

APPENDIX 1  
CORE DESCRIPTIONS  
AND  
DATA SOURCE RECORDS

GULF CANADA RESOURCES INC. - COAL DIVISION  
 20/JAN/83 PROJECT DATA SOURCE SUMMARY , PAGE 1

DATA SOURCE	LOCATION		ELEVATION	LENGTH	ANGLE	AZIMUTH	LOG TYPE
	NORTHING	EASTING					
TRFXXRDHB2100	6146765.0	572645.0	1274.0	121.0	90.0	0.0	GAMMA1 ✓ NEUTRON ✓ DENSITY ✓ CALIPER ✓ FE SHORT ✓ FE LONG ✓ DIRCTNAL

GULF CANADA RESOURCES INC. - COAL DIVISION  
20/JAN/83 PROJECT DATA SOURCE SUMMARY PAGE 1

DATA SOURCE	LOCATION		ELEVATION	LENGTH	ANGLE	AZIMUTH	LOG TYPE
	NORTHING	EASTING					
TRFXRDH82101	6145485.0	574280.0	1192.0	228.0	90.0	0.0	GAMMA1 NEUTRON DENSITY CALIPER FE SHORT FE LONG DIRCTNAL

XXXXXX

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GULF CANADA RESOURCES INC. - COAL DIVISION - DESCRIPTIVE LOG

PAGE 1

PROJECT: TRF BLOCK: XX DATA SOURCE: RDH82101

BCA	DEPTH FROM	DEPTH TO	INTRVAL THICK.	SAMP. ID	SEAM ID	LITHOLOGY	DESCRIPTION
11	187.63	187.92	0.29			SILTSTONE	MG. WEL. M. GY. THNB. SLD HARD
11	187.92	189.41	1.49			SANDSTONE	MG. MOD. M. GY. THNB. XBDG. BRKN MINOR CALCITE ON FRACTURES
11	189.41	189.60	0.19			SILTSTONE	VFG. WEL. DK. GY. MAS. SLD ABUNDANT MUDCLASTS
11	189.60	189.90	0.30			MUDSTONE	CARB. DK. BLK. MAS. SLD HARD; CONCHOIDAL FRACTURE
11	189.90	190.41	0.51			SILTSTONE	DK. GY. MAS OCCASIONAL MUDCLASTS
11	190.41	191.41	1.00			SILTSTONE	WEL. M. GY. MAS. SLD
11	191.41	191.95	0.54			MUDSTONE	M. GY. MAS. SLD SLICKENSIDES ON FRACTURE PLANES AT 50 D EGREES
11	191.95	192.41	0.46			SILTSTONE	WEL. M. GY. MAS. SLD MINOR COALY INTRUSIONS; VERY HARD; CALC ITE ON FRACTURE PLANE

\* DENOTES MEASURED BCA

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## GULF CANADA RESOURCES INC. - COAL DIVISION - DESCRIPTIVE LOG

PAGE 2

PROJECT: TRF BLOCK: XX DATA SOURCE: RDH82101

<u>BCA</u>	<u>DEPTH FROM</u>	<u>DEPTH TO</u>	<u>INTRVAL THICK.</u>	<u>SAMP. ID</u>	<u>SEAM ID</u>	<u>LITHOLOGY</u>	<u>DESCRIPTION</u>
11	192.41	192.49	0.08			SANDSTONE	FG.WEL.M.GY.THNB.XBDG.SLD
11	192.49	192.63	0.14			SILTSTONE	DK.GY.MAS.BRKN 0.005 CM BRIGHT COAL STRINGER AT BASE
11	192.63	192.91	0.28			SILTSTONE	DK.GY.MAS.SLD MINOR CUALY INTRUSIONS THROUGHOUT INCREASING TO BASE; 0.005 CM C-4 COAL STRINGER AT BASE
11	192.91	193.22	0.31			SILTSTONE	M.GY.MAS.SLD END OF FIRST STAGE CURING; DRILL TO 203.71M
11	193.22	203.71	10.49			UNCURED	END OF FIRST CURED INTERVAL AT 192.91M; START OF SECOND CURED INTERVAL AT 203.71M
11	203.71	203.93	0.22		CARON RIDER	COAL	C-4.SLD
11	203.93	203.95	0.02		CARON RIDER	MUDSTONE	DK.BN SLIGHTLY CARBUNACEOUS

\* DENOTES MEASURED BCA

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## GULF CANADA RESOURCES INC. - COAL DIVISION - DESCRIPTIVE LOG

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PROJECT: TRF BLOCK: XX DATA SOURCE: RDHB2101

<u>HCA</u>	<u>DEPTH FROM</u>	<u>DEPTH TO</u>	<u>INTRVAL THICK.</u>	<u>SAMP. ID</u>	<u>SEAM ID</u>	<u>LITHOLOGY</u>	<u>DESCRIPTION</u>
11	203.95	204.00	0.05		CARON RIDER	COAL	C-4
11	204.00	204.83	0.83			MUDSTONE	DK.GY GRADING INTO MEDIUM GREY SILTSTONE; MIN OR COALY INTRUSIONS; SOFT; EASILY BROKE N
11	204.83	204.98	0.15			SANDSTONE	FG.WEL.DK.GY.THNB.XBDG.SLD
11	204.98	205.16	0.18			SANDSTONE	MG.MOD.M.GY.THNB.SLD MINOR CALCITE UN FRACTURE PLANE; CONTACT T AT BASE APPROXIMATELY 45 DEGREES; LIT HIC
* 11	205.16	205.19	0.03			MUDSTONE	DK.GY.THNB CONVOLUTE BEDDING;
11	205.19	205.64	0.45			SILTSTONE	MOD.DK.GY.THNB CONVOLUTE BEDDING
11	205.64	205.72	0.08			SANDSTONE	FG.PR.M.GY.THNB CONVOLUTE BEDDING
* 11	205.72	206.83	1.11			SILTSTONE	DK.GY.MB BANDED; ABUNDANT MUDCLASTS

\* DENOTES MEASURED HCA

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## GULF CANADA RESOURCES INC. - COAL DIVISION - DESCRIPTIVE LOG

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PROJECT: TRF BLOCK: XX DATA SOURCE: RDH82101

BCA	DEPTH FROM	DEPTH TO	INTRVAL THICK.	SAMP. ID	SEAM ID	LITHOLOGY	DESCRIPTION
11	206.83	207.20	0.37			SILTSTONE	DK.GY.MB.SLD MINOR COALY INTRUSIONS
11	207.20	207.43	0.23	04405	CARON	COAL	C-5 BROKEN; SLICKENSIDES THROUGHOUT
11	207.43	207.62	0.19	04405	CARON	COAL LUSS	
11	207.62	207.98	0.36	04405	CARON	COAL	C-4 BROKEN; SLICKENSIDES THROUGHOUT
11	207.98	209.05	1.07	04405	CARON	COAL	C-5 DULL; CONCHOIDAL FRACTURE; BADLY BROKEN
11	209.05	209.08	0.03	04405	CARON	COAL	C-5
11	209.08	209.17	0.09	04406	CARON	COAL LUSS	
10	209.17	209.50	0.33	04406	CARON	COAL	C-4
10	209.50	209.53	0.03	04406	CARON	COAL	C-6 SHALELY
10	209.53	209.69	0.16	04406	CARON	COAL	C-5
10	209.69	209.71	0.02	04406	CARON	SHALE	COALY

\* DENSITIES MEASURED BCA

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## GULF CANADA RESOURCES INC. - COAL DIVISION - DESCRIPTIVE LOG

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PROJECT: TRF BLOCK: XX DATA SOURCE: RDH82101

BCA	DEPTH FROM	DEPTH TO	INTRVAL THICK.	SAMP. ID	SEAM ID	LITHOLOGY	DESCRIPTION
10	209.71	210.26	0.55	04407	CARDN	COAL	C-5
10	210.26	210.31	0.05	04407	CARDN	COAL	C-6
10	210.31	210.40	0.09	04407	CARDN	COAL	C-3.BRKN
10	210.40	210.42	0.02	04407	CARDN	SHALE	DK.BN.BRKN
10	210.42	210.50	0.08	04407	CARDN	COAL LOSS	
10	210.50	210.53	0.03	04407	CARDN	COAL	C-2.BRKN
10	210.53	210.56	0.03	04408	CARDN	SHALE	CARB.DK.BLK.SLD
10	210.56	210.76	0.20	04408	CARDN	SHALE	CARB.DK.HLK.SLD MINOR COALY INTRUSIONS
10	210.76	211.04	0.28	04409	CARDN	COAL	C-4.BRKN
10	211.04	211.22	0.18	04409	CARDN	COAL	C-2.BRKN

\* DENOTES MEASURED BCA



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## GULF CANADA RESOURCES INC. - COAL DIVISION - DESCRIPTIVE LOG

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PROJECT: TRF BLOCK: XX DATA SOURCE: RDH82101

<u>BCA</u>	<u>DEPTH FROM</u>	<u>DEPTH TO</u>	<u>INTRVAL THICK.</u>	<u>SAMP. ID</u>	<u>SEAM ID</u>	<u>LITHOLOGY</u>	<u>DESCRIPTION</u>
10	211.22	211.28	0.06	04409	CARDN	COAL	C-5.BRKN
10	211.28	211.30	0.02	04410	CARDN	COAL	C-6.BRKN SHALEY
10	211.30	211.47	0.17	04410	CARDN	COAL	C-4.BRKN
10	211.47	211.60	0.13	04410	CARDN	COAL LOSS	
10	211.60	211.76	0.16	04411	CARDN	COAL	C-6.DK.BN ABUNDANT BRIGHT COAL STRINGERS THROUGHOUT
10	211.76	211.80	0.04	04411	CARDN	COAL	C-3
10	211.80	211.84	0.04	04411	CARDN	COAL LOSS	
10	211.84	212.12	0.28	04411	CARDN	COAL LOSS	
10	212.12	212.21	0.09			MUDSTONE	M.GY.SLD

\* DENOTES MEASURED BCA

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## GULF CANADA RESOURCES INC. - COAL DIVISION - DESCRIPTIVE LOG

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PROJECT: TRF BLOCK: XX DATA SOURCE: RDH82101

<u>BCA</u>	<u>DEPTH FROM</u>	<u>DEPTH TO</u>	<u>INTRVAL THICK.</u>	<u>SAMP. ID</u>	<u>SEAM ID</u>	<u>LITHOLOGY</u>	<u>DESCRIPTION</u>
10	212.21	212.22	0.01			COAL	C-2.SLD
10	212.22	212.24	0.02			SHALE	DK.GY.SLD
10	212.24	212.26	0.02			COAL	C-3.SLD
* 10	212.26	212.50	0.24			MUDSTONE	DK.GY.SLD MINOR COAL STRINGERS; BCA = 10.5
10	212.50	213.24	0.74			SANDSTONE	FG.WEL.M.GY.THNB.XBDG.SLD MINOR 0.1M CALCITE BAND AT 0.53 CM

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GULF CANADA RESOURCES INC. - COAL DIVISION - DESCRIPTIVE LOG

PAGE 1

PROJECT: TRF BLOCK: XX DATA SOURCE: RDHB2100

BCA	DEPTH FROM	DEPTH INTERVAL TO	INTRVAL THICK.	SAMP. ID	SEAM ID	LITHOLOGY	DESCRIPTION
	28 103.67	104.45	0.78			MUDSTONE	DK.GY.MAS BECOMING GRADUALLY SILTY AT BASE; MINOR CARBONACEOUS PLANT FRAGMENTS; VERY HARD
	28 104.45	105.02	0.57			SILTSTONE	SSY.VFG.M.GY CONVOLUTE BEDDING; GRAIN SIZE INCREASING DOWNWARD; (END OF CORE 1; BOX 1)
	28 105.02	106.32	1.30			SANDSTONE	SLTY.VFG.WEL.M-DK.GY CONVOLUTE BEDDING; MASSIVE; VERY HARD; MINOR CARBONACEOUS PLANT FRAGMENTS; MUD CLASTS; MINOR PYRITE FLECKS AT BASE ON FRACTURE; (END OF CORE 1; BOX 2)
*	28 106.32	106.68	0.36			SANDSTONE	SLTY.VFG.WEL.M.GY CONVOLUTE BEDDING; MASSIVE; VERY HARD; MINOR CARBONACEOUS PLANT FRAGMENTS; ABUNDANT PYRITE FLECKS ON FRACTURES; (END OF CORE 1; BOX 3)
	28 106.68	107.07	0.39			SANDSTONE	FG.MOD.M.GY CONVOLUTE BEDDING; MASSIVE; VERY HARD; LITHIC
	29 107.07	108.10	1.03			SILTSTONE	MUD.DK.GY CONVOLUTE BEDDING; MASSIVE; VERY HARD; MINOR CARBONACEOUS PLANT FRAGMENTS; (END OF CORE 2; BOX 1)

\* DENOTES MEASURED BCA

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## GULF CANADA RESOURCES INC. - COAL DIVISION - DESCRIPTIVE LOG

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PROJECT: TRF BLOCK: XX DATA SOURCE: RDH82100

BCA	DEPTH FROM	DEPTH TO	INTRVAL THICK.	SAMP. ID	SEAM ID	LITHOLOGY	DESCRIPTION
	30	108.10	108.35	0.25		SILTSTONE	MUD.DK.GY CONVOLUT BEDDING; VERY HARD; LITHIC
*	30	108.35	108.82	0.47		MUDSTONE	DK.GY.SLD CONVOLUTE BEDDING; VERY HARD; MINOR PLANT (CARBONACEOUS) FRAGMENTS; ABUNDANT PYRITE FLECKS ON FRACTURES; MINOR SLICKENSIDES AT BASE
	30	108.82	108.84	0.02		MUDSTONE	CARB.BLK.SLD SUFT; SLICKENSIDES ON CLEAVAGE PLANES
	30	108.84	108.88	0.04	04401	CARON RIDER COAL	C-5.SLD
	30	108.88	108.91	0.03	04401	CARON RIDER MUDSTONE	CARB.BLK.SLD QUALY
	30	108.91	108.94	0.03	04401	CARON RIDER COAL	C-2.SLD
	30	108.94	109.22	0.28	04401	CARON RIDER COAL	C-4.SLD VERY ABRUPT CONTACT AT BASE
	30	109.22	109.54	0.32		SILTSTONE	VFG.MOD.M.GY.SLD CONVOLUTE BEDDING; HARD; ABUNDANT PYRITE ON FRACTURE PLANES; (END OF CORE 2; BU X 2)

\* DLNOTES MEASURED BCA

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## GULF CANADA RESOURCES INC. - COAL DIVISION - DESCRIPTIVE LOG

PAGE 3

PROJECT: TRF BLOCK: XX DATA SOURCE: RDH82100

<u>BCA</u>	<u>DEPTH FROM</u>	<u>DEPTH TO</u>	<u>INTRVAL THICK.</u>	<u>SAMP. ID</u>	<u>SEAM ID</u>	<u>LITHOLOGY</u>	<u>DESCRIPTION</u>
30	109.54	109.65	0.11			SILTSTONE	FG.WEL.DK.GY.MAS.SLD VERY HARD
30	109.65	109.69	0.04			SANDSTONE	MG.WEL.M.GY.THNB.SLD VERY HARD
30	109.69	111.00	1.31			SILTSTONE	VFG.PR.DK.GY.SLD CONVOLUTE BEDDING; ABUNDANT PYRITE DN F RACTURES; (END OF CORE 3; BOX 1)
30	111.00	111.58	0.58			SILTSTONE	VFG.MOD.DK.GY.SLD CONVOLUTE BEDDING; VERY HARD; ABUNDANT CARBONACEOUS PLANT FRAGMENTS
30	111.58	111.71	0.13			MUDSTONE	CARB.LT.BLK.THNB.SLD VERY HARD; ABUNDANT CALCITE THINLY INTE RBEDDED; ABRUPT CONTACT
30	111.71	112.06	0.35		CARON	COAL	C-4.SLD CARON SEAM; SOFT; FRIABLE; MINOR SLICKE NSIDES AND POLISHED SURFACES THROUGHOUT
30	112.06	112.21	0.15	04402	CARON	COAL	C-5.SLD
30	112.21	112.31	0.10	04402	CARON	COAL	C-6.SLD SHALEY

\* DENOTES MEASURED BCA

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## GULF CANADA RESOURCES INC. - COAL DIVISION - DESCRIPTIVE LOG

PAGE 4

PROJECT: TRF BLOCK: XX DATA SOURCE: RDH82100

<u>HCA</u>	<u>DEPTH FROM</u>	<u>DEPTH TO</u>	<u>INTRVAL THICK.</u>	<u>SAMP. ID</u>	<u>SEAM ID</u>	<u>LITHOLOGY</u>	<u>DESCRIPTION</u>
30	112.31	112.48	0.17	04403	CARDN	COAL	C-3.SLD
30	112.48	112.75	0.27	04403	CARDN	COAL	C-3
30	112.75	112.80	0.05	04404	CARDN	COAL	C-6
30	112.80	112.92	0.12	04404	CARDN	COAL	C-2
30	112.92	113.30	0.38	04404	CARDN	COAL	C-4
30	113.30	113.36	0.06			MUDSTONE	CARB. THNB ABUNDANT COAL STRINGERS
30	113.36	113.52	0.16			SILTSTONE	FG.PR
30	113.52	113.56	0.04			SANDSTONE	MG.WEL LITHIC; HARD

\* DENOTES MEASURED HCA

APPENDIX 2

ANALYTICAL DATA

SAMPLE SUMMARY

Parts of Appendix 2 of this report contain coal quality data, and remain confidential under the terms of the *Coal Act Regulation*, Section 2(1). They have been removed from the public version.

[http://www.bclaws.ca/EPLibraries/bclaws\\_new/document/ID/freeside/10\\_251\\_2004](http://www.bclaws.ca/EPLibraries/bclaws_new/document/ID/freeside/10_251_2004)



## GULF CANADA RESOURCES INC. - COAL DIVISION

15/DEC/82

## SIMPLE SAMPLE SUMMARY

PAGE 1

DATA SOURCE	SEAM	SAMPLE ID	DEPTH FROM	DEPTH TO	REC CORE	PERCENT REC	RECOVERED COAL	RECOVERED ROCK	MISSING COAL	MISSING ROCK
RDH82100	CARUN RIDER	4401	108.84	109.22	0.38	100.00	0.35	0.03	0.00	0.00
	CARUN	4402	111.71	112.31	0.60	100.00	0.60	0.00	0.00	0.00
	CARON	4403	112.31	112.75	0.44	100.00	0.44	0.00	0.00	0.00
	CARUN	4404	112.75	113.22	0.47	100.00	0.47	0.00	0.00	0.00
RDH82101	CARON	4405	207.20	209.08	1.69	89.89	1.69	0.00	0.19	0.00
	CARON	4406	209.08	209.71	0.54	85.71	0.52	0.02	0.09	0.00
	CARON	4407	209.71	210.53	0.74	90.00	0.72	0.02	0.08	0.00
	CARON	4408	210.53	210.76	0.23	100.00	0.00	0.23	0.00	0.00
	CARON	4409	210.76	211.28	0.52	100.00	0.52	0.00	0.00	0.00
	CARON	4410	211.28	211.60	0.19	46.42	0.19	0.00	0.13	0.00
	CARON	4411	211.60	212.12	0.20	38.46	0.20	0.00	0.32	0.00

GULF CANADA RESOURCES INC. - COAL DIVISION  
 13/JAN/83 COMPOSITE SAMPLE SUMMARY PAGE 1

DATA SOURCE	SEAM	SAMPLE ID	SAMPLE FROM	SAMPLE TO	DEPTH FROM	DEPTH TO	REC CORE	PERCENT REC	RECOVERED COAL	RECOVERED ROCK	MISSING COAL	MISSING ROCK
RDH62100		4412	4402	4404	111.71	113.22	1.51	100.00	1.51	0.00	0.00	0.00

GULF CANADA RESOURCES INC. - COAL DIVISION  
 13/ JAN/83 COMPOSITE SAMPLE SUMMARY PAGE 1

DATA SOURCE	SEAM	SAMPLE ID	SAMPLE FROM	SAMPLE TO	DEPTH FROM	DEPTH TO	REC CORE	PERCENT REC	RECOVERED COAL	RECOVERED ROCK	MISSING COAL	MISSING ROCK
RDH82101												
	CARUN	4413	4405	4407	207.20	210.53	2.97	89.19	2.93	0.04	0.36	0.00
	CARON	4414	4408	4411	210.53	212.12	1.14	71.70	0.91	0.23	0.45	0.00
	CARUN	4415	4405	4411	207.20	212.12	4.11	83.54	3.84	0.27	0.81	0.00

## GULF CANADA RESOURCES INC. - COAL DIVISION

11/JAN/83

HEAD ANALYSIS SUMMARY

PAGE 2

PROJ - TRF		ANALYSIS BASIS TYPE - AD				NAME OF STANDARD - ASTM					
DATA SOURCE	SSID	SEAM	SAMPLE ID	RESIDUAL MOISTURE%	ASH%	FIXED CARBON%	VOLATILE MATTER%	TOTAL SULPHUR%	GROSS CALORIFIC VALUE (MJ-KG)	SPG	FSI
RDH82100											
	HD1	CARON RIDER	4401	0.31	18.33	59.12	22.24	0.48	28.96	1.41	4.50
	HD1	CARON	4402	0.51	6.24	72.84	20.41	0.28	33.06	1.36	1.50
	HD1	CARON	4403	0.49	3.84	72.36	23.31	0.29	33.87	1.32	1.50
	HD1	CARON	4404	0.45	6.37	65.29	27.89	0.39	33.04	1.32	5.50

GULF CANADA RESOURCES INC. - COAL DIVISION

14/JAN/83

HEAD ANALYSIS SUMMARY

PAGE 2

PROJ - TRF		ANALYSIS BASIS TYPE - AD					NAME OF STANDARD - ASTM				
DATA SOURCE	SSID	SEAM	SAMPLE 'ID	RESIDUAL MOISTURE%	ASH%	FIXED CARBON%	VOLATILE MATTER%	TOTAL SULPHUR%	GRUSS CALORIFIC VALUE (MJ-KG)	SP6	FS1
RDH82101											
	HD1	CARON	4405	0.61	2.52	76.79	20.08	0.21	33.96	1.33	1.50
	HD1	CARON	4406	0.58	4.39	73.29	21.74	0.20	33.34	1.34	1.50
	HD1	CARON	4407	0.54	4.89	73.87	20.70	0.23	33.51	1.33	1.50
	HD1	CARON	4408	0.56	39.39	40.40	19.65	0.26	19.98	1.67	1.00
	HD1	CARON	4409	0.43	10.94	63.31	25.32	0.37	31.19	1.38	4.50
	HD1	CARON	4410	0.42	8.63	61.97	28.78	0.57	31.96	1.34	8.00
	HD1	CARON	4411	0.37	10.44	66.06	23.13	0.50	31.90	1.36	2.00

Appendix 3 of this report contains coal quality data, and remains confidential under the terms of the *Coal Act Regulation*, Section 2(1). It has been removed from the public version.

[http://www.bclaws.ca/EPLibraries/bclaws\\_new/document/ID/freeside/10\\_251\\_2004](http://www.bclaws.ca/EPLibraries/bclaws_new/document/ID/freeside/10_251_2004)

APPENDIX 4

DETAILED RESOURCE CALCULATION TABLES

S.G. = 1.3/gm/cc.  
 1 hect = 10 000 sq m<sup>2</sup>

POTENTIALLY MINEABLE RESOURCES  
 CARON SEAM

<u>LICENCES</u>	<u>AREA (Hectares)</u>	<u>THICKNESS x (m)</u>	<u>TONNES x 10<sup>6</sup></u>
7217	277	1.0	3.601
7218	114	1.0	1.482
6054	232	1.25	3.770
6055	290	1.50	5.655
6056	148	2.0	3.848
6057	15	3.0	.585
6059	294	2.0	7.644
6060	294	2.0	7.644
6061	294	1.5	5.733
6062	172	0.75	1.677
7219	-	-	-
6064	294	1.0	3.822
6065	294	1.5	5.733
6066	185	1.5	3.608
6071	27	1.5	.527
6072	-	-	-
6068	294	1.5	5.733
6069	294	1.5	5.733
6070	294	1.25	4.778
6073	268	1.25	4.355
6074	137	1.50	2.671
7220	45	1.50	.878
5977	294	1.0	3.822
6075	294	1.25	4.778
6076	238	1.5	4.641
6077	12	1.5	.234
6154	145	1.5	2.828
5981	294	1.5	5.733
6078	160	1.5	3.120
6079	36	1.5	.702
6155	32	1.5	.624
6156	26	1.5	.507
5984	207	1.5	4.037
5990	108	1.5	2.106
		Total	112.609 x 10 <sup>6</sup> tonnes



CARON SEAM RESOURCES <1.5m

<u>LICENCES</u>	<u>AREA (Hectares)</u>	<u>THICKNESS x (m)</u>	<u>TONNES x 10<sup>6</sup></u>
5984	67	1.25	1.089
5990	189	1.00	2.457
5991	80	0.75	0.78
6155	34	1.25	0.55
6156	233	1.00	3.029
6157	123	1.00	1.600
5992	46	0.50	0.300
6159	42	0.50	0.275
5994	34	0.50	0.221
6079	26	1.50	0.507
6158	127	0.50	0.826
		Total	11.634 x 10 <sup>6</sup> tonnes

HIGHHAT SEAM RESOURCES <1.5m

<u>LICENCES</u>	<u>AREA (Hectares)</u>	<u>THICKNESS x (m)</u>	<u>TONNES x 10<sup>6</sup></u>
6154	142	1.0	1.846
5981	195	0.75	1.902
6078	152	0.75	1.482
6079	67	1.0	0.871
6155	60	1.5	1.17
6156	200	1.25	3.25
6157	51	1.25	0.829
5984	294	1.25	4.777
5990	294	1.50	5.733
5991	85	1.50	1.658
6158	-	-	-
5994	140	1.00	<u>0.182</u>
		Total	23.70 x 10 <sup>6</sup> tonnes

Appendices A and B of this report contain coal quality data, and remain confidential under the terms of the *Coal Act Regulation*, Section 2(1). They have been removed from the public version.

[http://www.bclaws.ca/EPLibraries/bclaws\\_new/document/ID/freeside/10\\_251\\_2004](http://www.bclaws.ca/EPLibraries/bclaws_new/document/ID/freeside/10_251_2004)

**APPENDIX A**

**APPENDIX B**

Pa. 11551. 82 (3) (2)

# ROKE

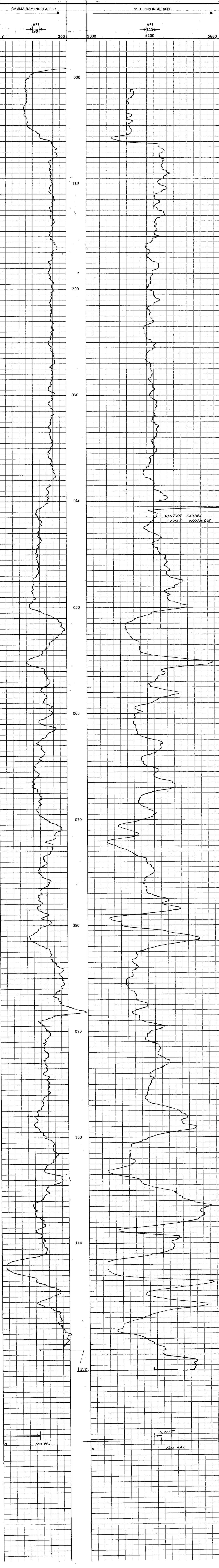
GAMMA RAY NEUTRON LOG  
OIL ENTERPRISES LTD. CALGARY ALBERTA

FILE NO.	COMPANY	GATE GAMMA RESOURCES INC.
WELL	NO. - RHM - 82 - 100	
LOCATION		
FIELD	TRERT	
PROVINCE	BRITISH COLUMBIA	
PERMITS	REGULATORY	OTHER SERVICES:
LOG MEASURED FROM	GROUND LEVEL	DATE, DEN, FBI
WELL DEPTH MEASURED FROM	ELV. FROM DATUM	K.B.,
		CSG
		GL
Run. No.	ONE	
Date	OCTOBER 28, 1982	
First Reading	122	
Last Reading	000	
Footage Logged	122	
Depth Reached	122.3	
Depth Drift	122.4	
Casing Rate	6.0	
Casing Drift	6.0	
Fluid Type	WATER	
Liquid Level	40.6	
Mn. Dnm.	12.3 CM	
Rm @	17.2 @ 25	
Operating Time	1 HR	
Truck No.	50	

GAMMA RAY		NEUTRON	
RUN NO.	ONE	RUN NO.	ONE
TOOL MODEL NO.		LOG TYPE	NEUTRON/NEUTRON
DIAMETER	32 MM	TOOL MODEL NO.	
DETECTOR MODEL NO.		DIAMETER	32 MM
TYPE	SCINTILLATION	DETECTOR MODEL NO.	
LENGTH	10 CM	TYPE	PROPORTIONAL
DISTANCE TO N. SOURCE	2.1 M	LENGTH	15 CM
		SOURCE MODEL NO.	MRC-N-SS-W
GENERAL		SERIAL NO.	347
HOIST TRUCK NO.	50	SPACING	43 CM
INSTRUMENT TRUCK NO.		TYPE	AmBe
TOOL SERIAL NO.	125A010	STRENGTH	111 GBQ

GENERAL		GAMMA RAY		NEUTRON	
RUN NO.	1	T.C.	SENS	T.C.	SENS
FROM	000	SECS	SETTINGS	SECS	SETTINGS
TO	40.6	MIN	DIV. L OR R	DIV. L OR R	DIV. L OR R
SPEED	122	SEC.	API G. R. UNITS	API G. R. UNITS	API G. R. UNITS
M/ MIN	4		PER LOG DIV.	PER LOG DIV.	PER LOG DIV.
	4		0 L	20 API	3
	4		0 L	20 API	3

REMARKS



682

Recorded By: SIM Witnessed By: CARPENTER

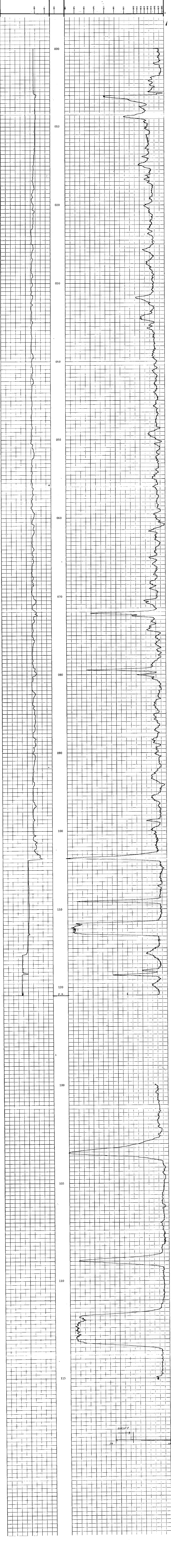
# ROKE

SIDEWALL DENSLOG  
CALIBER

OIL ENTERPRISES LTD. CALGARY, ALBERTA

FILE NO. \_\_\_\_\_ COMPANY SOUTHERN RESOURCES INC.  
 L.S.D. \_\_\_\_\_ WELL MR - RHR - 82 - 100  
 T.M.P. \_\_\_\_\_ H.C.E. \_\_\_\_\_ LOCATION \_\_\_\_\_  
 W.C.M. \_\_\_\_\_ FIELD TRENT Other Stripes \_\_\_\_\_  
 PROVINCE BRITISH COLUMBIA GEN. MGR. J.H.  
 Permeant Datum \_\_\_\_\_ BRUARD LEVEL \_\_\_\_\_  
 Log Measured from \_\_\_\_\_ Above Pipe Datum \_\_\_\_\_  
 Well Depth Measured from \_\_\_\_\_ Q.L. \_\_\_\_\_  
 Run No. \_\_\_\_\_ DATE OCTOBER 29, 1982  
 Date \_\_\_\_\_  
 First Reading 000  
 Last Reading 121  
 Footage Logged 121  
 Depth Reread 122.4  
 Cement Job # \_\_\_\_\_  
 Cement Type \_\_\_\_\_  
 Fluid Type \_\_\_\_\_  
 Liquid Level \_\_\_\_\_  
 Min. Depth 12.3  
 Operating Time 1 1/2 HR  
 Trip No. 50  
 Recorded By SJM Witnessed By CAZENTON

GENERAL				GAMMA RAY				SIDEWALL DENSLOG			
RUN NO.	DEPTHS	SPEED	T.C.	SENS	ZERO	API G.R. UNITS	T.C.	SENS	ZERO	CPS/DIV	
	FROM	TO	MIN/SEC	SETTINGS	DIV. L OR R	PER LOG DIV.	SEC.	SETTINGS	DIV. L OR R		
1	000	121	6				0.2	1 K	3.47 R	90.51	
	100	115	6				0.2	1 K	3.47 R	90.51	
CAL.	000	121	8								



# ROKE

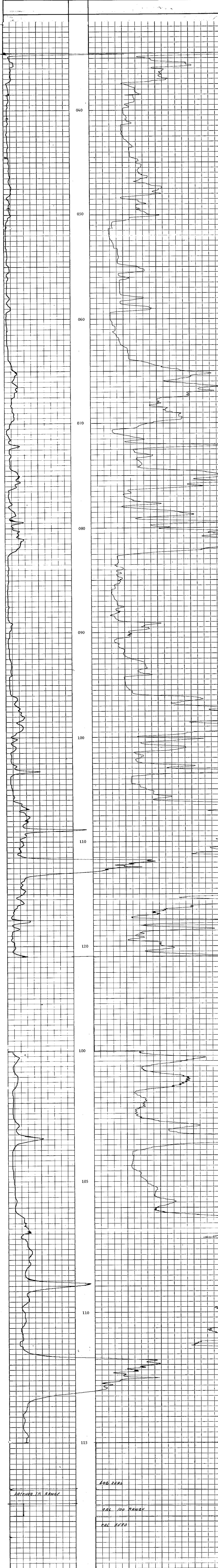
OIL ENTERPRISES LTD. CALGARY ALBERTA

FOCUSED BEAM LOG  
5 CM  
20 CM

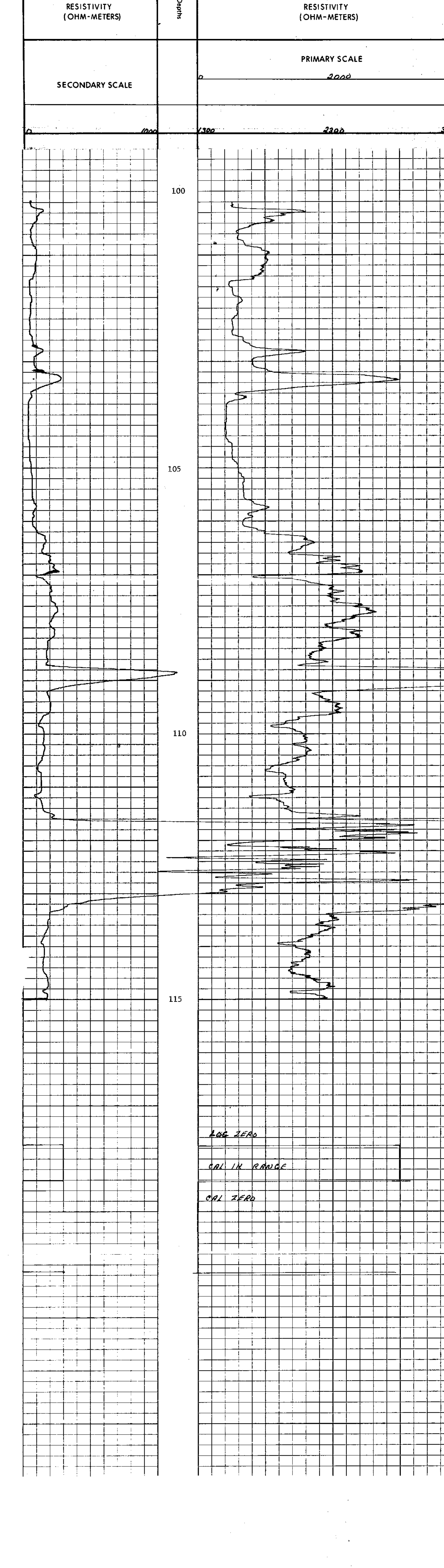
TR-1524 82-03-00 312

FILE NO.	COMPANY	GULF CANADIAN RESOURCES, INC.
WELL	TR - 1524 - 82 - 100	
LOCATION	M	
FIELD	TRINITY	
PROVINCE	BRITISH COLUMBIA	
Log Measured from	GROUND LEVEL	
Log Depth Measured from	0'	
Run No.	ONE	
Date	OCTOBER 29, 1982	
First Reading	12.1	
Last Reading	64.5	
Electrode Spacing	122.4	
Current Meter	6.0	
Current Dialer	WATERS	
Fluid Type	WATER	
Fluid Level	12.3	
Min. Diam.	17.2 @ 25	
Pm @ 0 C		
Operating Time	1 1/5 HR	
Tool No.	50	

Remarks FBL # 5 CURRENT RANGE STD MUDFISH RESISTANCE 70 OHMS  
ELECTRODE SONDE 20 CM BEAM WIDTH 100 CM ARRAY  
PRIMARY 50 OHM/DIV SECONDARY 500 OHM/DIV



Remarks FBL # 5 CURRENT RANGE STD MUDFISH RESISTANCE 20 OHMS  
ELECTRODE SONDE 5 CM BEAM WIDTH 60 CM ARRAY  
PRIMARY 200 OHM/DIV SECONDARY 1K OHM/DIV



Recorded By: SIB Witnessed By: CLARENCE

682



OIL ENTERPRISES LTD. CALGARY, ALBERTA

FILE NO. COMPANY: GULF CANADA RESOURCES INC.

WELL: TR - RH# - 82 - 101

LOCATION: M. FIELD: TRST

PROVINCE: SASKATCHEWAN DISTRICT: DREN. CAL. 281

County: DREN.

Date: NOVEMBER 2, 1982

Drifted: 223.3

Depth Reached: 223.3

Depth: 223.5

Cement Shoe: 5

Stool Depth: 133.3

Stool Length: 13.3

Max. Depth: 12.3

Rm. 9: 16.6 @ 25

Operation Time: 1 1/2 HR

Tool No.: 50

Recorded By: SMH

Witnessed By: GLENNER

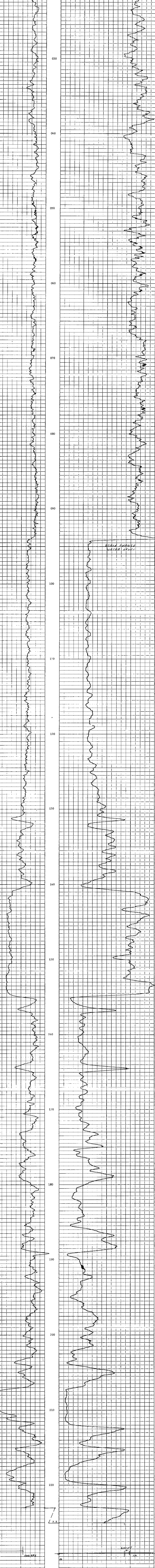
GAMMA RAY			NEUTRON			
RUN NO.	ONE		RUN NO.	ONE		
TOOL MODEL NO.	32 MM		LOG. TYPE	NEUTRON/NEUTRON		
DIAMETER	32 MM		TOOL MODEL NO.			32 MM
DETECTOR MODEL NO.	SCINTILLATION		DETECTOR MODEL NO.			PROPORTIONAL
TYPE			LENGTH			15 CM
LENGTH	10 CM		SOURCE MODEL NO.			MRC-N-SS-W
DISTANCE TO N. SOURCE	2.1 M		SPACING			367
			STRENGTH			111 GBQ
HOST TRUCK NO.	50					38
INSTRUMENT TRUCK NO.	125A010					AmBe
TOOL SERIAL NO.						

GENERAL		GAMMA RAY			NEUTRON						
RUN NO.	1	DEPTHS	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.	
FROM	000	TO	225	4	100	0 L	20 API	3	1 K	25 L	100 API
SPEED	225	M/AMIN	4	4	100	0 L	20 API	3	1 K	1 L	100 API

REMARKS

GAMMA RAY INCREASES →

NEUTRON INCREASES →



SIDEWALL DENSITY LOG  
CALIPER  
OIL ENTERPRISES LTD. CALGARY, ALBERTA

28-1-67 (2) 24 4 (3)

File No. \_\_\_\_\_ COMPANY: OIL ENTERPRISES LTD.  
 Well No. 28-1-67-24-101  
 Location: \_\_\_\_\_ FIELD: \_\_\_\_\_  
 Operator: \_\_\_\_\_  
 Log Date: \_\_\_\_\_

LOG TYPE: \_\_\_\_\_  
 W.C. \_\_\_\_\_  
 M. \_\_\_\_\_  
 W. \_\_\_\_\_  
 H. \_\_\_\_\_

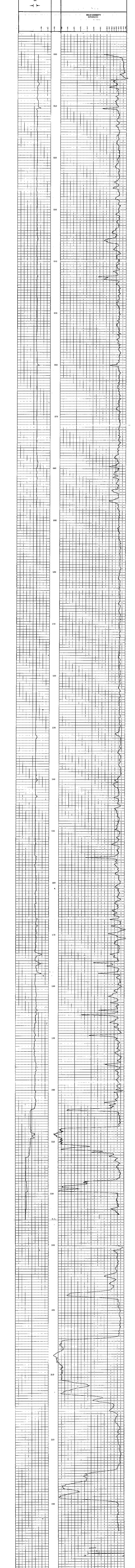
Pressure Transducer: \_\_\_\_\_  
 Log Measurement: \_\_\_\_\_  
 Log Date: \_\_\_\_\_

Log No.: \_\_\_\_\_  
 Date: \_\_\_\_\_  
 Log Length: \_\_\_\_\_  
 Log No.: \_\_\_\_\_  
 Log Length: \_\_\_\_\_

Fluid Type: WATER  
 Max. Level: 127.3  
 Quantity: 8.17 RB  
 Ticks: 40  
 Received By: SIK  
 Witnessed By: GAWENDEK

682

GENERAL			GAMMA RAY			SIDEWALL DEVELOP			
RUN NO.	DEPTH FROM TO	OPENED	T.C. SEC.	SENS. SETTINGS	ZERO CHL/O.R.	T.C. SEC.	SENS. SETTINGS	ZERO CHL/O.R.	CPS/DIV
1	000	224	6			0.2	1000	3.47 R	99.15
BKP	200	222							
CAL.	000	225							



W.A.T.  $\rightarrow$

# ROKE SIDEWALL DENSITOG

OIL ENTERPRISES LTD. CALGARY ALBERTA

FILE NO: \_\_\_\_\_ COMPANY: EMERALD ENERGY SERVICES INC.

WELL: TR-101 - SPT - 101

LOCATION: M

FIELD: EMERY

PROVINCIAL REGISTRATION NO.: 9028414 DATE: 2008

Operator Name: EMERALD ENERGY SERVICES INC. OPERATOR:

Company Address: 1000 ... CITY: ... PROV: ...

Job Number: 224 DATE: ...

Well Depth: 000 FEET

Well Depth: 223 FEET

Depth Started: 223

Depth Stopped: 223

Fluid Name: WATER

Fluid Type: WATER

Fluid Level: 27.3

Mud Name: WATER

Mud Weight: 22.3

Operator: SIR

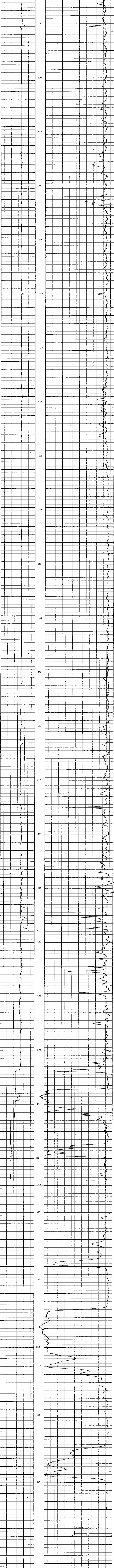
Checked by: SIR

Recorded by: SIR

GENERAL			GAMMA RAY			SIDEWALL DENSITOG		
RUN NO.	DEPTH TO (FEET)	SPEED (FEET PER MIN)	T.C. SEC.	ZERO BEVS PER LOG DIV.	T.C. SEC.	ZERO BEVS PER LOG DIV.	CPM/DIV	CPM/DIV
1	000	226	6	...	0.2	1000	3.47 R	90.15
	RKR 200	222			0.2	1000	3.47 R	90.15
	CAL 000	225						

REMARKS

WELL # 66368 - CAL # 450



112-12-13-14-15-16-17-18-19-20-21-22-23-24-25-26-27-28-29-30-31-32-33-34-35-36-37-38-39-40-41-42-43-44-45-46-47-48-49-50-51-52-53-54-55-56-57-58-59-60-61-62-63-64-65-66-67-68-69-70-71-72-73-74-75-76-77-78-79-80-81-82-83-84-85-86-87-88-89-90-91-92-93-94-95-96-97-98-99-100

**682**

SPLIT

# ROKE

OIL ENTERPRISES LTD. CALGARY, ALBERTA

FIELD NO. COMPANY  
WELL NO. WELL - 101 - 101  
LOCATION

FIELD NO. WELLS  
WELL NO. WELLS - 101 - 101  
LOCATION

PROBING DEPTH  
GEOPHYSICAL UNIT  
WELL NO. WELLS - 101 - 101  
LOCATION

DATE  
TIME  
WELL NO. WELLS - 101 - 101  
LOCATION

LOGGING CODE  
WELL NO. WELLS - 101 - 101  
LOCATION

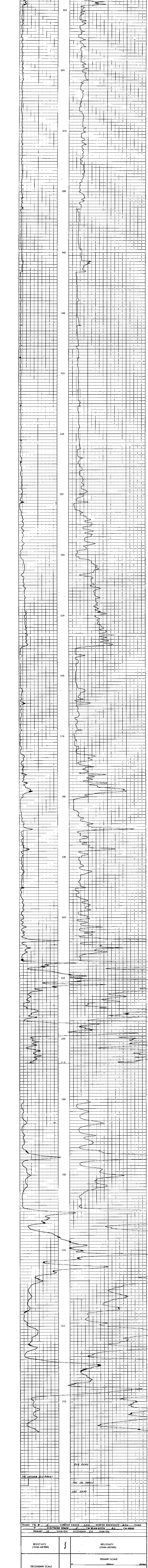
DEPTH  
WELL NO. WELLS - 101 - 101  
LOCATION

DEPTH  
WELL NO. WELLS - 101 - 101  
LOCATION

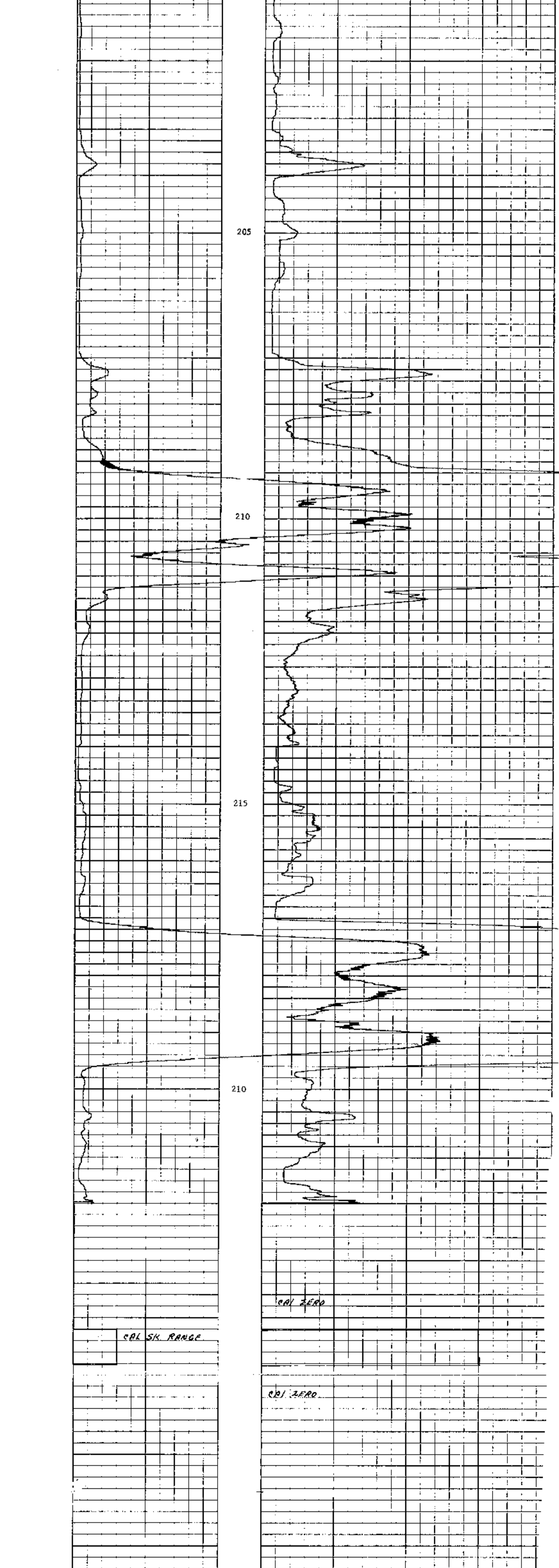
DEPTH  
WELL NO. WELLS - 101 - 101  
LOCATION

DEPTH  
WELL NO. WELLS - 101 - 101  
LOCATION

Remarks: FBI # 5 CURRENT RANGE STD MUDFISH RESISTANCE 250 OHMS  
ELECTRODE SONDE 20 CM BEAM WIDTH 100 CM ARRAY  
PRIMARY 100 OHM/DIV SECONDARY 500 OHM/DIV



Remarks: FBI # 5 CURRENT RANGE STD MUDFISH RESISTANCE 250 OHMS  
ELECTRODE SONDE 20 CM BEAM WIDTH 100 CM ARRAY  
PRIMARY 100 OHM/DIV SECONDARY 500 OHM/DIV



Remarks: FBI # 5 CURRENT RANGE STD MUDFISH RESISTANCE 250 OHMS  
ELECTRODE SONDE 20 CM BEAM WIDTH 100 CM ARRAY  
PRIMARY 100 OHM/DIV SECONDARY 500 OHM/DIV

682



REPRODUCTION CATALOG NO. 313564 P(F)



REPRODUCTION CATALOG NO. 313564 P(F)

STATUS AT TIME LICENCE ISSUED: E.W.

Run No.	11355	Three	Four
Equipment Data	Pencil Cartridge Scale Motor CR Cartridge Colpex YTH		
Calibration Data	Calibration Type Equipment CFS API Scale Log Type		
Logging Data	Depth Scale Log Type		

PROVINCE: BELIEVE NATIONAL  
 FIELD: WILSON  
 WELL: 313564  
 COMPANY: BELIEVE NATIONAL LTD.

LOCATION:  
 PROV: BELIEVE NATIONAL LTD.  
 FIELD: WILSON  
 WELL: 313564

COMPANY: BELIEVE NATIONAL LTD.  
 WELL: 313564  
 FIELD: WILSON  
 PROV: BELIEVE NATIONAL LTD.

682

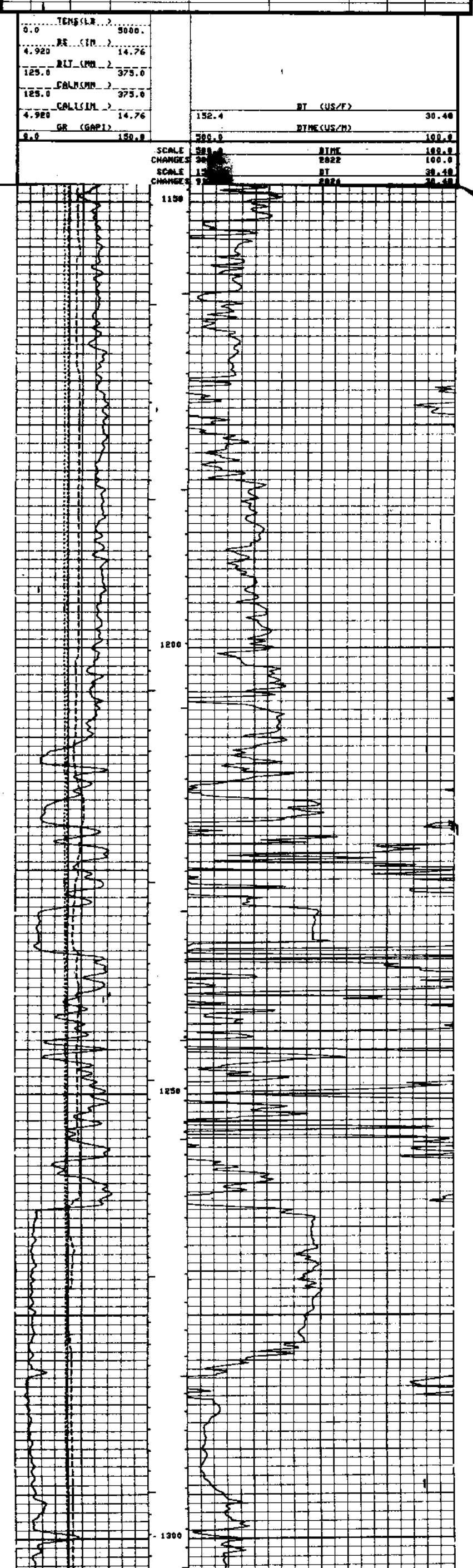
BOREHOLE COMPENSATED  
 SONIC LOG

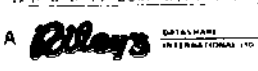
Run No.	11356	Three	Four
Equipment Data	Pencil Cartridge Scale Motor CR Cartridge Colpex YTH		
Calibration Data	Calibration Type Equipment CFS API Scale Log Type		
Logging Data	Depth Scale Log Type		

REMARKS: 14 JUN 82 C&E R...  
 NDK 1 PROGRAM TAPE NO: 20.2  
 CASING WEIGHT: 21.10 LBS/FT  
 4" X 4" BH" @ 94.40' @ 94.40'  
 EQUIPMENT NO: NSM-884, ITEM-80-372  
 RUN THROUGH LUBRICATOR  
 EXTENSIVE CYCLE SKIPPING DUE TO GAS CUT MUD

Run No.	11357	Three	Four
Equipment Data	Pencil Cartridge Scale Motor CR Cartridge Colpex YTH		
Calibration Data	Calibration Type Equipment CFS API Scale Log Type		
Logging Data	Depth Scale Log Type		

REMARKS: 14 JUN 82 C&E R...  
 NDK 1 PROGRAM TAPE NO: 20.2  
 CASING WEIGHT: 21.10 LBS/FT  
 4" X 4" BH" @ 94.40' @ 94.40'  
 EQUIPMENT NO: NSM-884, ITEM-80-374  
 RUN WITHOUT CALIBRATES DUE TO SPILL MUD





STATUS AT TIME LICENCE ISSUED: F.W.

<b>PROVINCE</b> 25 15th LOMBIA <b>WELL</b> GILTY PINE <b>COMPANY</b> GILTY OIL COMPANY LTD	<b>LOCATION</b> DISTRICT: 11 SECTION: 8 TOWNSHIP: 36 RANGE: B1	<b>WELL</b> GILTY PINE <b>FIELD</b> GILTY PINE <b>PROVINCE</b> 25 15th LOMBIA	COMPENSATED NEUTRON FORMATION DENSITY Schlumberger
<b>PROVINCE</b> 25 15th LOMBIA <b>WELL</b> GILTY PINE <b>COMPANY</b> GILTY OIL COMPANY LTD	<b>LOCATION</b> DISTRICT: 11 SECTION: 8 TOWNSHIP: 36 RANGE: B1	<b>WELL</b> GILTY PINE <b>FIELD</b> GILTY PINE <b>PROVINCE</b> 25 15th LOMBIA	

Run No.	Start	End	Depth	Rate	Remarks
1	0.0	4.920	125.0	14.76	
2	4.920	9.840	375.0	14.76	
3	9.840	14.760	150.0	14.76	
4	14.760	19.680	375.0	14.76	

Run No.	Start	End	Depth	Rate	Remarks
1	0.0	4.920	125.0	14.76	
2	4.920	9.840	375.0	14.76	
3	9.840	14.760	150.0	14.76	
4	14.760	19.680	375.0	14.76	

Run No.	Start	End	Depth	Rate	Remarks
1	0.0	4.920	125.0	14.76	
2	4.920	9.840	375.0	14.76	
3	9.840	14.760	150.0	14.76	
4	14.760	19.680	375.0	14.76	

Run No.	Start	End	Depth	Rate	Remarks
1	0.0	4.920	125.0	14.76	
2	4.920	9.840	375.0	14.76	
3	9.840	14.760	150.0	14.76	
4	14.760	19.680	375.0	14.76	

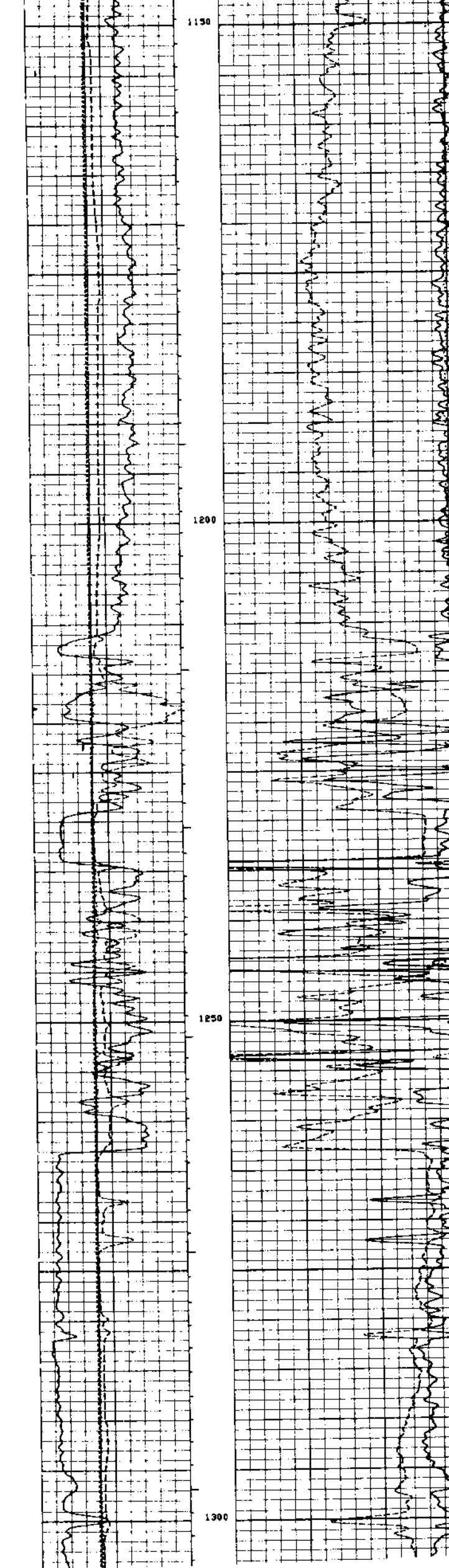
Run No.	Start	End	Depth	Rate	Remarks
1	0.0	4.920	125.0	14.76	
2	4.920	9.840	375.0	14.76	
3	9.840	14.760	150.0	14.76	
4	14.760	19.680	375.0	14.76	

Run No.	Start	End	Depth	Rate	Remarks
1	0.0	4.920	125.0	14.76	
2	4.920	9.840	375.0	14.76	
3	9.840	14.760	150.0	14.76	
4	14.760	19.680	375.0	14.76	

All measurements are reported based on information from electrical or other measurements and are reported, and do not, guarantee the reliability or accuracy of any measurement, and are not intended to be used as a basis for any legal or contractual obligations. The user of this information is responsible for any loss, damage or expense incurred or sustained by anyone resulting from any interpretation made by any of our officers, agents or employees. These measurements are also subject to Chapter 4 of our General Terms and Conditions and are not to be used for any purpose other than that for which they were intended.

0.0	RS (CM)	5000.0	
4.920	R17 (CM)	14.76	
125.0	CAL (CM)	375.0	
4.920	GR (GAPI)	14.76	
0.0	CAL (CM)	150.0	
125.0	CAL (CM)	375.0	

FILE NO. 313565\*  
 SANDSTONE



STATUS AT TIME LICENCE ISSUED: NPW

<b>PROVINCE</b> BRITISH COLUMBIA <b>FIELD</b> WILDCAT <b>WELL</b> GETTY PINE <b>DATE</b> 7-6-77-25 <b>COMPANY</b> GETTY OIL (CANADA) LTD.	<b>LOCATION</b> TWP 7 R 6 S 22 T 25	<b>COMPANY</b> GETTY OIL (CANADA) LTD. <b>WELL</b> GETTY PINE <b>FIELD</b> WILDCAT <b>PROVINCE</b> BRITISH COLUMBIA	<b>682</b>
<b>DATE</b> 24 JULY 79 <b>TIME</b> 9:21:56.79 <b>DEPTH</b> 1026.00 <b>LOG</b> 1026.00	<b>LOG</b> 1026.00 <b>TIME</b> 9:21:56.79 <b>DEPTH</b> 1026.00 <b>LOG</b> 1026.00	<b>LOG</b> 1026.00 <b>TIME</b> 9:21:56.79 <b>DEPTH</b> 1026.00 <b>LOG</b> 1026.00	<b>LOG</b> 1026.00 <b>TIME</b> 9:21:56.79 <b>DEPTH</b> 1026.00 <b>LOG</b> 1026.00

Schlumberger  
BOREHOLE COMPENSATED  
SONIC LOG

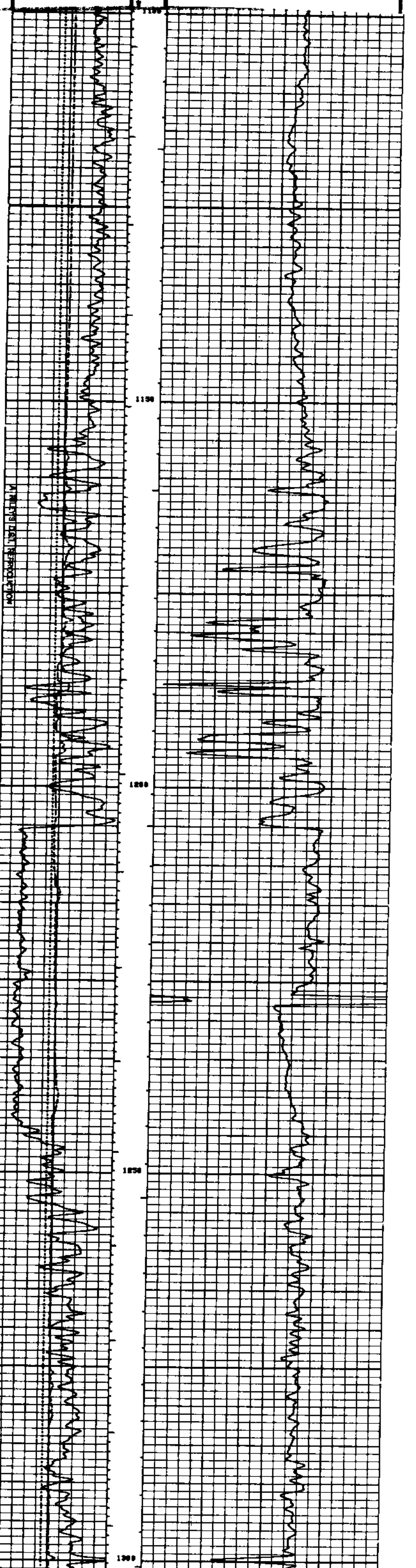
<b>REMARKS</b> 25 FEB. 50 EDM. 12.55 RUN TWO: VARIABLE DENSITY LOG RECORDED C. 75 DEPT.	<b>LOG</b> 1026.00 <b>TIME</b> 9:21:56.79 <b>DEPTH</b> 1026.00 <b>LOG</b> 1026.00
---	--

<b>EQUIPMENT DATA</b> SLM MC 350 FA 400 RA1477 GEAR JAA 355 JAA 311 CHE-2 CHE-2 CHE-2	<b>LOG</b> 1026.00 <b>TIME</b> 9:21:56.79 <b>DEPTH</b> 1026.00 <b>LOG</b> 1026.00
--	--

<b>CALIBRATION DATA</b> Designated CPS 60 Meas. CPS 410 API Error 488	<b>LOG</b> 1026.00 <b>TIME</b> 9:21:56.79 <b>DEPTH</b> 1026.00 <b>LOG</b> 1026.00
--	--

<b>LOGGING DATA</b> Log Type: CTR Log Date: 79	<b>LOG</b> 1026.00 <b>TIME</b> 9:21:56.79 <b>DEPTH</b> 1026.00 <b>LOG</b> 1026.00
--	--

<b>DEPTH</b> 400 700	<b>INTERVAL TRAVEL TIME</b> 250 350
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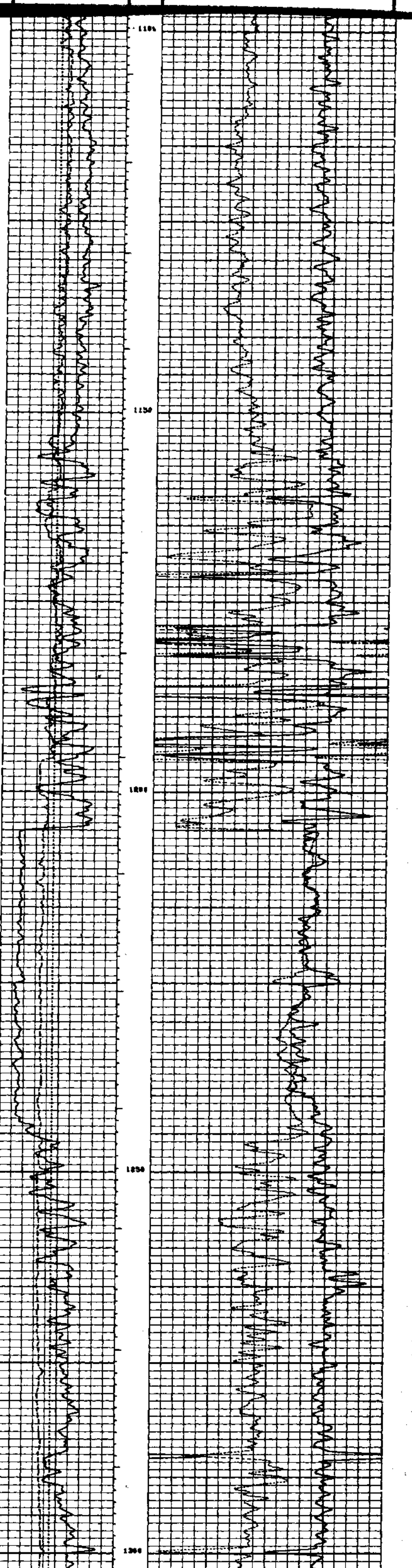
ALL interpretations are opinions based on information from abstracts or other measurements and are subject to change without notice. Schlumberger is not responsible for any loss, damage or expense incurred or sustained by anyone relying on any interpretation made by any of our officers, agents or employees. These interpretations are also subject to Clause 6 of our General Terms and Conditions as set out in our current Price Schedule.

STATUS AT TIME LICENCE ISSUED: NPW

PROVINCE BRITISH COLUMBIA FIELD WILDEAT WELL GETTY PINE 7-6-77-25 COMPANY GETTY OIL (CANADA) LTD.		COMPANY GETTY OIL (CANADA) LTD. WELL GETTY PINE 7-6-77-25 FIELD WILDEAT PROVINCE BRITISH COLUMBIA	
LOCATION TWP 7 S R 6 W S 77 N T25S6		OTHER SERVICES CBL-DI-60-100 CBL-OB-100-100 CBL-OB-COVER DIL. 101-K DIL. 101-K	
682			
EQUIPMENT DATA S.O. 31560			
No. 28 308 Type Year No. 28 308 Type Year	CHC- A 1216 CHC- A 1216 CHC- A 1216 CHC- A 1216	CHC- AB 1789 CHC- AB 1789 CHC- AB 1789 CHC- AB 1789	CHC- P 221 CHC- P 221 CHC- P 221 CHC- P 221
REMARKS 25 FEB 80 WCS EDM NOISY CALIPER.			
CALIBRATION DATA GAMMA RAY - CPS No. 28 308 Type Year			
LOGGING DATA No. 28 308 Type Year			

COMPENSATED NEUTRON  
 FORMATION DENSITY

CALIPER hole diameter mm 200 325 450		GAMMA RAY activity API units T.C. AUT Zone D 64.14 m	
DENSITY POROSITY MATRIX 2650 kg/m <sup>3</sup> FLUID 1200 kg/m <sup>3</sup>		NEUTRON POROSITY SANDSTONE MATRIX	





REPRODUCTION STATUS AT TIME LICENCE ISSUED: **REPRODUCTION**

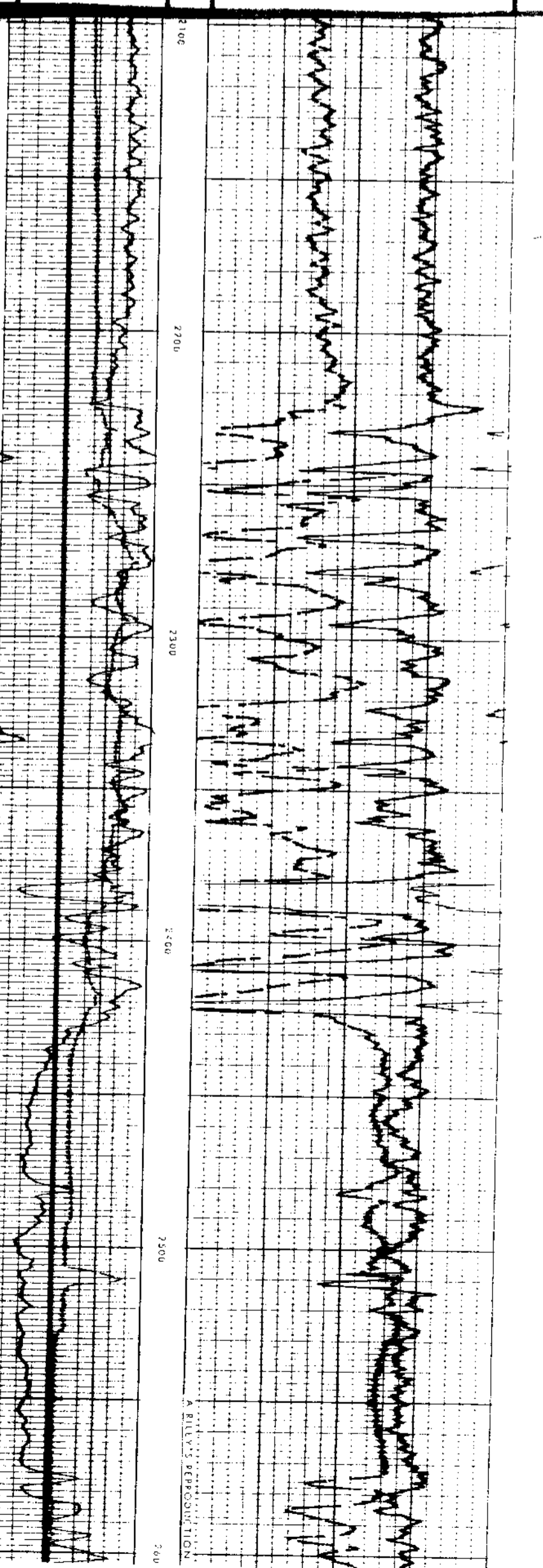
PROVINCE: <b>SPRINT</b> WELL: <b>682</b> COMPANY: <b>SENTEMBERGER</b>		FIELD: <b>WELL</b> LOCATION: <b>682</b>	
EQUIPMENT DATA Run No. <b>CNP</b> <b>CNC</b> <b>CNB</b> <b>NSR</b> <b>SGC</b> <b>CAL</b>		EQUIPMENT DATA Run No. <b>PGP</b> <b>PGC</b> <b>PLS</b> <b>PGD</b> <b>GSR</b> <b>NSR</b> <b>SFT 116</b> <b>SFT 106</b>	
CALIBRATION DATA Run No. <b>Gamma Ray</b> <b>Background CPS</b> <b>Total CPS</b>		CALIBRATION DATA Run No. <b>CNL - Before Log - APCS</b> <b>CNL - After Log - APCS</b>	
LOGGING DATA Run No. <b>General</b> <b>Depth</b> <b>From</b> <b>To</b> <b>Speed</b> <b>Ft./Min</b> <b>Tc</b> <b>API Scale</b> <b>Matrix</b>		LOGGING DATA Run No. <b>CNL Selectors</b> <b>Auto Hole Size Corr</b> <b>Hole Size Setting</b> <b>Porosity Scale</b>	

EQUIPMENT DATA Run No. <b>CNP</b> <b>CNC</b> <b>CNB</b> <b>NSR</b> <b>SGC</b> <b>CAL</b>		EQUIPMENT DATA Run No. <b>PGP</b> <b>PGC</b> <b>PLS</b> <b>PGD</b> <b>GSR</b> <b>NSR</b> <b>SFT 116</b> <b>SFT 106</b>	
CALIBRATION DATA Run No. <b>Gamma Ray</b> <b>Background CPS</b> <b>Total CPS</b>		CALIBRATION DATA Run No. <b>CNL - Before Log - APCS</b> <b>CNL - After Log - APCS</b>	
LOGGING DATA Run No. <b>General</b> <b>Depth</b> <b>From</b> <b>To</b> <b>Speed</b> <b>Ft./Min</b> <b>Tc</b> <b>API Scale</b> <b>Matrix</b>		LOGGING DATA Run No. <b>CNL Selectors</b> <b>Auto Hole Size Corr</b> <b>Hole Size Setting</b> <b>Porosity Scale</b>	

EQUIPMENT DATA Run No. <b>CNP</b> <b>CNC</b> <b>CNB</b> <b>NSR</b> <b>SGC</b> <b>CAL</b>		EQUIPMENT DATA Run No. <b>PGP</b> <b>PGC</b> <b>PLS</b> <b>PGD</b> <b>GSR</b> <b>NSR</b> <b>SFT 116</b> <b>SFT 106</b>	
CALIBRATION DATA Run No. <b>Gamma Ray</b> <b>Background CPS</b> <b>Total CPS</b>		CALIBRATION DATA Run No. <b>CNL - Before Log - APCS</b> <b>CNL - After Log - APCS</b>	
LOGGING DATA Run No. <b>General</b> <b>Depth</b> <b>From</b> <b>To</b> <b>Speed</b> <b>Ft./Min</b> <b>Tc</b> <b>API Scale</b> <b>Matrix</b>		LOGGING DATA Run No. <b>CNL Selectors</b> <b>Auto Hole Size Corr</b> <b>Hole Size Setting</b> <b>Porosity Scale</b>	

LOG TAPED Yes No

CALIPER hole diameter in inches		POROSITY (%)
GAMMA RAY API UNITS		
DENSITY POROSITY Matrix $\rho_{matrix}$ gm/cc FLUID $\rho_{fluid}$ gm/cc		NEUTRON POROSITY MATRIX



STATUS AT TIME LICENCE ISSUED: EXPL. W/C

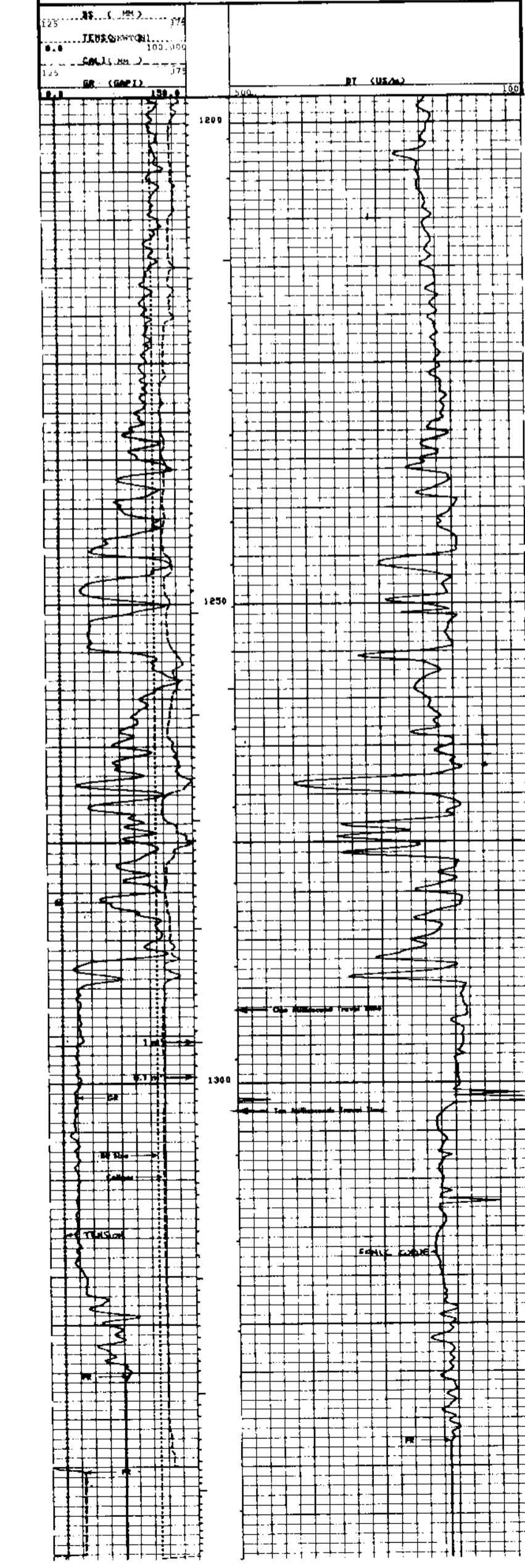
PROVINCE BRITISH COLUMBIA FIELD WILDCAT WELL GETTY PINE 15-31-76-25 COMPANY GETTY OIL (CANADA) LTD.		COMPANY GETTY OIL (CANADA) LTD. WELL GETTY PINE 15-31-76-25 FIELD WILDCAT PROVINCE BRITISH COLUMBIA	
LOCATION UTD 15 SEC 31 TWP 76 RANGE 25W6M		GROUND LEVEL KB 9.3 KB (KELLY BUSHING) KB 1218.7 KB 1218.7	
DATE SEPT 28/80			
OPERATOR 241B 2415.7 2409 582.7 582.7 311.2 1090.88 9.5 7.2			
OPERATOR 241B 2415.7 2409 582.7 582.7 311.2 1090.88 9.5 7.2			

Schumberger  
 BOREHOLE COMPENSATED  
 SONIC LOG

682

REMARKS	6 FIELD PRINTS
EQUIPMENT DATA	IM <sub>1</sub> = 2.02 @ 15.6 OC IM <sub>2</sub> = 2.08 @ 15.6 OC IM <sub>3</sub> = 2.11 @ 16.1 OC
CALIBRATION DATA	SEE C.S.L. C.S.O. VERSION C.F. 18.2
LOGGING DATA	Log Type: <input type="checkbox"/> Wire <input type="checkbox"/> Core
Log No.	103194
Depth	2418.7 - 582.7
GR Scale	500 - 100
GR Units	0 - 150

PARAMETERS					
NAME	UNIT	VALUE	NAME	UNIT	VALUE
BTH	US/F	56.00	CBTS	MM/M	100.0
SBR	DHMM	1.000	DSEC	MM/M	10.00
FPHI	PHIX	0.0	MSEC	MM/M	9.000
DD			BMS		OPEN
			BS	INCH	12.25
			DTF	US/F	109.0



All interpretations are subjective based on information from electrical or other measurements and are subject to error. The user of this log is responsible for any loss, claim, damage or expense incurred or sustained by anyone resulting from any interpretation made by any of our clients, agents or employees. These interpretations are also subject to Change 6 of our General Terms and Conditions as set out in our standard Price Schedule.

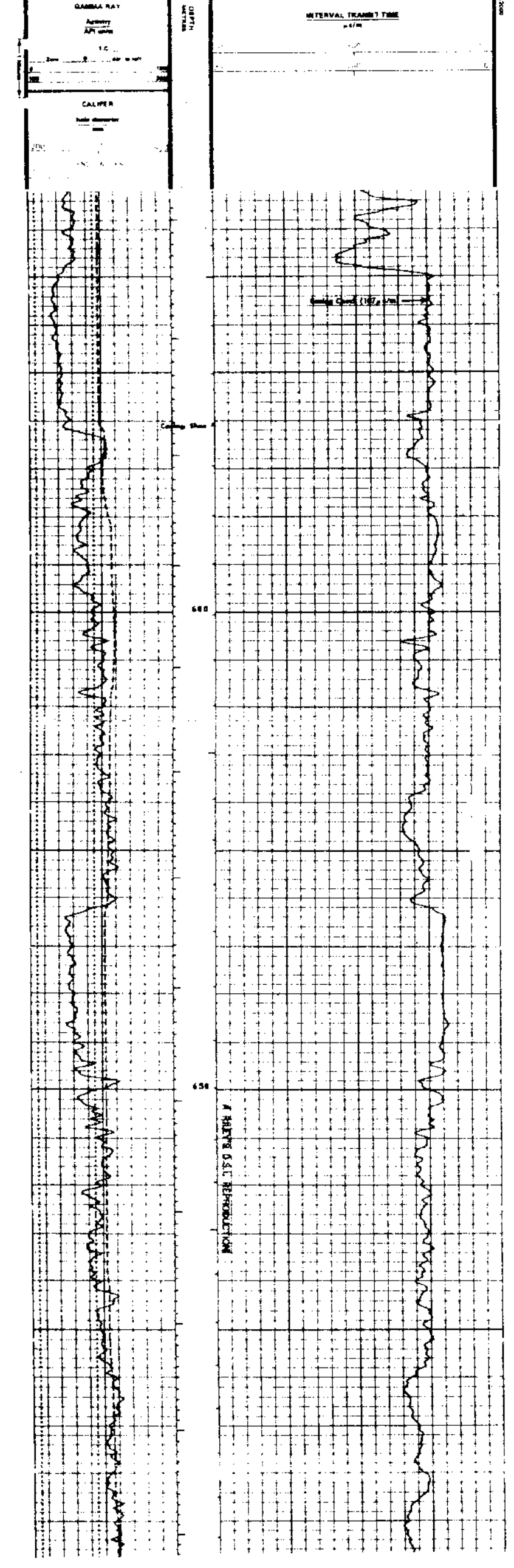
STATUS AT TIME LICENCE ISSUED OUTPOST

<b>PROVINCE</b> BRITISH COLUMBIA <b>FIELD</b> WILDCAT <b>WELL</b> BP ET AL HIGHWAY #78-K <b>COMPANY</b> BP EXPLORATION CANADA LIMITED		<b>LOCATION</b> WILDCAT BRITISH COLUMBIA	
<b>COMPANY</b> BP EXPLORATION CANADA LIMITED <b>WELL</b> BP ET AL HIGHWAY #78-K <b>FIELD</b> WILDCAT <b>PROVINCE</b> BRITISH COLUMBIA		<b>REMARKS</b> 1. FB RECORD AT 1200 2. NEARBY SECTION DUMPED 3. AS A BAD HOLE 4. ON TRENCH. 22500. 12500.	
<b>EQUIPMENT DATA</b> Type: _____ Serial: _____ Model: _____ Date: _____ Operator: _____		<b>CALIBRATION DATA</b> Reference: _____ Date: _____ Operator: _____	
<b>LOGGING DATA</b> Date: _____ Time: _____ Location: _____		_____ _____ _____	

S. Hamberger  
**BOREHOLE COMPENSATED SONIC LOG**

682

P2. 12541 82 (\*) (a) (\*) (a)





BARRETT

REPRODUCTION CATALOG NO.:

282823 R(G)

STATUS AT TIME LICENCE ISSUED: EXP. V/C

PROVINCE BRITISH COLUMBIA FIELD VICTORY WELL HE ET AL OETIC # 79-4 COMPANY HUDSON'S BAY OIL AND GAS COMPANY LIMITED		LOCATION PROV. BRITISH COLUMBIA FIELD VICTORY WELL HE ET AL OETIC # 79-4		BOREHOLE COMPENSATED SONIC LOG
COMPANY HUDSON'S BAY OIL AND GAS COMPANY LIMITED PROV. BRITISH COLUMBIA FIELD VICTORY WELL HE ET AL OETIC # 79-4		Other Data: DIST. 1224.39 B.C. 1216.04 P.C. 1216.04 P.C. 1216.04		

DATE	TIME	DEPTH	TEMP	RESISTANCE	20 APR 81 EDM W/S
8 AUG 80	10 NOV 80	10 DEC 80	5 JAN 81		

RUN ONE: CSU VERSION EP 10.2 MUD SAMPLES: Rm 1 = 3.88 13.90C Rm 2 = 3.38 13.90C Rm 3 = 3.32 15.00C	
RUN TWO: CSU VERSION EP 10.2 MUD SAMPLES: Rm 1 = 1.25 20.00C Rm 2 = 1.19 20.00C Rm 3 = 1.20 20.00C	
RUN THREE: CSU VERSION EP 10.2 FIRST ATTEMPT ABORTED. TOOL WAS STUCK IN HOLE TO FROM 0800 TO 1530 HRS/DAY 111K. SECOND ATTEMPT WAS SUCCESSFUL. HOWEVER TOOL WAS KEPT 3 ADD'L DRILLER'S TO ON INSTRUCTION FROM LOG TEAM BY C/S	

EQUIPMENT DATA DA 604 604 604 DA 576 RC 126A 1137 FA 1057 RC 65 RC 67B RC 5A CPU CPU 310 JA 1130 532 JAA 103 DA 638 B 450 DA 1178 274K	
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CALIBRATION DATA SEE CSI	
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LOGGING DATA

ONE	TWO	THREE	FOUR
1917	2952.5	3850.0	4366.3
500-100-100	300-200-100	300-200-100	300-200-100
0-150	0-150	0-150	0-150

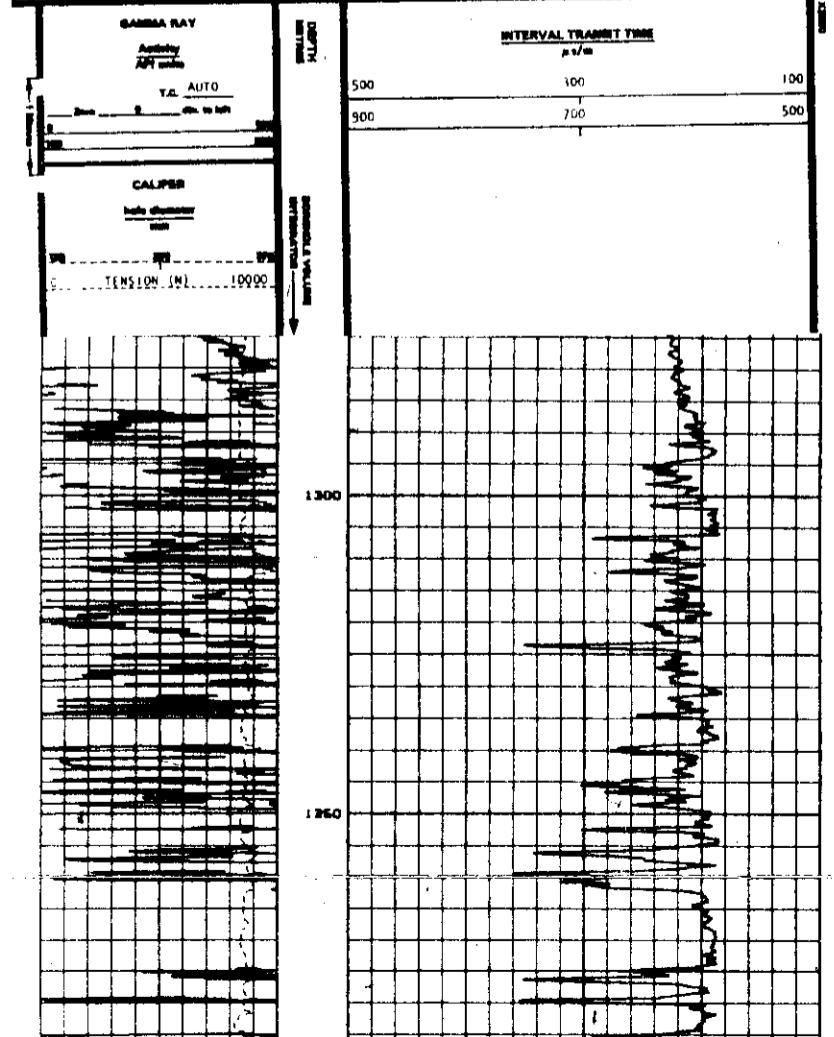
INTERVAL TRANSMIT TIME

500	100	100
900	700	500

LOGGING DATA (continued)

Run No.	Depth	C	OH
ONE	TWO	THREE	FOUR

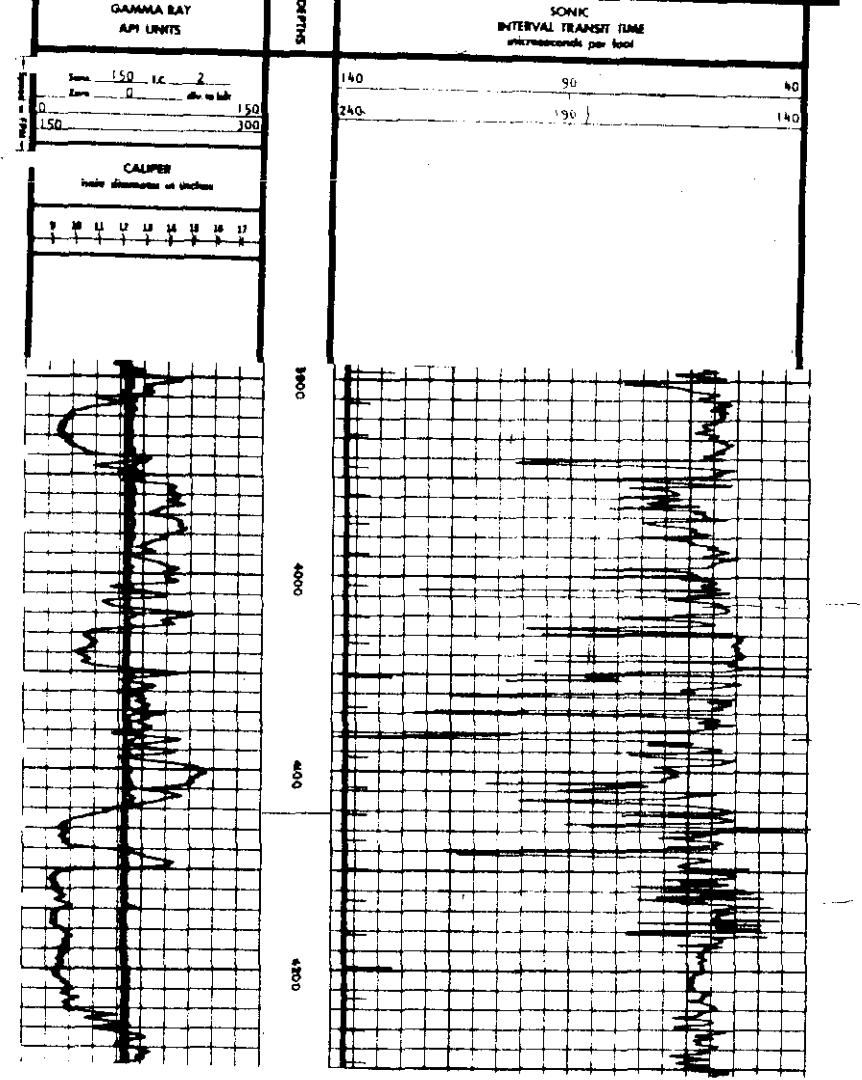
79-1224 82 (43)A (2)  
 682



PROVINCE BRITISH COLUMBIA FIELD XILGECAT WELL QUASAR ET AL. DEFCO COMPANY QUASAR PETROLEUM LTD.		BOREHOLE COMPENSATED SONIC LOG
COMPANY QUASAR PETROLEUM LTD. WELL QUASAR ET AL. DEFCO FIELD XILGECAT LOCATION C-28-1 BRITISH COLUMBIA		
Log Interval: 0.1 Log Interval: 0.1 Log Interval: 0.1 Log Interval: 0.1		Scale: 100 Date: 1974
Log Interval: 0.1 Log Interval: 0.1 Log Interval: 0.1 Log Interval: 0.1		Scale: 100 Date: 1974

682

DR. TRFET 1 82 (\*3)0 (\*2)





STATUS AT TIME LICENCE ISSUED: EXPL W/C

PROVINCE BRITISH COLUMBIA  
 FIELD WILLCAT  
 WELL HR ET AL DETCO  
 A-79-B  
 COMPANY HUDSON'S BAY OIL AND GAS CO. LTD.

COMPANY HUDSON'S BAY OIL & GAS CO. LTD.  
 WELL HR ET AL DETCO  
 FIELD WILLCAT  
 PROVINCE BRITISH COLUMBIA

LOCATION  
 A-79-B 23-P-5  
 WILLCAT  
 BRITISH COLUMBIA

REMARKS 20 APR 81 EDM WCB  
 RUN ONE CSU VERSION 18 S.O. #10025  
 MUD SAMPLES Run#1=3.88413 0 C  
 Run#2=3.88413 0 C  
 Run#3=3.92415 0 C

REMARKS CONTINUED  
 RUN THREE S.O. # 105853. CP VERSION 18. LOG TAPED  
 TOOL WAS KEPT ABOVE DRILLER'S TD ON INSTRUCTION OF CLIENT.  
 SINCE DRIFT WAS STUCK AT TD ON FIRST ATTEMPT  
 90 OFFSET.  
 RUN FOUR S.O. # 111161. CSU VERSION CP 18.2  
 LOG TAPED

COMPENSATED NEUTRON FORMATION DENSITY

6822

PR-1 REFT 82 (\*3)A (\*2)

EQUIPMENT DATA

Run No	Client	Job	Well	Depth	Tool	Log	Remarks
289	2015	2013	1637	1638	1638	1638	RUN ONE CSU VERSION 18 S.O. #10025
308	A 1240	AB 1032	F 1233	1233	1233	1233	MUD SAMPLES Run#1=3.88413 0 C
243	A 1653	AB 1667	F 1242	1242	1242	1242	RUN TWO CSU VERSION 18.2 S.O. #11126
289	126	109	5303	106-257	1034	1034	MUD SAMPLES Run#1=1.125420 0 C
26	JA 102	HR 218	J 5200	106-124	1070	1070	Run#2=1.19420 0 C
126	117	5303	106-257	1034	1034	1034	Run#3=1.20820 0 C
289	173	HR 138	J 5573	136-221	1215	1215	LOG TAPED

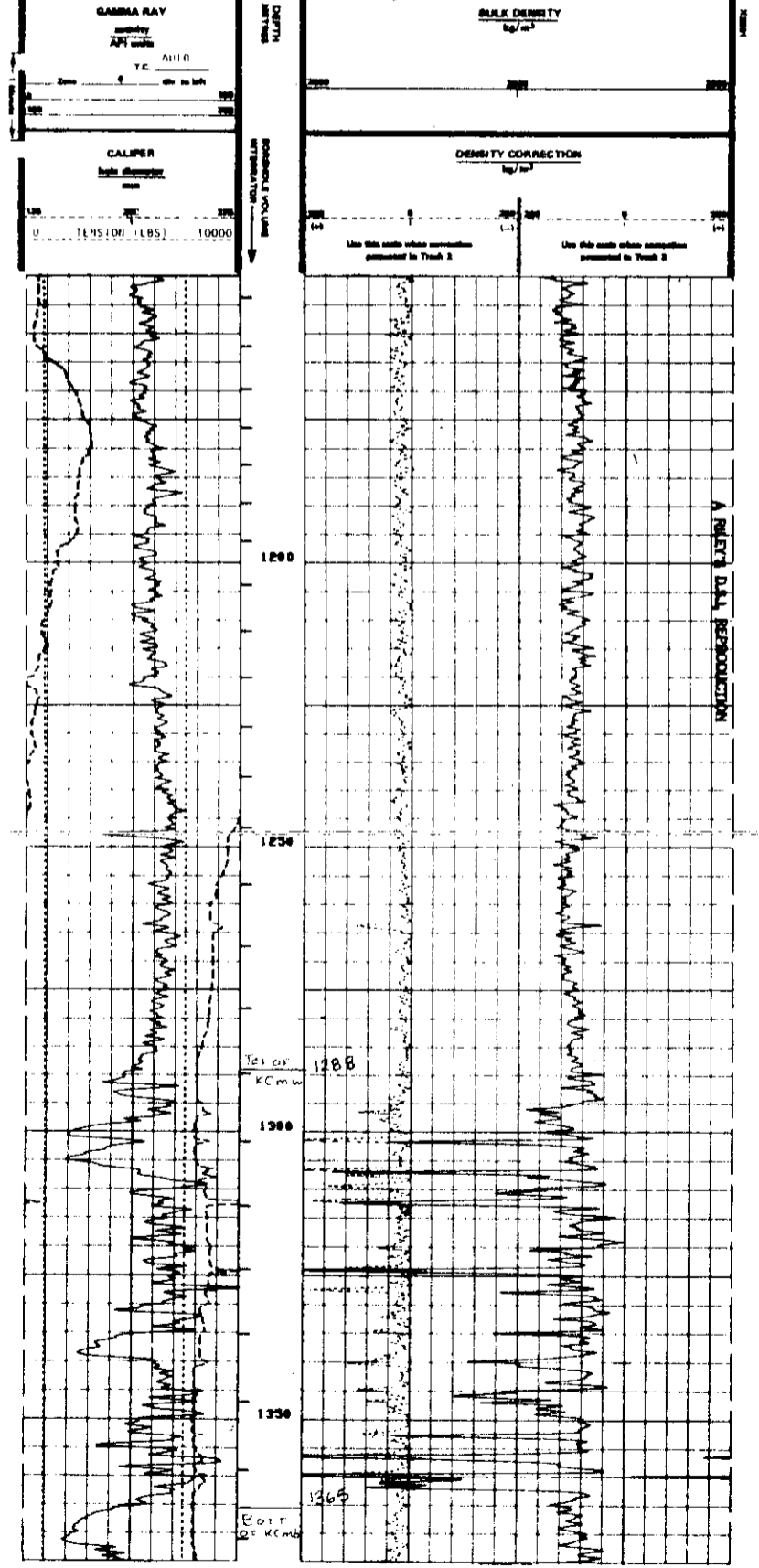
CALCULATED DATA

Run No	API Grade	Equivalent	Total	Star CPE	Per CPE	Star	Star CPE	Per CPE	Star	P1	P2	P3	P4	P5
289	46.56	214.3	2264	1180	1.92	2228	1143	1.95	1007	600.5	872	824		
26	40.40	198.0	5772	2584	2.23	5728	2580	2.23	614	850.5	613	842.5		

LOGGING DATA

Run No	Depth	Tool	Rate	Rate	V.C.	GR	GR	GR	GR	GR	GR	GR	GR	GR
ONE	TD	1150	0.2	0.2	0.2	0-150	2650	1000	SAND	45-15	-15			
TWO	TD	3675	0.2	0.2	0.2	0-150	2710	1000	LIME	45-15	-15			
THREE	TD	2952	0.2	0.2	0.2	0-150	2650	1000	SAND	45-15	-15			
FOUR	TD	3850	0.2	0.2	0.2	0-150	2710	1000	LIME	45-15	-15			
FIVE	TD	4368	0.2	0.2	0.2	0-150	2710	1000	LIME	45-15	-15			

All interpretations are opinions based on information from attached or other measurements and assessment, and do not guarantee the accuracy or correctness of any interpretation, and we shall not, except in the case of gross or willful negligence on our part, be liable or responsible for any loss, injury, damage or expense incurred or sustained by anyone resulting from any interpretation made by any of our officers, agents or employees. These interpretations are also subject to Clause 4 of our General Terms and Conditions to not be in our standard Price Schedule.

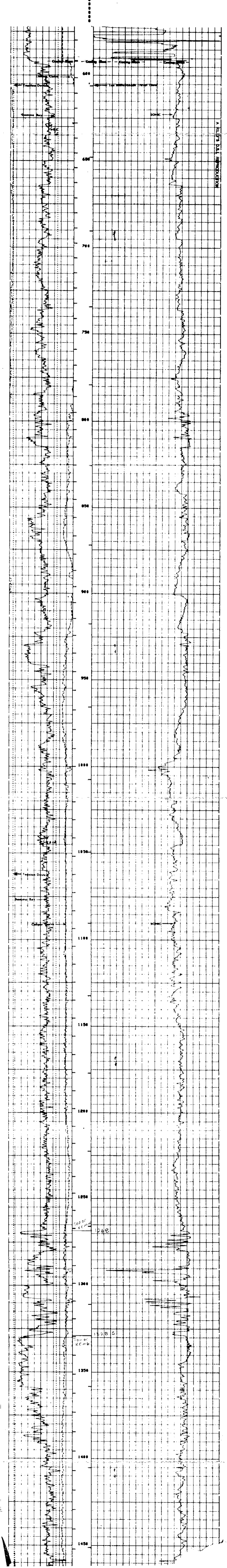
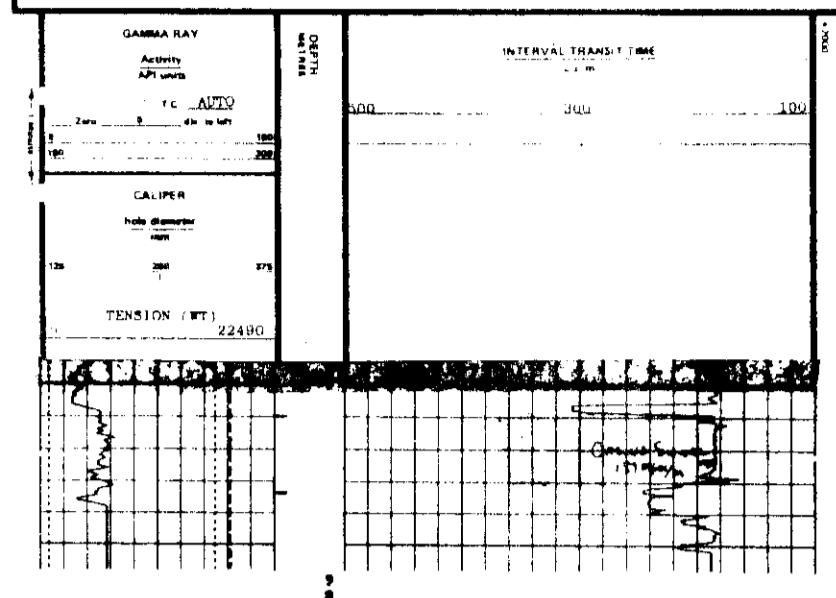


STATUS AT TIME LICENCE ISSUED N/A

<b>PROVINCE</b> BRITISH COLUMBIA <b>WELL</b> BETTY COMMOTION <b>COMPANY</b> BETTY OIL CANADA LTD.		<b>FIELD</b> BETTY COMMOTION <b>WELL</b> BETTY COMMOTION C-88-2 <b>FIELD</b>	
<b>LOCATION</b> DISTRICT: A.L.T. & G.P. DISTRICT: 1194.03 TOWNSHIP: 3718 RANGE: 11 SECTION: 11 QUAD: 1194.03		<b>SONIC LOG</b> SONIC LOG SONIC LOG	

<b>EQUIPMENT DATA</b> Well: 3718 Log: 1194.03 Date: 11/14/80 Time: 11:00 AM Operator: J. M. M. M. M. Recorder: J. M. M. M. M. Calibrator: J. M. M. M. M. Tester: J. M. M. M. M. Recorder: J. M. M. M. M. Tester: J. M. M. M. M. Recorder: J. M. M. M. M. Tester: J. M. M. M. M.	<b>LOGGING DATA</b> Log No.: 1194.03 Log Date: 11/14/80 Log Time: 11:00 AM Log Operator: J. M. M. M. M. Log Recorder: J. M. M. M. M. Log Tester: J. M. M. M. M. Log Recorder: J. M. M. M. M. Log Tester: J. M. M. M. M.
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**Borehole Compensated Sonic Log**



682  
 PR-1521, 82(43)A\*(2)



STATUS AT TIME LICENCE ISSUED: OUTPOST

PROVINCE BRITISH COLUMBIA  
 FIELD WILDCAV  
 WELL SKELLY GETTY CS  
 CORROSION C-29-C-93-P-12  
 COMPANY GETTY OIL (CANADA) LIMITED

COMPANY GETTY OIL (CANADA) LIMITED  
 WELL SKELLY GETTY CS CORROSION C-29-C-93-P-12  
 FIELD WILDCAV  
 PROVINCE BRITISH COLUMBIA  
 LOCATION C-29-C-93-P-12  
 LOG TYPE

DATE 21 MAR 1979

REMARKS & FIELD PRINTS & FINAL PRINT  
 MID RESISTIVITIES  
 RM1 = 0.138 # 19.4 C  
 RM2 = 0.139 # 19.8 C  
 RM3 = 0.140 # 20.4 C  
 DENSITY READING AFFECTED BY  
 BOREHOLE RUGOSITY

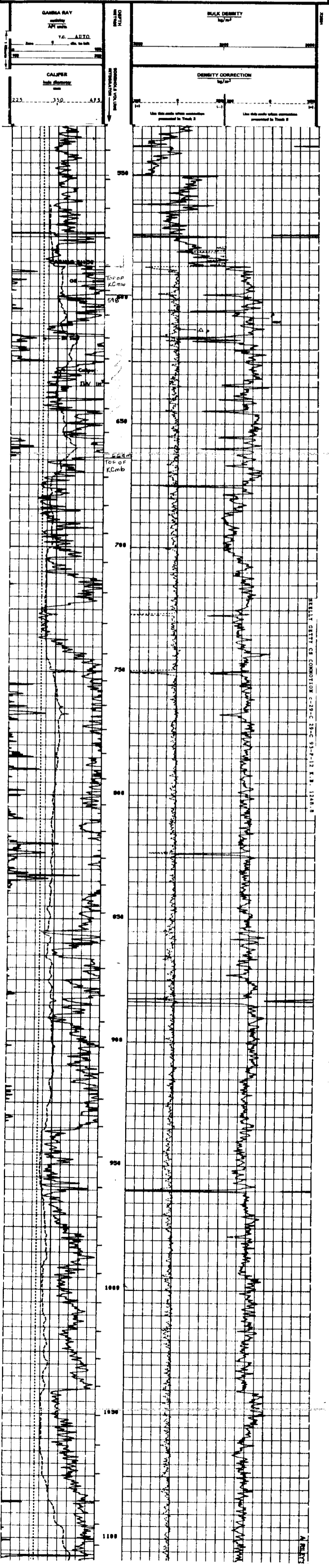
EQUIPMENT DATA  
 Run No. 289  
 Core No. 1250  
 Core Length 4.77  
 Core Type  
 Core Size  
 Core Weight  
 Core Volume  
 Core Density  
 Core Porosity  
 Core Permeability  
 Core Wettability  
 Core Orientation  
 Core Description

CALIBRATION DATA  
 Gamma Ray  
 APD Rate  
 Background  
 Total  
 Net  
 Error  
 Range

LOGGING DATA  
 Core No. 1250  
 Depth 2.5  
 Core Type  
 Core Size  
 Core Weight  
 Core Volume  
 Core Density  
 Core Porosity  
 Core Permeability  
 Core Wettability  
 Core Orientation  
 Core Description

682

PR-TREK 82 (\*3)A (\*2)

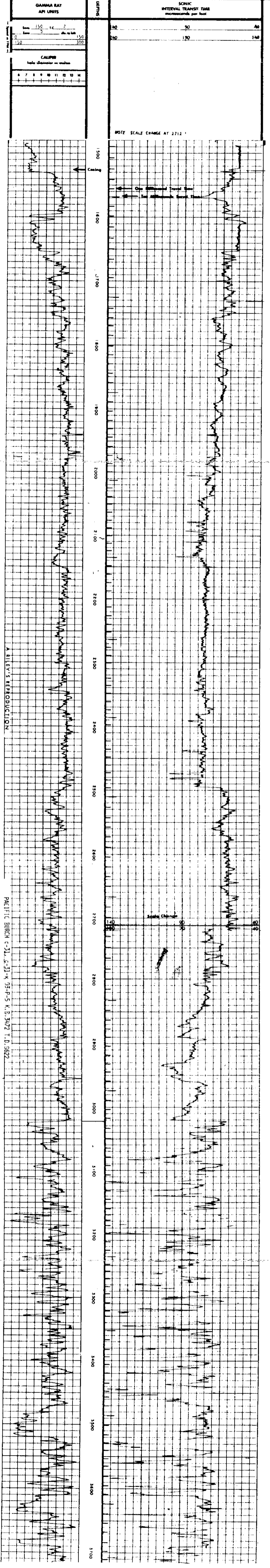




REPRODUCTION STATUS AT TIME LICENCE ISSUED NPI

<b>PROVINCE</b> BRITISH COLUMBIA <b>WELL</b> C-31-K <b>COMPANY</b> PACIFIC BIRCH LTD.		<b>FIELD</b> C-31-K <b>WELL</b> C-31-K <b>LOG</b> SONIC LOG <b>LOG NUMBER</b> 1572	
<b>LOG DATE</b> 16 JAN 78 <b>LOG TIME</b> 14:30 <b>LOG TYPE</b> LOG TAPED		<b>LOG DEPTH</b> 1572 <b>LOG INTERVAL</b> 100 <b>LOG SCALE</b> 150	
<b>LOG NUMBER</b> 1572 <b>LOG DATE</b> 16 JAN 78 <b>LOG TIME</b> 14:30		<b>LOG TYPE</b> LOG TAPED <b>LOG DEPTH</b> 1572 <b>LOG INTERVAL</b> 100 <b>LOG SCALE</b> 150	

682  
 PR-1125-1 82 (K3)A  
 (27)



A RILEY'S REPRODUCTION

PACIFIC BIRCH C-31, S-31-K 93-P-5 K.B. 3472 T.D. 8622



STATUS AT TIME LICENCE ISSUED EXPIRES 7/1/77

Well log header information including well name (281), location (MUSKIE, ALBERTA), company (REGURIS LTD), and other project details.

EQUIPMENT DATA table with columns for Run No, Date, and various equipment specifications.

CALIBRATION DATA table for Gamma Ray - CPB, showing calibration details and logs.

LOGGING DATA table for Run No 281, showing depth, tool bit, and logging parameters.

EQUIPMENT DATA table for Run No 282, detailing equipment used for this run.

CALIBRATION DATA table for Run No 282, including calibration summary.

LOGGING DATA table for Run No 282, providing logging parameters.

EQUIPMENT DATA table for Run No 283, listing equipment and remarks.

CALIBRATION DATA table for Run No 283, showing calibration details.

LOGGING DATA table for Run No 283, detailing logging data.

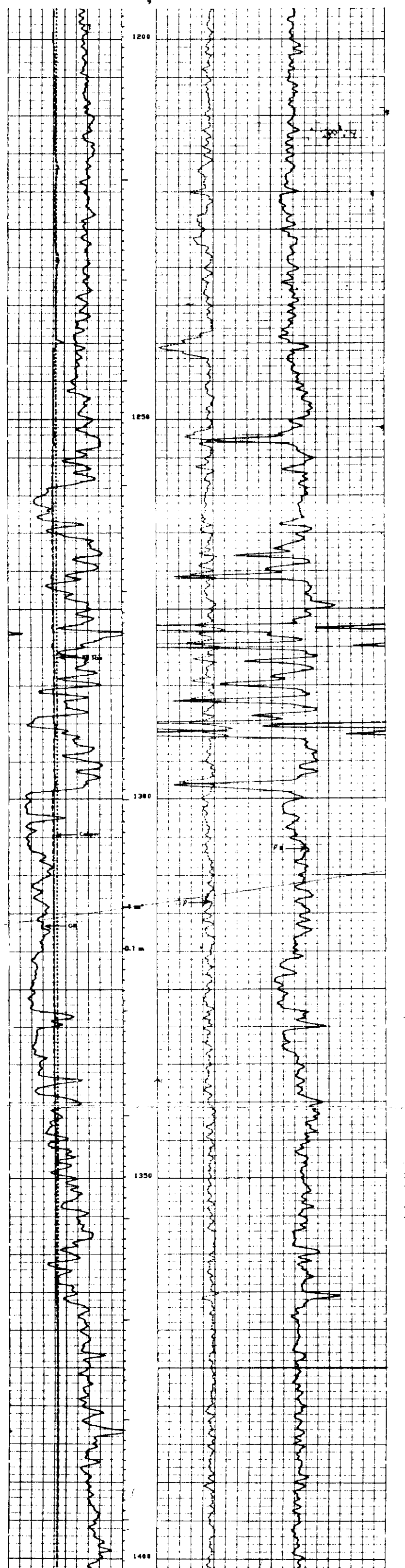
EQUIPMENT DATA table for Run No 284, with remarks on equipment.

CALIBRATION DATA table for Run No 284, including calibration summary.

LOGGING DATA table for Run No 284, providing logging parameters.

PARAMETERS table listing various well parameters such as MC, PSHR, FB, BHT, and DD with their units and values.

FILE 9



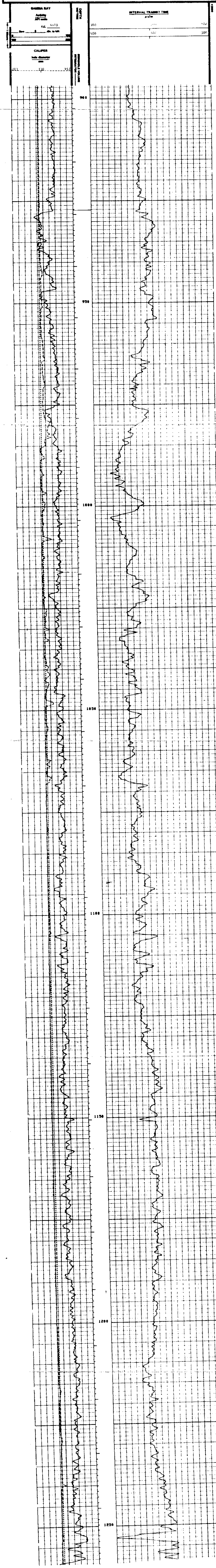
682

PR-1000, 82(3)A (2)

STATUS AT TIME LICENCE ISSUED

<b>PROVINCE</b> FIELD WELL COMPANY LOCATION FIELD NO. WELL NO. COMPANY NO. LOCATION NO.		BOREHOLE COMPENSATED SONIC LOG	
<b>EQUIPMENT DATA</b> Pump Cartridge Motor Motor Cartridge Caliper CTR Caliper Type CALIBRATION DATA Log Type Log Type Log Type Log Type		<b>REMARKS</b> 1. BOREHOLE COMPENSATED 2. SONIC LOG 3. CALIPER SHOWN WAS RECALIBRATED FROM THE PREVIOUS 4. CALIPER SHOWN WAS RECALIBRATED FROM THE PREVIOUS 5. CALIPER SHOWN WAS RECALIBRATED FROM THE PREVIOUS 6. CALIPER SHOWN WAS RECALIBRATED FROM THE PREVIOUS	
<b>LOGGING DATA</b> Log No. From To Log Type Log Type Log Type Log Type		100-200-100 0-150 25 100-200-100 0-150 25 100-200-100 0-150 25	

TR. TEST 82 (3) 0 (2)  
 682



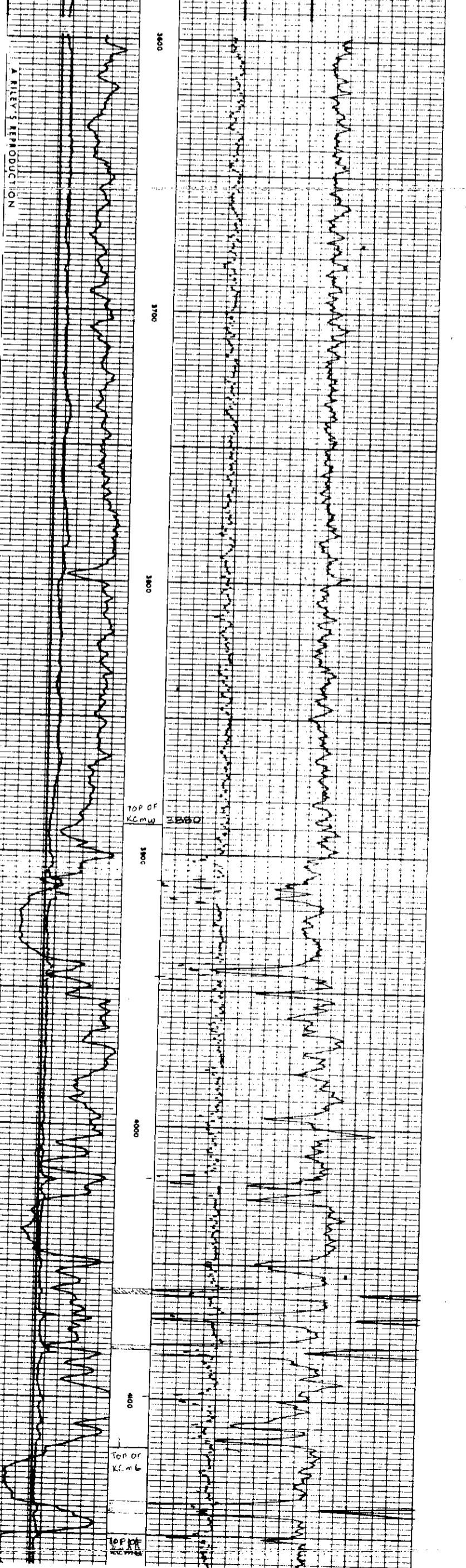
PROVINCE	BRITISH COLUMBIA	COMPANY	QUASAR PETROLEUM LTD.
FIELD	WILDCAT	WELL	QUASAR ET AL OETEC
LOCATION	WILDCAT	LOG ON BOTTOM	2330 / 28ch
DATE	28 FEB 74	LOG ON SURFACE	1115 / 15h
LOG ON	17 JUNE 74	LOG ON BOTTOM	2330 / 28ch
LOG ON SURFACE	1115 / 15h	LOG ON BOTTOM	2330 / 28ch

**COMPENSATED NEUTRON  
 FORMATION DENSITY**

1.375 CAL RE

EQUIPMENT DATA		CALIBRATION DATA	
Run No	001	API Scale	0-150
Log	7566	Background CPS	80
Log	916	Total CPS	480
Log	1897	Long Spacing	210
Log	2328	Short Spacing	500
Log	2512	Long Spacing	210
Log	2512	Short Spacing	500

LOOKING DATA			
Run No	Depth	Speed Ft/Min	API Scale
001	7566	30	0-150
001	916	30	0-150
001	1897	30	0-150
001	2328	30	0-150
001	2512	30	0-150



PR-1 REF 1 82(\*) (A) (C)

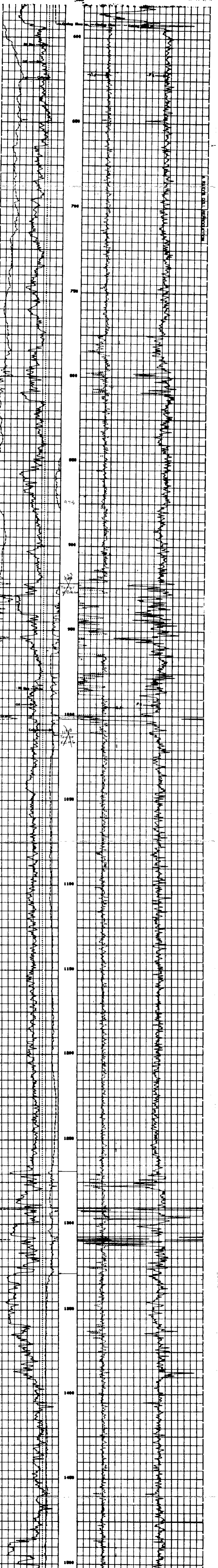
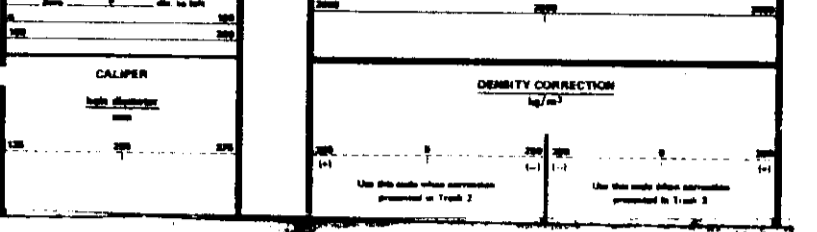
682

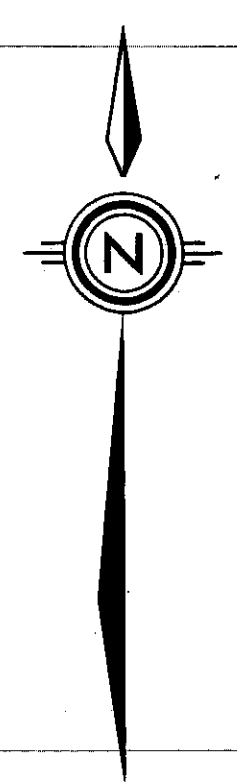
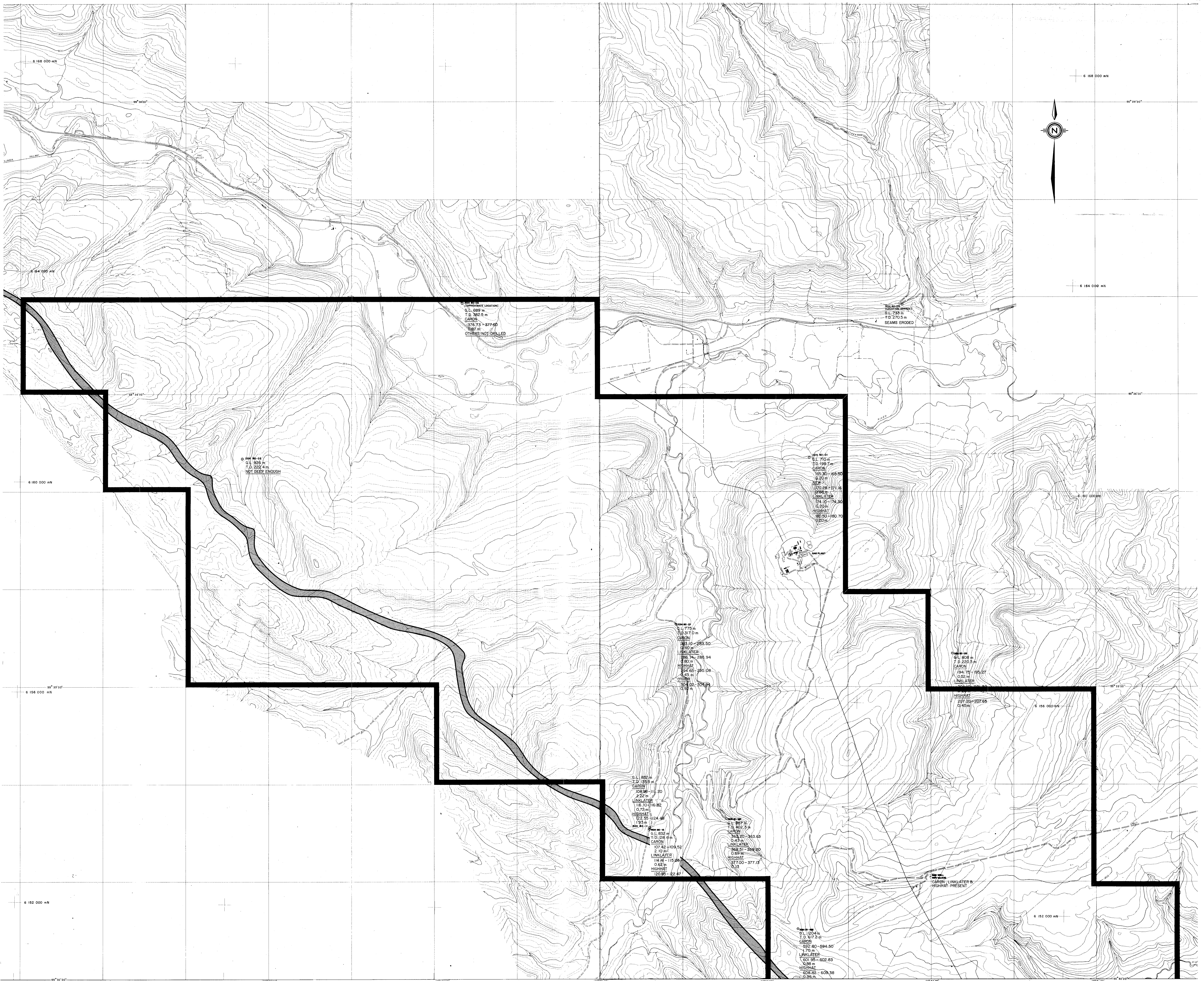
A NILEY'S REPRODUCTION

STATUS AT TIME LICENCE ISSUED: NFW

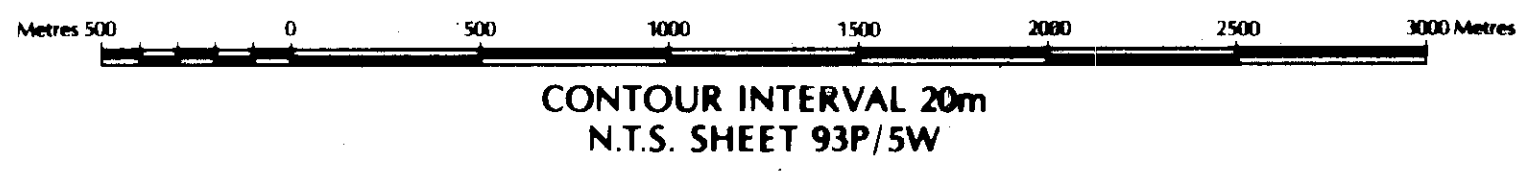
PROVINCE BRITISH COLUMBIA FIELD GETTY CONNECTION WELL C-53-C COMPANY GETTY OIL CANADA LIMITED		COMPANY GETTY OIL CANADA LTD. WELL GETTY CONNECTION C-53-C FIELD BRITISH COLUMBIA LOCATION C-53-C, 2A-2-12 TOWN FARMER DIST. 1100.03 SEC. 1100.03 TWP. 1113.34 R. 1113.34 S. 1113.34 T. 1113.34	
EQUIPMENT DATA Run No. NSM912 Log No. 1624 Date 27A Time 1010 Operator Recorder Plotter Printer Spooler Plot Size Plot Speed Plot Density Plot Resolution Plot Scale Plot Units Plot Orientation Plot Color Plot Font Plot Size Plot Speed Plot Density Plot Resolution Plot Scale Plot Units Plot Orientation Plot Color Plot Font		REMARKS R FIELD PRINTS LOG RUN IN COMBINATION WITH WOP LOG TAPER 50%	
CALIBRATION DATA Run No. NSM912 Log No. 1624 Date 27A Time 1010 Operator Recorder Plotter Printer Spooler Plot Size Plot Speed Plot Density Plot Resolution Plot Scale Plot Units Plot Orientation Plot Color Plot Font			
LOSS DATA Run No. NSM912 Log No. 1624 Date 27A Time 1010 Operator Recorder Plotter Printer Spooler Plot Size Plot Speed Plot Density Plot Resolution Plot Scale Plot Units Plot Orientation Plot Color Plot Font			

72-12561 82(3)A (12)  
682



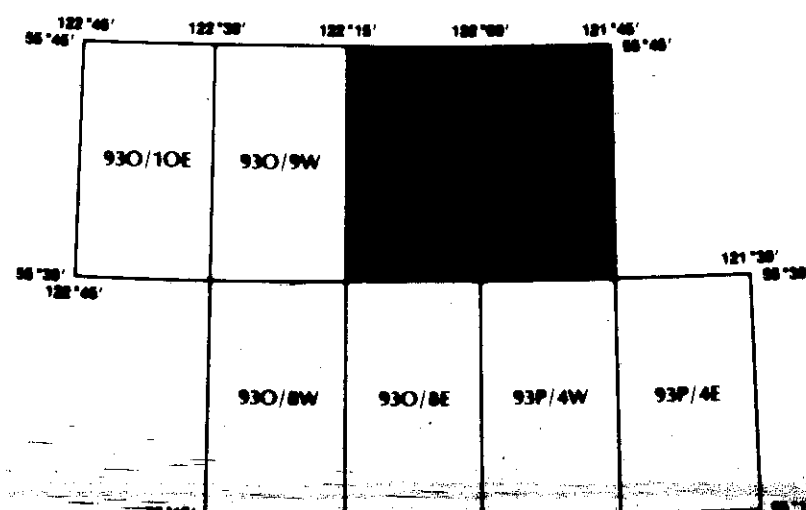


SCALE 1:20,000



CONTOUR INTERVAL 20m  
N.T.S. SHEET 93P/5W

SHEET INDEX



SURVEY NOTE

The map data was compiled photo-grammetrically and is based on the Universal Transverse Mercator grid and geoidic datum.

LEGEND

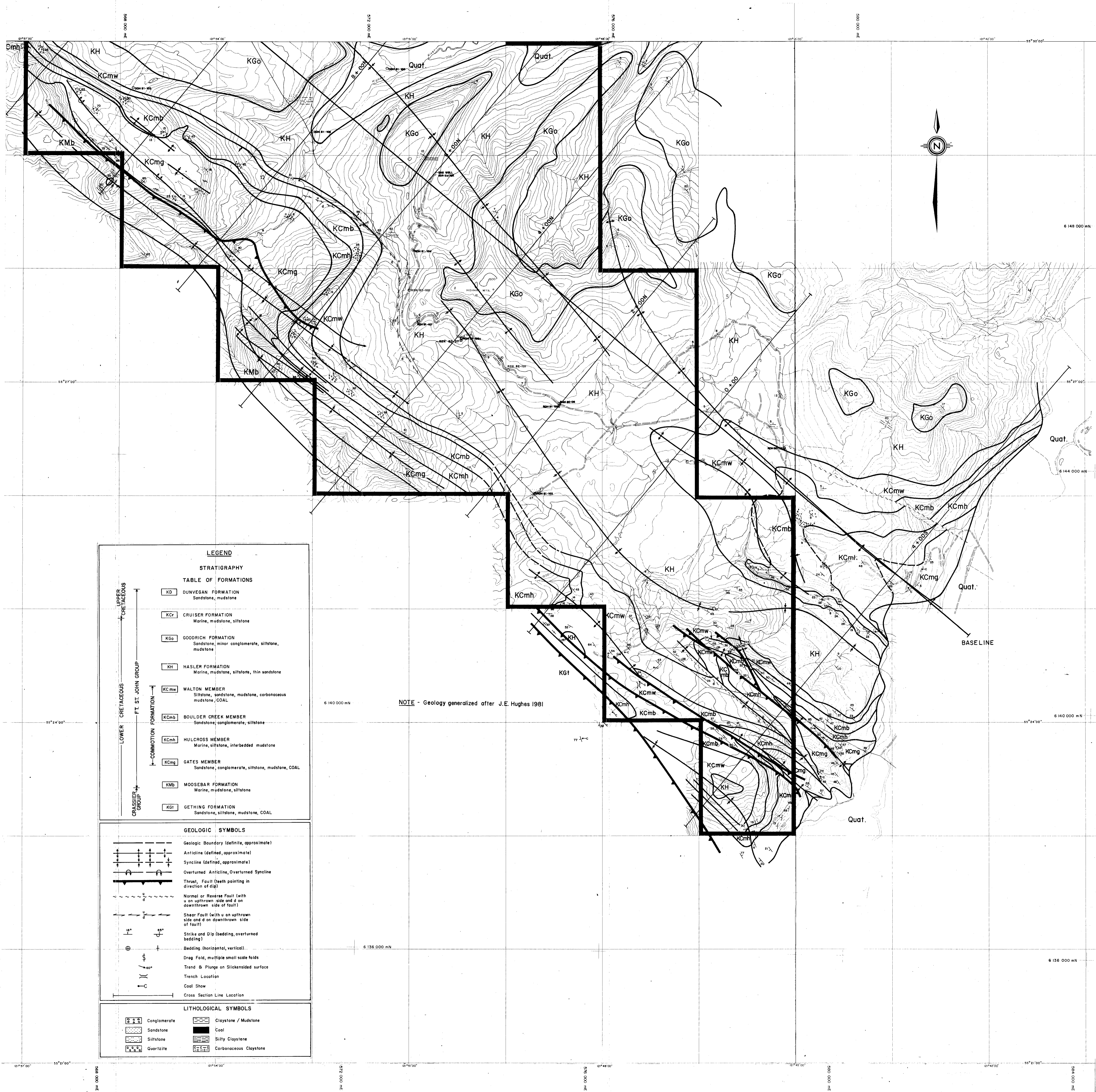
MAIN ROAD	—————
SECONDARY ROAD	—————
TRACK or TRAIL	.....
CUTLINE	.....
RIVER	~~~~~
STREAM	~~~~~
LAKE	.....
CONTOUR	.....

682

**GULF CANADA RESOURCES INC.**  
Calgary Alberta

**TRETI COAL PROJECT**  
Northeast British Columbia  
1982  
MAP No. 3  
DOWN-HOLE DATA MAP  
NORTH SHEET

DRAWN BY: DATE: Nov. 1982 SCALE: 1:20,000



**LEGEND**

**STRATIGRAPHY**

**TABLE OF FORMATIONS**

<b>UPPER CRETACEOUS</b>	<b>KD</b> DUNVEGAN FORMATION Sandstone, mudstone
	<b>KCr</b> CRUISER FORMATION Marine, mudstone, siltstone
	<b>KGo</b> GOODRICH FORMATION Sandstone, minor conglomerate, siltstone, mudstone
	<b>KH</b> HASLER FORMATION Marine, mudstone, siltstone, thin sandstone
<b>LOWER CRETACEOUS</b>	<b>KCma</b> WALTON MEMBER Siltstone, sandstone, mudstone, carbonaceous mudstone, COAL
	<b>KCmb</b> BOULDER CREEK MEMBER Sandstone, conglomerate, siltstone
	<b>KCmc</b> HULCROSS MEMBER Marine, siltstone, interbedded mudstone
	<b>KCmg</b> GATES MEMBER Sandstone, conglomerate, siltstone, mudstone, COAL
	<b>KMd</b> MOOSEBAR FORMATION Marine, mudstone, siltstone
<b>CRASSIER GROUP</b>	<b>KGt</b> GETTING FORMATION Sandstone, siltstone, mudstone, COAL

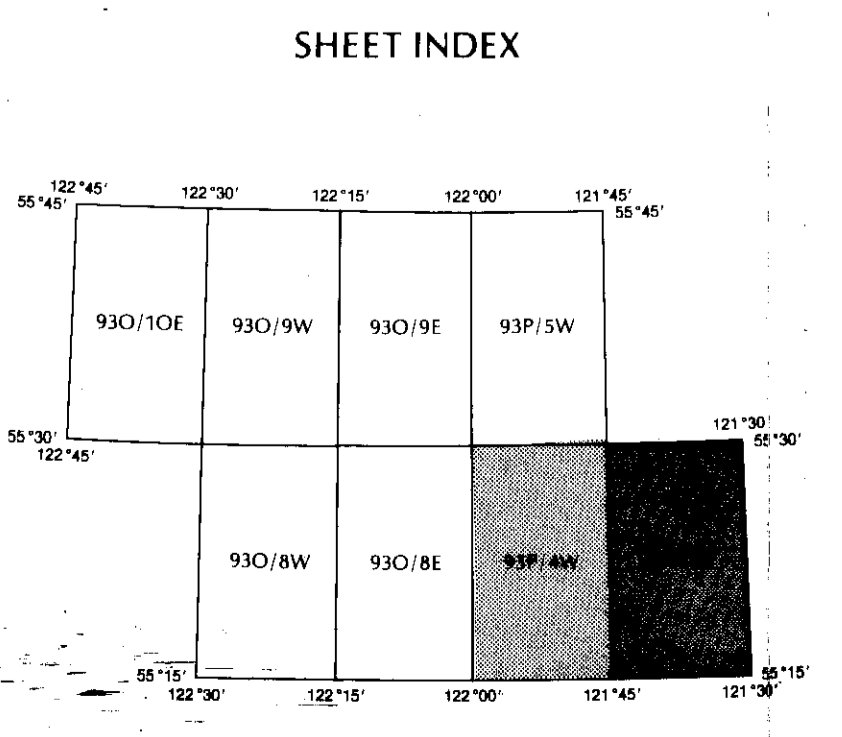
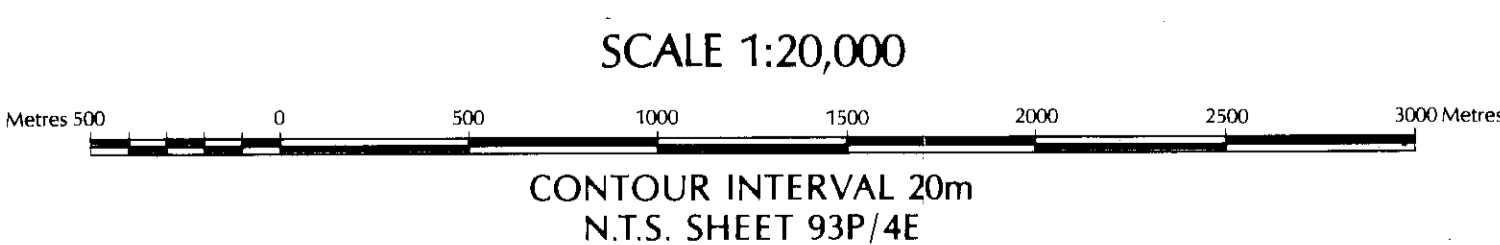
**GEOLOGIC SYMBOLS**

- Geologic Boundary (definite, approximate)
- Anticline (defined, approximate)
- Syncline (defined, approximate)
- Overtured Anticline, Overtured Syncline
- Thrust, Fault (teeth pointing in direction of dip)
- Normal or Reverse Fault (with up on upthrown side and d on downthrown side of fault)
- Shear Fault (with u on upthrown side and d on downthrown side of fault)
- Strike and Dip (bedding, overturned bedding)
- Bedding (horizontal, vertical)
- Drag Fold, multiple small scale folds
- Trend & Plunge on Slickensided surface
- Trench Location
- Coal Show
- Cross Section Line Location

**LITHOLOGICAL SYMBOLS**

Conglomerate	Claystone / Mudstone
Sandstone	Coal
Siltstone	Silty Claystone
Quartzite	Carbonaceous Claystone

NOTE - Geology generalized after J.E. Hughes 1981



**SURVEY NOTE**  
The map data was compiled photogrammetrically and is based on the Universal Transverse Mercator grid and geoidic datum.

**LEGEND**

- MAIN ROAD
- SECONDARY ROAD
- TRACK OR TRAIL
- CUTLINE
- BYE
- STREAM
- LAKE
- CONTOURS

682

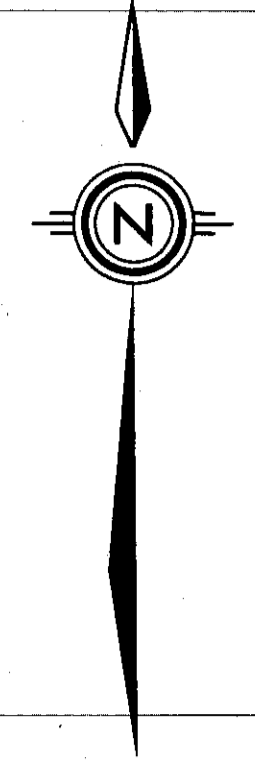
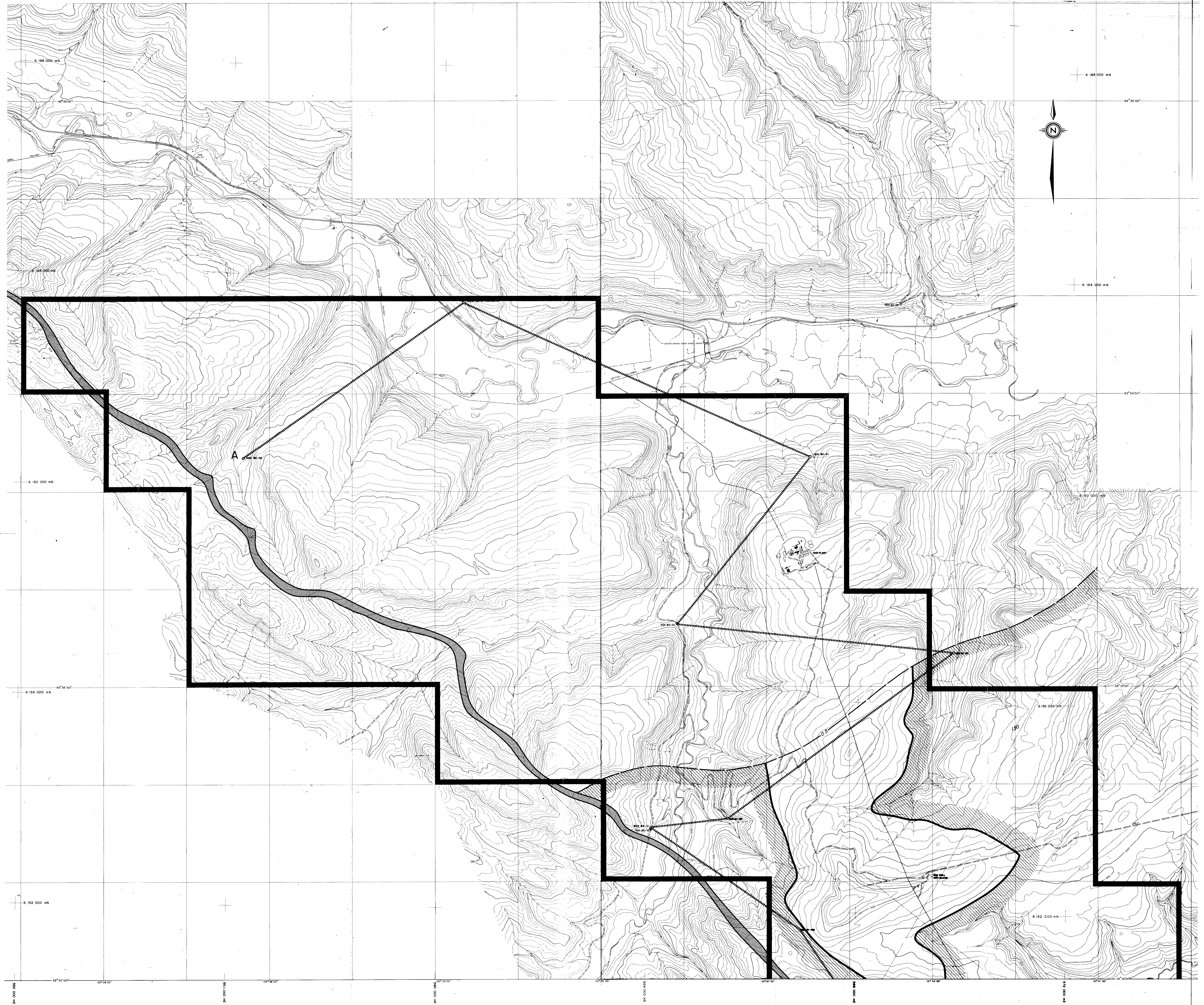
**GULF CANADA RESOURCES INC.**  
Coal Division

CALGARY ALBERTA

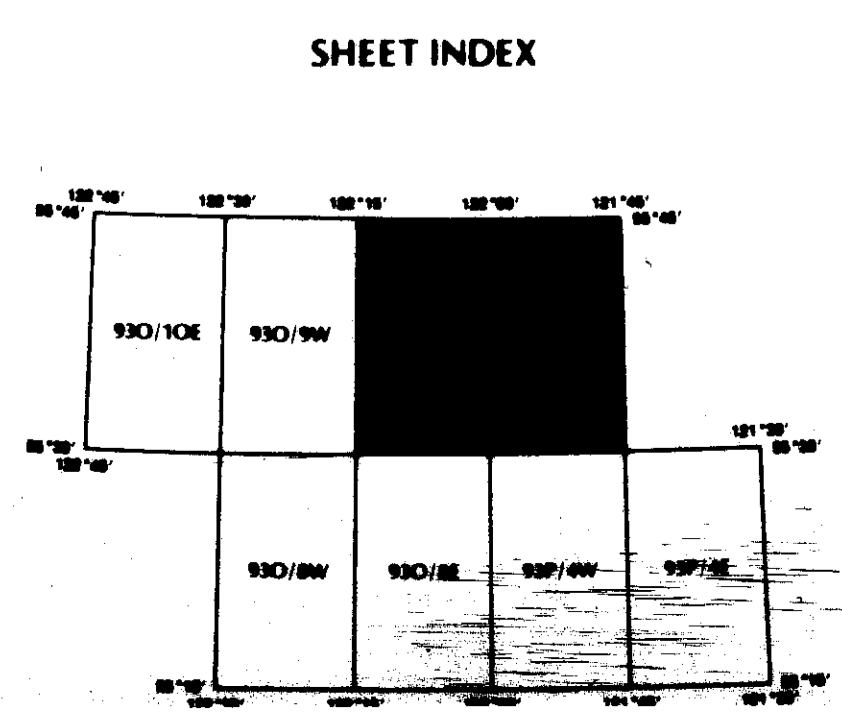
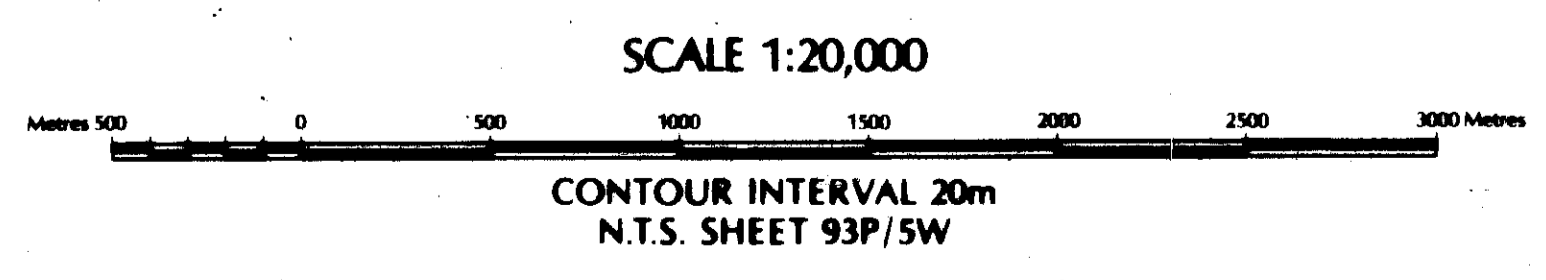
**TRETI COAL PROJECT**  
Northeast British Columbia  
1982  
MAP NO. 2  
GEOLOGY MAP WITH  
BASELINE AND CROSS SECTION  
SOUTH SHEET

DRAWN BY: Hardy Assoc. Ltd. DATE: Nov. 1981	SCALE 1:20,000
PREPARED BY: K. SAMSON	DRAWING No.
APPROVED BY:	DATE: DEC. 82

FILE No.



A



**SURVEY NOTE**  
The map data was compiled photo-grammetrically and is based on the Universal Transverse Mercator grid and geoidic datum.

**LEGEND**

MAIN ROAD	—
SECONDARY ROAD	- - -
TRAIL OR TRACK	· · · · ·
CLIFF LINE	— · — · — ·
RIVER	~~~~~
STREAM	~~~~~
LAKE	~~~~~
CONTOURS	~~~~~

682

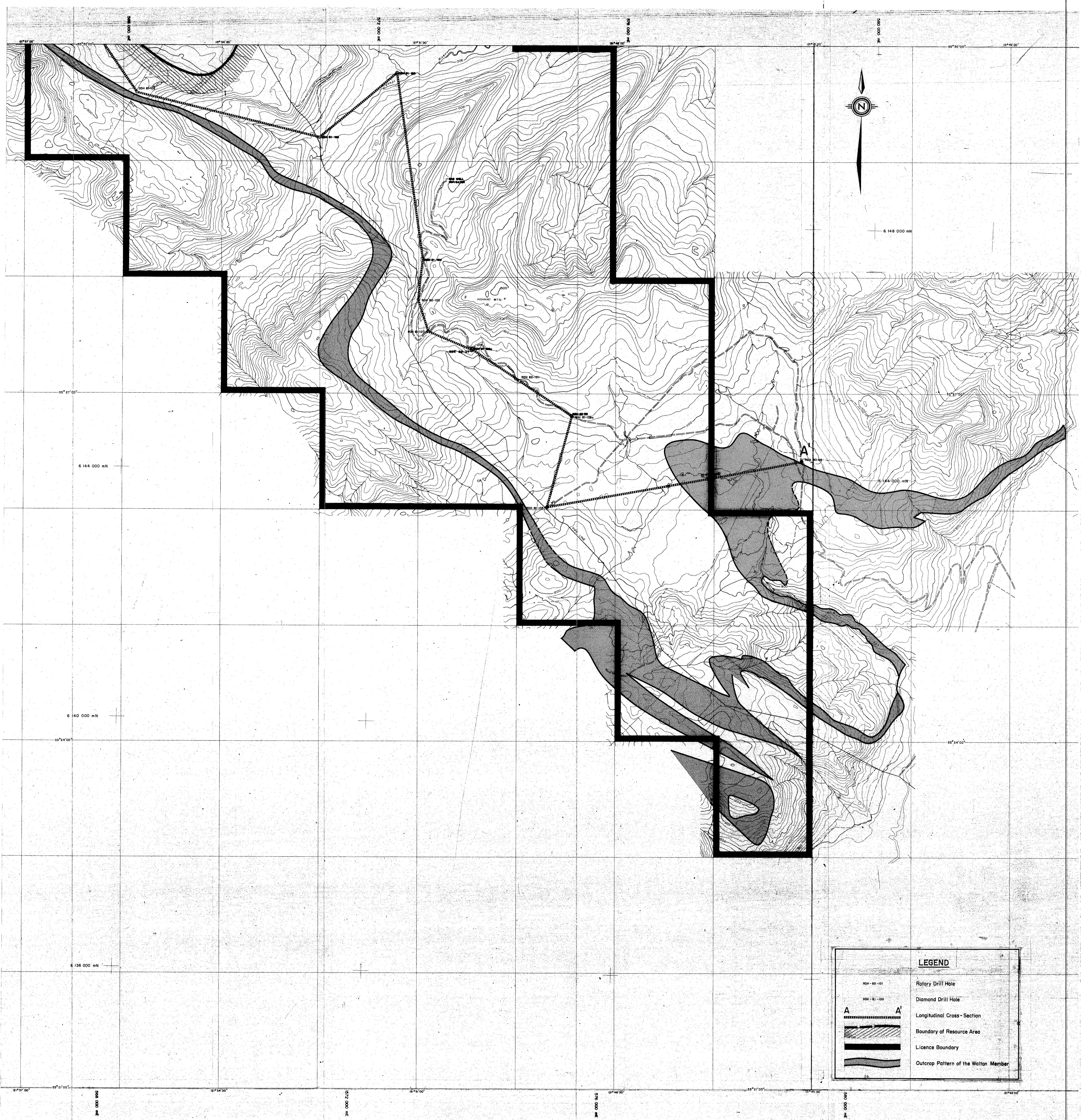
**GULF CANADA RESOURCES INC.**  
Calgary Coal Division ALBERTA

**TRETI COAL PROJECT**  
Northeast British Columbia  
1982

MAP No. 1 - NORTH SHEET  
1982 LICENCE BOUNDARY, GENERAL RESOURCE AREA,  
LONGITUDINAL SECTION & DRILL HOLE LOCATIONS

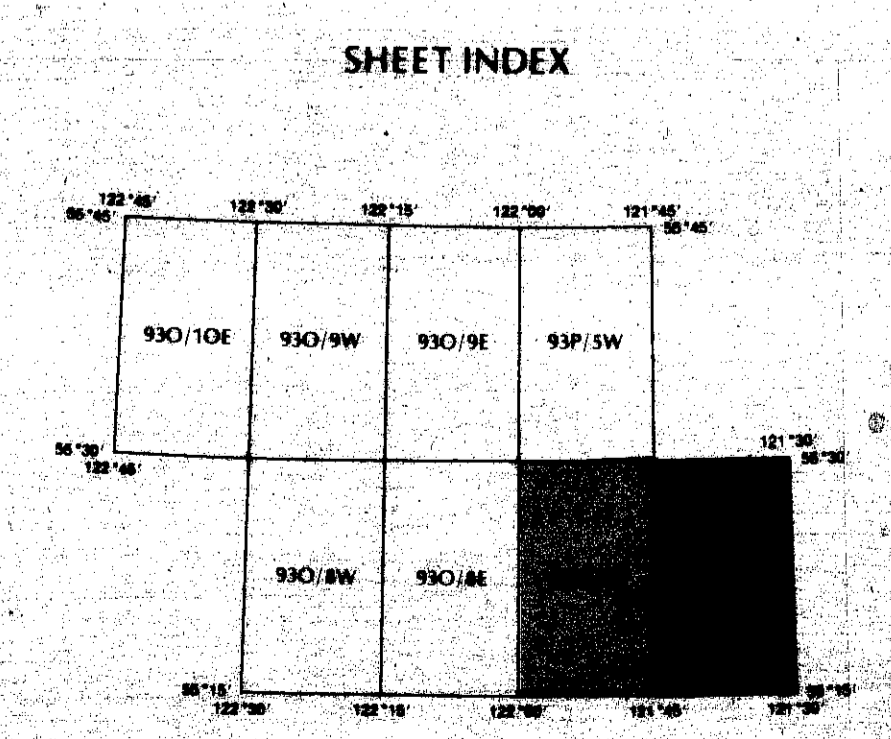
DESIGNED BY: W. F. Carpenter	DATE: Nov. 1982	DRAWN BY: [Signature]
CHECKED BY: [Signature]	DATE: Nov. 1982	SCALE: 1:20,000





LEGEND	
●●●●●●●●	Rotary Drill Hole
○●●●●●●●	Diamond Drill Hole
—A—A'—	Longitudinal Cross-Section
▨▨▨▨▨▨	Boundary of Resource Area
▬▬▬▬▬▬	Licence Boundary
~~~~~	Outcrop Pattern of the Walton Member

SCALE 1:20,000  
 METERS 0 500 1000 1500 2000 2500 3000  
 CONTOUR INTERVAL 20m  
 N.T.S. SHEET 93P/4E



**SURVEY NOTE**  
 The map data was compiled photographically and is based on the Universal Transverse Mercator grid and geoid datum.

**LEGEND**

ROADWAY  
 SECONDARY ROAD  
 TRAIL OR PATH  
 CLIFF LINE  
 STREAM  
 FENCE  
 CONTOURS

682

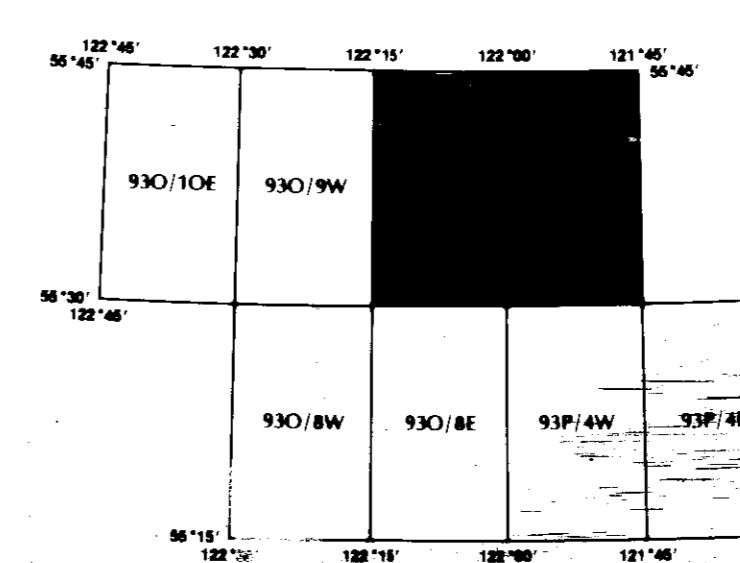
<b>GULF CANADA RESOURCES INC.</b>		
Calgary Alberta		
<b>TRETI COAL PROJECT</b>		
Northeast British Columbia		
1982		
MAP No. 1 - SOUTH SHEET		
1982 LICENCE BOUNDARY, GENERAL RESOURCE AREA, LONGITUDINAL SECTION & DRILL HOLE LOCATIONS		
DRAWN BY:	DATE: Nov. 1982	SCALE: 1:20,000
PREPARED BY: W.F. Carpenter	DATE: Nov. 1982	DRAWING NO.
APPROVED BY:	DATE: Nov. 1982	FILE No.



SCALE 1:20,000

CONTOUR INTERVAL 20m  
N.T.S. SHEET 93P/5W

SHEET INDEX



SURVEY NOTE

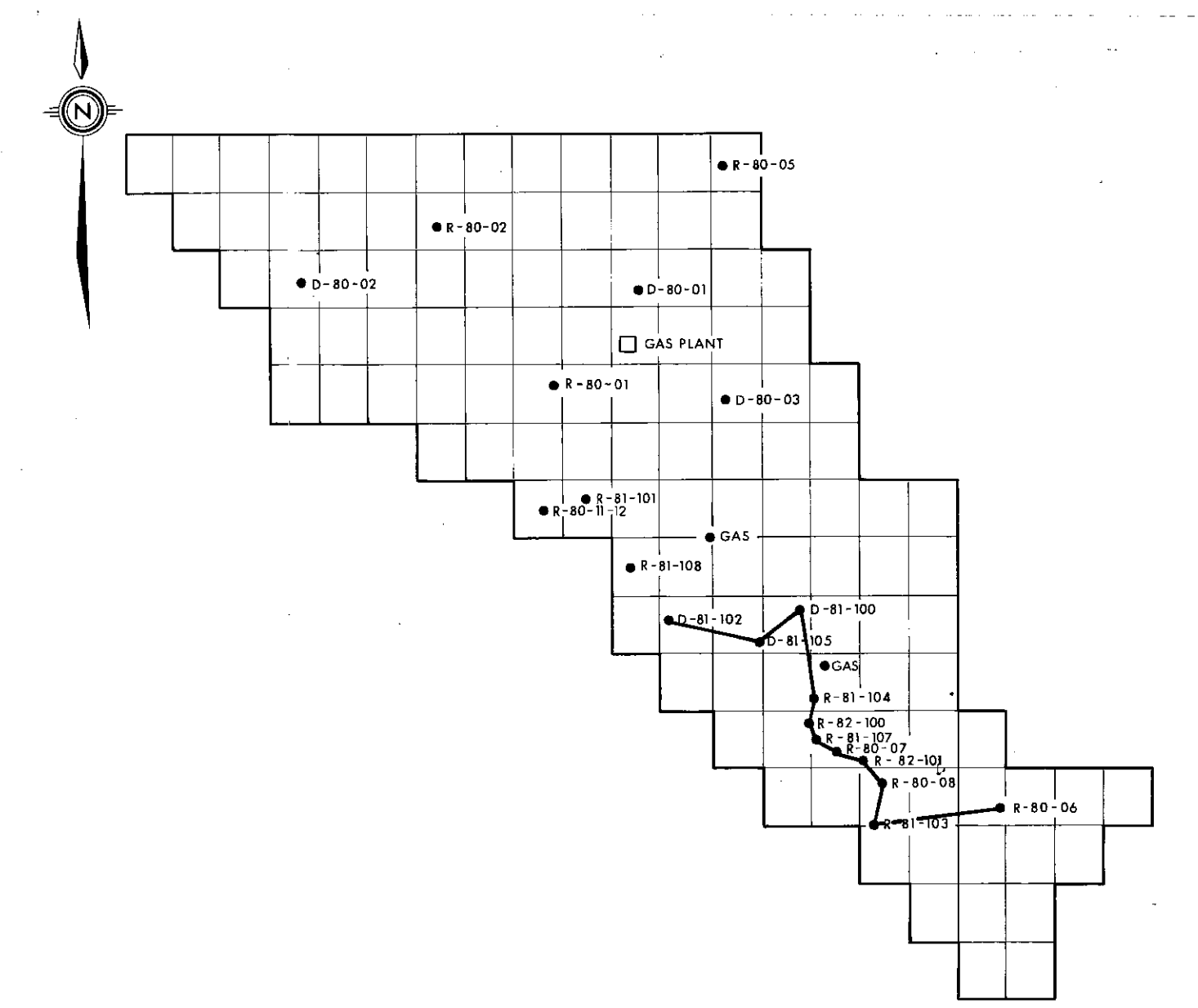
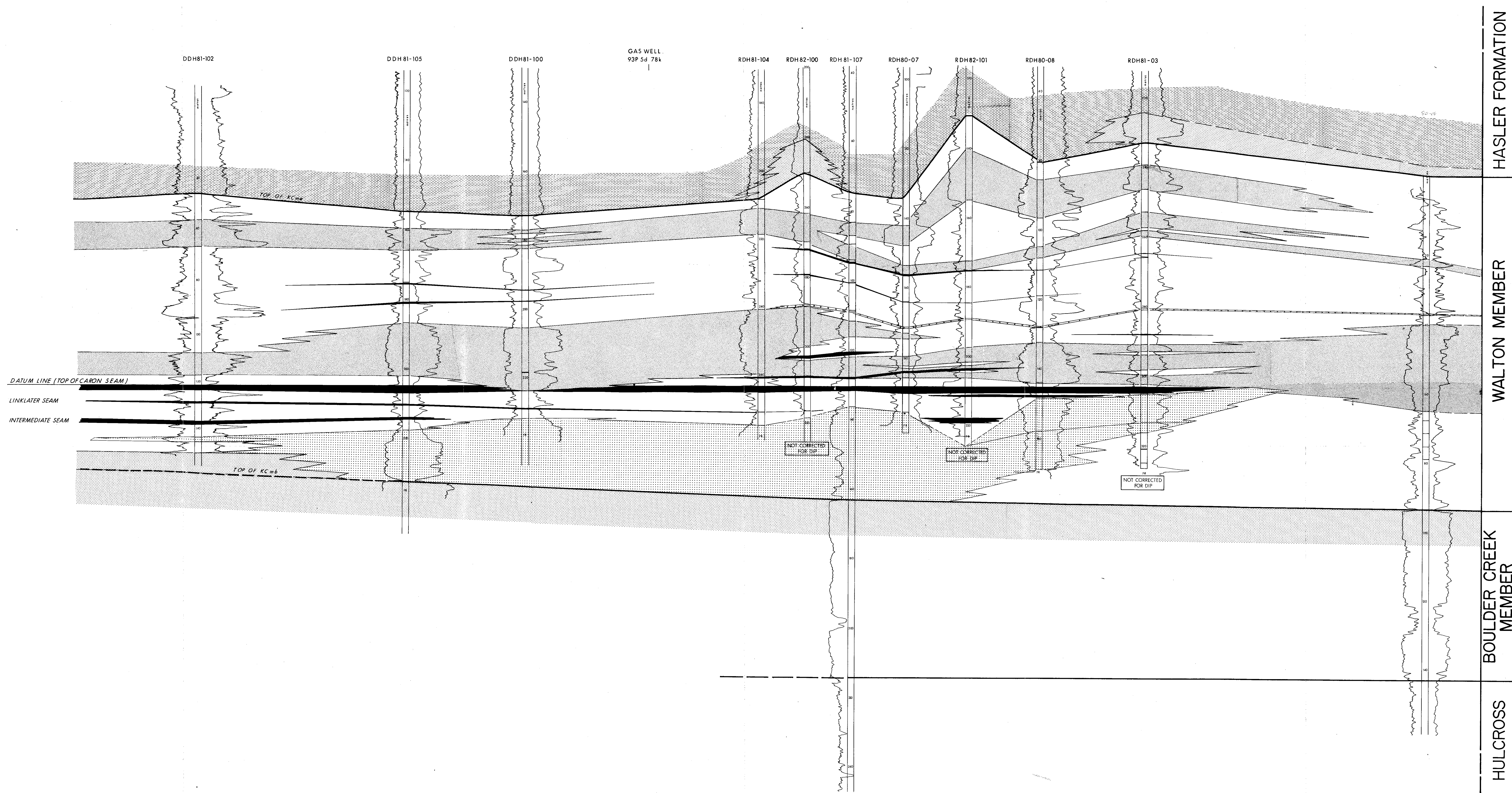
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LEGEND

- MAIN ROAD
- WINDY ROAD
- TRACK or FEAR
- CLIFF
- STREAM
- RAIL
- CONTOUR

682

<b>GULF CANADA RESOURCES INC.</b>	
CALGARY	ALBERTA
<b>TRETI COAL PROJECT</b>	
Northeast British Columbia	
1982	
MAP NO. 2	
GEOLOGY MAP WITH	
BASELINE AND CROSS SECTION	
NORTH SHEET	
DRAWN BY: HARRY ABBOTT	DATE: Nov. 1981
APPROVED BY: K. SAMSON	DATE: DEC. 1982
SCALE 1:20,000	DRAWING No.



- LEGEND**
- MARINE MUDSTONE
  - FLUVIAL SANDSTONE
  - MARINE SANDSTONE
  - DISTRIBUTARY SANDSTONE
  - CONTINENTAL STRATA (S.S., SILTS., MS., COAL)
  - COAL
  - VOLCANIC ASH
  - DRILL HOLE COLUMN ; GAMMA / NEUTRON TRACE

*Keep all "new" impressions from archive*  
*no scale - west or houring* **682**

**GULF CANADA RESOURCES INC.**  
 TREFI COAL PROJECT  
 1982  
 STRATIGRAPHIC CORRELATION

Drawn	J.M.L.	Checked	W.F.C.	Date	DEC. 1982
Approved	W.F.C.			Orig. Scale	
				File No.	82.3472.030

**Northwest**  
 Resource Consultants Ltd.

HASLER FORMATION  
 WALTON MEMBER  
 BOULDER CREEK MEMBER  
 HULCROSS

HASLER FORMATION

WALTON MEMBER

BOULDER CREEK MEMBER

D.D.H.-80-02

R.D.H.-80-02

D.D.H.-80-01

R.D.H.-80-1

D.D.H.-80-03

R.D.H.-81-101

R.D.H.-80-11/12

D.D.H.-81-108

D.D.H.-81-102

DATUM LINE (TOP OF CARON SEAM)

CARON

INTERMEDIATE

LINKLATER

HIGHHAT

CARON SEAM

LINKLATER SEAM

HIGHHAT SEAM

INTERMEDIATE SEAM

TOP OF KC#4

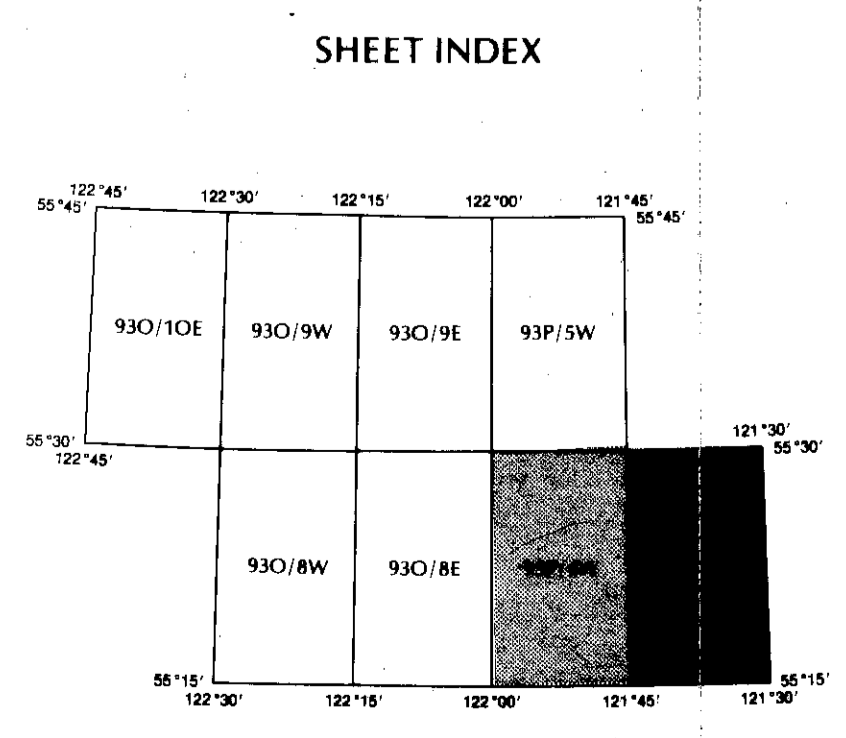
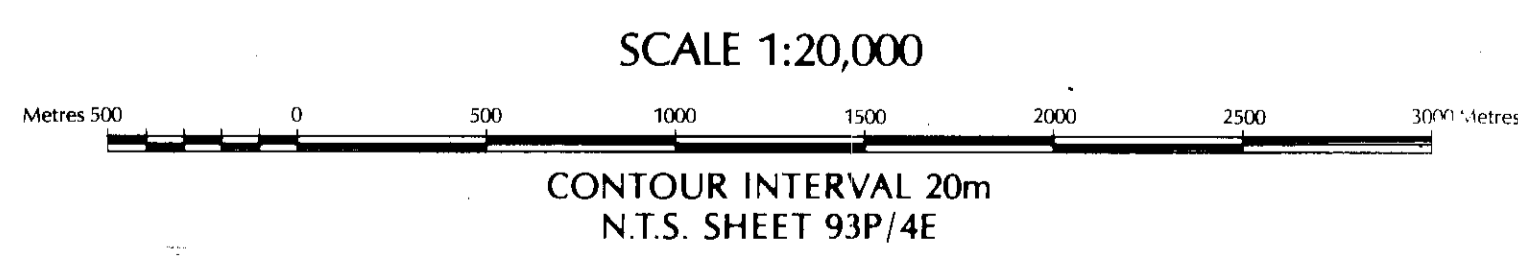
LEGEND

- MARINE MUDSTONE
- FLUVIAL SANDSTONE
- MARINE SANDSTONE
- DISTRIBUTARY SANDSTONE
- CONTINENTAL STRATA (S.S., S.I.S., M.S., COAL)
- COAL
- VOLCANIC ASH
- DRILL HOLE COLUMN, GAMMA/NEUTRON TRACE

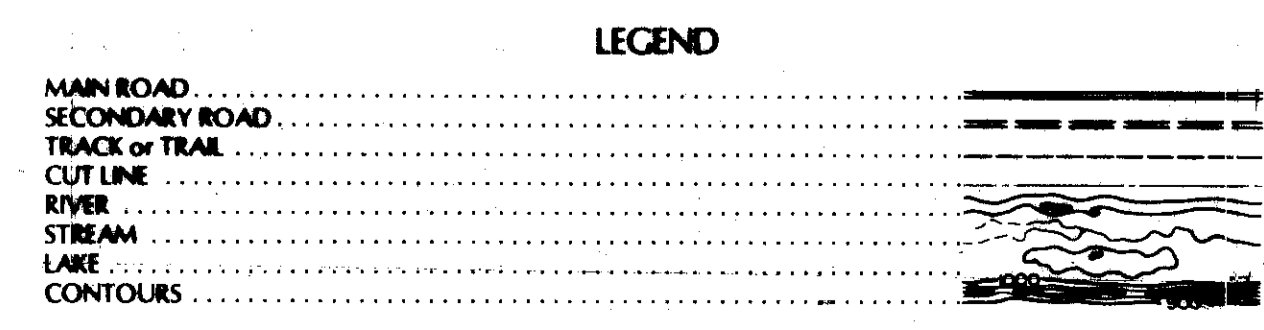
Keep the same as original  
703216-1001 or 1002  
682

GULF CANADA RESOURCES INC.  
TREFI COAL PROJECT  
1982  
STRATIGRAPHIC CORRELATION  
Sheet 1 of 2

Drawn: M.J.	Checked: W.F.C.	Date: DEC 1982
Approved: W.F.C.	Original: W.F.C.	File No: 823472.020

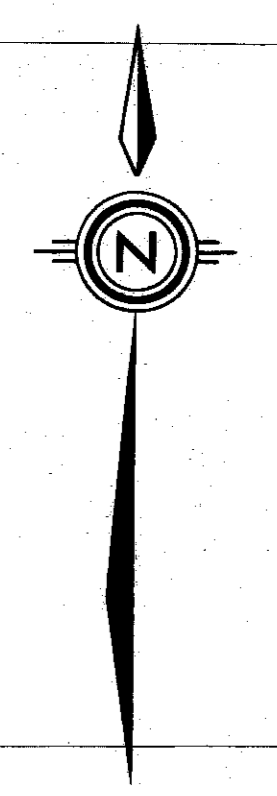
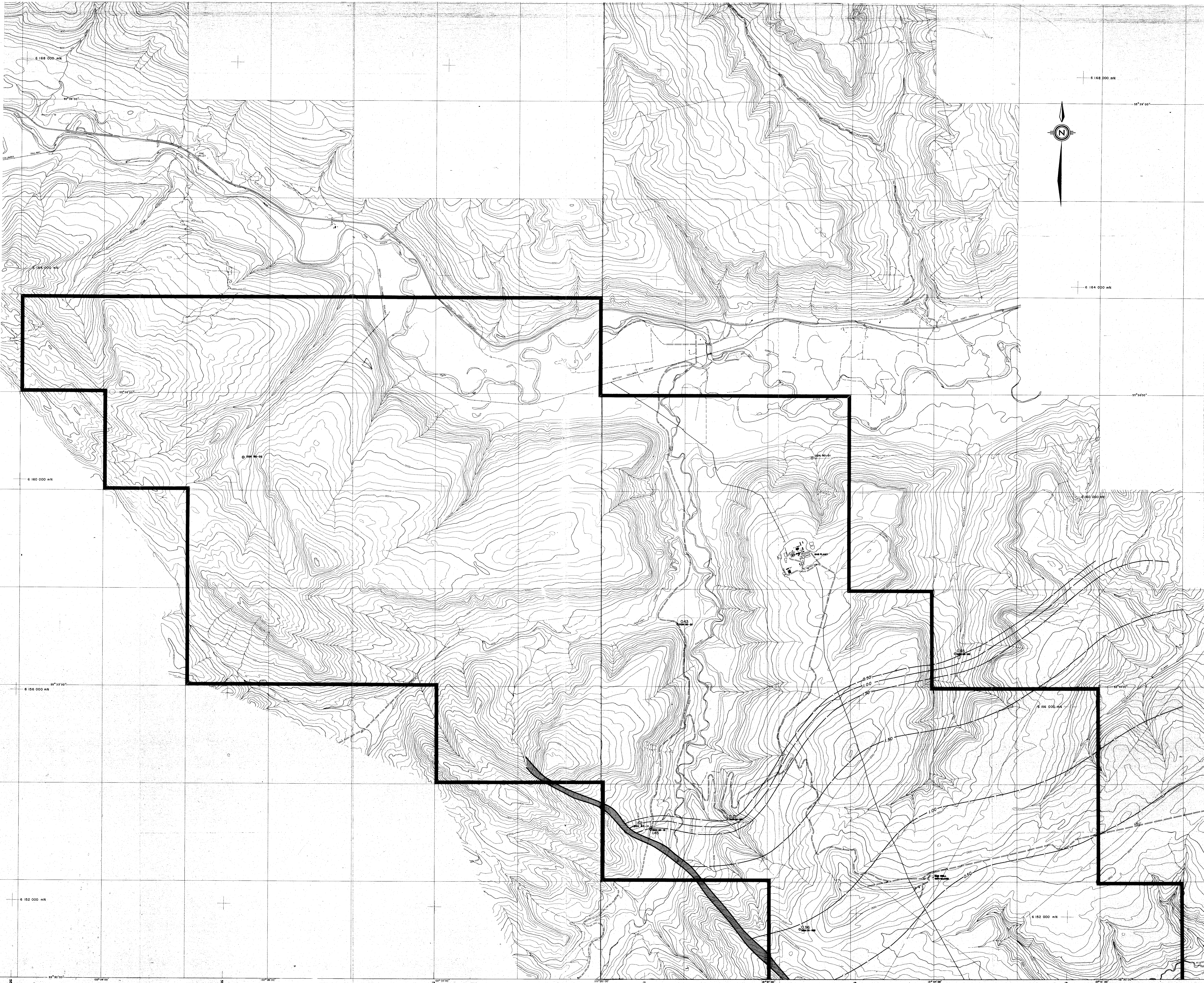


SURVEY NOTE  
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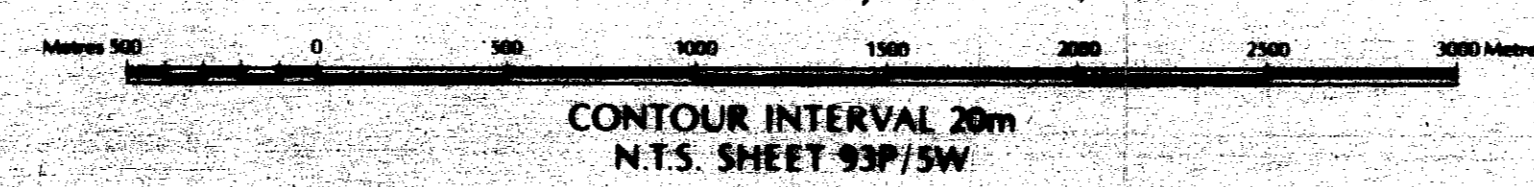


682

<b>GULF CANADA RESOURCES INC.</b>		
CALGARY	ALBERTA	
Coal Division		
<b>TRETI COAL PROJECT</b>		
Northeast British Columbia		
1982		
MAP No. 7		
ISOPACH		
HIGHHAT SEAM		
SOUTH SHEET		
DRAWN BY: Hardy Assoc. Ltd. DATE: Nov. 1981	SCALE 1:20,000	
PREPARED BY:	DRAWING No.	
APPROVED BY:	DATE:	FILE No.

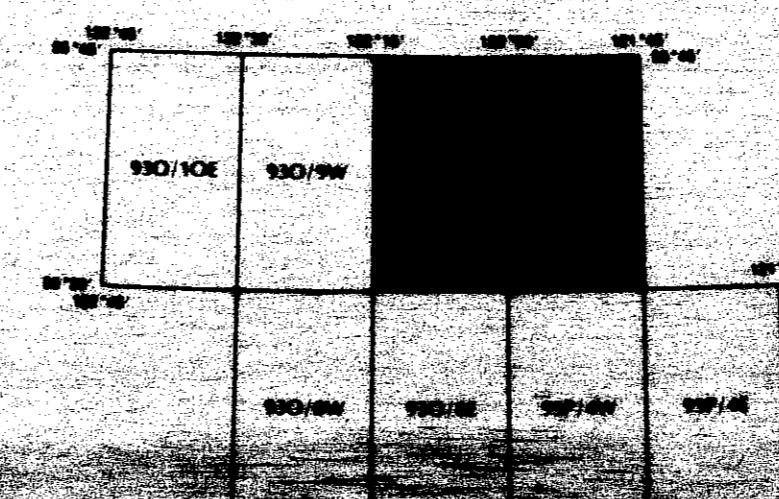


SCALE 1:20,000



CONTOUR INTERVAL 20m  
NTS. SHEET 93P/5W

SHEET INDEX



**SURVEY NOTE**  
The map data was compiled photo-geometrically and is based on the Universal Transverse Mercator grid and geoidic datum.

**LEGEND**

- MAIN ROAD
- SECONDARY ROAD
- TRACK or TRAIL
- DITCH
- WATER

**GULF CANADA RESOURCES INC.**  
Coal Division

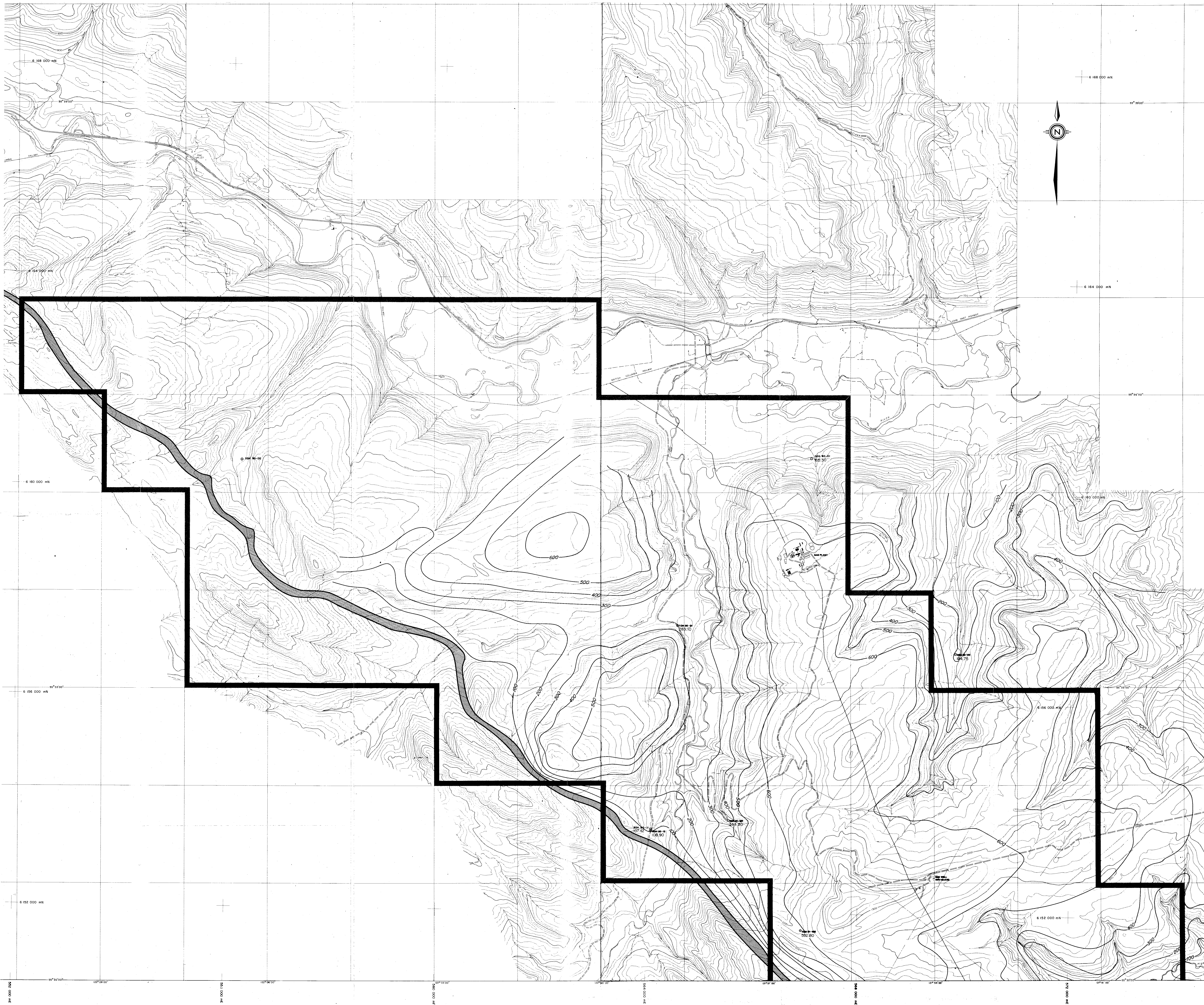
CALGARY ALBERTA

682

**TRETI COAL PROJECT**  
Northeast British Columbia

1982  
MAP No. 7  
ISORACH  
HIGHHAT SEAM  
NORTH SHEET

PREPARED BY: \_\_\_\_\_ DATE: \_\_\_\_\_  
APPROVED BY: \_\_\_\_\_ DRAWING No. \_\_\_\_\_

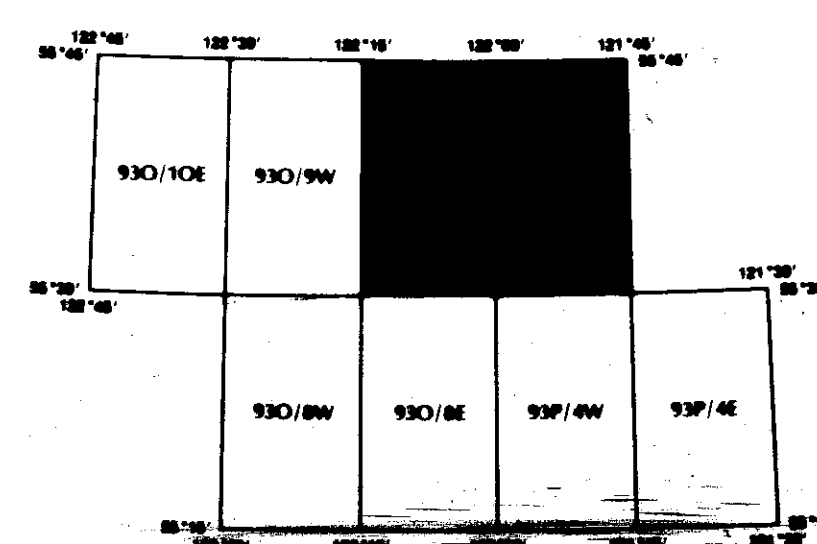


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CONTOUR INTERVAL 20m  
N.T.S. SHEET 93P/5W

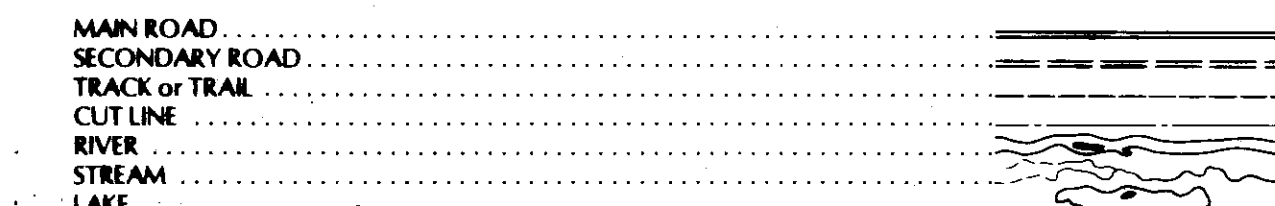


SHEET INDEX



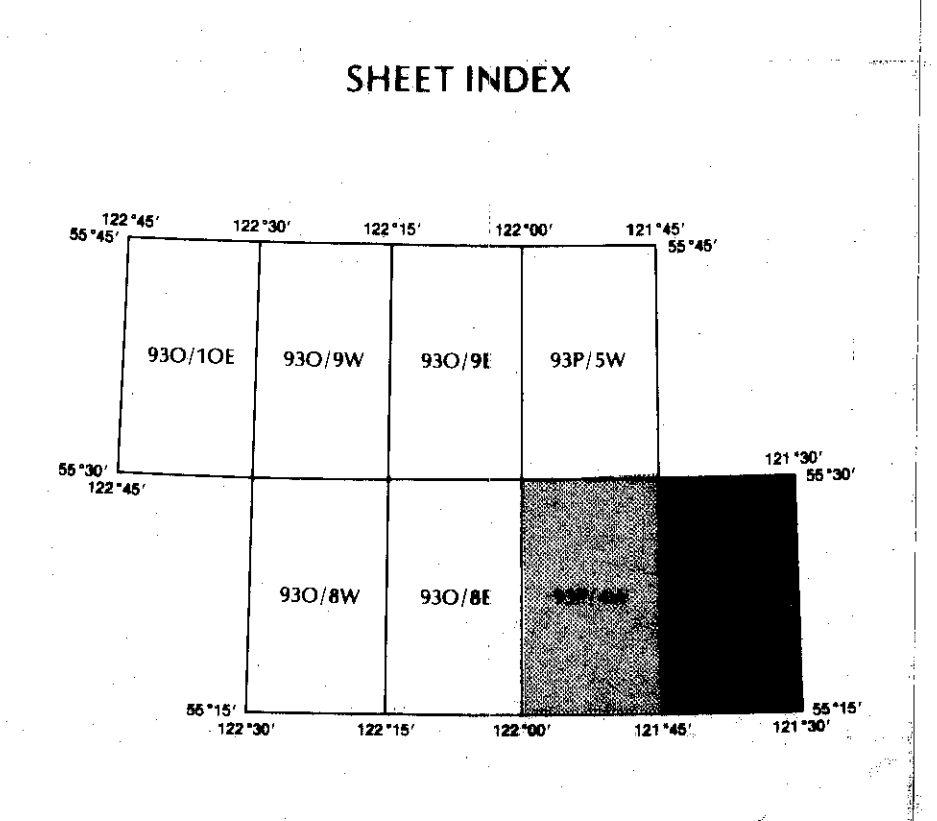
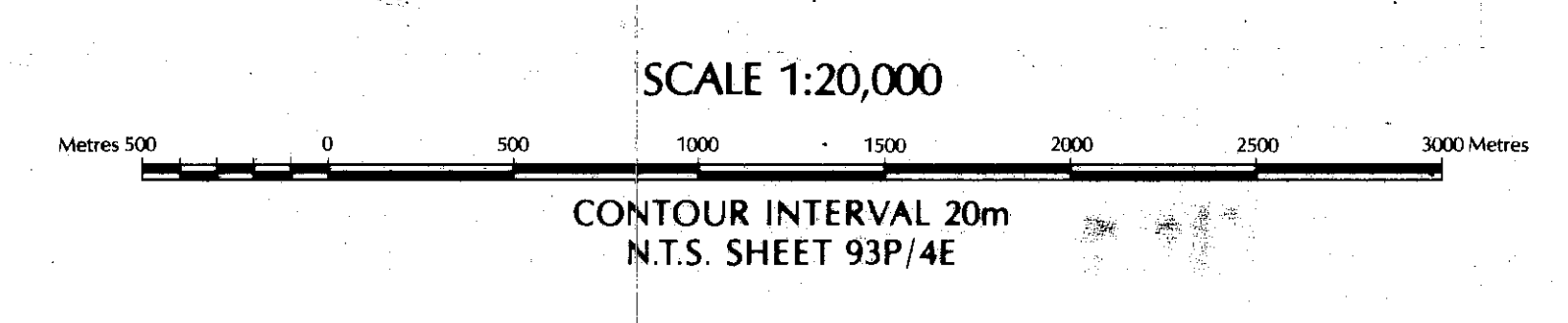
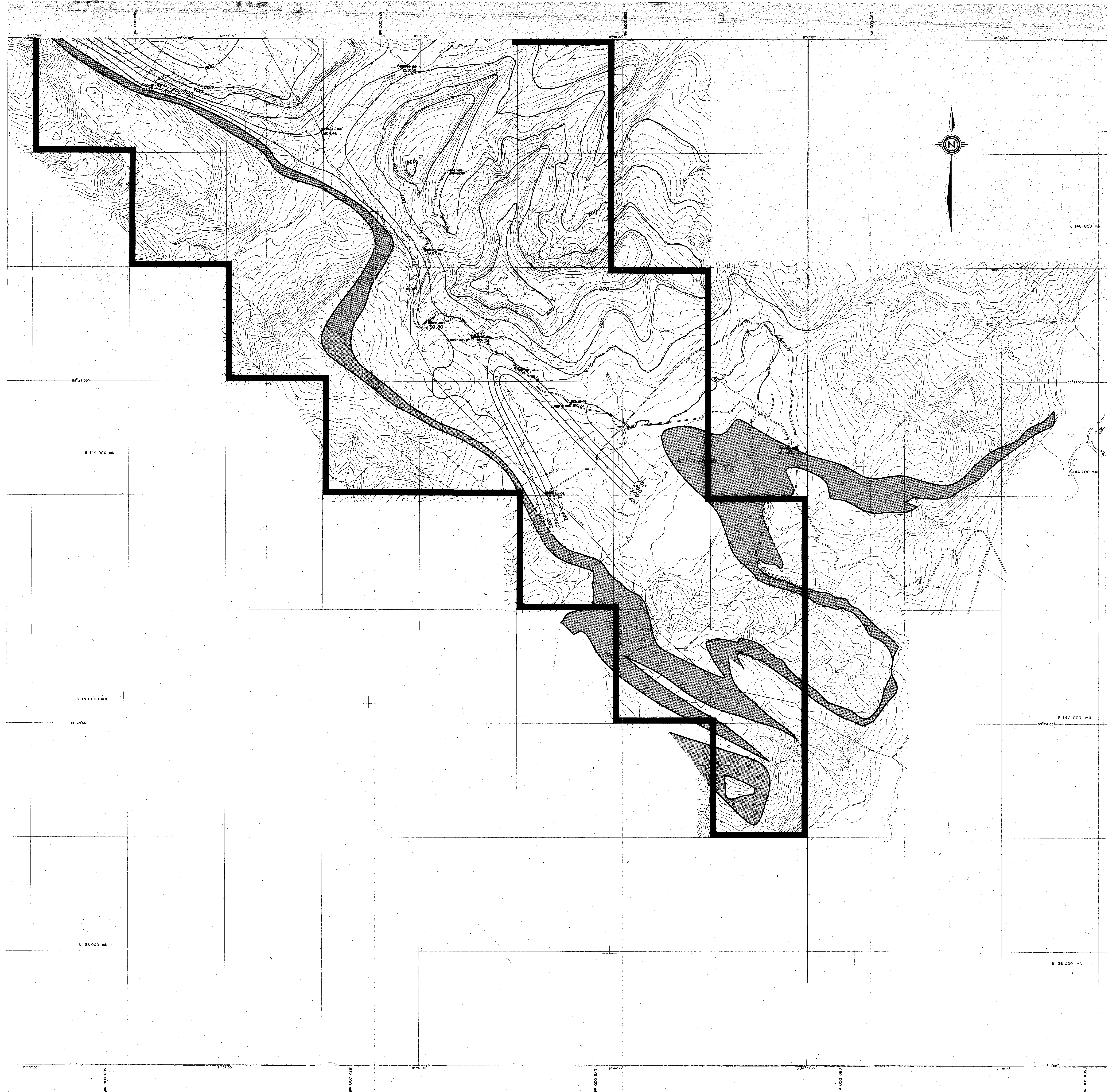
SURVEY NOTE  
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LEGEND

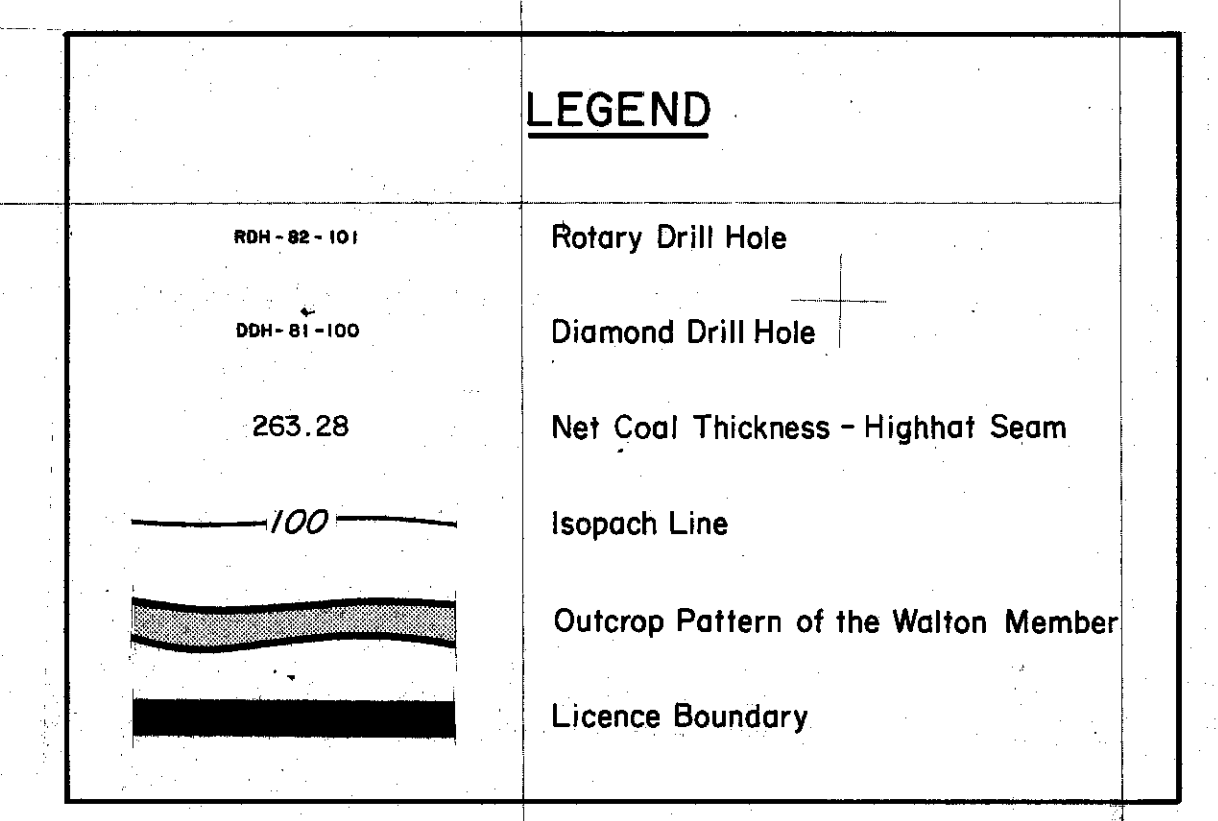
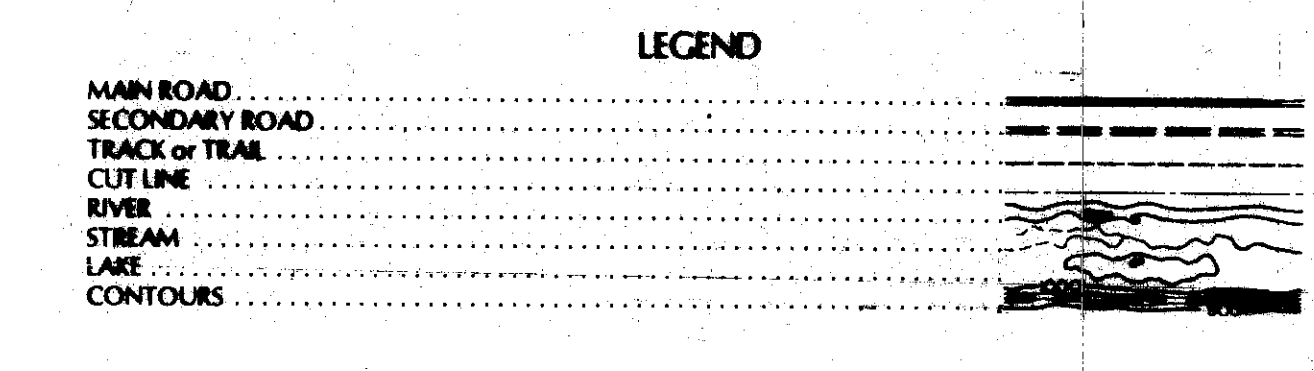


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<b>GULF CANADA RESOURCES INC.</b>		
Coal Division		
CALGARY	ALBERTA	
<b>TRETI COAL PROJECT</b>		
Northeast British Columbia		
1982		
MAP No. 6		
OVERBURDEN ISOPACH CARON SEAM		
NORTH SHEET		
<b>DRAWN BY:</b>	<b>DATE:</b> Nov. 1982	<b>SCALE:</b> 1:20,000
<b>PREPARED BY:</b> W. F. Carpenter	<b>APPROVED BY:</b>	<b>DRAWING No.:</b>
<b>APPROVED BY:</b>	<b>DATE:</b> Nov. 1982	



**SURVEY NOTE**  
The map data was compiled photo-grammetrically and is based on the Universal Transverse Mercator grid and geoidic datum.



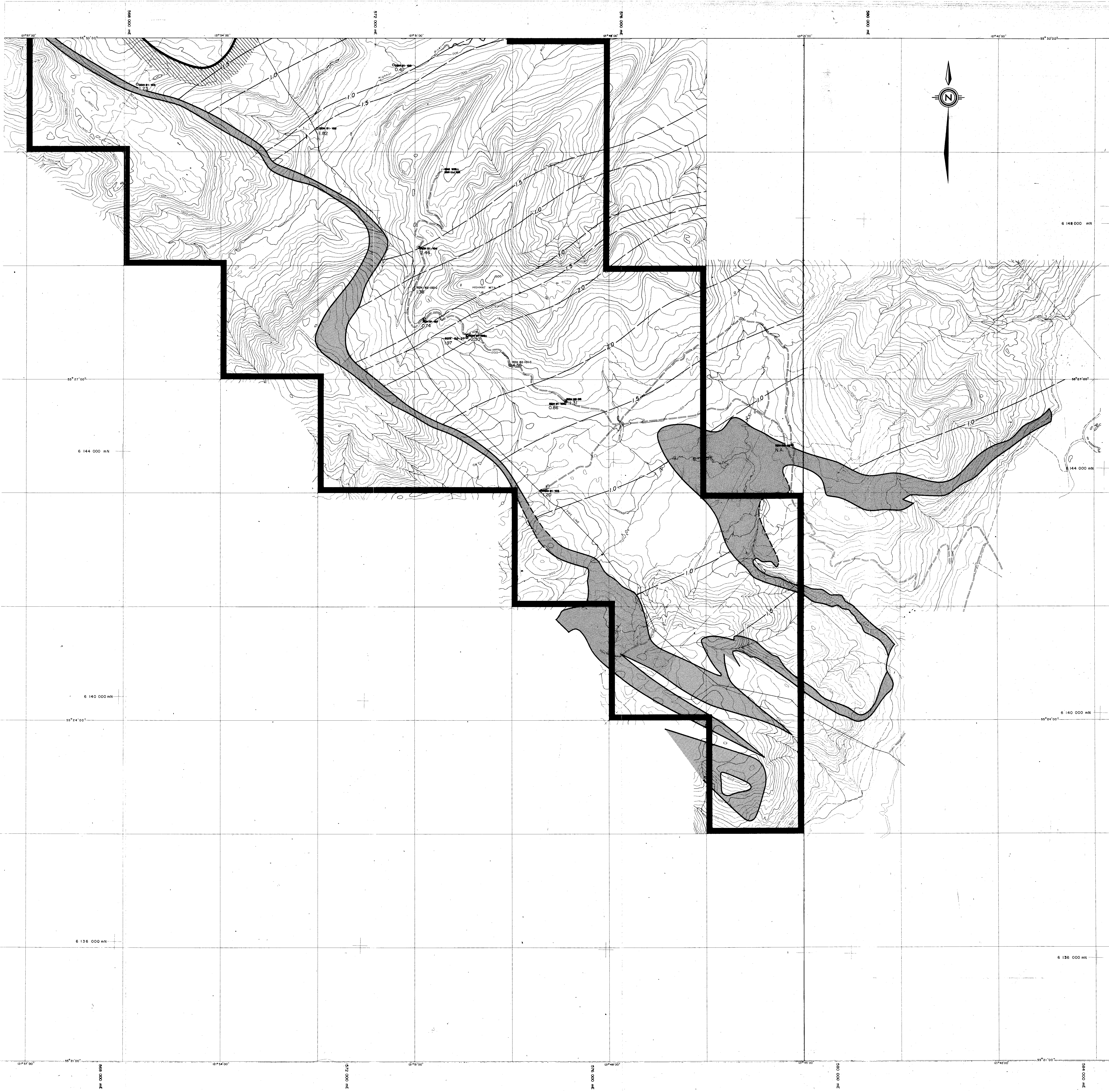
682

**GULF CANADA RESOURCES INC.**  
CALGARY Coal Division ALBERTA

**TRETI COAL PROJECT**  
Northeast British Columbia  
1982  
MAP No. 6  
OVERBURDEN ISOPACH CARON SEAM  
SOUTH SHEET

DRAWN BY:	DATE: Nov. 1982	SCALE: 1:20,000
PREPARED BY: W.F. Carpenter	DRAWING No.	
APPROVED BY:	DATE: Nov. 1982	FILE No.

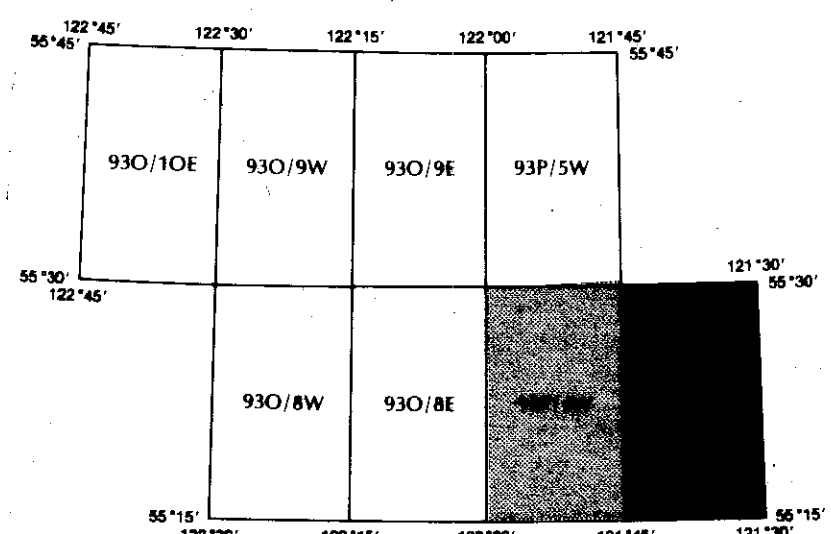




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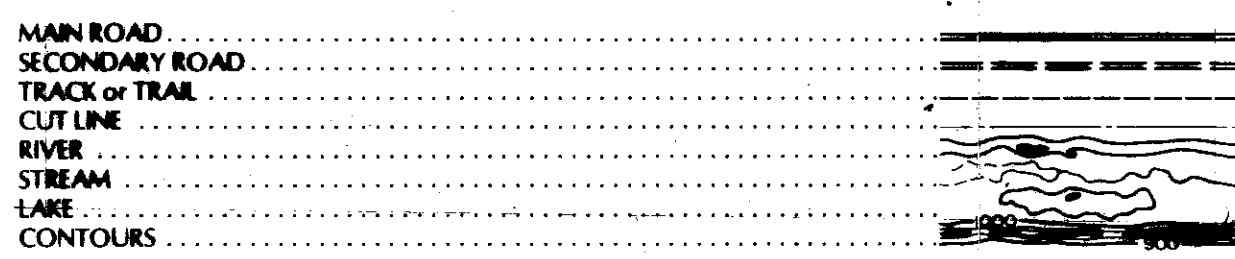
CONTOUR INTERVAL 20m  
N.T.S. SHEET 93P/4E

SHEET INDEX

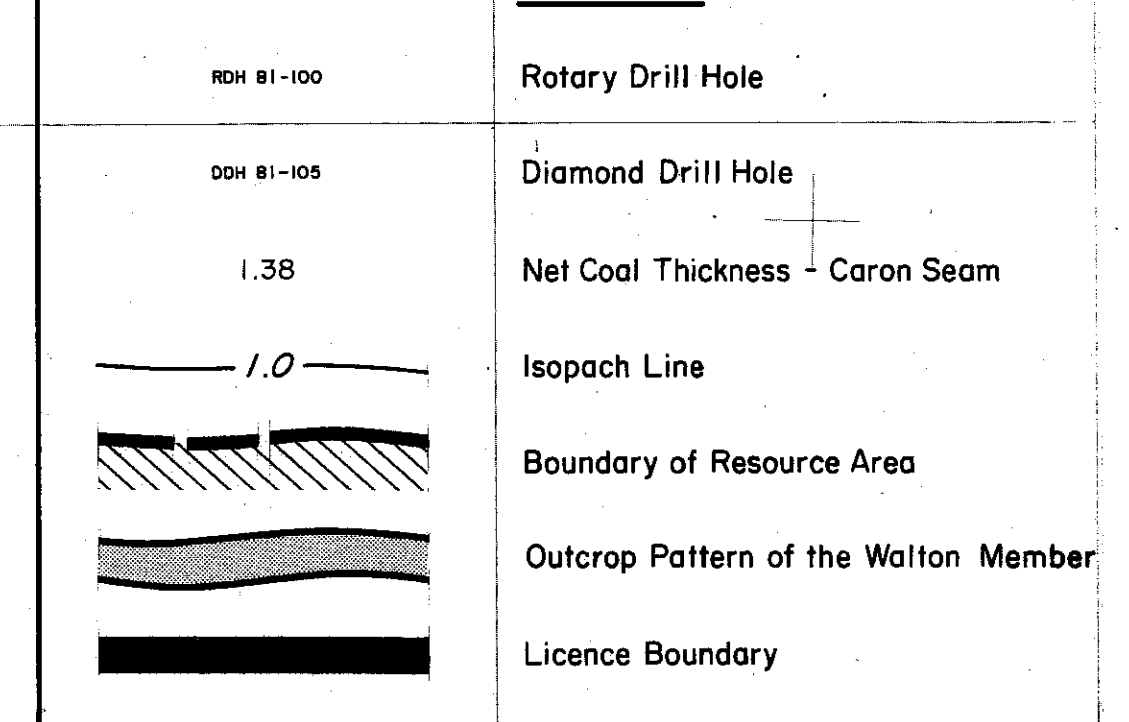


**SURVEY NOTE**  
The map data was compiled photogrammetrically and is based on the Universal Transverse Mercator grid and geoid datum.

**LEGEND**



**LEGEND**

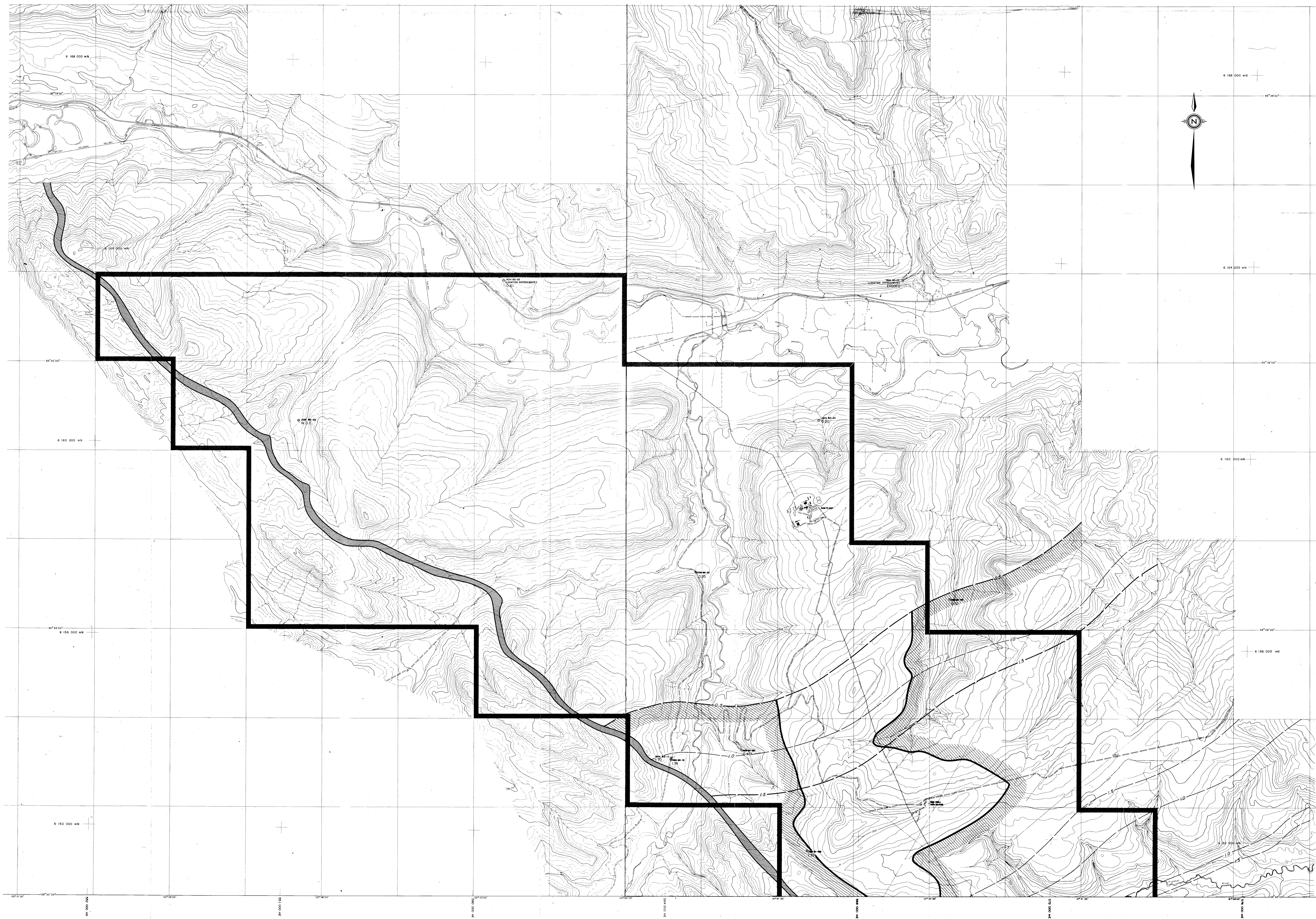


**GULF CANADA RESOURCES INC.**  
CALGARY Coal Division ALBERTA

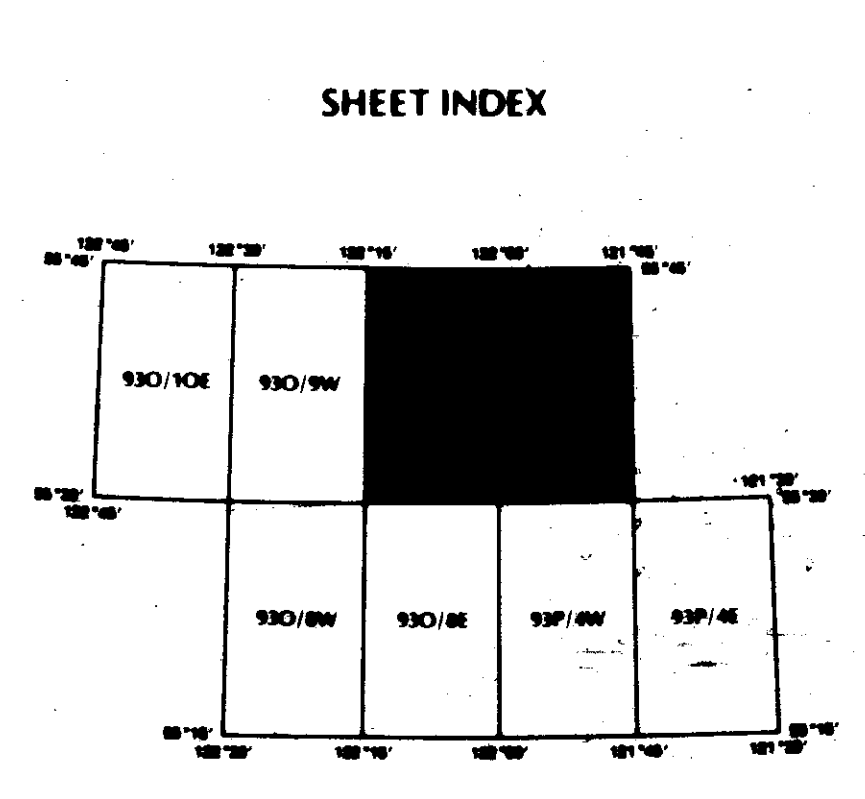
**TREFI COAL PROJECT**  
Northeast British Columbia  
1982  
MAP No. 5 - SOUTH SHEET  
ISOPACH THICKNESS  
NET COAL OF CARON SEAM

DRAWN BY: W. F. Carpenter DATE: Nov. 1982 SCALE 1:20,000  
APPROVED BY: DATE: Nov. 1982 DRAWING No. FILE No.

682



SCALE 1:20,000  
 CONTOUR INTERVAL 20m  
 N.T.S. SHEET 53P/5W



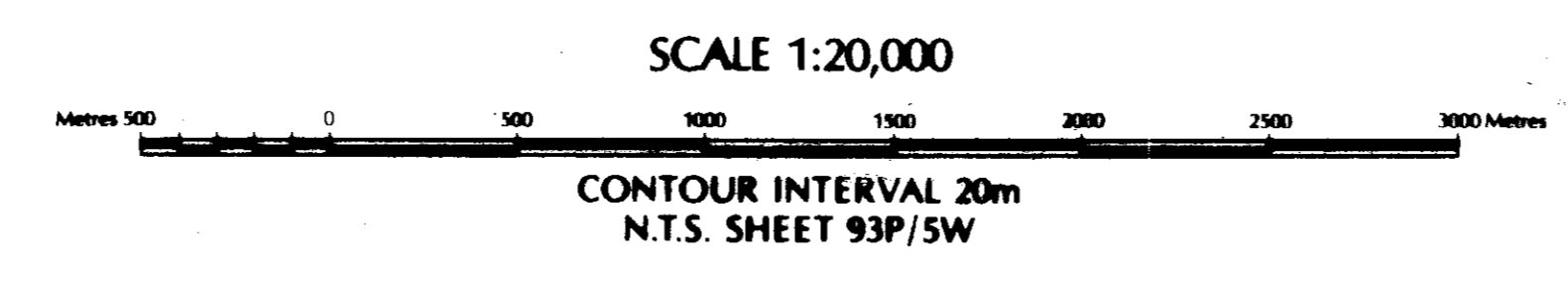
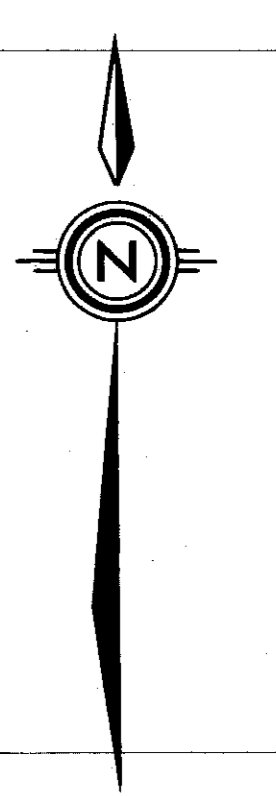
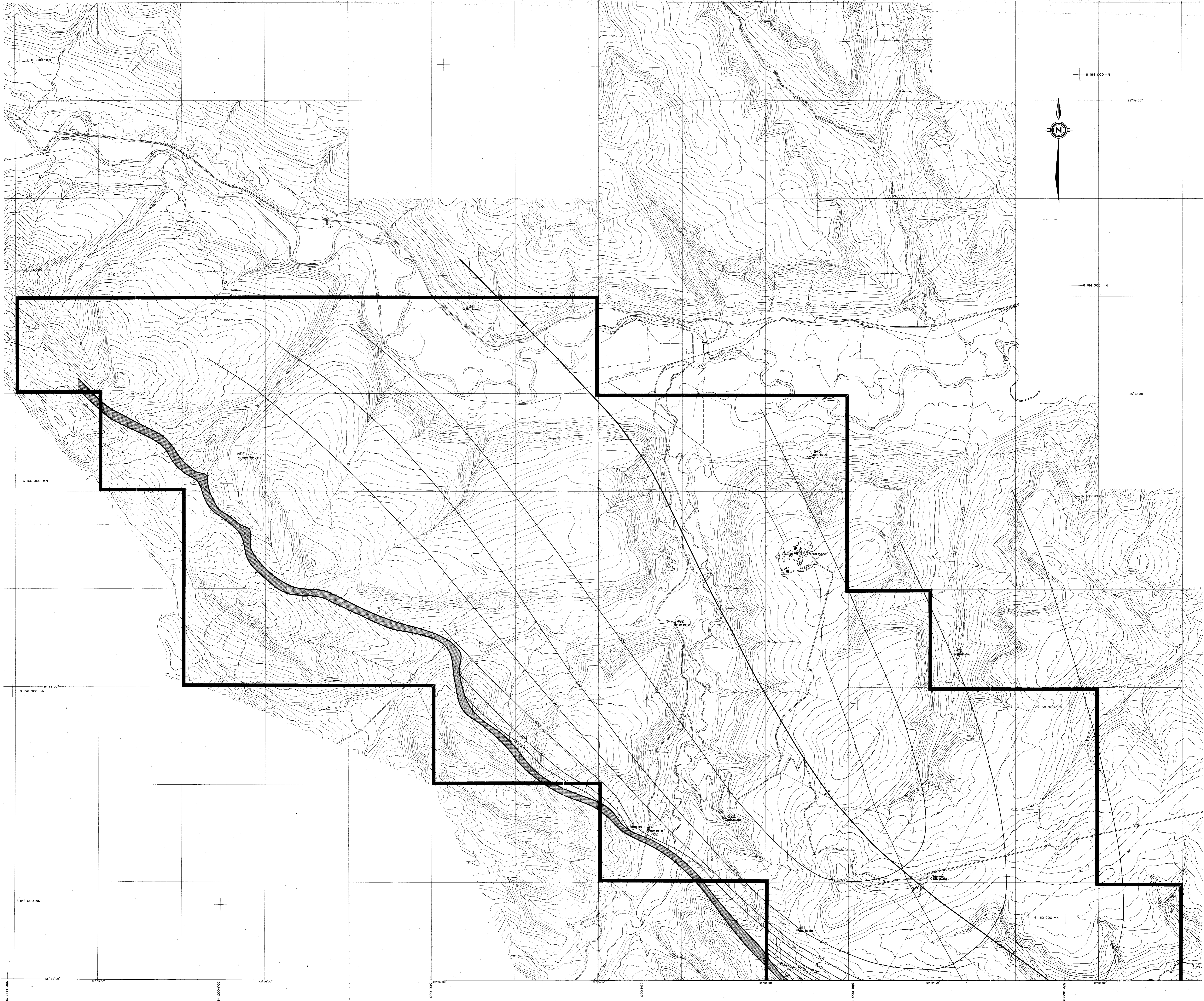
**SURVEY NOTE**  
 The map data was compiled photo-grammetrically and is based on the Canadian Transverse Mercator grid and geoid datum.

**LEGEND**

MAIN ROAD  
 SECONDARY ROAD  
 TRACK/STRADE  
 FENCE  
 DITCH  
 TIE LINE  
 FENCE  
 TIE LINE

682

<b>GULF CANADA RESOURCES INC.</b>		
Calgary      Edmonton		
<b>TREFI COAL PROJECT</b>		
Northeast British Columbia		
1982		
MAP No. 5 - NORTH SHEET		
ISOPACH THICKNESS		
NET COAL OF CARON SEAM		
DRAWN BY:	DATE: Nov 1982	SCALE 1:20,000
PREPARED BY: W.F. Carpenter	DATE: Nov 1982	PROJECT No.
APPROVED BY:	DATE: Nov 1982	



SHEET INDEX

93P/5A	93P/5B	93P/5C	93P/5D	93P/5E
93P/5F	93P/5G	93P/5H	93P/5I	93P/5J
93P/5K	93P/5L	93P/5M	93P/5N	93P/5O

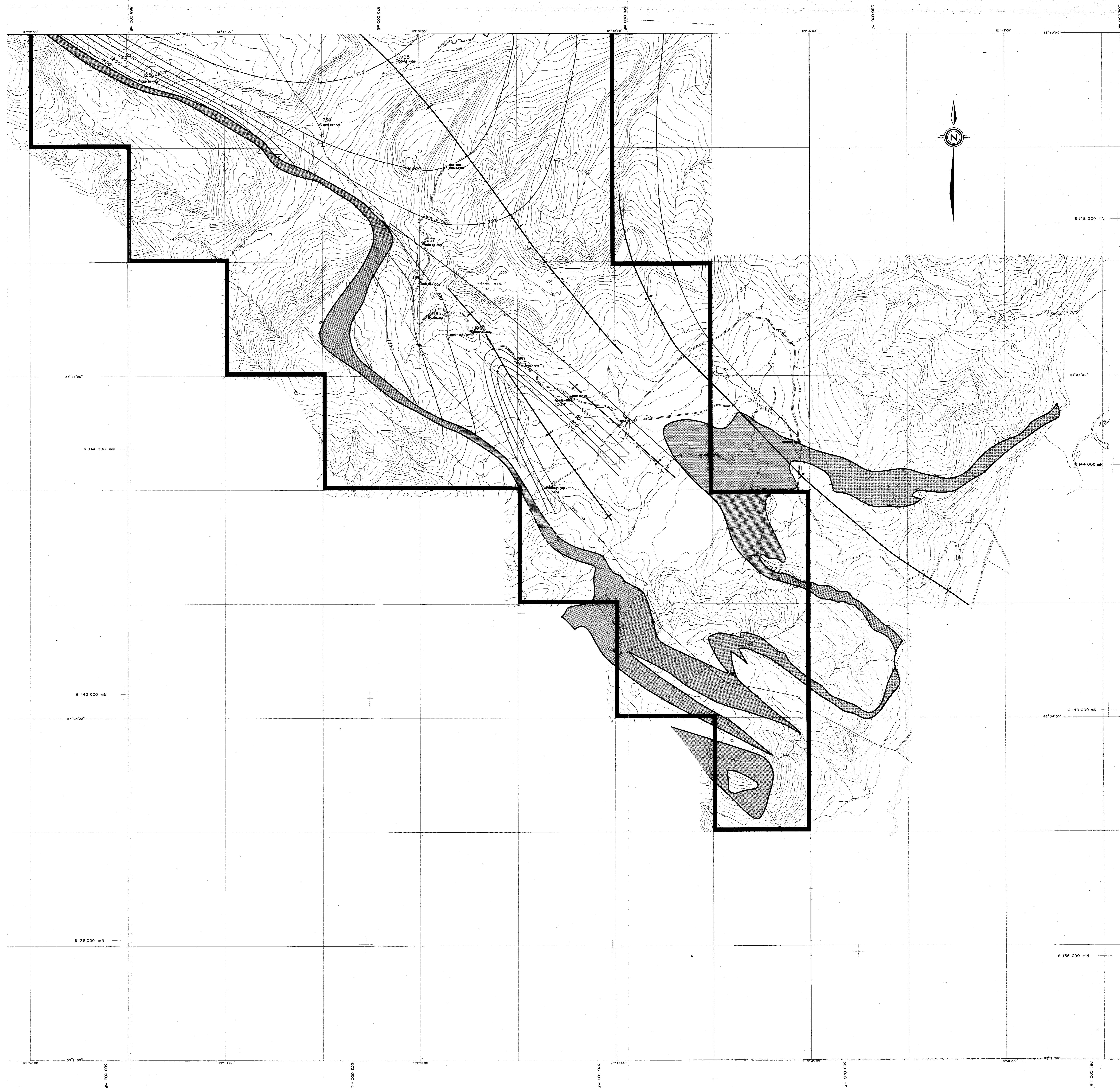
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**LEGEND**

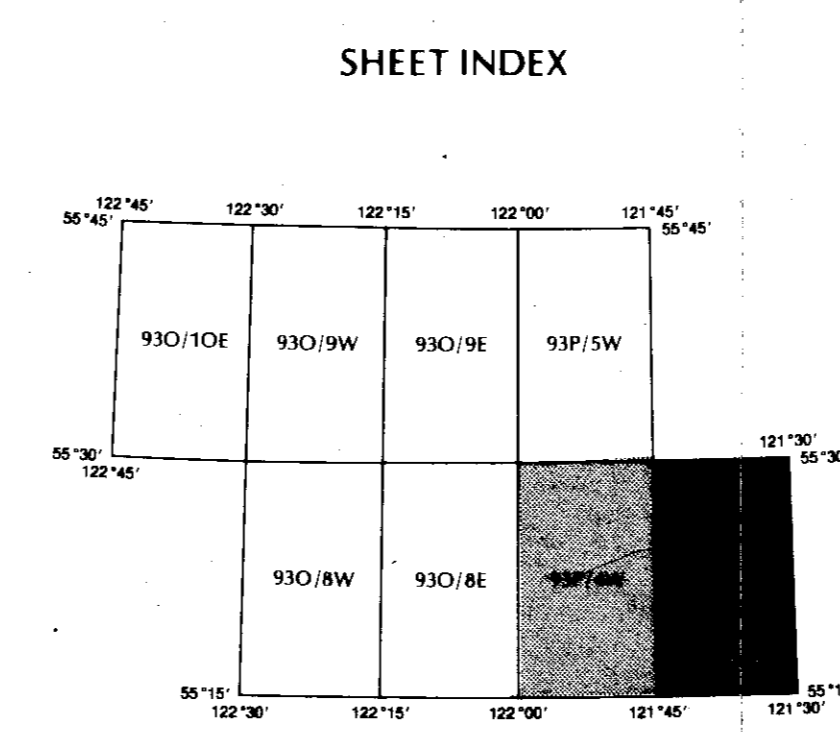
MAIN ROAD	—————
SECONDARY ROAD	—————
TRAIL OR PATH	—————
CUTLINE	—————
RIVER	—————
STREAM	—————
LAKE	—————
CONTOUR	—————

**682**

<b>GULF CANADA RESOURCES INC.</b>		
CALGARY	Coal Division	
<b>TREFF COAL PROJECT</b>		
Northeast British Columbia		
1982		
MAP No. 4		
STRUCTURE CONTOUR MAP		
NORTH SHEET		
PREPARED BY:	DATE:	DRAWING No.
APPROVED BY:		



SCALE 1:20,000  
 METERS 0 100 200 300 400 500 600 700 800 900 1000  
 CONTOUR INTERVAL 20m  
 N.T.S. SHEET 93P/4E



SURVEY NOTE  
 The map data was compiled photo-grammetrically and is based on the Universal Transverse Mercator grid and geoid datum.

LEGEND

MAIN ROAD	.....
SECONDARY ROAD	.....
TRACK or TRAIL	.....
CUTLINE	.....
RIVER	.....
STREAM	.....
LAKE	.....
CONTOUR	.....

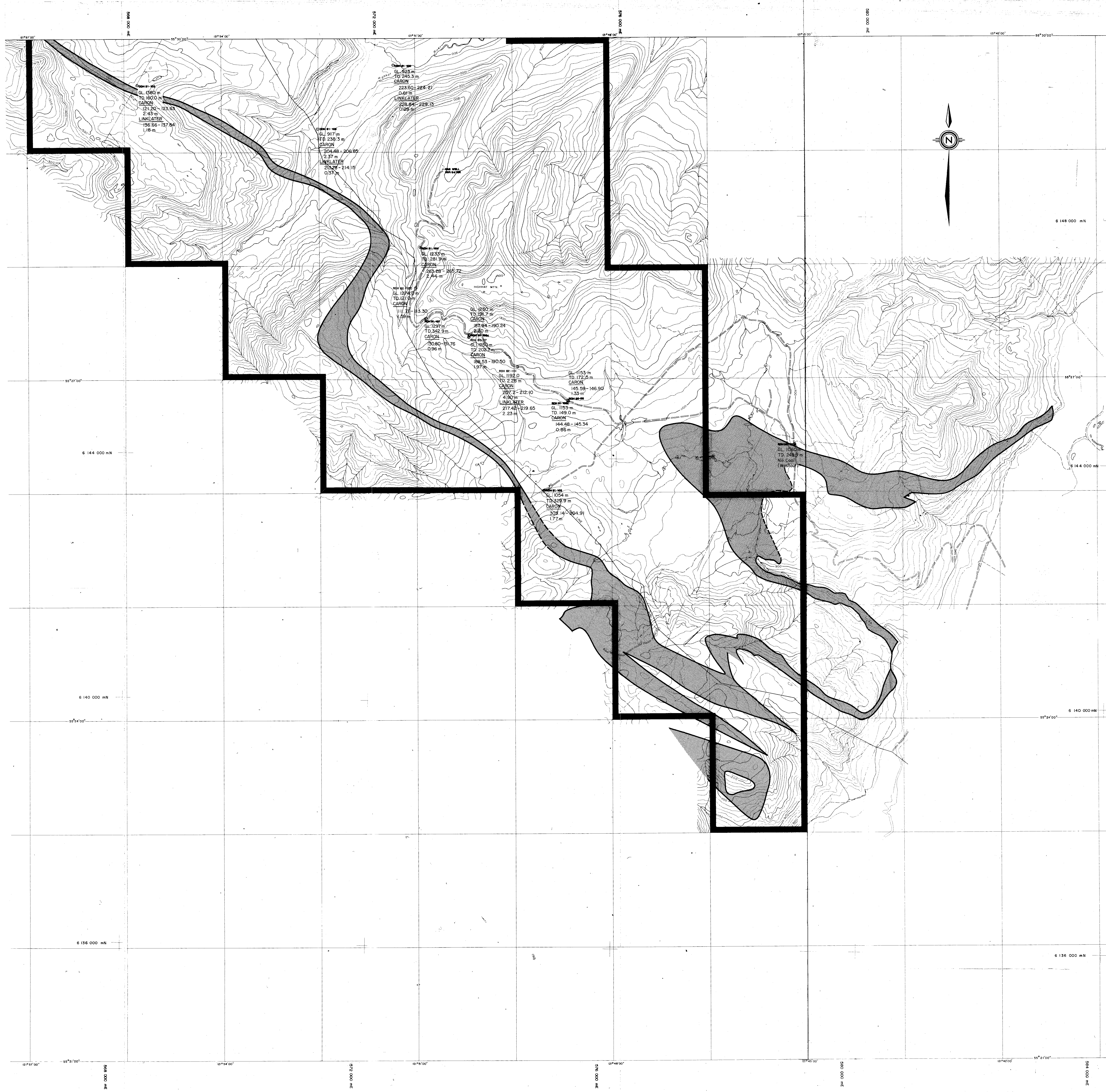
682

**GULF CANADA RESOURCES INC.**  
 Coal Division

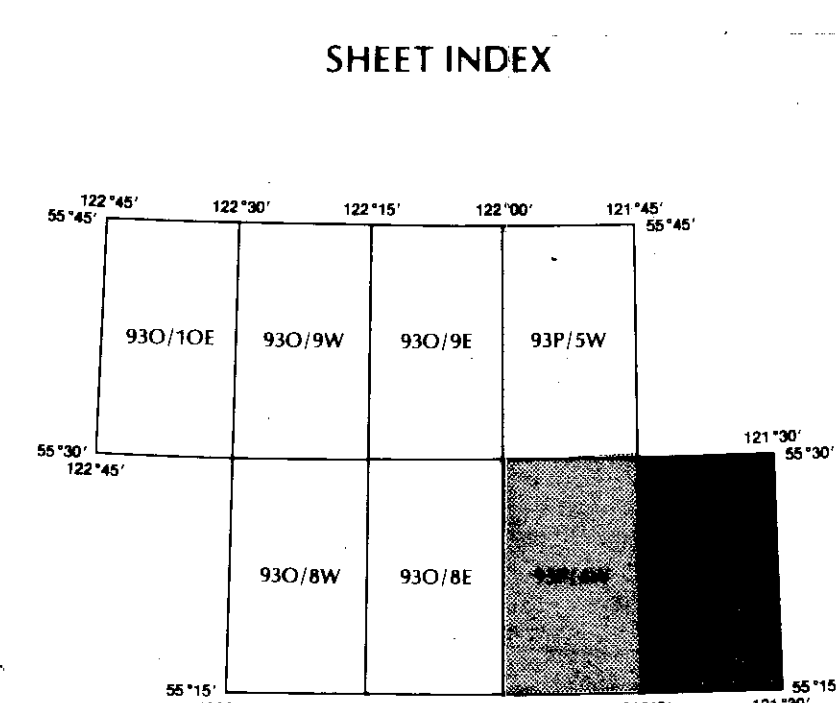
CALGARY ALBERTA

**TREFFI COAL PROJECT**  
 Northeast British Columbia  
 1982  
 MAP No. 4  
 STRUCTURE CONTOUR MAP  
 SOUTH SHEET

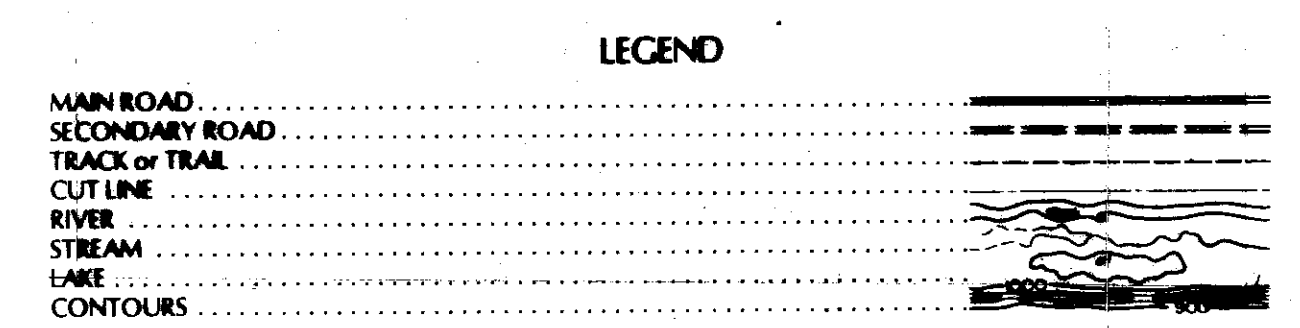
DRAWN BY: Hardy Assoc. Ltd. DATE: Nov. 1981	SCALE 1:20,000
APPROVED BY: _____	DRAWING No. _____
DATE: _____	FILE No. _____



SCALE 1:20,000  
 CONTOUR INTERVAL 20m  
 N.T.S. SHEET 93P/4E



SURVEY NOTE  
 The map data was compiled photo-geometrically and is based on the Universal Transverse Mercator grid and geoid datum.



LEGEND

RDH 82-101	Rotary Drill Hole
DDH 81-000	Diamond Drill Hole
GL	Ground Level Elevation
TD	Total Depth
CARON	Seam Name
145.59 - 146.90	Seam Intersection
1.35 m	Apparent Seam Thickness
(shaded area)	Outcrop Pattern of the Walton Member
(thick solid line)	Property Boundary

**GULF CANADA RESOURCES INC.**  
 Coal Division

**TRETI COAL PROJECT**  
 Northeast British Columbia  
 1982  
 MAP No. 3  
 DOWN-HOLE DATA MAP  
 SOUTH SHEET

DRAWN BY: W.F. Carpenter      DATE: Nov. 1982      SCALE 1:20,000  
 PREPARED BY: W.F. Carpenter      DATE: Nov. 1982      DRAWING No. \_\_\_\_\_  
 FILE No. \_\_\_\_\_

682

PR. TREFI 82(3)A\*(2)

TREFI COAL PROJECT  
1982  
FORMATION TOPS FOR GEOPHYSICAL LOGS  
DEVIATION SURVEYS  
DRILLERS LOGS

682

## TREFI REGIONAL DATA

## DRILLHOLE DATA SHEET 1980, 1981 &amp; 1982 GULF DRILLHOLES

Hole No.	Surface Elevation (m)	Depth (m)	Top of KCm5 Elevation (m)	Depth (m)	Top of KCm6 Elevation (m)	Thickness of Kcmw (m)
DDH-80-01	710	124.0	586	194.0	516	70.0
DDH-80-02	926	171.2	754.8	NDE	-	-
DDH-80-03	808	144.5	663.5	212.8	595.2	68.3
RDH-80-01	775	228.0	547.0	315.5	459.5	77.61 @ .887
RDH-80-02	698	323.8	374.2	382.0	316.0	58.20
RDH-80-03	893	174.0	719	227.5	665.5	53.5
RDH-80-04	787	36.0	750	101.3	685.7	64.3
RDH-80-05		ERODED		13.0	-	-
RDH-80-06	1060	6.2	1053.8	94.0	966	56.3 @ .641
RDH-80-07	1250	134.5	1115.5	NDE	-	-
RDH-80-08	1153	82.5	1070.5	NDE	-	-
RDH-80-11	832	58.8	773.2	131.5	700.5	72.7
RDH-80-12	832	58.8	773.2	NDE	-	-
DDH-81-100	923	172.8	750.2	NDE	-	-
DDH-81-102	1380	46.5	1333.5	151.3	1228.7	74.7 @ .713
DDH-81-105	971	154.5	816.5	232.5	738.5	68.5 @ .878
RDH-81-101	887	314.0	573	384.2	502.8	68.5 @ .976
RDH-81-103	1054	225.3	828.7	NDE	-	-
RDH-81-104	1233	208.7	1024.3	NDE	-	-
RDH-81-106C	1153	82.5	1070.5	NDE	-	-
RDH-81-107	1297	74.70	1222.3	163.5	1133.5	68.5 @ .771
RDH-81-108	1204	542.4	661.6	NDE	-	-
RDH-81-109C	1250	134.5	1115.5	NDE	-	-
RDH-82-100C	1274	50.0	1224.0	NDE	-	-
RDH-82-101C	1192	131.0	1061.0	NDE	-	-

## TREFI REGIONAL DATA

DRILLHOLE DATA SHEET FOR OIL & GAS HOLES DRILLED ON AND  
ADJACENT TO TREFI LEASES

Hole	Surface Elevation (m)	Top of KCmw		Top of KCm6		Thickness of KCmw (m)
		Elevation (m)	Depth (m)	Elevation (m)	Depth (m)	
93P12/a 89B	1074.24	-172.06	1246.3	-224.76	1299.0	52.70
93P12/c 29C	1242.0	+644.0	598	+578.0	664.0	66.0
93P12/c 63C	1104.03	-163.97	1268	-224.5	1328.5	60.5
93P5/c 31K	1051.6	N/A	N/A	N/A	N/A	N/A
93P5/c 28I	1117.9	-64.1	1182	-135.4	1253.3	71.3
93P5/a 79H	1216.4	-71.5	1288	-148.6	1365.0	77.0
93P5/d 78K	1112.2	N/A	N/A	N/A	N/A	N/A
93P12 58E	N/A	N/A	N/A	N/A	N/A	N/A
6-77-25-W6	1121.4	-33.6	1155.0	-82.6	1204.5	49.5
8-77-25-W6	1089.6	-121.40	1211.0	-173.40	1263.0	52.0
31-76-25-W6	1218.7	-12.70	1231.4	-70.8	1289.5	58.10
93P12/a 23D	1264.0	+591.0	673.0	+523.3	740.66	



1/4 UNIT a-89-B NTS 93-P-12

D.A. #5359			LIC.APP. APR 29/80	
B.C. EXPL WC	200a0898093P1200		PIX.DEL. AUG 26/82	
TEXACO EXPLORATION CANADA LTD.	FTD: 4250M DOIG	CO-ORD: S 712.4M E 714.6M	KB: 1080.2M	
TEXACO GULF COMMOTION a-89-B	PBTD:	CORES: 3504-3522 REC 18M	GR: 1070.5M	
I.P.:				
SPUD: OCT 13/80	340-280.9			
R/R: MAY 24/81	245-1840	PERFS: NIL		
COMP:	178-3941			
STATUS: D & A	NET PAY:			
FORMATION	TOP	SUBSEA	TOP	PROD. Z:

SHAFTES	980	+ 100.2
PADDY	1259	- 178.8
CADOTTE	1299	- 218.8
HARMON	1367	- 286.8
SPIRIT R	1462	- 381.8
MOOSEBAR	1702	- 621.8
BLUESKY	2010	- 929.8
GETHING	2035	- 954.8
CADOMIN	2364	-1283.8
NIK	2424	-1343.8
FERNIE	3180	-2099.8
NORDEGG	3355	-2274.8
PARDONET	3395	-2314.8
BALDONNEL	3472	-2391.8
CHARLIE LK	3526	-2445.8
HALFWAY	3969	-2888.8
DOIG	4052	-2971.8

1. 3480-3530 (BALD) VO 45/- SI 90/-. MISRUN.  
HP 44888-44888 FP 41081/- SIP 42125/-.
2. 3480-3530 (BALD) VO 15/45 SI 90/90.  
WAB DECR. REC 1730M WTR CUSH, 110M DRLG FLUID.  
HP 43015-43015 FP 18080-18090 SIP 23777-20785.
3. 2365-2412 (CADOM) VO 12/60 SI 90/50. VVAB.  
REC 300M WTR CUSH, 45M DRLG FLUID.  
HP 29912-29912 FP 3705-3833 SIP 7894-4630.
4. 4185-4196 (HALF) MISRUN. HP 67532-60515.
5. 4074-4097 (HALF) MISRUN.
6. 3870-4250 (HALF) MISRUN. HP 60362-59295.
7. 3870-4250 (HALF) VO 20/10 SI 90/120. NO GTS.  
U&R 2893' WTR CUSH. REC 91M DRLG MUD.  
HP 40623-40623 FP 22766-23199 SIP 24249-23503.

DIP,MLL. P&NG LEASE 7994  
LOGS: CYBER,8HCS,CNLFDC,DILL, CONTR: HI TOWER 18E  
EST. TD.: 4000M HALF RIGHTS:  
o CANADA PETROLEUM INFORMATION EXCHANGE

T. D. 4250 -3169.8  
WELL COMPLETED CORR ELEV'S

DA# 4411

1/4 UNIT c-29-C NTS 93-P-12

LIC.APP. APR 13/78  
PIX.DEL. AUG 24/82

B.C. EXPL WILDCAT	200c029C093P1200			
SKELLY OIL	FTD: 4721M DOIG	CO-ORD: S 199.3M E 33.2M	KB: 1249.7M	
SKELLY GETTY CS COMMOTION c-29-C	PBTD: 4115M	CORES: 3915-3932 (15M)	GR: 1242.1M	
I.P.: 3938-3941 (3M)				
SPUD: JUNE 22/78	340-487.3-71.4			
R/R: JULY 1/79	245-3575-89.61	PERFS: 3907-17, 19-27 7000L ACID; 3953-		
COMP: SEP 14/79	178-3514-4605-461	65, 71-73 5100L ACID; 4025-43 6000L ACID		
STATUS: WATER DISPOSAL WELL	NET PAY:		4051-59 3200L ACID (ALL ABOVE 37M-176 SH	
FORMATION	TOP	SUBSEA	TOP	PROD. Z: BALDONNEL (TOTAL) ALL SWB GAS 1STM (USED

COMMOTION	664.0	+ 585.6
MOOSEBAR	1082.0	+ 167.6
MARINE SEQ	1360.0	- 110.4
GETHING	1564.0	- 314.4
DUNLEVY	1921.0	- 671.4
F/GETHING	1953.0	- 703.4
DUNLEVY	1959.0	- 709.4
CAD EQUIV	1995.0	- 745.4
CAD CONGL	2001.0	- 751.4
NIK	2084.0	- 834.4
FERN SH EQ	3787.0	-2537.4
NORDEGG	3884.0	-2634.4
PARDONNET	3919.0	-2669.4
BALD	4025.0	-2775.4
CHARLIE L	4061.0	-2811.4
HALFWAY	4508.0	-3258.4
DOIG	4547.0	-3297.4

1. 726-800 (COMMOTION) VO 60 SI 30 MISRUN. REC 15M SLI  
G.C. DRLG M. HP 7435-7502 FP 168-233 SIP 2677/-

PERMIT #2623  
LOGS: BHCS,DIL,CNFDL,DIL,FIL CONTR: LOFFLAND  
EST. TD.: 4725M TRIASSIC RIGHTS: DA # 4411  
o CANADA PETROLEUM INFORMATION EXCHANGE

T.D. 4721.0 -3471.4  
WELL COMPLETED CORR STATUS

PAGE 1 OF 2..

1/4 UNIT c-63-C NTS 93-P-12

DA# 5006

B.C. EXPL WC

200c063C093P1200

LIC.APP. SEPT 6/79

PIX.DEL. MAR 24/82

GETTY OIL LTD.	FTD: 4386M DOIG	CO-ORD: S 185.25M E 360.6M	KB: 1113.3m
GETTY COMMOTION c-63-C	PBD:	CORES: 3720-3730.4 R 10M	GR:1104.03m
I.P:			
SPUG: MAY 13/80	340-391	PERFS: 3701.5-3709.3	3/M. 3785L ACTG.
R/R: MAR 6/81	245-3748	3710.8-3718.0	
COMP: MAY 4/81	178-4255.5	3646.2-3647.2, 3641.5-3644.8,	
STATUS: GASWELL	NET PAY:	3628-3636.5 - 67M. 3785L ACTG.	
FORMATION	TOP	SUBSEA	TOP
PROD. 2: PARD/BALD			
3723.5-3728 - 137M.			

GOODRICH	663	+ 450.3
HASLER	973	+ 140.3
BOULDER CK	1268	- 154.7
HULCROSS	1391	- 277.7
GATES	1486	- 372.7
MOOSEBAR	1721	- 607.7
GETHING	2057	- 943.7
DUNLEVY	2503	-1389.7
NIKANASSIN	2681	-1567.7
FERNIE EQ	3527	-2413.7
HORDEGG	3589	-2475.7
PARDONET	3676	-2562.7
BALDONNEL	3706	-2592.7
CHARLIE LK	3729	-2615.7
HALFWAY	4157	-3043.7
DOIG	4231	-3117.7

T. D. 4386 -3272.7

WELL COMPLETED

- ACTG 3628-3728 W/90,000L 15% NCL.
- 1440-1485 (GATES) VO 5/60 SI 180/180 MINS. GTS 5 MINS - TSTM. REC 34M DRLG MUD.
  - 1486-1559 (GATES) MISRUN. UNABLE TO OBTAIN PKR SEAT.
  - 1490-1540 (GATES) MISRUN. UNABLE TO MAINTAIN PKR SEAT.
  - 1608-1670 (GATES) VO 5/60/125 SI 60/120 MINS. NO GTS. REC 30M DRLG MUD. HP 18331-18240 FP 1503-2161-1409 SIP 11543-3288-1597.
  - 3040-3080 (NIK) VO 11/21/51 SI 90/5 MINS. NO GTS. TOOL PLUGGING. REC 906M GC WC MUD. HP 33065/- FP 9161-9048 SIP 13351/-.
  - 4255-4386 (DOIG) MISRUN. PKR FAILURE.
  - 4247-4386 (DOIG) MISRUN. PKR FAILURE.
  - 4247-4386 (DOIG) MISRUN. COULD NOT OBTAIN PKR SEAT.

SPECTRO, DIP, GRN, CB VDL, CYB P&NG LEASE 2623 CONT'D PAGE 2..  
 LOGS: BHCS, DISFL, DIL, CNFDC, GR, CONTR: LOFFLAND #9  
 EST. TD.: 3657M HALFWAY RIGHTS: DA # 5006  
 © CANADA PETROLEUM INFORMATION EXCHANGE

PAGE 2 OF 2..

1/4 UNIT c-63-C NTS 93-P-12

DA# 5006

B.C. EXPL WC

200c063C093P1200

LIC.APP. SEPT 6/79

PIX.DEL. MAR 24/82

GETTY OIL LTD.
GETTY COMMOTION c-63-C

DRILLSTEM TESTS -CONT'D

- 4247-4386 (DOIG) VO 21/32/25 SI 969/696 MINS. SAB - FLWD 0.16 M3 GAS ON 1ST FLOW, DIED. SAB ON 2ND FLOW DEAD IN 1 MIN. TOOL DID NOT CLOSE AFTER 151. REC 5 M3 WTR. MAX RATE OF GAS 5.63 X 10/3 X M3/D. HP 95750/- FP 56318-48561-20878 SIP 82347-38143.

WELL COMPLETED

SPECTRO, DIP, GRN, CB VDL, CYB P&NG LEASE 2623  
 LOGS: BHCS, DISFL, DIL, CNFDC, GR, CONTR: LOFFLAND #9  
 EST. TD.: 3657M HALFWAY RIGHTS: DA # 5006  
 © CANADA PETROLEUM INFORMATION EXCHANGE

1/4 UNIT c-31-X

NTS. 93-9-5

LIC. APP. JULY 19/77  
PIX. DEL. NOV 23/78

B.C. EXPL WILDCAT

200c031K093P0500

PACIFIC PETROLEUMS LTD.	FTD: 2723.6M NIK	CO-ORD: N 701M E 213.3M	KB: 1050M
PACIFIC BURCH c-31-X	PBTD: 1798.6M	CORES:	GR: 1051.5M

SPUD: OCT 1/77 1340-464-1500  
R/R: JAN 8/78 1178-1798.6-700

PERFS: 2299.7-2317.7, 12.1-17.7,  
6.1-12, 2299.7-2305.5 1.6/M 30 SHOTS

COMP: JUL 26/78

STATUS: D&A NET PAY:  
FORMATION TOP SUBSEA TOP PROD. Z:

ACID CIRC FR WTR PERF 2239.1-45.2, 31.8-  
39.1 3/M 45 SH. ACID 5.72 M3 SHABBED

MOOSEBAR	855.3 + 202.7
GETHING	920.8 + 137.2
CADOMIN	1257.0 - 199.0
NIK	1303.9 - 245.9
T.D.	2723.6 -1665.6

ACID WTR ONLY ACID 18.09 M3 SWBD ACID  
WTR ONLY SET BP 2194.6 PERF 1997.6-96.4  
6/M 32 SH ACID 11.20 M3 SHABBED ACID WTR  
ONLY BP 1986.4 PERF 1969.6-1978.2 3/M 30  
SHOTS ACID 11.3 M3 SWBD ACID WTR ONLY BP  
1944.1 PERF 1274.7-89.3 1.5/M 26 SH.  
ACID 18.9 M3 SWBD ACID WTR ACID 3.78 M3.  
& FRAC SWBD ACID WTR ONLY SET BP 1250.3M  
PLUGGED & ABANDONED JULY 26/78

NO DRILLSTEM TESTS RUN

WELL COMPLETED

DIR, CB COLLAR PERMIT 2644  
LOGS: CNLFDC, DILL, BHCSGR, DIP CONTR: BAWDEN  
EST. TD.: 10,000' TRIASSIC D.A. 4043  
© CANADA PETROLEUM INFORMATION EXCHANGE LTD.

B.C. EXPLORATORY WILDCAT

1/4 UNIT c-28-1 NTS. 93-P-5

LIC. APP. OCT 18/73  
PIX DEL. JUNE 26/75

200c0281093P0500

QUASAR PETROLEUMS	FTD. 13698' TOAD	CO-ORD. S 784.3' - W 1986.2'	KB. 3691'
QUASAR ET AL DETCO c-28-1	PBTD.	CORES NIL	GR. 3668.6

SPUD. DEC 16/73 13 3/8-943-1050

R/R JUNE 22/74 9 5/8-7576-500

COMP.

STATUS D&A NET PAY

FORMATION TOP SUBSEA TOP PROD. Z.

GOODRICH	1810	+1881
HASLER	2837	+854
COMMOTION	3910	-219
GATES	4150	-459
LO COMMOT	ON 4860	-1169
MOOSEBAR	5450	-1759
GETH	6600	-2909
CADOM	8000	-4302
NIK	8097	-4406
FERN	11336	-7645
NORD	11697	-8006
PARD	11721	-8030
BALD	11984	-8293
CH LK	12231	-8540
BS CH LK	13107	-9416
HALF	13280	-9589
TOAD	13592	-9901
TD	13698	-10007

1. 11975-12029: (BALD) VO 15/44 st 60&60 - U&R 4100' INH MC) 250' BLK SULF HUD. SMALL AMOUNT OF GAS IN WTR CUSH. HP 6016-6016 FP 1889-1889 SIP 2364-2329
2. 12029-12309: (BALD) MISRUN.
3. 11965-12309: (BALD) VO 15/90 st 60&120 - GIS 60 MIT ON FINAL SHUT IN. 3-5' LAZY FLARE. U&R 4000' WTR CUSH. REC 300' BLK SULF HUD. HP 5738-5533 FP 1762-1929 SIP 4772-4790

WELL COMPLETED

PERMIT 1592  
LOGS BHCSGR, DILL, CNLFDC CONTRACTOR BRINKERHOFF  
EST. T.D. - 13,000' TRI RIGHTS

D.A.# 3995

COPYRIGHT CANADA PETROLEUM INFORMATION EXCHANGE LTD.

1/4 UNIT a-79-H NTS 93-P-5  
 DA #5112 SURF LOC: a-79-H NTS 93-P-5 LIC.APP. DEC 4/79  
 B.C. EXPL WILDCAT 200a079H093P0500 PIX.DEL. MAY 14/82  
 HUDSON'S BAY OIL & GAS CO LTD FTD: 4653M TOAD GRAY CO-ORD: N433.9M E198.2M KB: 1224.4M  
 HB ET AL DETCO a-79-H PBD: 4325M TVD: 4622.9 CORES: FM NW C UNIT 68 GR: 1216.4m  
 I.P: ADF 388691 M3/D @ H.C.C.  
 SPUD: FEB 28/80 340-395 14065 KPA PERFS: 4062-4075 - 7/M. NO FLUID REC.  
 R/R: JAN 19/81 245-2953 DEL: 277289 M3/D @ PKR @ 4022M. BP @ 4012-4008M.  
 COMP: APR 2/81 178-4390 8274 KPA 3750-3780 - 5/M. CEM SQ. PERM PKR  
 STATUS: GASWELL NET PAY: 18M @ 3705M. SWBD 12, REC 10 M3 FR WTR.  
 FORMATION H.D. SUBSEA TVD PROD. Z: BALD 3787-3844 - 7/M. 8 M3 ACID & FRAC  
 SINGLE PT TEST: 322719 M3/D, 125 HOURS, 10MM CH, TP 15203 KPA.  
 GOODRICH 509.0 + 715.4  
 HASLER 963.0 + 261.4  
 COMMOTION 1288.0 - 63.6 1287.8 - 63.4  
 PADDY 1366.0 - 141.6 1365.7 - 141.3  
 CADOTTE 1400.0 - 175.6 1399.6 - 175.2  
 HARMON 1420.0 - 195.6 1419.6 - 195.2  
 NOTIKWIN 1512.0 - 287.6 1511.4 - 287.0  
 FALHER 1623.0 - 398.6 1622.2 - 397.8  
 GETHING 2113.0 - 888.6 2110.4 - 886.0  
 CADOMIN 2456.0 -1231.6 2448.7 -1224.3  
 NIKANASSIN 2521.0 -1296.6 2512.6 -1288.2  
 FERNIE 3572.0 -2347.6 3549.9 -2325.5  
 NORDEGG 3682.0 -2457.6 3659.1 -2434.7  
 PARDONET 3704.0 -2479.6 3680.7 -2456.3  
 BALDONNEL 3757.0 -2532.6 3732.7 -2508.3  
 CHARLIE LK 3844.0 -2619.6 3818.3 -2593.9  
 HALFWAY 4573.0 -3348.6 4542.9 -3318.5  
 TOAD GRAY 4625.0 -3400.6 4594.9 -3370.5  
 T. D. 4653.0 -3428.6 4622.9 -3398.5  
 WELL COMPLETED  
 NO DRILLSTEM TESTS RUN.  
 SURF LOC: a-79-H 93-P-5. N 16.8, E 740 FROM SW CORNER.  
 LOGS: DISFL,CNLFDC,BHCS,GR  
 EST TD: 3800M HALF  
 PERMIT 2391  
 CONTR: MONTGOMERY #42  
 RIGHTS:  
 © CANADA PETROLEUM INFORMATION EXCHANGE

PAGE 1 OF 2.. 1/4 UNIT d-78-K NTS 93-P-5  
 DA #5258 LIC.APP. JAN 24/80  
 B.C. EXPL OUT 200d078K093P0500 PIX.DEL. DEC 2/81  
 BP EXPLORATION CANADA LIMITED FTD: 3773M 2ND H. CO-ORD: N 680.77M W 330.55M KB: 1121M  
 BP ET AL HIGHHAT d-78-K PBD: 3321M TVD: 3755.6 CORES: GR: 1112.2M  
 340-580 I.P: 1ST H: 3480-3481.7 REC 0.5M  
 SPUD: JUN 10/80 245-3353 2ND H: 3594.1-3604.5 REC 10.4M  
 R/R: AUG 3/81 178-3336 (2ND H) 3604.5-3606.5 REC 2.0M  
 COMP: AUG 3/81 114-(3314-3773) 3674-3674.2 REC 0.2M  
 STATUS: S.I. GASWELL NET PAY: PERFS: NIL..  
 FORMATION H.D. SUBSEA TVD PROD. Z: BALD  
 1ST HOLE:  
 COMM U SD 223.0 + 898.0A  
 COMM SHALE 350.0 + 771.0  
 COMM L SD 443.0 + 678.0  
 F/COMM 595.0 + 526.0  
 MOOSEBAR 678.5 + 442.5  
 BLUESKY 917.5 + 203.5  
 GETHING 1253.0 - 132.0  
 CADOMIN 1439.0 - 318.0  
 NIKANASSIN 1663.0 - 542.0 1661.4 - 540.4  
 F/CADOMIN 1750.0 - 629.0 1747.4 - 626.4  
 NIKANASSIN 1865.0 - 744.0 1860.5 - 739.5  
 PASS BEDS 2906.0 -1785.0 2869.8 -1748.8  
 FERNIE 3030.0 -1909.0 2989.8 -1868.8  
 NORDEGG 3378.0 -2257.0 3325.7 -2204.7  
 F/FERNIE 3420.0 -2299.0 3365.4 -2244.4  
 NORDEGG 3437.0 -2316.0 3381.5 -2260.5  
 WELL COMPLETED  
 FORMATION H.D. S.S. TVD S.S.  
 PARDONET 3485.0 -2364.0 3427.1 -2306.1  
 FOLD AXIS 3523.0 -2402.0 3463.4 -2342.4  
 PARD/BALD 3562.0 -2441.0 3500.9 -2379.9  
 F/NORDEGG 3605.0 -2484.0 3538.4 -2417.4  
 NORD/FERNIE 3656.0 -2535.0 3592.9 -2471.9  
 T.D. 1ST H. 3712.0 -2591.0 SEE PAGE 2..  
 P.B.D.: 3321M. CUT WINDOW IN 245MM CASING @ 1905M.  
 1ST HOLE B.H.CO-ORDS: @ MHD 3302M, TVD 3254M  
 NORTH 214.8M, EAST 289.2M  
 OF SURFACE LOCATION.  
 DRILLSTEM TESTS SEE PAGE 2..  
 CNFDCGR,CYB. PERMIT # 2547  
 LOGS:BHCS,DISFL,DILL,HDT,DIR, CONTR: MUSTANG #14  
 EST. TD.: 3355M BALD RIGHTS:  
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DA #5258

B.C. EXPL OUT

200d078K093P0500

BP EXPLORATION CANADA LIMITED

DRILLSTEM TESTS:

BP ET AL HIGHHAT d-78-K

1. 3465-3631 (PARD) MISRUN. NP PKR SEAT.
2. 3349-3712 (PARD) VO 10/- . MISRUN.
3. 3340-3712 (PARD) VO 10/180 SI 180/360 MINS.  
GTS 25 MINS ON VO (3M YELLOW FLAME). NO REC.  
LOST DRILL STRING. HP 41547-40572 FP 8147-9610  
SIP 22775-19118.

WHIPSTOCK HOLE:

FORMATION	H.D.	S.S.	TVD	S.S.
PASS BEDS	2810.0	-1689.0	2801.2	-1680.2
FERNIE	3052.0	-1931.0	3043.0	-1922.0
NORDEGG	3256.0	-2135.0	3247.0	-2126.0
F/FERNIE	3272.5	-2151.5	3263.5	-2142.5
NORDEGG	3294.0	-2173.0	3285.0	-2164.0
PARDONET	3348.3	-2227.3	3333.1	-2212.1
BALDONNEL	3450.3	-2329.3	3434.7	-2313.7
CHARLIE LK	3522.5	-2401.5	3506.7	-2385.7
F/CHARLIE LK	3542.6	-2421.6	3526.8	-2405.8
PARDONET	3544.0	-2423.0	3528.2	-2407.2
NORDEGG	3548.0	-2427.0	3532.2	-2411.2
PARDONET	3550.0	-2429.0	3534.2	-2413.2
BALDONNEL	3648.6	-2527.6	3632.7	-2511.7
CHARLIE LK	3701.0	-2580.0	3685.1	-2564.1
T. D.	3773.0	-2652.0	3755.6	-2634.6

WHIPSTOCK HOLE:

4. 3510-3606 - MISRUN. NO PKR SEAT.
5. 3336-3606 (BALD) VO 10/180 SI 180/360 MINS.  
GTS 5 MINS ON PF. GTS IMMED ON VO - TSTM (5-6M  
YELLOW FLARE). NO REC. HP 35590-34216  
FP 1277-2652 SIP 31824-32602.
6. 3668-3682 (BALD)(CCT) VO 10/180 SI 120/360 MINS.  
MISRUN. USED 1150M WTR CUSH. REC 1059M WTR CUSH.  
REC 197M WTRY MUD & SUL DRLG MUD.  
HP 39044-39044 FP 11830-13714 SIP 37196-36873.
7. 3737-3756 (CH L) (CCT) MISRUN. NO PKR SEAT.  
HP 40263-37444.
8. 3665-3084 - MISRUN.

WHIPSTOCK B.H.CO-ORDS: @ MHD 3771M, TVD 3754.7M  
NORTH 76.2M, EAST 154.2M  
OF SURFACE LOCATION.

CNFDCGR,CYB.

PERMIT # 2547

LOGS: BHCS, DISFL, DILL, HDT, DIR, CONTR: MUSTANG #14

WELL COMPLETED

EST. TD.: 3355M BALD

RIGHTS:

© CANADA PETROLEUM INFORMATION EXCHANGE

B.C. EXPL WILDCAT

200a023D093P1200

SKELLY OIL OF CANADA LTD.

FTD: 15000' CH LK

CO-ORD: S 654' E 109'

KB: 4169'

SKELLY GETTY CS COMMOTION a-23-D

PBTD: 12750'

CORES: NIL

GR: 4147'

I.P:

SPUD: JUN 15/77 13 3/8-1271-1500

R/R: MAY 26/78 9 5/8-10950-1300

COMP: NOV 28/78 7-10684-12249-1000

PERFS: 12182-90, 74-78, 58-66, 12095-100 2/

FT. 12090-95 4/FT. 12067-80, 24-38 2/FT

STATUS: S.I. GASWELL

NET PAY:

36300 ACID FL 16.3 MMCF/D ON 42/64" CH

FORMATION TOP SUBSEA TOP PROD. Z: PARD/BALD

FTP 1450 PSI OPEN HOLE 12249-750 67000

COMMOTION	2328	+1841
NOT	3078	+1091
MOOSEBAR	3804	+ 365
GETHING	4563	- 394
GETH SO	4591	- 422
FAULT	5022	- 853
GETHING	5341	-1172
CADOMIN	6919	-2750
NIK	7162	-2993
LO NIK	11640	-7471
FAULT ?	11750	-7581
FAULT ?	11800	-7631
NORD	11930	-7761
PARD	12043	-7874
BALD	12309	-8140
CH LK	12523	-8354
FAULT?	13318	-9149

NO DRILLSTEM TESTS RUN

T.D. 15000 -10831  
WELL COMPLETED

GRN,CNLFDC,  
LOGS: BHCS, DEN, DILL, DIP, MLC  
EST. TD.: 15,000' TRIASSIC

PERMIT #2623

CONTR: LOFFLAND #3

RIGHTS:

DA # 3915

© CANADA PETROLEUM INFORMATION EXCHANGE



DIRECTIONAL SURVEY

ROKE OIL ENTERPRISES LIMITED

COMPANY: GULF CANADA RESOURCES INC. GRID: \_\_\_\_\_ DATE SURVEYED: NOVEMBER 2, 1982  
DRILL HOLE: TR - RDH - 82 - 101 LATITUDE: \_\_\_\_\_ SURVEY BY: SIM  
LOCATION: \_\_\_\_\_ DEPARTURE: \_\_\_\_\_ WITNESSED BY: CARPENTER  
FIELD: TREFF ELEVATION: \_\_\_\_\_ CALCULATIONS BY: \_\_\_\_\_  
MAGNETIC DECLINATION: \_\_\_\_\_ CORRECTION OF: \_\_\_\_\_ FOR: \_\_\_\_\_ GRID: \_\_\_\_\_

Number	Cable Depth	Slant Angle	Slant Angle Bearing	Number	Cable Depth	Slant Angle	Slant Angle Bearing	Number	Cable Depth	Slant Angle	Slant Angle Bearing
0	0	0.22		11	165	1.07	175.4	22			
1	15	0.23	179.8	12	180	1.09	201.0	23			
2	30	0.25	182.6	13	195	1.19	215.6	24			
3	45	0.23	202.7	14	210	1.19	220.8	25			
4	60		207.7	15	223	0.78	227.4	26			
5	75	0.61	220.8	16				27			
6	90	0.61	212.0	17	REPEATS			28			
7	105	0.63	226.0	18	165	0.93	230.7	29			
8	120	0.60	217.7	19	120	0.56	211.7	30			
9	135	0.60	295.8	20				31			
10	150	1.01	263.0	21				32			

# GULF CANADA RESOURCES INC. - COAL DIVISION - LOGGING FORM

 PROJECT TR

 BLOCK S

 DATA SOURCE R.D.H.82100

DRILLERS LOG

 SHEET NO. 1 of 1

 GROUP: \_\_\_\_\_ FORMATION: COMMOTION MEMBER: WALTON

SEAM: \_\_\_\_\_ STRATIGRAPHIC UNIT: \_\_\_\_\_

BCA	BOX MARK	INTERVAL THK	DEPTH		LITHO THK	SAMPLE ID.	DESCRIPTION										KEY BED
			FROM	TO			ROCK TYPE	MODIFIER	GRAIN SIZE	SORTING	COLOUR	COLOUR MODIFIER	BEDDING	SED. STRUX	CORE STATE	NOTES	
			0	5.18			OVERBURDEN										DRILLERS LOG
			5.18	39.62			SHALE										1 GALLON PER MINUTE
			39.62	54.86			SILTSTONE										4 GALLONS PER MINUTE
			54.86	55.47			SANDSTONE		COARSE								
			55.47	59.44			SHALE					GREEN					
			59.44	59.74			SHALE	CARB									
			59.74	61.26			SHALE					GREEN					
			61.26	63.40			SILTSTONE										
			63.40	64.01			SHALE	CARB									
			64.01	65.53			SILTSTONE										GRADING TO SANDSTONE
			65.53	70.10			SILTSTONE										
			70.10	71.63			SILTSTONE										
			71.63	72.54			SHALE										
			72.54	72.85			COAL										
			72.85	78.94			SANDSTONE										
			78.94	79.25			SHALE										
			79.25	79.55			COAL										
			79.55	79.86			SHALE										
			79.86	80.16			COAL										
			80.16	82.30			SANDSTONE										
			82.30	97.54			SHALE										8 GALLONS PER MINUTE @ 97.54 m
			97.54	103.63			SILTSTONE										INTERBEDDED WITH SANDSTONE
			103.63	111.25			SILTSTONE										CORED INTERVAL TO 226.43 m
			111.25	111.86			SHALE										
			111.86	113.39			COAL										
			113.39	116.43			SANDSTONE										
			116.43	121.92			SILTSTONE										AND SHALE



# GULF CANADA RESOURCES INC. - COAL DIVISION - LOGGING FORM

 PROJECT T.R.

 BLOCK S.

 DATA SOURCE R.D.H B,2,101

DRILLERS LOG

 SHEET NO. 1 of 2

 GROUP: \_\_\_\_\_ FORMATION: COMMOTION MEMBER: WALTON

SEAM: \_\_\_\_\_ STRATIGRAPHIC UNIT: \_\_\_\_\_

BCA	BOX MARK	INTERVAL THK	DEPTH		LITHO THK	SAMPLE ID.	DESCRIPTION								KEY BED		
			FROM	TO			ROCK TYPE	MODIFIER	GRAIN SIZE	SORTING	COLOR	COLOR MODIFIER	BEDDING	SED. STRUK		CORE STATE	NOTES
			0	5.18			OVERBURDEN									DRILLERS LOG	
			5.18	24.38			SHALE										
			24.38	131.67			SILTSTONE										
			131.67	132.28			SANDSTONE										
			132.28	149.96			SANDSTONE					GREY					
			149.96	150.57			SHALE										
			150.57	152.40			SANDSTONE										
			152.40	155.14			CONGLOMERATE										
			155.14	155.45			COAL										
			155.45	169.16			SILTSTONE					BROWN					
			169.16	170.69			CLAY										
			170.69	173.13			SILTSTONE										
			173.13	175.87			SANDSTONE		FINE			GREY					
			175.87	176.16			COAL										
			176.16	176.48			SILTSTONE									AND COAL	
			176.48	176.78			SILTSTONE										
			176.78	180.75			SANDSTONE										
			180.75	184.40			SILTSTONE									INTERBEDDED WITH SHALE	
			184.40	184.71			COAL										
			184.71	185.32			SHALE										
			185.32	185.62			COAL										
			185.62	187.45			SILTSTONE										
			187.45	193.55			SANDSTONE									COAL LENSES, BENTONITE	
			193.55	194.16			SANDSTONE										
			194.16	194.46			SILTSTONE										
			194.46	195.07			SHALE									SOME COAL	
			195.07	202.08			SILTSTONE										
			202.08	202.69			SHALE										

GULF CANADA RESOURCES INC. - COAL DIVISION - LOGGING FORM

PROJECT T.R.

BLOCK S.

DATA SOURCE RD,H,821,0,1

DRILLERS LOG

SHEET NO. 2 of 2

GROUP: \_\_\_\_\_ FORMATION: \_\_\_\_\_ COMMOTION \_\_\_\_\_ MEMBER: WALTON

SEAM: \_\_\_\_\_ STRATIGRAPHIC UNIT: \_\_\_\_\_

BCA	BOX MARK	INTERVAL THK	DEPTH		LITHO THK	SAMPLE ID.	DESCRIPTION									KEY BED	
			FROM	TO			ROCK TYPE	MODIFIER	GRAIN SIZE	SORTING	COLOUR	COLOUR MODIFIER	BEDDING	SED. STRUX	CORE STATE		NOTES
			202.69	203.00			COAL										
			203.00	203.61			SHALE										
			203.61	204.22			COAL										
			204.22	207.26			SILTSTONE										
			207.26	211.84			COAL										
			211.84	217.02			SILTSTONE										
			217.02	217.63			SHALE										
			217.63	220.07			COAL										
			220.07	225.55			SILTSTONE										INTERBEDDED WITH SANDSTONE