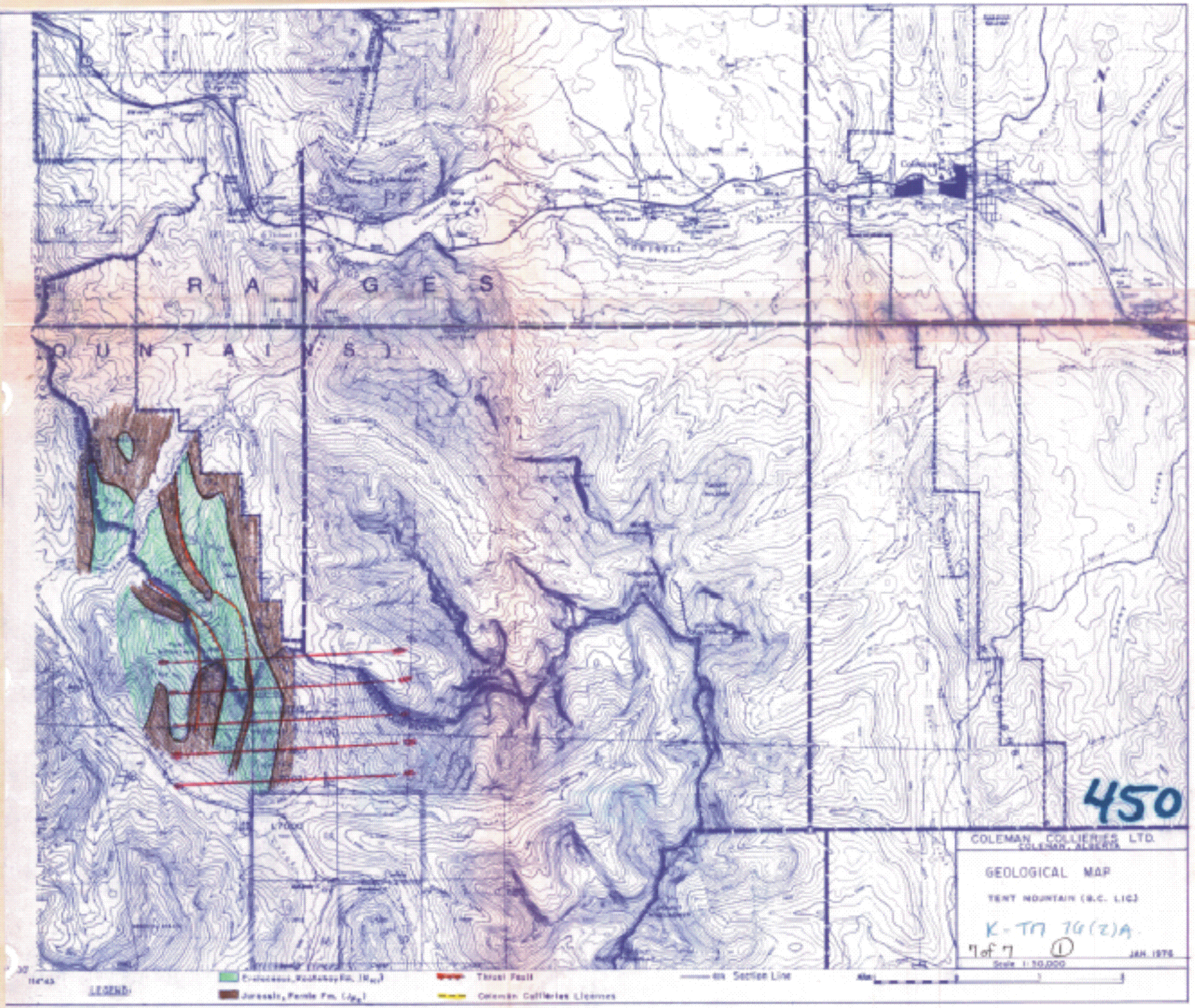
OPEN FILE

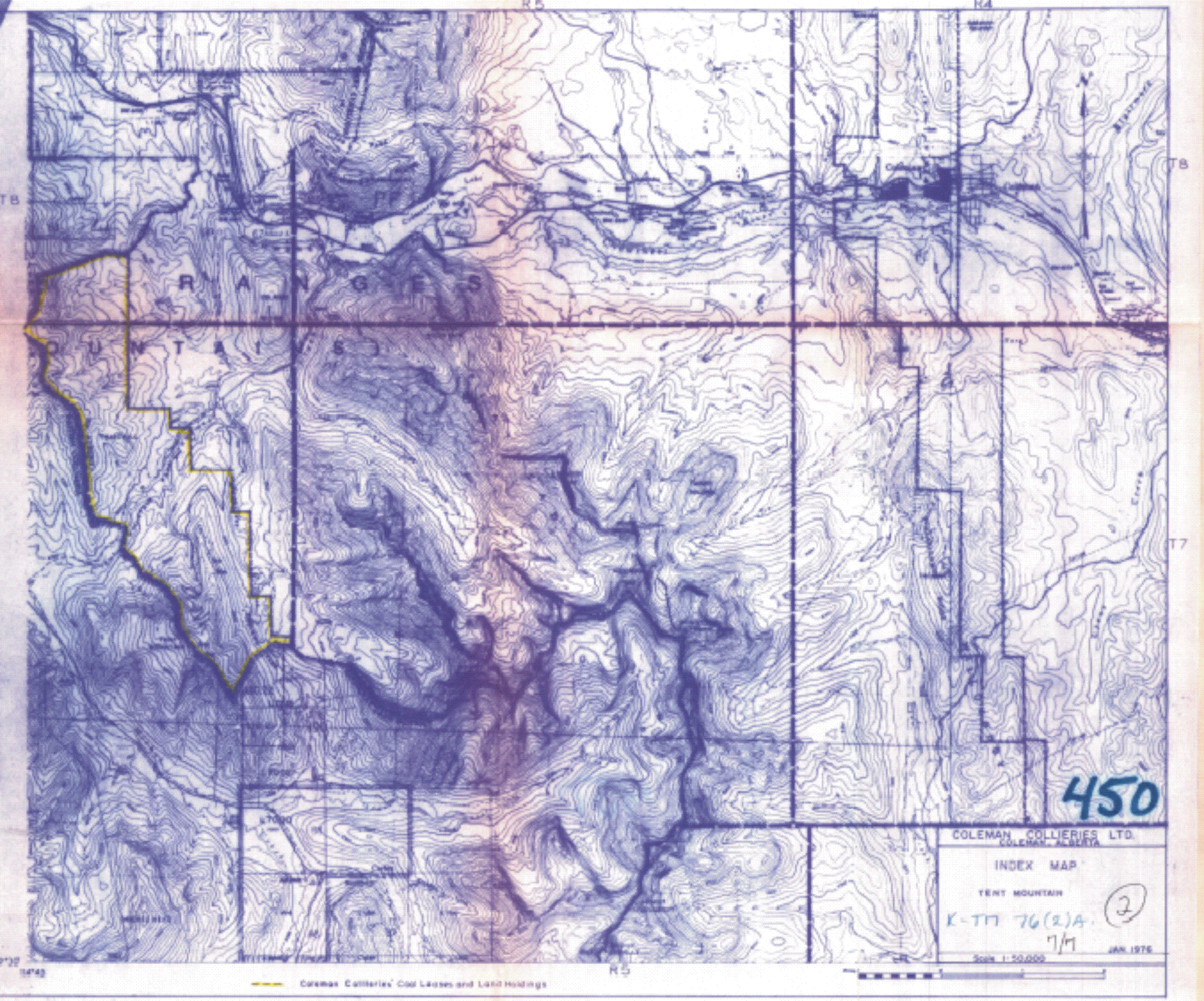
Appendix
1, 2, 3, 4.

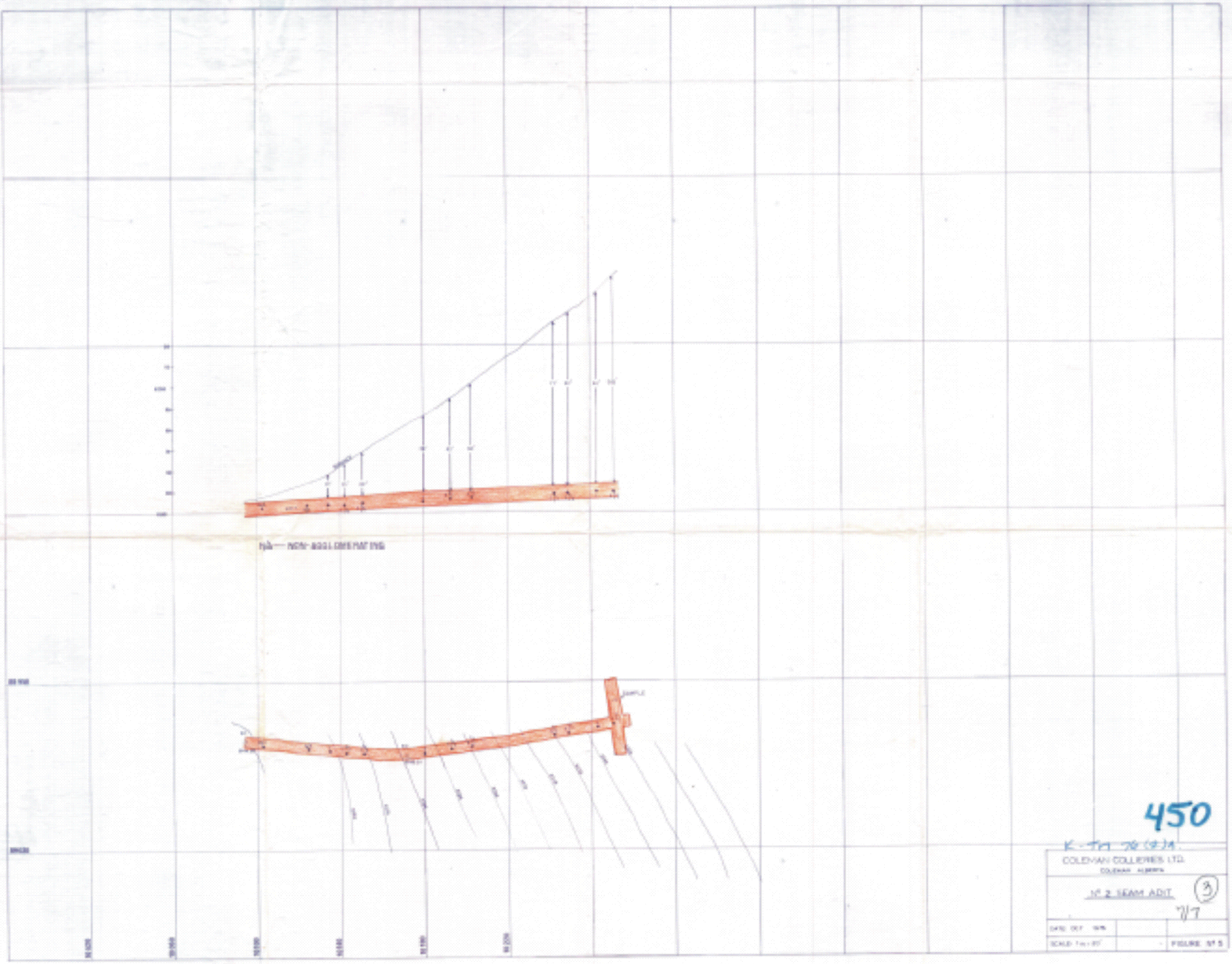
GEOLOGICAL BRANCH
ASSESSMENT REPORT

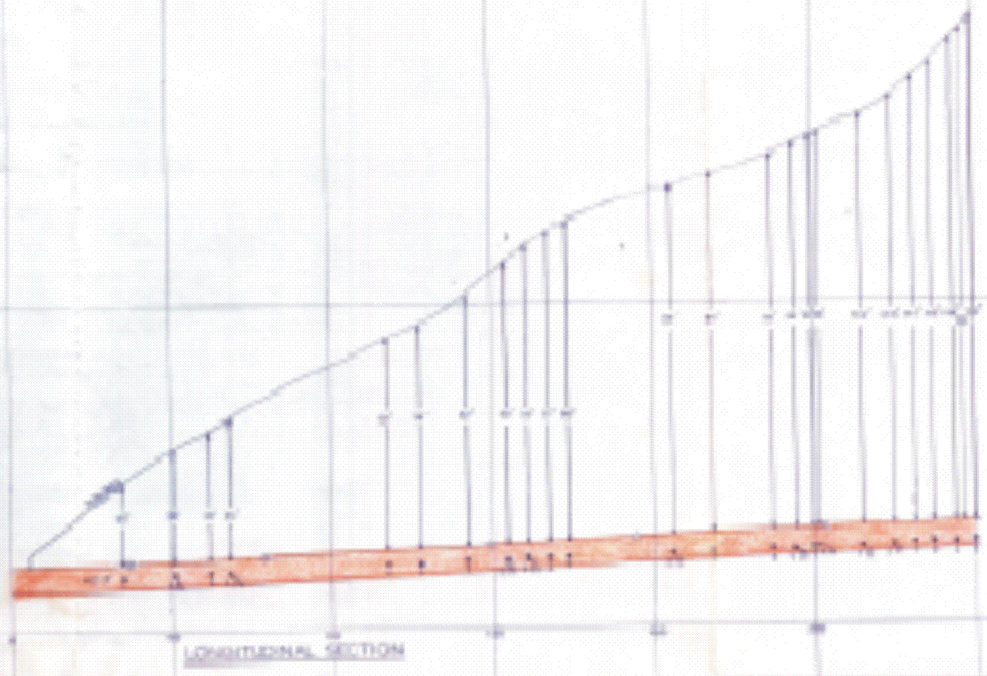
00450

7 of 7


R A N G E S
O U N T A I N S
450
COLEMAN COLLIERIES LTD.
COLEMAN, ALBERTA
GEOLOGICAL MAP
TENT MOUNTAIN (B.C. LIC)
K-TM 76(2)A
7 of 7
1
JAN 1976
Scale 1:10,000
LEGEND:
Thrust Fault
Section Line
Coleman Collieries Licences


R5
R4
T8
T7
R A N G E S
D U N T A I N S
450
COLEMAN COLLIERIES LTD.
COLEMAN, ALBERTA
INDEX MAP
TENT MOUNTAIN
K-TM 76(2)A
7/7
JAN. 1976
Scale 1:50,000
Coleman Collieries' Coal Leases and Land Holdings


450
COLEMAN COLLIERIES LTD.
COLEMAN HUMBER
NO 2 SEAM ADIT
3
FIGURE No 5



450

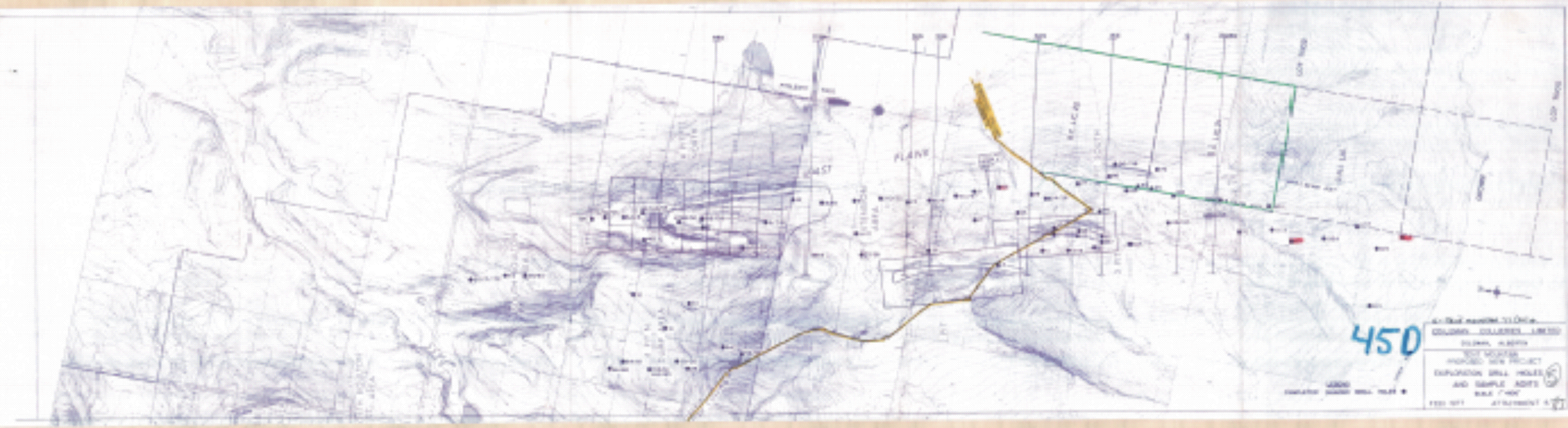
COLEMAN COLLIERIES LTD.
COLEMAN, ALBERTA

NO 4 BEAM ADIT (4)

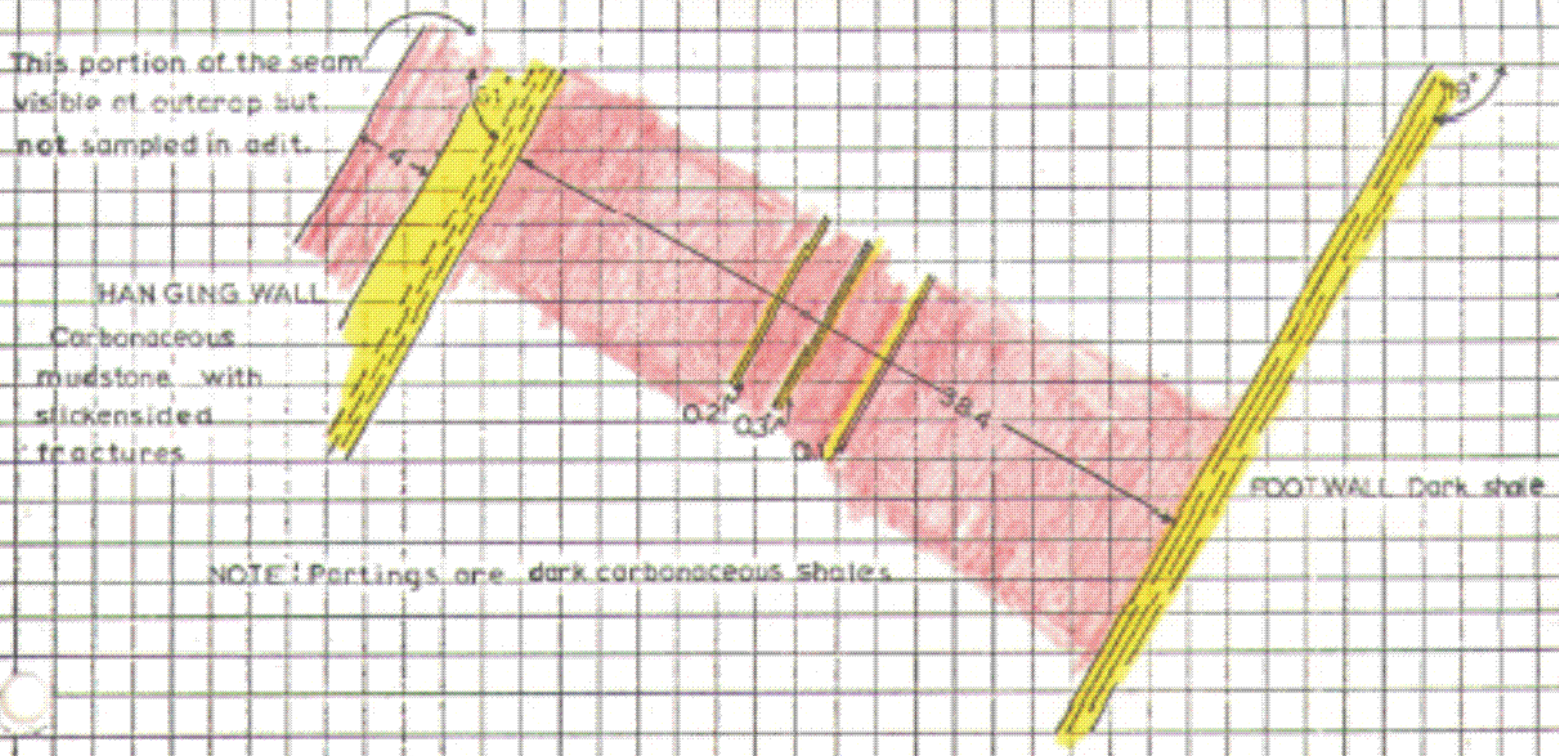
DATE OCT. 1974

SCALE 1" = 20'

FIGURE NO 6


450
COLUMBIA COLLIERIES LIMITED
COLEMAN, ALBERTA
EXPLORATION DRILL HOLES
AND SAMPLE ADITS
LEGEND

№ 2 SEAM ADIT
DETAIL SEAM MEASUREMENT (as sampled)

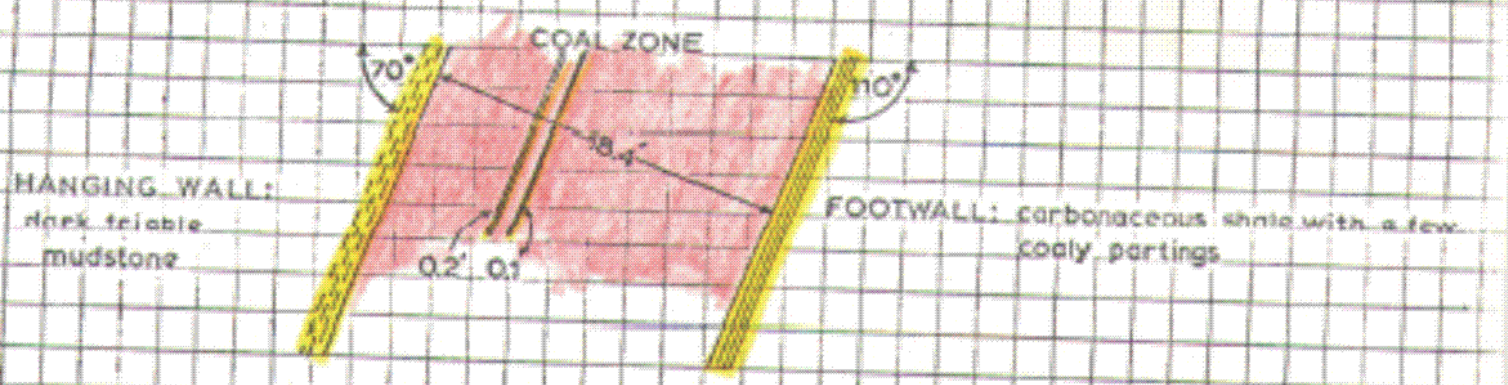


Date sampled: December 1st 1976
Quantity: 12.8 Raw Short Tons

Analysis:

	Yield	Ash	FSI	Sulph.	VM	BTU/lb.
Raw	-	29.8	3	-	-	-
Clean	61.4%	15.1	4	0.66	26.1	13,500
Birtley Assess. (new plant)	-	10.4	5 1/2			

№ 4 SEAM ADIT
DETAIL SEAM MEASUREMENT (as sampled)



NOTE: Partings are dark mudstone

SCALE: 1" = 10'

Date sampled: November 21st 1976

Quantity: 12.6 Raw Short Tons.

Analysis:

	Yield	Ash	F.S.I.	Sulph.	V.M.	BTU/lb.
Raw	-	29.6	3 1/2	-	-	-
Clean	69.8%	11.3	5 1/2	0.56	24.8	13,400