PR-Carbon Creek 82C(3)A 81-88

UTAH MINES LTD.
GRAPHIC CORE LOG

HOLE NO. DDH-CC-81-88 | LOG BY: K. Foellmer | DATE: 1981 | ELEV: 1323.23m | N: 29,257.99 | E: 43,280.266 | HOLE SIZE: NQ | AZM: | DIP: -90 | TO: 333.86m | HOLE NO. DDH-CC-81-88 | PROJECT: Carbon Creek | LEASE: 322 (Greenhills) | BRG:

% REC	DEPTH	CORE LOSS	TOTAL	SAMPLE	SAMPLE	LITHOLOGY	ANALYSIS
							504
	0						
	0.5						
47%	8.00		0.19			Coal - highly broken, predominantly claro-durain	
	10						
	8.50						
	20						
97%	20.50		1.05	1		Coal - bright banded, poorly cleated, disseminated pyrite ~ 25% vitrain ~ 75% claro-durain + mudstone split from 16.15 to 16.30m	
	30						
100%	30.50		0.09			Coal - bright, conchoidal fracture, calcite cement, 100% claro-durain, pyrite flakes	
84%	40.00		0.21			Coal - broken, sheared, bright ~ 100% claro-durain; mudstone split	
	40		0.05			Coal - broken, sheared, conchoidal fracture, cannelloid	
			0.03			Coal - sheared, broken	
47%	50.00		0.29			Coal - bright banded, disseminated pyrite ~ 2% fusain ~ 15% vitrain ~ 83% claro-durain	
	60						
98%	60.50		1.98	2		Coal - no apparent cleat, minor bright bands	
	70						
80%	70.50		0.40	3P		Coal - bright banded, poorly cleated, minor disseminated pyrite ~ 15% vitrain ~ 85% claro-durain	
74%	80.00		0.14			Coal - bright banded, [illegible]	
73%	80.50		0.11			Coal - bright banded, minor pyrite on cleat ~ 20% vitrain, ~ 80% claro-durain	
100%	90.00		1.56	4		Coal - cleated, sheared, minor pyrite on cleat ~ 25% vitrain ~ 75% claro-durain	
	90						
100%	100.00		0.37	5P		Coal - bright banded, cleated, ~ 20% vitrain ~ 80% claro-durain	
	100						
92%	110.00		0.67	6P		Coal - bright banded, minor mudstone lenses, cleated,	
93%			0.42	7P		Coal - poorly cleated ~ 3% vitrain ~ 97% claro-durain	
	110						
100%	120.00		1.81	8		Coal - bright banded, ~ 2% fusain ~ 20% vitrain ~ 98% claro-durain mud split from 97.99 to 98.03m	
	120						
89%	130.00		1.47	9		Coal - fractured, minor bright bands ~ 1% fusain ~ 7% vitrain ~ 92% claro-durain	
	130						
82%	140.00		1.39	10		Coal - poorly cleated, bright banded in places, pyrite on slickensiide surfaces, pyrite and calcite on cleat surfaces, abundant mudstone splits throughout, 1% vitrain, 81% claro-durain, minor fusain	
			0.03			Coal - 0.03 m; bright banded, poorly cleated, 10% vitrain, 90% claro-durain, minor pyrite @ top of seam	
	150						
100%	160.00		1.90	12		Coal - dull banded, poorly to well cleated, minor pyrite @ top of seam, 15% vitrain, 84% claro-durain, 1% fusain; vitrain increasing toward base, mudstone split from 180.67 to 180.70m	
	170						
98%	180.00		1.27	13		Coal - dull to dull banded - poorly cleated, 5% vitrain, 94% claro-durain, 1% fusain, Vitrain content highest at base of seam	
	190						
	200.00		0.08			Coal - highly broken, bright banded, 70% vitrain, 30% claro-durain, well cleated	
87%			0.33	14P		Coal - top 0.10m dull, cannaloid - remainder of seam, dull to bright banded poorly to well cleated, 25% vitrain, 74% claro-durain, 1% fusain; vitrain increases toward base	
	210						
89%			0.33	15P		Coal - pyrite nodules up to 0.5cm in diameter throughout seam 5% vitrain, 95% claro-durain, vitrain increasing toward base	
	220		0.08			Coal - cleated, dull, 100% claro-durain, calcite on cleat surfaces Coal - no cleat, abundant slickensides, bright banded, 30% vitrain, 70% claro-durain	
	230						
99%			0.14			Coal - cannel coal, dull; very minor sandstone lenses	
			0.04	16		Coal - top 0.17m cannel coal-remainder of seam, bright, 75% vitrain, 23% claro-durain, 2% fusain	
			0.10			Coal - bright banded, cleated, 75% vitrain 25% claro-durain	
	240						
94%			2.04	17		Coal - bright banded, fractured, cleated in places with calcite on cleat, mudstone splits from 245.08 to 245.13m; minor disseminated pyrite throughout, 25% vitrain, 62% claro-durain, 3% fusain	
			0.22			Coal - bright banded, poorly cleated, fractured, 27% vitrain, 70% claro-durain, 3% fusain	
	250						
86%							
88%							
	260						
86%							
	270						
80%			0.38	18P		Coal - bright banded, cleated, 35% vitrain, 65% claro-durain, 1% fusain, mudstone split from 271.23 to 271.26m	
	280						
85%							
79%			0.72	19P		Coal - highly broken, sheared, cleated @ top of seam, 40% vitrain, 60% claro-durain	
			0.32			Coal - fractured, poorly cleated, banded, 30% vitrain, 69% claro-durain, 1% fusain	
			0.10			Coal - broken, slickensiides, 30% vitrain, 20% claro-durain	
79%							
	290		0.08			Coal - dull, cannel coal	
86%							
85%							
	300						
	310						
	320						
88%	330.00		1.22	20		Coal - shiny, banded near middle of seam, 10% vitrain, 90% claro-durain	
			T.D.			END OF HOLE 333.86m T.D.	

PR-Carbon Creek 81(3)A 81-89

UTAH MINES LTD.

GRAPHIC CORE LOG

HOLE NO DDH-CCr-81-89

LOG BY: L. Kenkel

DATE: Aug. 10, 1980.

ELEV: 1242.43m

N: 40,460.42

E: 44,358.43

HOLE SIZE: HO

AIR ☐ WATER ☒

T.D. 200.25 P.D.

HOLE NO. DDH-CCr-81-89

PROJECT: Carbon Creek

LEASE: 3483

SEC. T. R.

504

% REC	DEPTH	STRIP LOG	THICK	SAMPLE NO.	GRAV.	LITHOLOGY	ANALYSIS
	0						
	10						
	75°						
	20						
	83°						
	30						
	83°						
98%	40		2.12	1		Coal - cleated; bright banded ∿ 25% vitrain ∿ 75% claro-durain, fractured - mud splits @ 39.14 to 39.15m; @ 39.30 to 39.36m; @ 40.28 to 40.35m; @ 40.35 to 40.52m	
	81°						
	84°						
	80°						
	84°						
72%			0.64	2P		Coal - cleated, bright banded, pyrite & calcite on cleat ∿ 2% fusain ∿ 8% vitrain ∿ 90% claro-durain	
	50						
54%			0.67	3P		Coal - broken and sheared, calcite, predominantly claro-durain, minor fusain	
	85°						
	80°						
100%			1.52	4		Coal - cleated, mud clasts throughout, bright banded, pyrite on cleat ∿ 3% fusain ∿ 5% vitrain ∿ 92% claro-durain	
	60						
	77°					Coal - bright banded, minor mudstone lenses, poorly cleated, ∿ vitrain ∿ 1% fusain ∿ 84% claro-durain	
80%			0.25				
	85°						
45%	70		0.10			Coal - bright, cleated, cannel coal near base	
100%			0.49	5P		Coal - bright, banded, pyrite on cleat, ∿ 1% fusain ∿ 5% vitrain ∿ 91% claro-durain pyrite nodules, cannel coal from 75.66 to 76.05m	
	80						
	80°						
100%			0.56	6P		Coal - cleated, bright banded, pyrite laminae, medium grained sandstone bed from 86.04 to 86.06m, minor fusain, ∿ 7% vitrain ∿ 93% claro-durain	
	90						
	81°						
75%			0.35	7P		Coal - broken, bright banded, cleated, ∿ 35% vitrain ∿ 65% claro-durain - canneloid from 91.91 to 92.10m	
	79°						
	79°						
	100						
	83°						
100%			1.85	8		Coal - cleated, bright baned, pyrite bands, fractured, ∿ 1% fusain ∿ 40% vitrain ∿ 59% claro-durain, mudstone split from 107.57 to 107.59m	
	110						
	82°						
90%			0.18			~~Coal - bright, poorly cleated ∿ 20% vitrain ∿ 80% claro-durain~~	
40%			0.08			Coal - highly broken, bright banded, abundant claro-durain	
	84°		0.18			~~Coal - bright banded, poorly cleated ∿ 20% vitrain ∿ 80% claro-durain~~	
100%			1.42	9		Coal - cleated, bright banded, pyrite on cleat, broken ∿ 4% fusain ∿ 20% vitrain ∿ 76% claro-durain	
	120						
67.5%			0.27			Coal - broken, contains mud split, predominantly claro-durain, some vitrain	
	130						
	140						
100%			0.74	10P		Coal - cleated, fractured, calcite on cleat, minor fusain, ∿ 30% vitrain ∿ 70% claro-durain	
	150						
	84°						
85%			0.72	11P		Coal - minor bright bands, poorly cleated, minor fusain ∿ 5% vitrain ∿ 95% claro-durain	
90%			0.45	12P		Coal - cleated, fractured, bright, ∿ 40% vitrain ∿ 60% claro-durain	
85%	160		0.55	13P		Coal - Cleated, bright banded, ∿ 40% vitrain ∿ 60% claro-durain	
	86°						
	81°						
	170						
	81°						
71%	180		0.25			Coal - broken, bright banded, minor fusain ∿ 10% vitrain ∿ 90% claro-durain - poorly cleated	
			0.08			Coal - bright, cleated, pyrite on cleat ∿ 35% vitrain ∿ 65% claro-durain - mudstone split from 182.18 to 182.20m	
	79°						
	190						
99%			1.54	14		Coal - cleated, bright banded, fractured ∿ 2% fusain ∿ 20% vitrain ∿ 78% claro-durain Coal - mud split @ 192.92m to 192.96m	
	84°						
	200						

PR-Carbon Creek 81(3)A

81-90

UTAH MINES LTD.
GRAPHIC CORE LOG

HOLE NO. CC-DDH-81-90 | HOLE NO. DDH-CC-81-90

LOG BY: K. Poellmer

DATE: 1981

ELEV: 1164.41m | HOLE SIZE: HQ | PROJECT: Carbon Creek

N: 39971.77m | AIR ☐ WATER ☒ | LEASE: 323 Freehold

E: 45194.03m | TO 248.72m | BEARING: | DIP: | BEC: | T: | R:

504

% REC	DEPTH	LOG	THICK	SAMPLE NO.	GRAPH	LITHOLOGY	ANALYSIS
	0m						
	10						
86%	20		1.50	1		Coal - bright banded & cleated, minor pyrite on cleat, 20% vitrain, 75% claro mut splits @ 18.33 to 18.35m, 18.36 to 18.37m and 18.59 to 18.60m durain, 5% fusain	
	30						
84%	40		1.21	2		Coal - dull banded, cleated, fractured, minor pyrite on cleat, sapropelic 8% vitrain, 88% claro-durain, 4% fusain, @ top of seam, gradational upper contact	
	50						
100%	60		0.87	3P		Coal - dull banded, cleated, sapropelic @ top of seam, calcite on cleat surfaces, 75% vitrain, 25% claro-durain, siltstone splits @ 33.92 to 33.93m, 33.95 to 34.00, 34.05 to 34.07m and 34.20 to 34.27m	
	70						
	80						
100%	90		2.02	4		Coal - bright banded, poorly cleated, pyrite nodules throughout, 40% vitrain pyrite band from 88.34 to 88.35m, mudstone splits @ 88.36 to 88.38m, 88.87 to 88.99m and 89.82 to 89.84m 60% claro-durain	
	100						
100%	110		1.55	5		Coal - bright banded, poorly cleated in upper half, cleated in lower half, fractured and broken, calcite on cleat, minor pyrite on cleat @ base, 15% vitrain, 82% claro-durain, 3% fusain, mudstone split from 102.67 to 102.69m	
96%	120		1.35	6		Coal - minor bright bands, fractured, 5% vitrain, 85% claro-durain, 10% fusain, mudstone splits from 110.76 to 110.77m and 110.81 to 110.82m	
	130						
100%	140		0.08			Coal - bright, cleated, 90% vitrain, 10% claro-durain	
100%	150		0.43	7P		Coal - Sapropelic for top 0.24m, dull, fractured humic for bottom 0.19m, dull banded, cleated, 86% vitrain, 10% claro-durain, 4% fusain mudstone split from 125.24 to 125.25	
	160						
91%	170		0.48	8P		Coal - bright banded, cleated, 35% vitrain, 65% claro-durain, pyrite nodules throughout mudstone - pyrite split from 134.73 to 134.75m,	
100%	180		0.44	9P		Coal - sapropelic, dull, conchoidal fractures, broken, minor claro-durain bands in middle of seam	
100%	190		1.42	10		Coal - sapropelic for top 0.46m, fractured with minor pyrite on fracture surfaces humic coal 1st bright banded, cleated, 30% vitrain, 70% claro-durain mudstone splits from 153.99 to 154.08m and 154.26 to 154.29m	
100%	200		1.03	11		Coal - bright banded, cleated, 15% vitrain, 80% claro-durain, 5% fusain, mudstone split from 167.63 to 167.77m, minor mud clasts	
100%	210		0.27			Coal - bright banded, broken near base, minor mud clasts, 8% vitrain, 90% claro-durain, 2% fusain	
26%	220		0.08			Coal - cleated, dull banded, 75% vitrain, 25% claro-durain	
	230						
100%	240		0.93	12P		Coal - cleated, fractured, 10% vitrain, 82% claro-durain, 8% fusain, mudstone splits from 194.75 to 194.76m, 194.87 to 194.88m, 195.26 to 195.28m, 195.30 to 195.36m and 195.45 to 195.51m, Siltstone split from 194.83 to 194.85 containing abundant pyrite	
85%	250		0.74	13P		Coal - bright and dull banded, poorly cleated, broken, minor pyrite, 10% vitrain, 88% claro-durain, 2% fusain, large pyrite nodule at 203.40m	
98%			0.54	14P		Coal - sapropelic from 205.18 to 205.36m, humic coal is bright banded, cleated, 30% vitrain, 70% claro-durain, mudstone split from 205.11 to 205.18m	
			0.11			Coal - fractured, slightly sapropelic, mainly claro-durain, minor fusain	
85%			0.48			Coal - cleated, bright banded, highly broken, predominantly claro-durain, minor mudstone splits	
			0.09			Coal - highly broken, minor mudstone	
100%			1.04	15		Coal - poorly cleated, minor bright banded, sheated, 7% vitrain, 89% claro-durain, 4% fusain, mudstone split from 239.73 to 239.74m	
		T.D.				END OF HOLE T.D. 248.72m	

PA-Cowboy Creek R(13)A

81-91

UTAH MINES LTD.
GRAPHIC CORE LOG

HOLE NO: DDH-CC-81-91
LOG BY: K. Poellmer
DATE: 1981

ELEV: 1193.61m
N: 390168.16m
E: 45673.02m

HOLE SIZE: NQ
DIP: 0 WATER: ✓
TO: 310.55m

HOLE NO: DDH-CC-81-91
PROJECT: Cowboy Creek
LEASE: 323 (Freehold)
SEC: ___ T: ___ R: ___

Depth (m)	Core Loss	Sample No.	Assay	Sample No.	LITHOLOGY	ANALYSIS
0m						
91%		2.00	1		Coal - cleated, fractured, 10% vitrain, 90% claro-durain, pyrite disseminated throughout. High mud content, mudstone splits from 6.53 to 6.54m and 6.60 to 6.72m	
10						
80%		0.23			Coal - bright banded, no cleat, predominantly claro-durain	
51%		0.55	2P		Coal - poorly cleated, highly broken, 5% vitrain, 95% claro-durain, minor mud content in places	
20						
		0.00			Coal - cleated, broken, 100% clarain, clacite on cleat	
30						
100%		1.00	3P		Coal - bright banded, cleated, 38% vitrain, 61% claro-durain, 1% fusain	
40						
100%		0.70	5P		Coal - dull banded, cleated, 50% vitrain, 49% claro-durain, 1% fusain, abundant pyrite on cleat surfaces	
50						
98%		1.50	4		Coal - cleated, bright banded, 33% vitrain, 66% claro-durain, 1% fusain, fractured, sheared, mudstone splits from 54.82 to 54.86m, 55.21 to 55.28m (sandy near base), 55.54 to 55.56m and 55.93 to 55.94, Minor pyrite throughout seam	
56%		0.28			Coal - poorly cleated, fractured, 50% vitrain, 50% claro-durain	
60						
100%		0.70	6P		Coal - poorly cleated, fractured, sheared, pyrite throughout, 25% vitrain, 74% claro-durain, 1% fusain, mudstone splits from 64.95 to 65.00m and 65.07 to 65.09m	
75%		0.30	7P		Coal - cleated, broken, 10% vitrain, 90% claro-durain, bright banded	
70						
14%		0.05			Coal - bright, cleated, 80% vitrain, 20% claro-durain	
47%		0.14			Coal - bright banded, poorly cleated at top of seam 7% vitrain, 93% claro-durain, mudstone splits from 78.34 to 78.35m	
80		1.10	8P		Coal - bright banded, cleated, 1% vitrain, 85% claro-durain, 14% fusain, fractured	
93%		1.35	9		Coal - broken at base, poorly cleated, dull banded, 10% vitrain, 90% claro-durain	
90						
89%		0.67	10		Coal - 93.24m to 93.48m - dull, very muddy, 5% vitrain, 95% claro-durain, very poorly cleated, 93.48m to 93.52m - interlaminated sandstone, fine grained and coal, abundant pyrite, 93.52m to 93.94m - coal, dull banded, poorly cleated, 10% vitrain, 90% claro-durain	
100						
		0.07			Coal - bright banded, well cleated, 80% vitrain, 20% claro-durain, abundant pyrite	
110						
120						
130						
140						
85%	159	2.00	11		Coal - bright banded, cleated, muddy, 35% vitrain, 65% claro-durain, abundant pyrite at top of seam, mudstone splits from 149.22 to 149.30m, 149.37 to 149.54m, 150.14 to 150.20m and 150.26 to 150.28m, abundant pyrite in splits, pyrite band from 149.10 to 149.12m	
99%	180	1.81	12		Coal - cleated, 10% vitrain, 85% claro-durain, 5% fusain	
79%		1.10	13P		Coal - bright banded, poorly cleated, pyrite on cleat, 10% vitrain, 82% claro-durain, 8% fusain, mudstone and fine grained sandstone splits from 169.44 to 169.55m contains pyrite	
170						
63%		0.25			Coal - bright banded, cleated, minor pyrite on cleat, 25% vitrain, 75% claro-durain	
180						
86%		0.46	14P		Coal - 183.09 to 183.21m - sapropelic, dull, conchoidal fractures 183.27 to 183.53m - humic, bright banded, cleated, broken pyrite on cleat, 5% vitrain, 95% claro-durain, 1% fusain	
190						
100%		1.50	15P		Coal - cleated, dull banded, broken, 7% vitrain, 90% claro-durain, 3% fusain	
54%		0.27			Coal - poorly cleated, 2% vitrain, 98% claro-durain	
200		0.0			Coal - cleated, bright, 100% vitrain	
210						
84%	184	1.84	16		Coal - sapropelic from 209.61m to 210.24m, top of seam is humic, cleated, 10% vitrain, 87% claro-durain, 3% fusain, fractured with pyrite on fracture surfaces, mudstone splits from 209.88 to 209.94m and 210.06 to 210.11m	
		0.05			Coal - cleated, broken, abundant claro-durain	
220						
99%		1.54	17		Coal - cleated, bright banded, minor pyrite on cleat, 12% vitrain, 85% claro-durain, 3% fusain, mudstone splits from 223.40 to 223.41m, minor mud clasts.	
50%		0.25			Coal - dull banded, poorly cleated, 95% claro-durain, 5% fusain	
230						
240						
250						
100%		0.68	18P		Coal - bright banded, poorly cleated, 27% vitrain, 70% claro-durain, 3% fusain. Minor Mud clasts throughout seam. Mudstone splits from 253.65 to 253.66m and 253.74 to 253.75m	
260						
68%		0.54	19P		Coal - bright and dull banded, poorly cleated, sugary texture at base, 20% vitrain, 78% claro-durain, 2% fusain, mudstone splits from 261.47 to 261.48m and 261.50 to 261.51m	
78%		0.39	20P		Coal - bright banded, cleated, 85% vitrain, 15% claro-durain	
63%		0.19			Coal - sapropelic, dull, minor pyrite replacement of shell debris near top of coal seam	
270						
280						
290						
300						
97%		0.26	21		Coal - poorly cleated, minor pyrite on fracture surfaces, 5% vitrain, 87% claro-durain, 8% fusain	
310						
T.D.					END OF HOLE T.D. 310.55m	

PR-Carbon Creek 81(3)A

81-92

UTAH MINES LTD.

GRAPHIC CORE LOG

HOLE NO. DDH-CC-81-92

LOG BY: L. Louie

DATE: 1981

ELEV: 903.97m

N: 38542.96m

E: 47753.10m

HOLE SIZE: HQ

AIR ☐ WATER ☒

T.D. 67.36 P.D.

HOLE NO. DDH-CC-81-92

PROJECT: Carbon Creek

LEASE: 321 (Freehold)

SEC. T. R.

504

% REC	DEPTH	STRIP LOG	THICK	SAMPLE NO.	GRAV.	LITHOLOGY	ANALYSIS
	0						
	10						
	20						
	87						
	30						
	78						
94%			1.65	#1		Coal - sapropelic from 31.57m to 31.97 and from 82.84 to 32.97; dull - humic coal is bright banded, cleated, ∿ 3% fusain ∿ 35% vitrain ∿ 62% claro-durain	
	77						
	40						
82%			1.23	#2		Coal - cleated, bright and dull banded, pyrite on cleat ∿ 10% fusain ∿ 15% vitrain ∿ 75% claro-durain; mud split from 41.79m to 41.80m	
	80						
50%	50		0.15			Coal - highly broken, muddy in places	
53%			0.32	#3P		Coal - cleated, bright banded, pyrite bands ∿ 25% vitrain ∿ 20% fusain ∿ 75% claro-durain	
	60						
97%			0.29			Coal - poorly cleated, bright banded, pyrite bands, ∿ 40% vitrain ∿ 60% ~~claro durain~~ - fractured, calcite on fracture	
99%			0.62	#4P		Coal - fractured, poorly cleated, bright banded ∿ 5% fusain ∿ 30% vitrain ∿ 65% claro-durain, disseminated pyrite	

PR-Carbon Creek 81(3)A

81-93

UTAH MINES LTD.
GRAPHIC CORE LOG

HOLE NO. DDH-CC-81-93 | HOLE NO. DDH-CC-81-91

LOG BY: K.Foellmer & P. Cowley

DATE: 1981

ELEV: 851.5m | N: 35,986 | E: 47,555

HOLE SIZE: NQ | AIR ☐ WATER ☒ | LO 282.55m | H.D.

PROJECT: Carbon Creek

LEASE: 320 (Freehold)

SEC. ____ T. ____ R. ____

504

% REC	DEPTH	STRIP LOG	THICK	SAMPLE NO.	GRADE	LITHOLOGY	ANALYSIS
	0m						
	10						
	70m						
	75						
78%			0.63	1P		Coal - blocky, hard from 75.29 to 75.82 10% vitrain, 90% claro-durain, from 75.82 to 75.92m, 100% vitrain	
	80m						
29%			0.23			Coal - blocky, 15% vitrain, 85% claro-durain	
			0.18			Coal - black	
			0.06			Coal - crushed, 100% claro-durain	
87%			1.39	2		Coal - partly crushed, 5% vitrain, 90% claro-durain, 5% fusain, 1cm mudstone split near top of seam	
	90						
	82						
	100						
37%			0.11			Coal - blocky, 20% vitrain, 80% claro-durain	
	110						
43%			0.17			Coal - blocky, 80% vitrain, 20% claro-durain	
	77						
43%			0.16			Coal - blocky, 100% vitrain	
	120						
	80		0.10			Coal - dirty, canneloid	
10%			0.04			Coal - 100% vitrain	
65%			1.30	3		Coal - 126.83 to 127.46m - 10% vitrain, 90% claro-durain, 127.46 to 127.51m mudstone split, 127.51 to 127.93m - 5% vitrain, 95% claro-durain, 127.93 to 127.96m - rusty mudstone split, 127.96 to 128.13m - 90% vitrain, 50% claro-durain	
	130		0.10			Coal - 50% vitrain, 50% claro-durain	
			0.11			Coal - 50% vitrain, 50% claro-durain	
	79						
	140						
48%			0.24			Coal - canneloid, conchoidal fracture	
34%			0.17			Coal - 100% claro-durain	
	150						
35%			0.14			Coal - blocky, 5% vitrain, 95% claro-durain	
53%			0.16			Coal - blocky, 15% vitrain, 85% claro-durain, trace fusain	
100%			0.61	4		Coal - 156.16 to 156.20m - 40% vitrain, 60% claro-durain, 156.20 to 156.21m dirty coal, 156.21 to 156.79m - 15% vitrain, 85% claro-durain, trace fusain	
78%	160		1.14	5		Coal - 10% vitrain, 85% claro-durain	
75%			0.30			Coal - 5% vitrain, 90% claro-durain, 5% fusain	
	170						
34%			0.17			Coal - 100% claro-durain	
	180		0.06			Coal - 100% claro-durain	
77%			0.39			Coal - 185.20 to 185.37m - 100% vitrain 185.37 to 185.36m - coal dirty, 20% vitrain, 80% claro-durain	
	80						
8%			0.03			Coal - 20% vitrain, 80% claro-durain	
13%	190		0.05			Coal - 20% vitrain, 80% claro-durain	
50%			0.10			Coal - 100% vitrain CORE LOSS - 0.13m	
	200						
	80						
	210						
46%			0.16			Coal - 100% vitrain	
	220						
80%			0.40			Coal - dull banded, highly broken, muddy at top of seam, 30% vitrain, 70% claro-durain	
75%			0.10			Coal - dull banded, poorly cleated, 10% vitrain, 90% claro-durain, minor calcite stringers at base	
			0.14			Coal - bright banded, moderately cleated, broken at base, 30% vitrain, 70% claro-durain	
57%			0.23			Coal - dull, banded, poorly cleated, 10% vitrain, 90% claro-durain, minor mudstone splits at top	
230			0.08			Coal - dull, banded, 10% vitrain, 90% claro-durain	
			0.14			Coal - dull, banded, poorly cleated, very muddy 10% vitrain, 90% claro durain	
	78					Coal - dull banded, poorly cleated, slightly muddy, 10% vitrain, 90% claro-durain	
	78						
	78						
	240						
	78						
	78						
	80						
100%			0.11			Coal - bright banded, 30% vitrain, 70% claro-durain	
100%	88		0.07			Coal - bright banded, well cleated, 45% vitrain, 55% claro-durain, mudstone splits at top	
53%	250		0.32	6P		Coal - dull near top of seam, bright banded at base, 5% vitrain, 95% claro-durain	
	85						
60%			0.30	7P		Coal - bright banded, cleated, 40% vitrain, 55% claro-durain, 5% fusain	
	78		0.26			Coal - well cleated, bright banded, 25% vitrain, 75% claro-durain	
			0.07			Coal - bright banded, broken, cleated, 40% vitrain, 60% claro-durain	
71%	260		0.56	8P		Coal - bright banded, cleated, 20% vitrain, 80% claro-durain	
83%			0.15			Coal - dull banded, cleated, 10% vitrain, 90% claro-durain	
			0.16			Coal - dull banded, cleated, 10% vitrain, 90% claro-durain	
			0.18			Coal - bright banded, cleated, 20% vitrain, 80% claro-durain	
	270						
	82						
52%			0.27			Coal - poorly cleated, broken, slightly sapropelic at top of seam, 20% vitrain, 75% claro-durain, 5% fusain	
	280						
	78						
	T.D.					END OF HOLE T.D. 282.55m	

Widco* WELL LOG

504

COMPANY: Great Lakes Gas
FARM: Dutton Creek
WELL: DUTTON CREEK N-69
COUNTY OR PARISH: Kent PROVINCE OR STATE: B.C.

COORDINATES: (Surface) N: E: (Bottom) N: E:
ELEVATION: K.B. D.F. G.L.

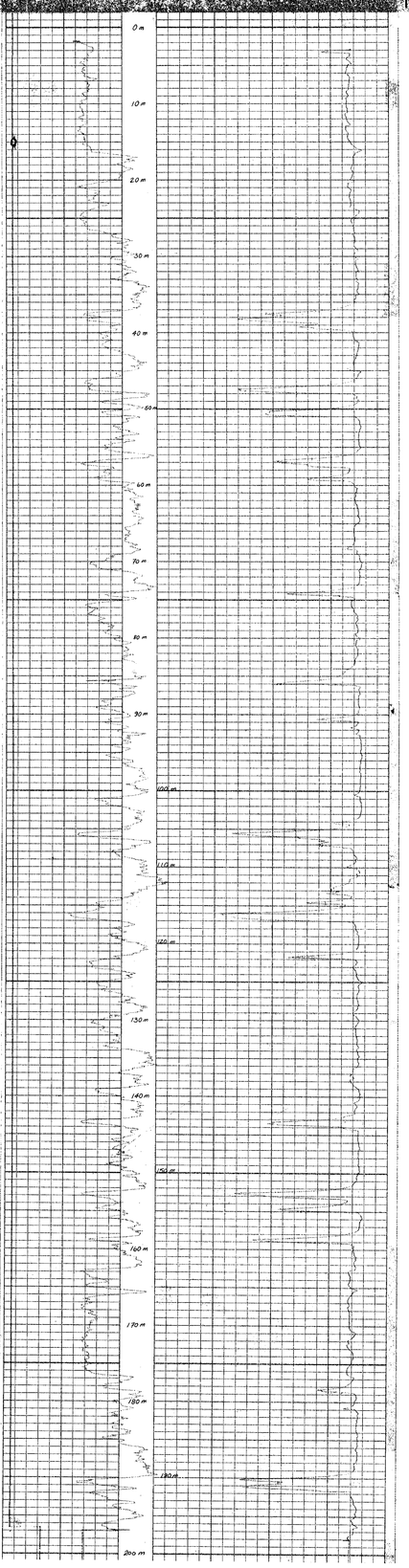
Run No. 1	Run No. 2	Run No. 3	Run No. 4
Date	July 7/81		
Fluid Density	1.05 g/cc		
Top Recorder	0 m		
Bottom Logged	198.8 m		
Bottom Driller	200.88 m		
Casing Thickness	5.16 m		
Casing Diameter	3.66 m		
Casing Top	G.L.		
Bit Size	N.O.		
Bit Type			

Mud	Run No. 1	Run No. 2
Mud Type		
Density		
Viscosity		
Resistivity		
Res. @ BHT		
pH		
Cor. Loss		
Ex. Loss		
Logged by	DUNCAN	
Witnessed by		

REMARKS:

Rec. G.S. for Gr.

Gamma	Cable	Caliper
100 cps	100 cps	100 cps



81-90
P.L. Kwong Calib. 7/2/81

Widco WELL LOG

5.04

COMPANY: Utah Mines Ltd.
LOCATION: Carbon Creek
WELL: D.D.H.-C.C.-81-90
COUNTY: Peace R. Land District, B.C.

COORDINATES: 39,971.77 N
+ 2 45,194.03 E
ELEVATIONS: 1164.41 m.
D.F. ____
K.B. ____
G.L. ____

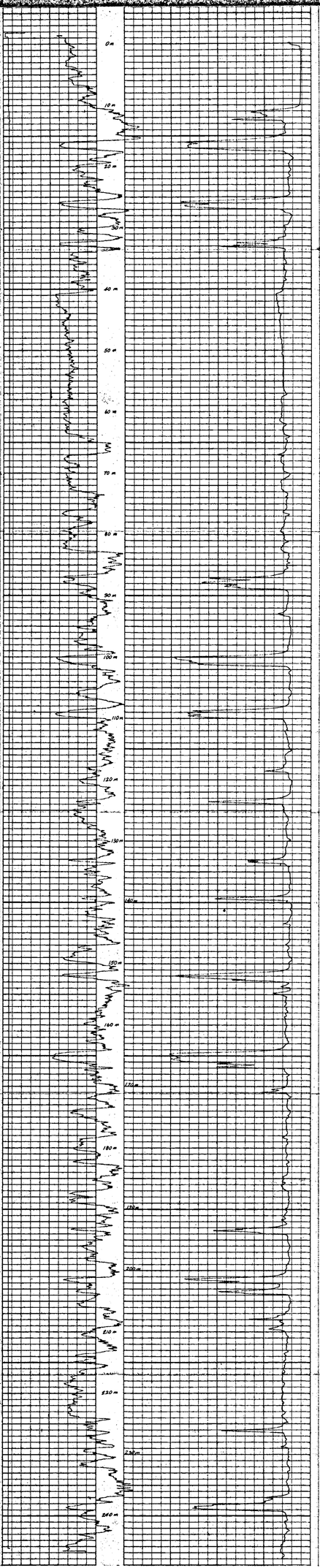
RECEIVED
JUL 7 1981
Cominco Ltd. Mines Dept.

	Run No. 1	Run No. 2	MUD	Run No. 1	Run No. 2
Date	July 13/81		Kind		
Fluid Sounding	247.0 m		Density		
Last Sounding	0. m		Viscosity	@ °F	@ °F
Casings Logged	247.0 m		Resistivity	@ °F	@ °F
Bottom (Driller)	248.72 m		Res. @ BHT	@ °F	@ °F
Casing From Log	10.00 m		pH		
Casing (Driller)	1.72 m		Circ. Temp.		
Casing Size			B.H. Temp.		
Bit Size	H.Q.				
Bit Stop					
			Logged by	D.N. Dunsing	
			Witnessed by	D. Thomas	

REMARKS

* Reg. U.S. Pat. Off.

CALIPER: 100 cps, 2.5 v.c.
GAMMA: 1000 pcs
DENSITY: 2.2 v.c.



Widco WELL LOG

504

COMPANY: Utah Mines Ltd.
WELL: Jackson Creek
FIELD:
COUNTY: Summit R. Land Description: S. 3 T. 2 S.

COORDINATES: 30,000 N. S.
F. 5,000 E. (Utah) S.
ELEVATION: 7161 ft. G.
D.F.
D.F.
G.

		Run No. 1	Run No. 2	Run No. 3
Date	July 25/61			
Fin. Drilling	308.0 m			
Last Reading	0 m			
Depth Logged	308.0 m			
Bottom Driller	310.00 m			
Casing Floor (log)				
Casing Driller	9.00 m			
Casing Size				
Bit Size	11.0			
Bit Type				

MUD

	Run No. 1	Run No. 2	Run No. 3
Type			
Density			
Viscosity	@ °F	@ °F	@ °F
Resistivity	@ °F	@ °F	@ °F
Fluid Loss	@ 80°F	@ °F	@ °F
Ph			
Cir. Temp.			
Est. Temp.			

Logged by: D.N. Dawson
Witnessed by: E. Poellmer

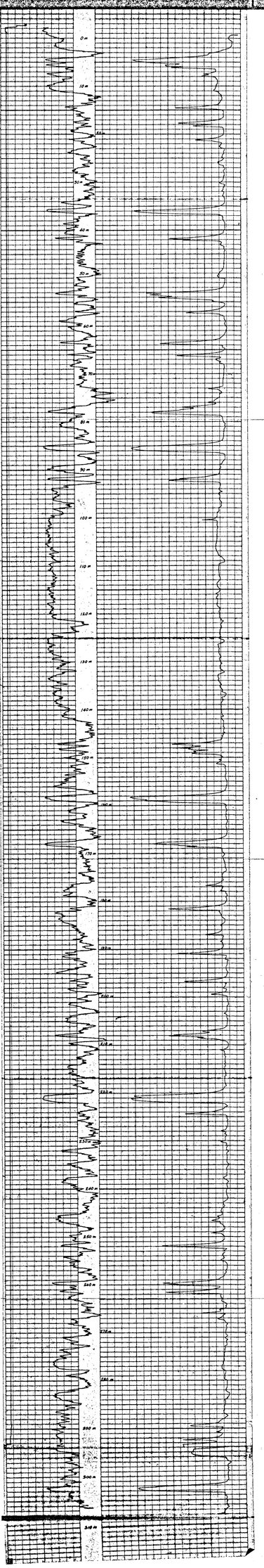
REMARKS

Reg. U.S. Pat. Off.

CALIPER: 100 scale, 2.5-9.0"

GAMMA: 100 scale, 2.5-9.0"

DENSITY: 1000 cps, 2.0-3.0 G/cc



SP-92

P-94 Carbon Creek 81(3)A

Widco WELL LOG

COMPANY Utah Mines Ltd.

AREA Carbon Creek

WELL D.D.H.-C.C.-81-92

COUNTY Peace R. Land District, B.C.

504

COORDINATES 38,542.96 N
X 47,753.10 E

ELEVATION 903.97 m
D.F.
K.B.
G.L.

COMPANY Utah Mines Ltd.
WELL D.D.H.-C.C.-81-92
LOCATION 38,542.96 N, X 47,753.10 E

	Run No. 1	Run No. 2
Date	July 28/81	
First Reading	66.5 m	
Last Reading	0 m	
Footage Logged	66.5 m	
Bottom (Driller)	67.36 m	
Casing (From Log)	23.4 m	
Casing (Driller)	24.38 m	
Casing Size		
Bit Size	H Q	
Bit Size		

MUD	Run No. 1	Run No. 2
Nature		
Density		
Viscosity	@ °F	@ °F
Resistivity	@ °F	@ °F
Res. @ BHT	@ °F	@ °F
pH		
Circ. Temp.		
B.H. Temp.		
Logged by	D.N. Duncan	
Witnessed by		

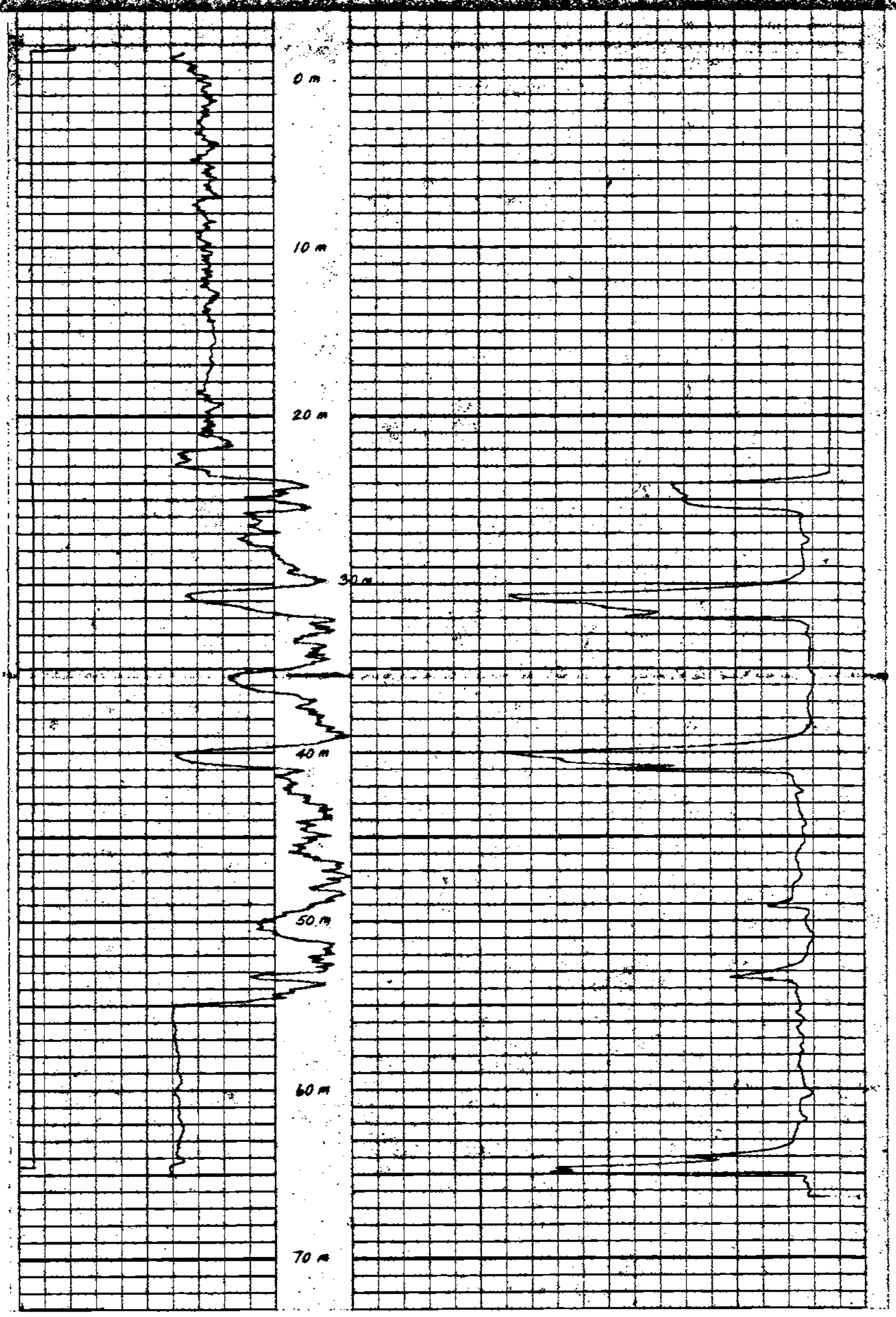
REMARKS

Reg. U.S. Pat. Off.

CALIPER — 100 cps, 2.5 T.C.

GAMMA

DENSITY — 1000 cps, 2.2 T.C.



Widco WELL LOG

504

COMPANY: Utah Mines Ltd.

WELL: S.H.B. Lot 5-81-S.

COORDINATES: 35,986.0 N
E 47,555 E

ELEVATION: 851.5 A

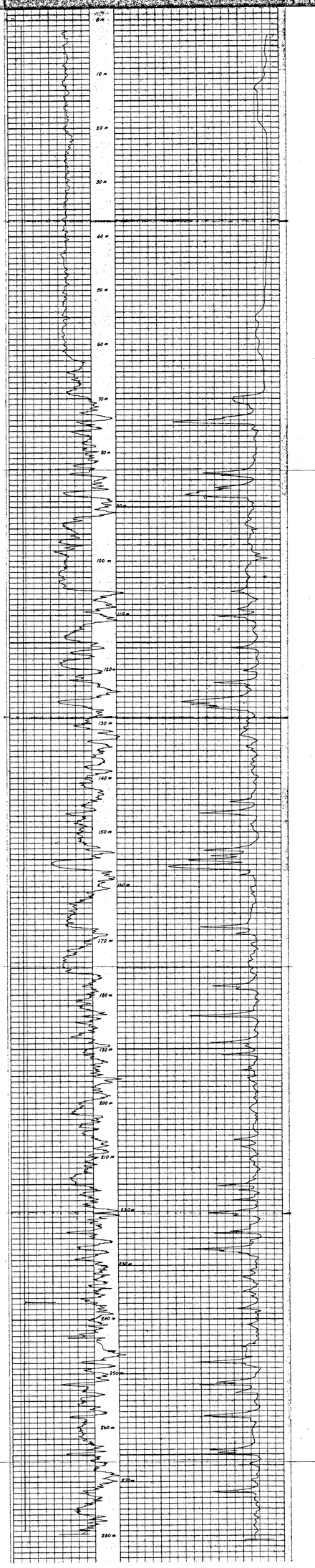
	Run No. 1	Run No. 2		Run No. 1	Run No. 2
Date	Aug. 5,61		Mud		
Max Reading	280.0 m		Density		
Last Reading	0.0 m		Viscosity	@ °F	@ °F
Footage Logged	280.0 m		Resistivity	@ °F	@ °F
Bottom (Driller)	280.45 m		Res. @ BHT	@ °F	@ °F
Casing (From Log)	18.2 m		pH		
Casing (Driller)	20.41 m		Cir. Temp.		
Casing Size			B.H. Temp.		
DD Size	8.0				
BF Size					
			Logged by	D.W. Duncan	
			Witnessed by		

REMARKS

*Reg. U.S. Pat. Off.

CALIBER: Open 100 cps 2.5 T.C.

SENSITIVITY: 100Ω cm 2.1 E.S.



81-174
PR-Carbon Creek 81(3)19

Widco WELL LOG

COMPANY Utah Mines Ltd.
WELL RDH-C.C.-81-174
LOCATION 39,977.5 N 46,095.2 E

COMPANY Utah Mines Ltd.
AREA Carbon Creek
WELL RDH-C.C.-81-174
COUNTY Peace R. Land District STATE B.C.

504

COORDINATES N 39,977.5 N S X 46,095.2 E
ELEVATION 1104.9 m
D.F.
K.B.
G.L.

	Run No. 1	Run No. 2
Date	June 30, 1981	
First Reading	34.0 m	
Last Reading	0 m	
Footage Logged	34.0 m	
Bottom (Driller)	36.58 m	
Casing (From Log)	1.3 m	
Casing (Driller)		
Casing Size		
Bit Size	11.4 cm	
Bit Size		

MUD	Run No. 1	Run No. 2
Nature		
Density		
Viscosity	@ °F	@ °F
Resistivity	@ °F	@ °F
Res. @ BHT	@ °F	@ °F
pH		
Circ. Temp.		
B.H. Temp.		
Logged by	R.B. Anderson	
Witnessed by		

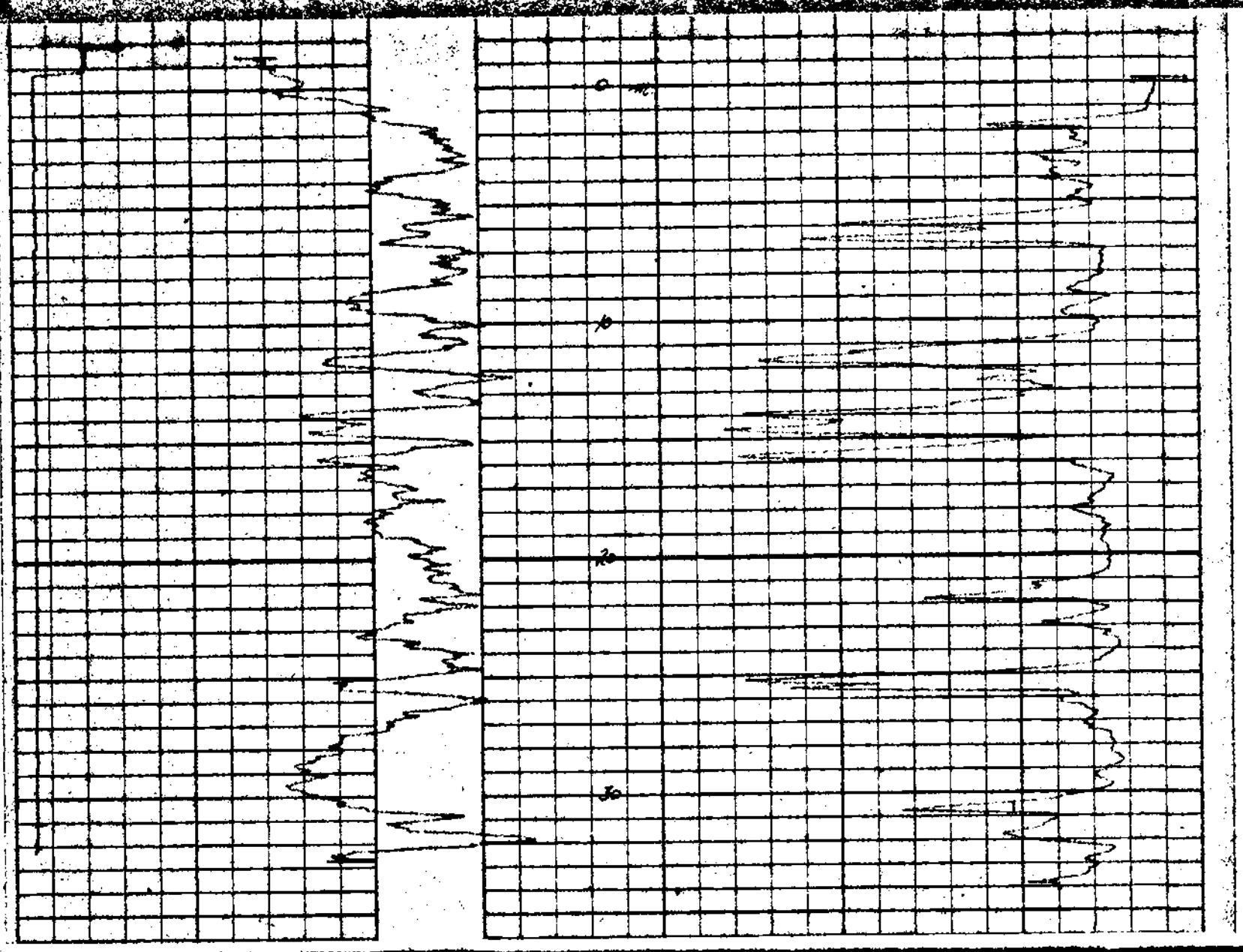
REMARKS

* Reg. U.S. Pat. Off.

CALIPER 500 cps 2.5 T.C.

GAMMA

DENSITY 1000 cps 2.2 T.C.



81-174
PR-Carbon Creek 81(3)A

Widco WELL LOG

COMPANY Utah Mines Ltd.
WELL RDH-C.C.-81-174
LOCATION 39,977.5 N X 46,095.2 E

COMPANY Utah Mines Ltd.
AREA Carbon Creek
WELL RDH-C.C.-81-174
COUNTY Peace River Land District STATE B.C.

504

COORDINATES 39,977.5N
N X 46,095.2E
ELEVATION 1104.5 m
G.S.
K.B.
O.I.

	Run No. 1	Run No. 2
Date	June 30, 1981	
First Reading	34.0 m	
Last Reading	0 m	
Footage Logged	34.0 m	
Bottom (Driller)	36.58 m	
Casing (From Log)	1.3 m	
Casing (Driller)		
Casing Size		
Bit Size	11.4 cm	
Bit Size		

MUD	Run No. 1	Run No. 2
Nature		
Density		
Viscosity	@ °F	@ °F
Resistivity	@ °F	@ °F
Res. @ BHT	@ °F	@ °F
pH		
Circ. Temp.		
B.H. Temp.		
Logged by	R.B. Anderson	
Witnessed by		

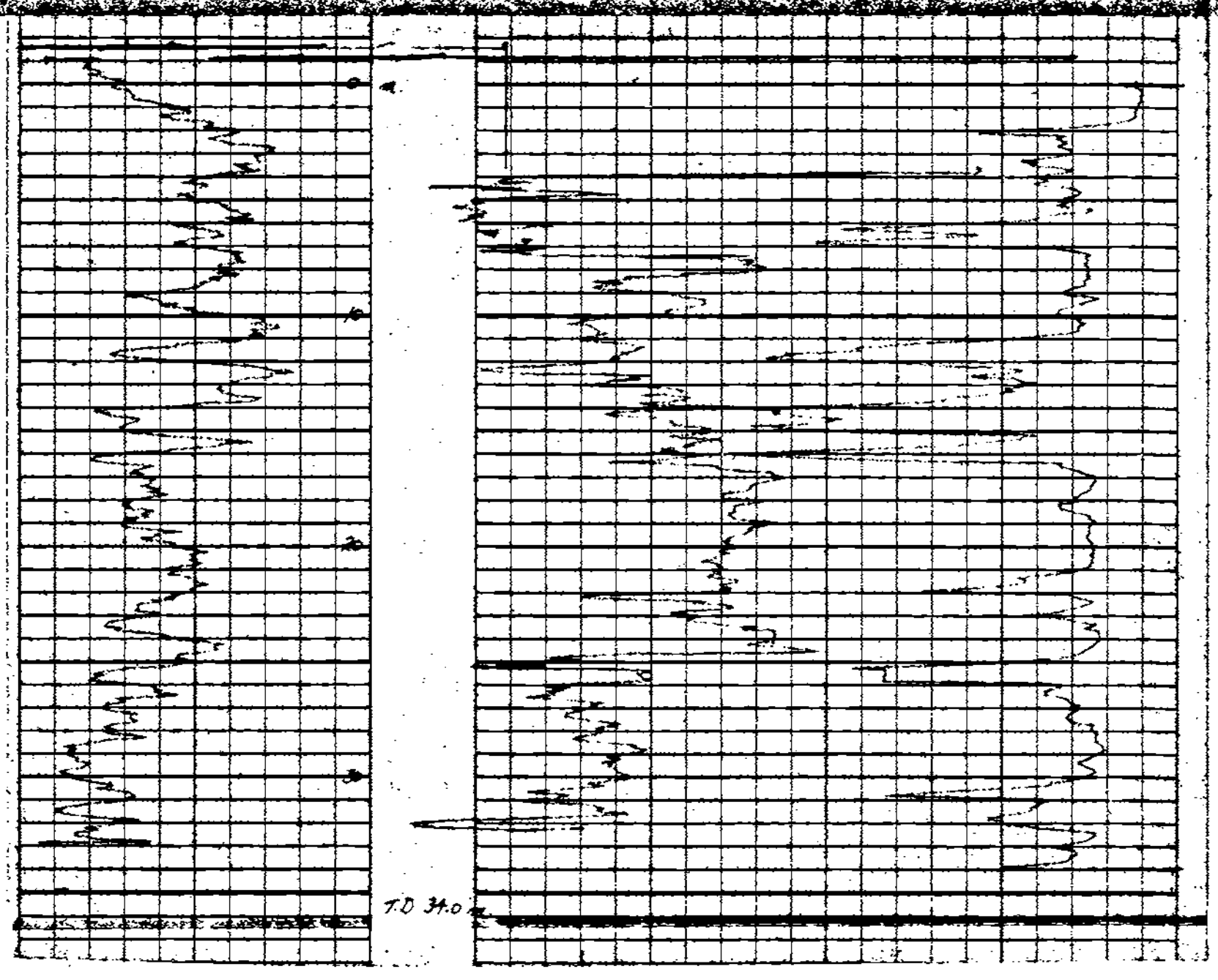
REMARKS

* Reg. U.S. Pat. Off.

GAMMA 200 cps 2.5 F.C.

RESISTIVITY 100 ohm - meter

DENSITY 1000 cps 2.2 F.C.



81-175
PR-Carbon Creek 81C3JN

Widco* WELL LOG

COMPANY Utah Mines Ltd.
WELL RDH-C.C.-81-175
LOCATION 39,977.5 N
X 46,051.0 E

COMPANY Utah Mines Ltd.
AREA Carbon Creek
WELL RDH-C.C.-81-175
COUNTY Peace R. Land District PROV. B.C.

504

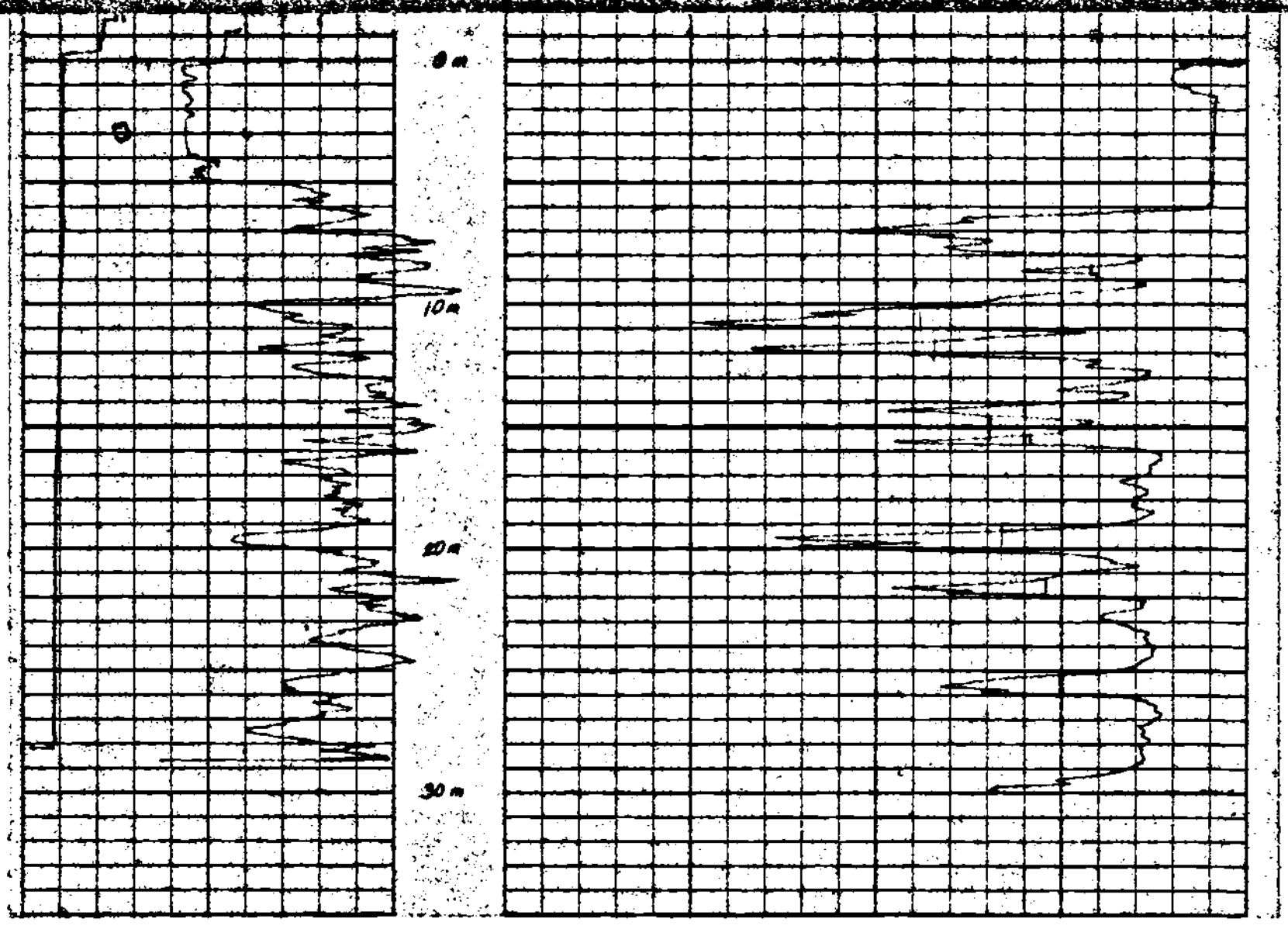
COORDINATES 39,977.5 N
X 46,051.4 E
ELEVATION 1105.1 m
D.F.
K.B.
G.L.

	Run No. 1	Run No. 2	MUD	Run No. 1	Run No. 2
Date	July 1, 1981		Nature		
First Reading	30.0 m		Density		
Last Reading	0. m		Viscosity	@ °F	@ °F
Footage Logged	30.0 m		Resistivity	@ °F	@ °F
Bottom (Driller)	29.26 m		Res. @ BHT	@ °F	@ °F
Casing (From Log)	6.0 m		pH		
Casing (Driller)			Circ. Temp.		
Casing Size			B.H. Temp.		
Bit Size	11.4 cm				
Bit Size					
			Logged by	R.B. Anderson	
			Witnessed by	Barb Thomae	

REMARKS

* Reg. U.S. Pat. Off.

CALIPER — GAMMA 100 cps 2.5 T.C. — DENSITY 1000 cps 2.2 T.C.



81-176
PR Carbon Creek 81(3)A

Widco WELL LOG

COMPANY Utah Mines Ltd.
WELL B.D.H.-C.C.-81-176
LOCATION 39,444 N 46,197 E

COMPANY Utah Mines Ltd.
AREA Carbon Creek
WELL B.D.H.-C.C.-81-176
COUNTY Peace R. Land District STATE B.C.

504

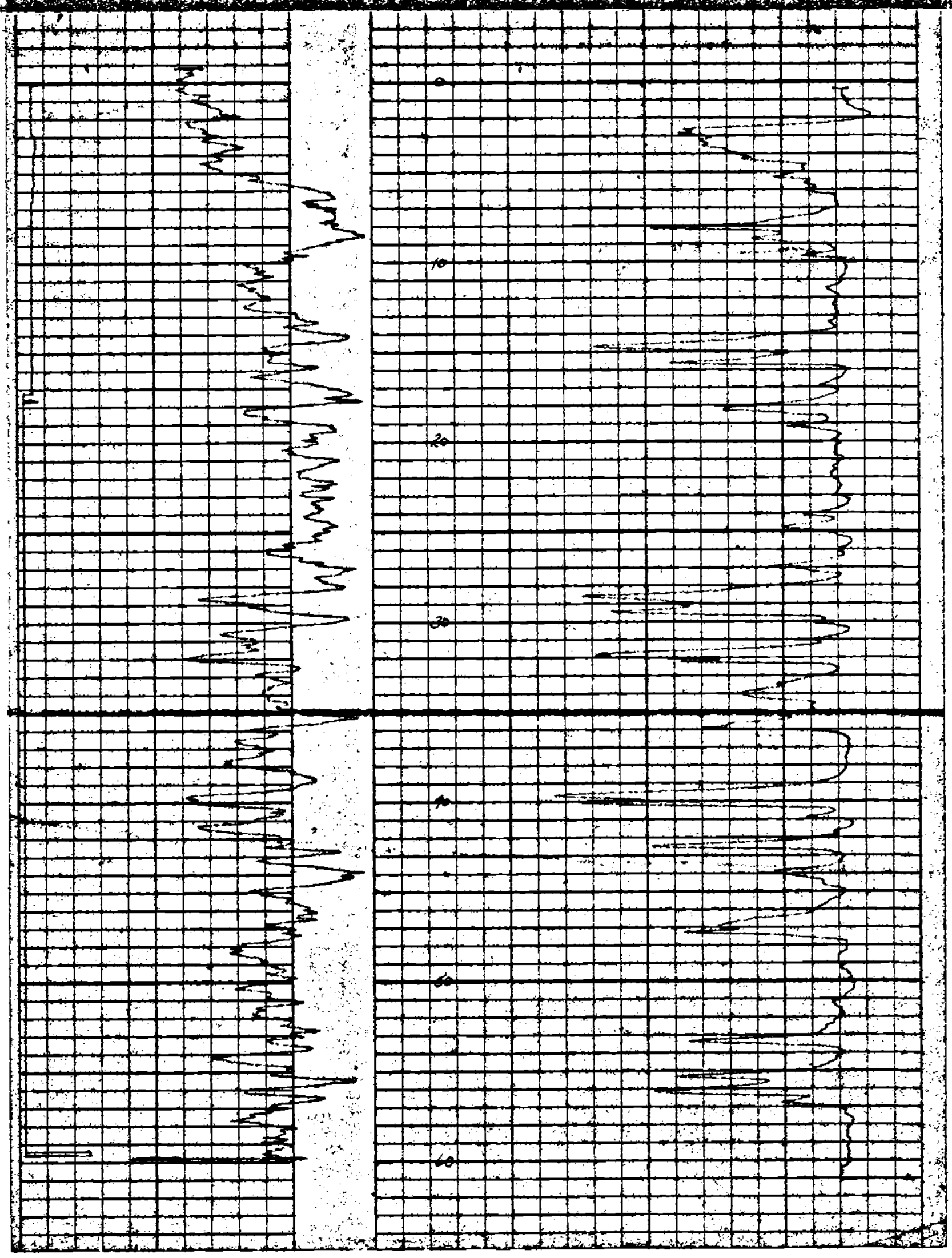
COORDINATES 39,444 N
NX 46,197 E
S
ELEVATION 1111 m
D.F.
K.B.
G.L.

	Run No. 1	Run No. 2	MUD	Run No. 1	Run No. 2
Date	July 4, 1981		Nature		
First Reading	61.0 m		Density		
Last Reading	0. m		Viscosity	@ °F	@ °F
Footage Logged	61.0 m		Resistivity	@ °F	@ °F
Bottom (Driller)	60.16 m		Res. @ BHT	@ °F	@ °F
Casing (From Log)	1.0 m		pH		
Casing (Driller)			Circ. Temp.		
Casing Size			B.H. Temp.		
Bit Size	11.4 cm				
Bit Size					
			Logged by	N.D. Duncan	
			Witnessed by		

REMARKS

*Reg. U.S. Pat. Off.

CALIPER — GAMMA 100 CPS 2.5 T.C. — DENSITY 1000 CPS 2.2 T.C.



81-177
Rk Carbon Creek 6(3)A

Widco WELL LOG

COMPANY Utah Mines Ltd.
WELL NDF-C.C.-81-177
LOCATION 39,100.9 N X
45,158.7 E

COMPANY Utah Mines Ltd.
AREA Carbon Creek
WELL NDF-C.C.-81-177
COUNTY Peace R. Land District Prov. B.C.

5004

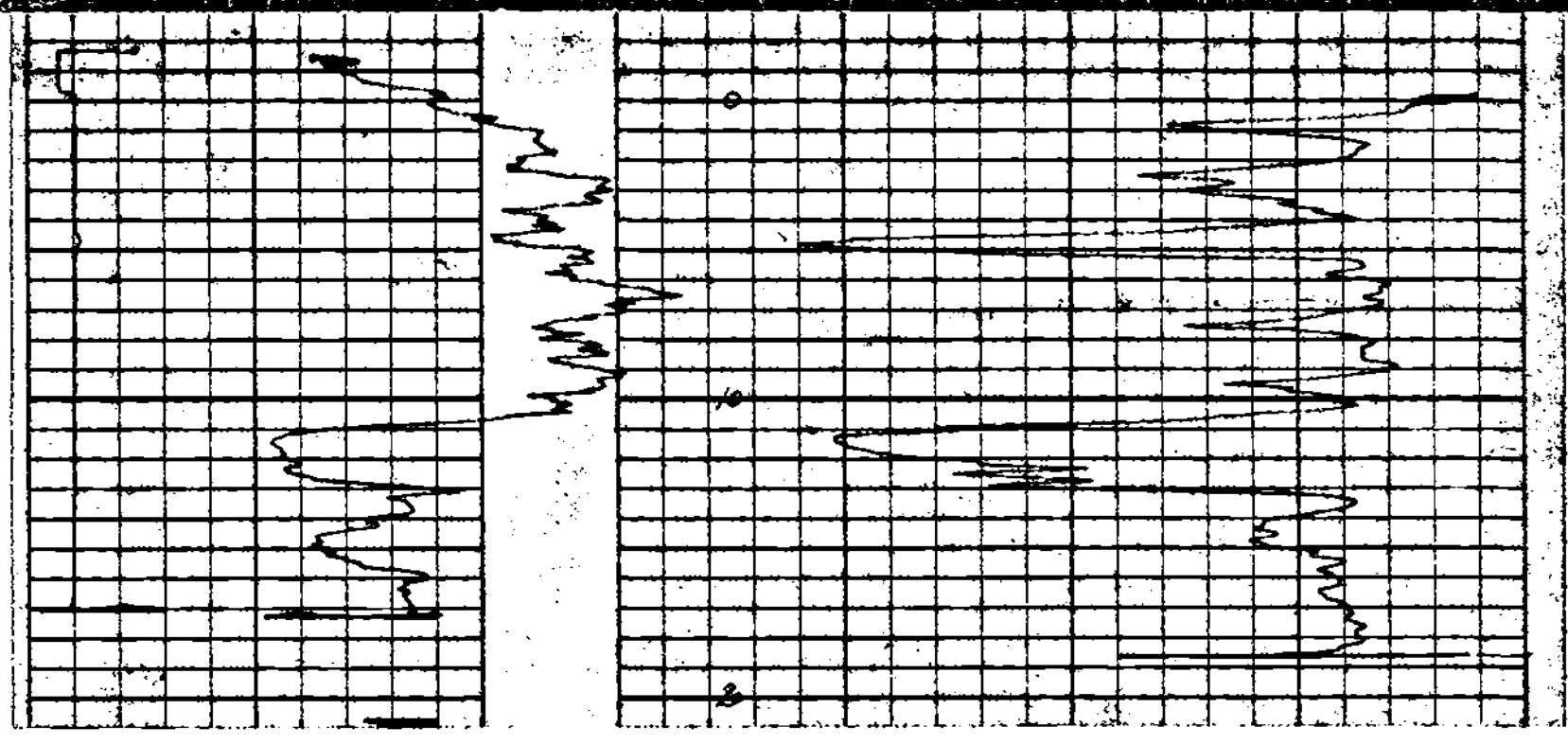
COORDINATES 39,100.9 N
X 45,158.7 E
Y
ELEVATION 1243.50 m
D.F.
K.B.
G.L.

	Run No. 1	Run No. 2	MUD	Run No. 1	Run No. 2
Date	July 5, 1981		Nature		
First Reading	18.5 m		Density		
Last Reading	0. m		Viscosity	@ °F	@ °F
Footage Logged	18.5 m		Resistivity	@ °F	@ °F
Bottom (Driller)	18.29 m		Res. @ BHT	@ °F	@ °F
Casing (From Log)			pH		
Casing (Driller)			Circ. Temp.		
Casing Size			B.H. Temp.		
Bit Size	11.4 cm				
Bit Size					
			Logged by	N.D. Norman	
			Witnessed by		

REMARKS

* Reg. U.S. Pat. Off.

CALIPER — GAMMA 100 cps 2.5 T.C. — DENSITY 1000 cps 2.2 T.C.



PR Carbon Creek 82E-178 F(3)A

Widco* WELL LOG

COMPANY Utah Mines Ltd.
WELL RDB-C.C.-81-178
LOCATION 39,697.0 N X 44,451.0 E

COMPANY Utah Mines Ltd.
AREA Carbon Creek
WELL RDB-C.C.-81-178
COUNTY Peace R. Land District B.C.

504

COORDINATES 39,697.0 N
44,451.0 E
ELEVATION 1210 m
D.F.
K.B.
G.L.

	Run No. 1	Run No. 2	MUD	Run No. 1	Run No. 2
Date	July 6, 1981		Nature		
First Reading	48.7 m		Density		
Last Reading	0 m		Viscosity	@ °F	@ °F
Footage Logged	48.7 m		Resistivity	@ °F	@ °F
Bottom (Driller)	50.29 m		Res. @ BHT	@ °F	@ °F
Casing (From Log)			pH		
Casing (Driller)			Circ. Temp.		
Casing Size			B.H. Temp.		
Bit Size	11.1 cm				
Bit Size					
			Logged by	D.N. Duncan	
			Witnessed by		

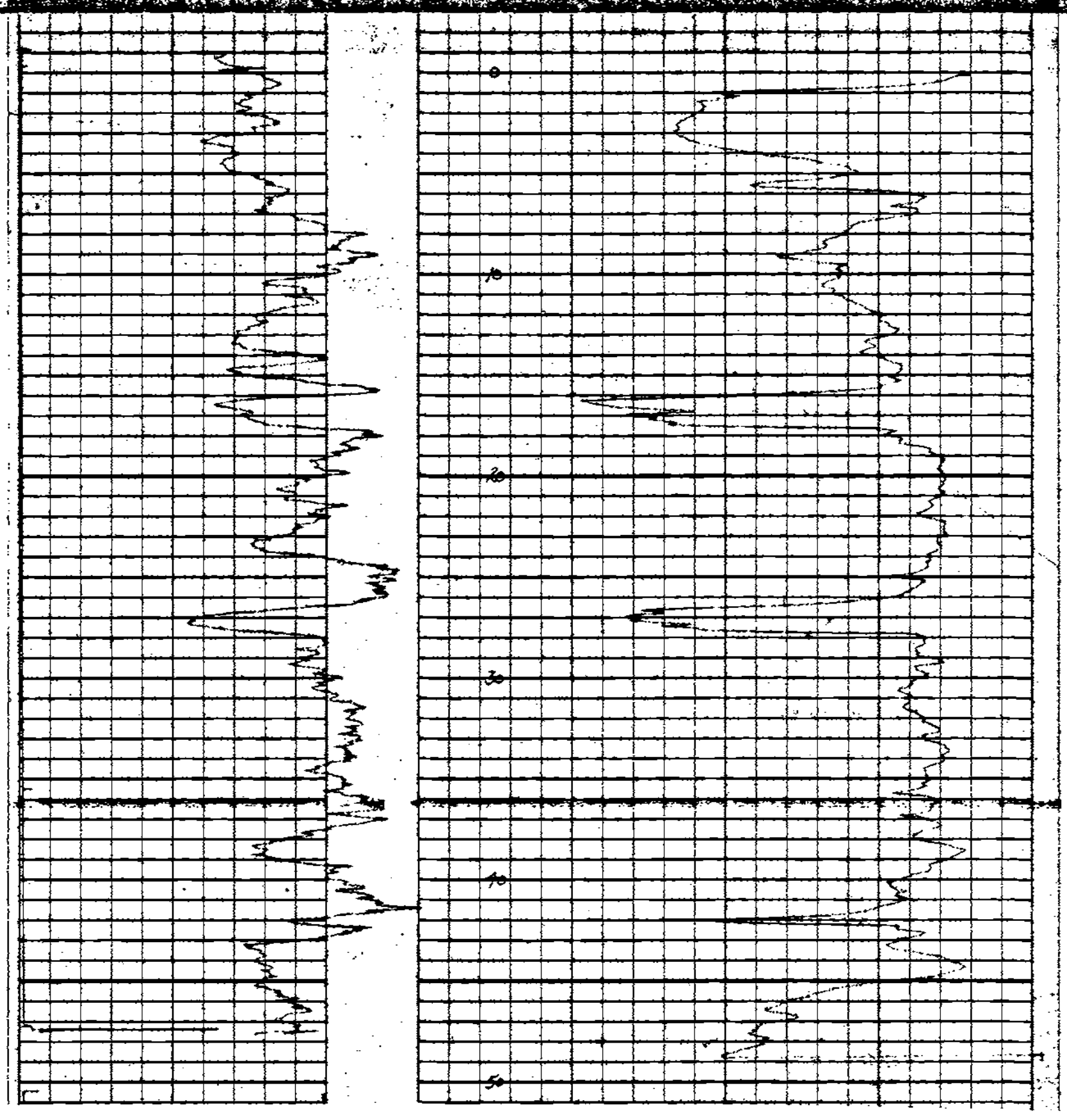
REMARKS

* Reg. U.S. Pat. Off.

CALIPER

GAMMA
100 cps
2.5 T.C.

DENSITY
1000 cps
2.2 T.C.



PR-Carbon Creek 81(3)A

Widco* WELL LOG

COMPANY Utah Mines Ltd.
WELL RDH-C.C.-81-179
LOCATION 39,687.0 N Y
44,349.0 E X

COMPANY Utah Mines Ltd.
AREA Carbon Creek
WELL RDH-C.C.-81-179
COUNTY Peace R. Land District State B.C.

504

COORDINATES 39,687.0N
N X 44,349.0 E
Z
ELEVATION 1225 m
D.F.
K.B.
G.L.

	Run No. 1	Run No. 2	MUD	Run No. 1	Run No. 2
Date	July 7, 1981		Nature		
First Reading	25.0 m		Density		
Last Reading	0 m		Viscosity	@ °F	@ °F
Footage Logged	25.0 m		Resistivity	@ °F	@ °F
Bottom (Driller)	25.0 m		Res. @ BHT	@ °F	@ °F
Casing (From Log)			pH		
Casing (Driller)			Circ. Temp.		
Casing Size			B.H. Temp.		
Bit Size	11.4 cm				
Bit Size					
			Logged by	D.N. Duncan	
			Witnessed by		

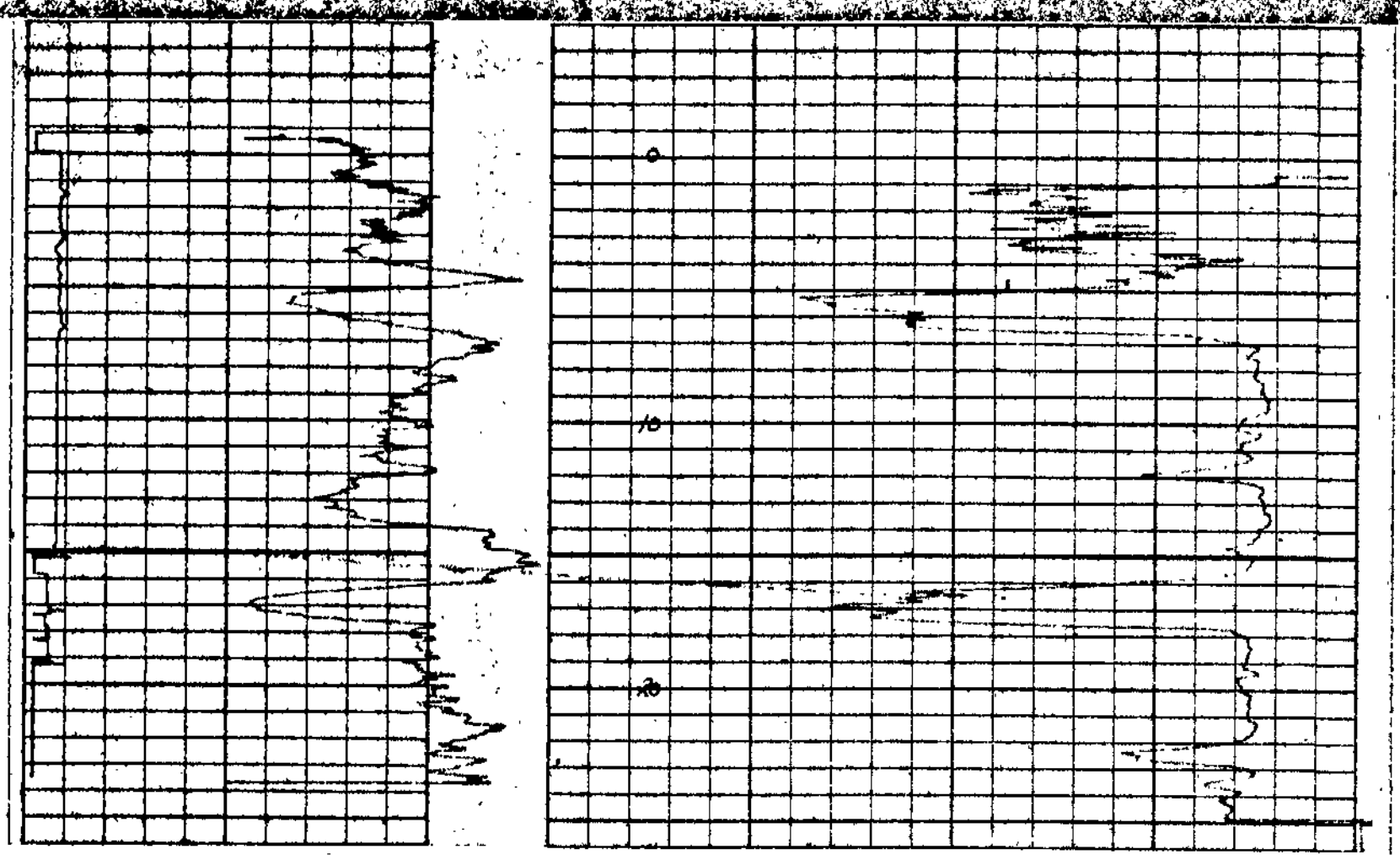
REMARKS

* Reg. U.S. Pat. Off.

CALIPER — GAMMA — DENSITY

100 cps
2.5 T.C.

1000 cps
2.2 T.C.



81-180
PR-Carbon Creek 81(3)A

Widco WELL LOG

COMPANY Utah Mines Ltd.
AREA Carbon Creek
WELL ROH-C.C.-81-180
COUNTY Peace R. Land District B.C.

504

COORDINATES 39676.6 N
X 44,256.0 E
ELEVATION 1242.1 m
D.F.
K.B.
G.L.

COMPANY Utah Mines Ltd.
WELL ROH-C.C.-81-180
LOCATION 39,676.6 N
X 44,256.0 E

	Run No. 1	Run No. 2	MUD	Run No. 1	Run No. 2
Date	July 9th 1981		Nature		
First Reading	16.40 m		Density		
Last Reading	0 m		Viscosity	@ °F	@ °F
Footage Logged	16.40 m		Resistivity	@ °F	@ °F
Bottom (Driller)	18.90 m		Res. @ BHT	@ °F	@ °F
Casing (From Log)			pH		
Casing (Driller)			Circ. Temp.		
Casing Size			B.H. Temp.		
Bit Size	11.4 cm				
Bit Size					
			Logged by	D.N. Duncan	
			Witnessed by		

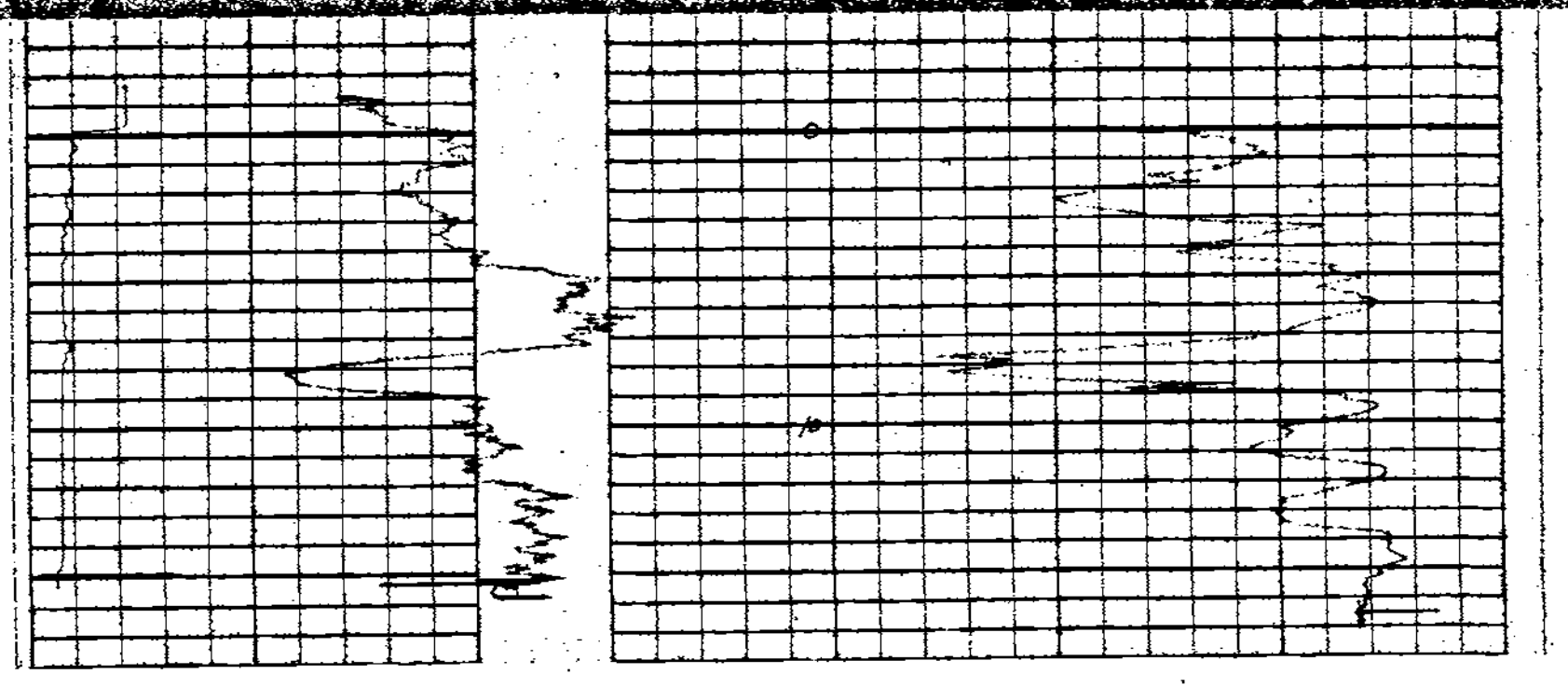
REMARKS

* Reg. U.S. Pat. Off.

CALIPER 100 cps 2.5 T.C.

GAMMA

DENSITY 1000 cps 2.2 T.C.



81-181
PR-Carbon Creek 81(3)A

Widco WELL LOG

504

COMPANY Utah Mines Ltd.
AREA Carbon Creek
WELL RDH-C.C.-81-181
COUNTY Peace R. Land District STATE B.C.

COORDINATES 39,461.8 N
X 46,510.2 E
ELEVATION 3067.6 m
D.F.
K.B.
G.L.

COMPANY Utah Mines Ltd.
WELL RDH-C.C.-81-181
LOCATION 39,461.8 N
X 46,510.2 E

	Run No. 1	Run No. 2	MUD	Run No. 1	Run No. 2
Date	July 9, 1981		Nature		
First Reading	42.7 m		Density		
Last Reading	0 m		Viscosity	@ °F	@ °F
Footage Logged	42.7 m		Resistivity	@ °F	@ °F
Bottom (Driller)	43.28 m		Res. @ BHT	@ °F	@ °F
Casing (From Log)			pH		
Casing (Driller)			Circ. Temp.		
Casing Size			B.H. Temp.		
Bit Size	11.4 cm				
Bit Size					
			Logged by	D.N. Duncan	
			Witnessed by		

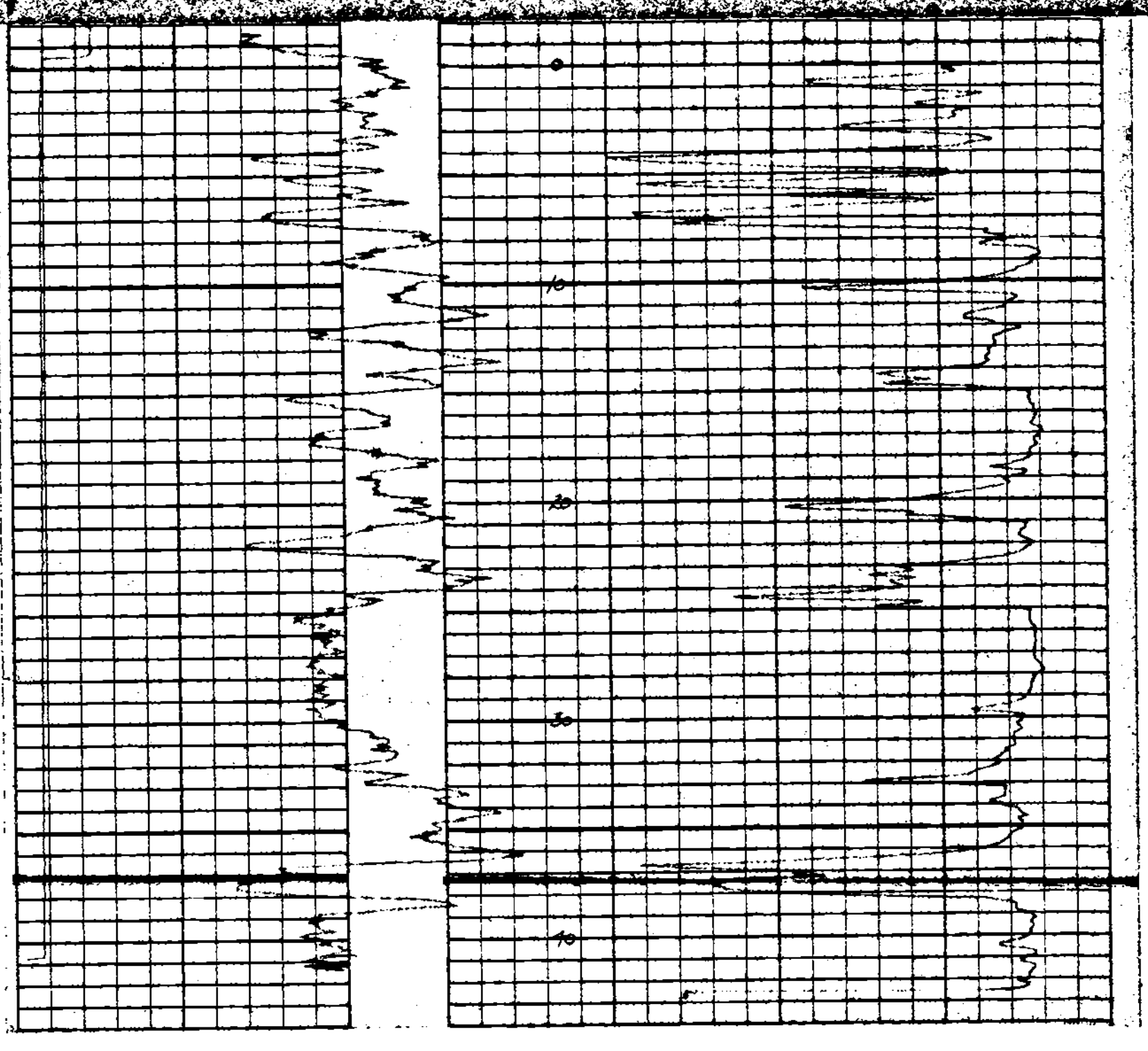
REMARKS

® Reg. U.S. Pat. Off.

CALIBER

100 cps
2.5 T.C.

1000 cps
2.2 T.C.



81-181A
PR-Carbon Creek 81(3)A

Widco WELL LOG

COMPANY Utah Mines Ltd.
AREA Carbon Creek
WELL RDH-C.C.-81-181 A
COUNTY Peace R. Land District, B.C.

504

COORDINATES 39,461.8 N
X 46,510.2 E
ELEVATION 1067.6 m
D.F.
K.B.
G.L.

COMPANY Utah Mines Ltd.
WELL RDH-C.C.-81-181 A
LOCATION 39,461.8 N
X 46,510.2 E

	Run No. 1	Run No. 2	MUD	Run No. 1	Run No. 2
Date	July 10, 1981		Nature		
First Reading	55.1 m		Density		
Last Reading	0 m		Viscosity	@ °F	@ °F
Footage Logged	55.1 m		Resistivity	@ °F	@ °F
Bottom (Driller)	55.47 m		Res. @ BHT	@ °F	@ °F
Casing (From Log)			pH		
Casing (Driller)			Circ. Temp.		
Casing Size			B.H. Temp.		
Bit Size	11.4 cm				
Bit Size					
			Logged by	D.N. Duncan	
			Witnessed by		

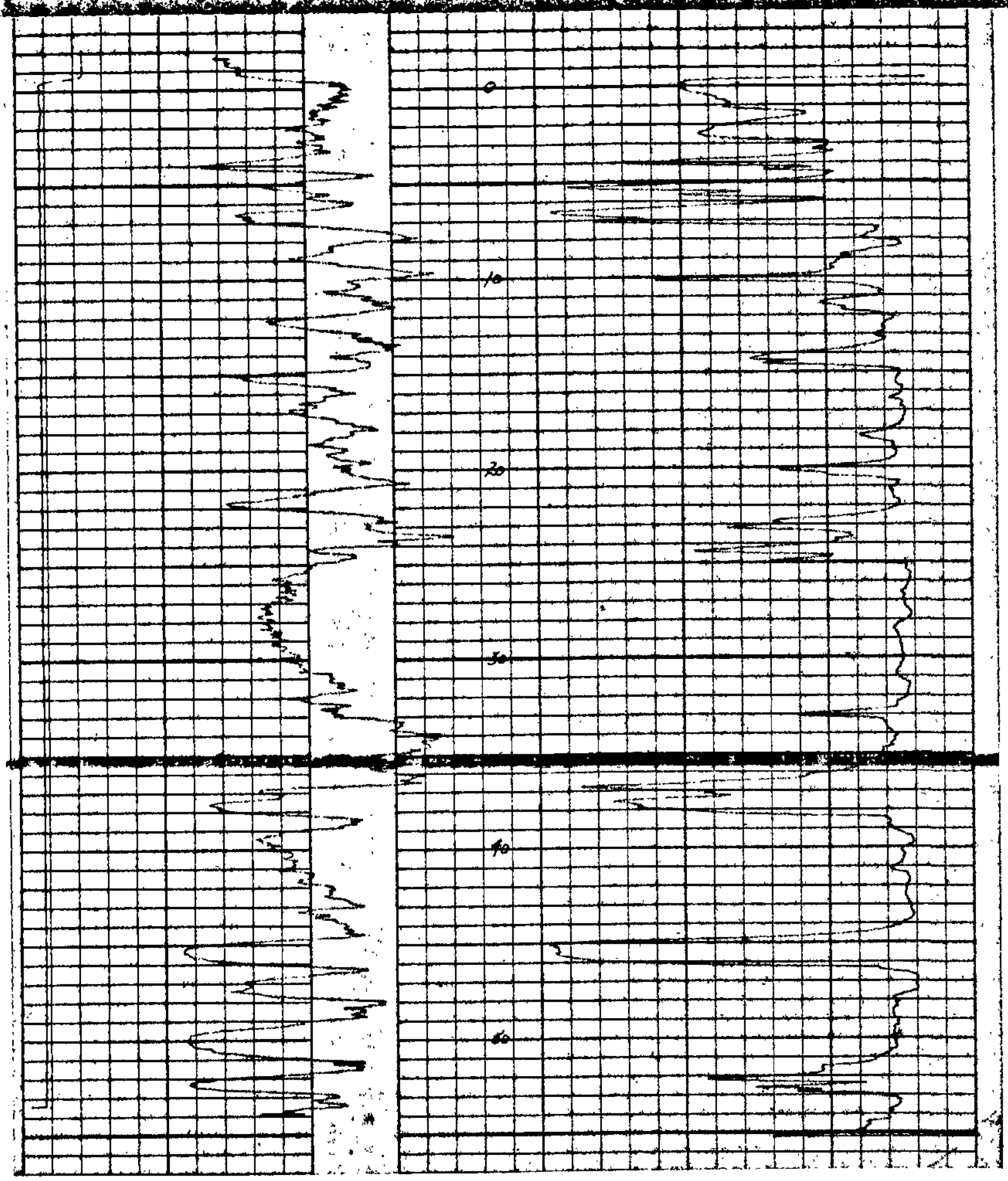
REMARKS

* Reg. U.S. Pat. Off.

CALIPER 2.2 T.C.

GAMMA 100 cps

DENSITY 1000 cps 2.2 T.C.



R-Carbon Creek 82K/3W

Widco WELL LOG

COMPANY Utah Mines Ltd.
WELL RDH-C.C.-81-182
LOCATION 39,680.0 N
X 46,509.0 E

COMPANY Utah Mines Ltd.
AREA Carbon Creek
WELL RDH-C.C.-81-182
COUNTY Peace R. Land District STATE B.C.

504

COORDINATES 39,680.0 N
X 46,509.0 E
ELEVATION 1049 m
D.F.
K.B.
G.L.

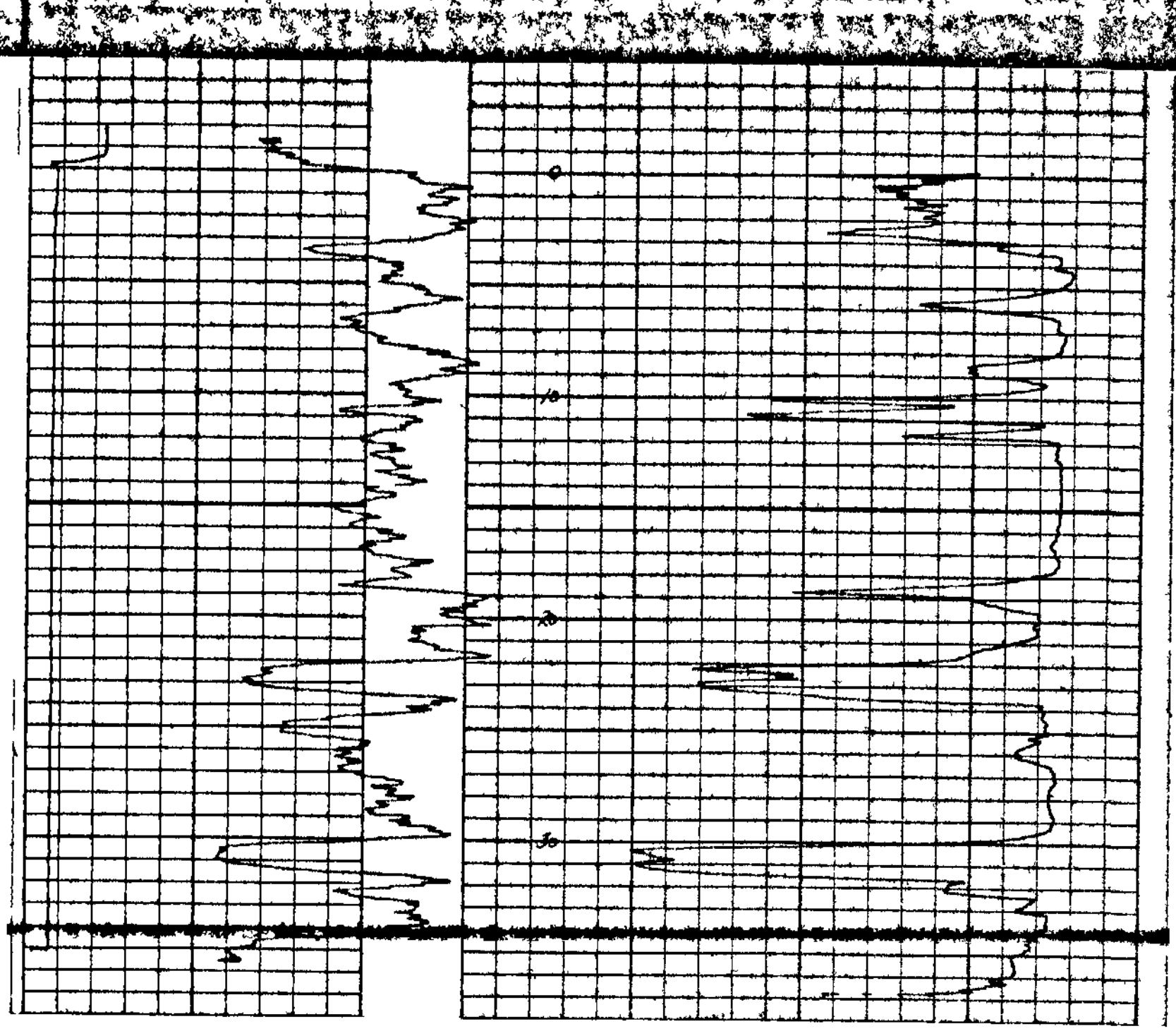
	Run No. 1	Run No. 2	MUD	Run No. 1	Run No. 2
Date	July 11, 1981		Nature		
First Reading	36.8 m		Density		
Last Reading	8 m		Viscosity	@ °F	@ °F
Footage Logged	36.8 m		Resistivity	@ °F	@ °F
Bottom (Driller)	36.88 m		Res. @ BHT	@ °F	@ °F
Casing (From Log)			pH		
Casing (Driller)			Circ. Temp.		
Casing Size			B.H. Temp.		
Bit Size	11.4 cm				
Bit Size					
			Logged by	D.M. Duncan	
			Witnessed by		

REMARKS

* Reg. U.S. Pat. Off.

CALIPER

DENSITY



81 183

TR Carbon Creek 81(3)A

Widco WELL LOG

COMPANY Utah Mines Ltd.

WELL RDH-C.C.-81-183

LOCATION 39,685.3 N
X 46 647 1 E

COMPANY Utah Mines Ltd.

AREA Carbon Creek

WELL RDH-C.C.-81-183

COUNTY Peace R. Land District B.C.

504

COORDINATES 39,685.3 N
X 46,647.1 E

ELEVATIONS 1035.3 m
D.F.
K.B.
G.L.

	Run No. 1	Run No. 2	MUD	Run No. 1	Run No. 2
Date	July 12, 1981		Nature		
First Reading	37.0 m		Density		
Last Reading	0 m		Viscosity	@ °F	@ °F
Footage Logged	37.0 m		Resistivity	@ °F	@ °F
Bottom (Driller)	37.50 m		Res. @ BHT	@ °F	@ °F
Casing (From Log)			pH		
Casing (Driller)			Circ. Temp.		
Casing Size			M. Temp.		
Bit Size	11.8 cm				
Bit Size					
			Logged by	D.N. Duncan	
			Witnessed by		

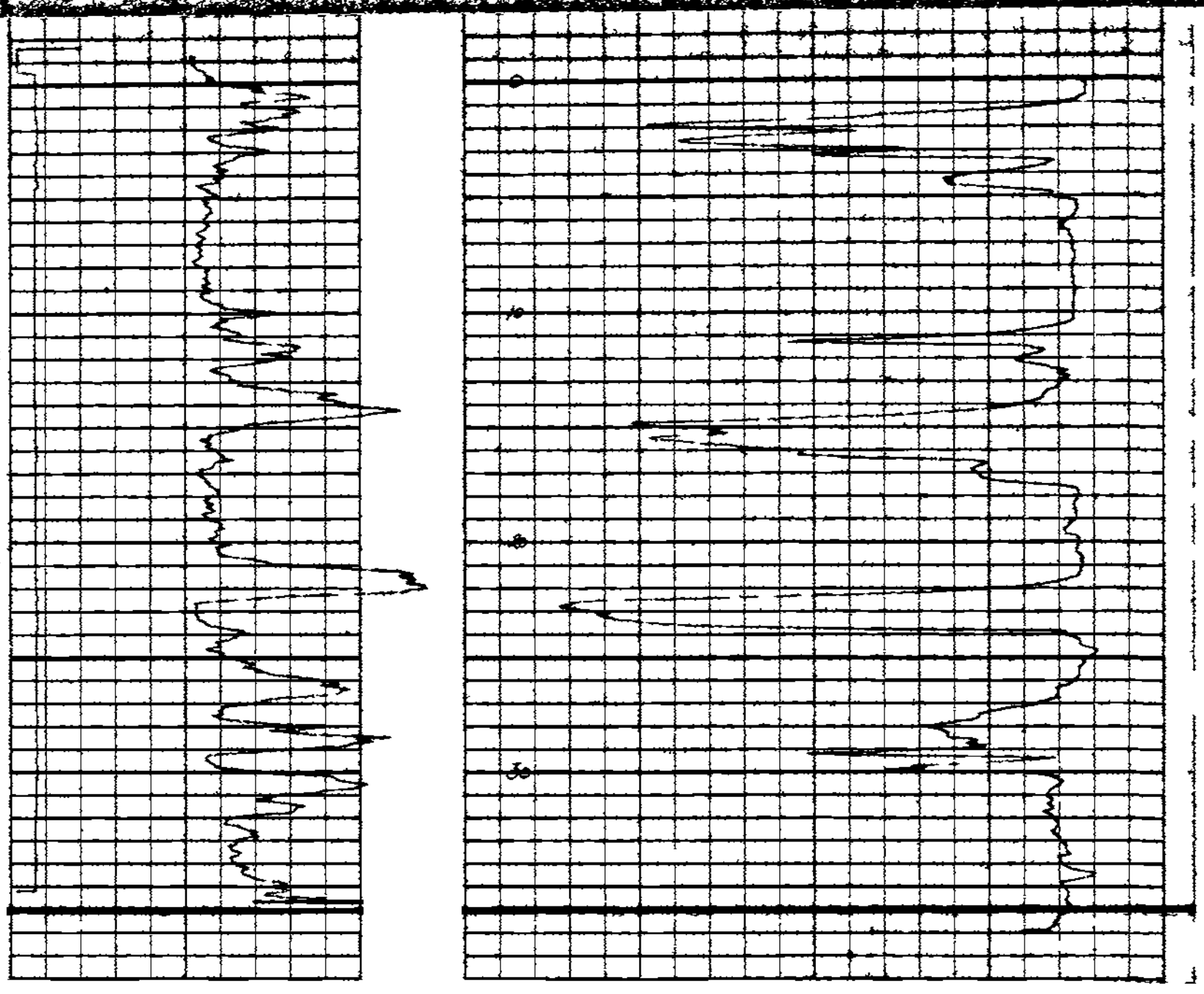
REMARKS

Reg. U.S. Pat. Off.

CALIPER 100 cpm 2.5 T.C.

GAMMA

DENSITY 1000 cpm 2.2 T.C.



PR Carbon Creek 81(3)A

Widco WELL LOG

COMPANY Utah Mines Ltd.
WELL RDE-C.C. 81-184
LOCATION 39,932.9 N
X 46 645 0 E

COMPANY Utah Mines Ltd.
AREA Carbon Creek
WELL RDE-C.C. 81-184
COUNTY Peace R. Land District BRITISH COLUMBIA

504

COORDINATES 39,932.9 N.
N 46,645.0 E.
S.
ELEVATION 1027.1 m.
D.F.
K.B.
G.L.

	Run No. 1	Run No. 2	MUD	Run No. 1	Run No. 2
Date	July 12, 1981		Nature		
First Reading	30.5 m		Density		
Last Reading	0. m		Viscosity	@ °F	@ °F
Footage Logged	30.5 m		Resistivity	@ °F	@ °F
Bottom (Driller)	30.63 m		Res. @ BHT	@ °F	@ °F
Casing (From Log)			pH		
Casing (Driller)			Circ. Temp.		
Casing Size			B.H. Temp.		
Bit Size	11.4 cm				
Bit Size					
			Logged by	D.H. Duncan	
			Witnessed by		

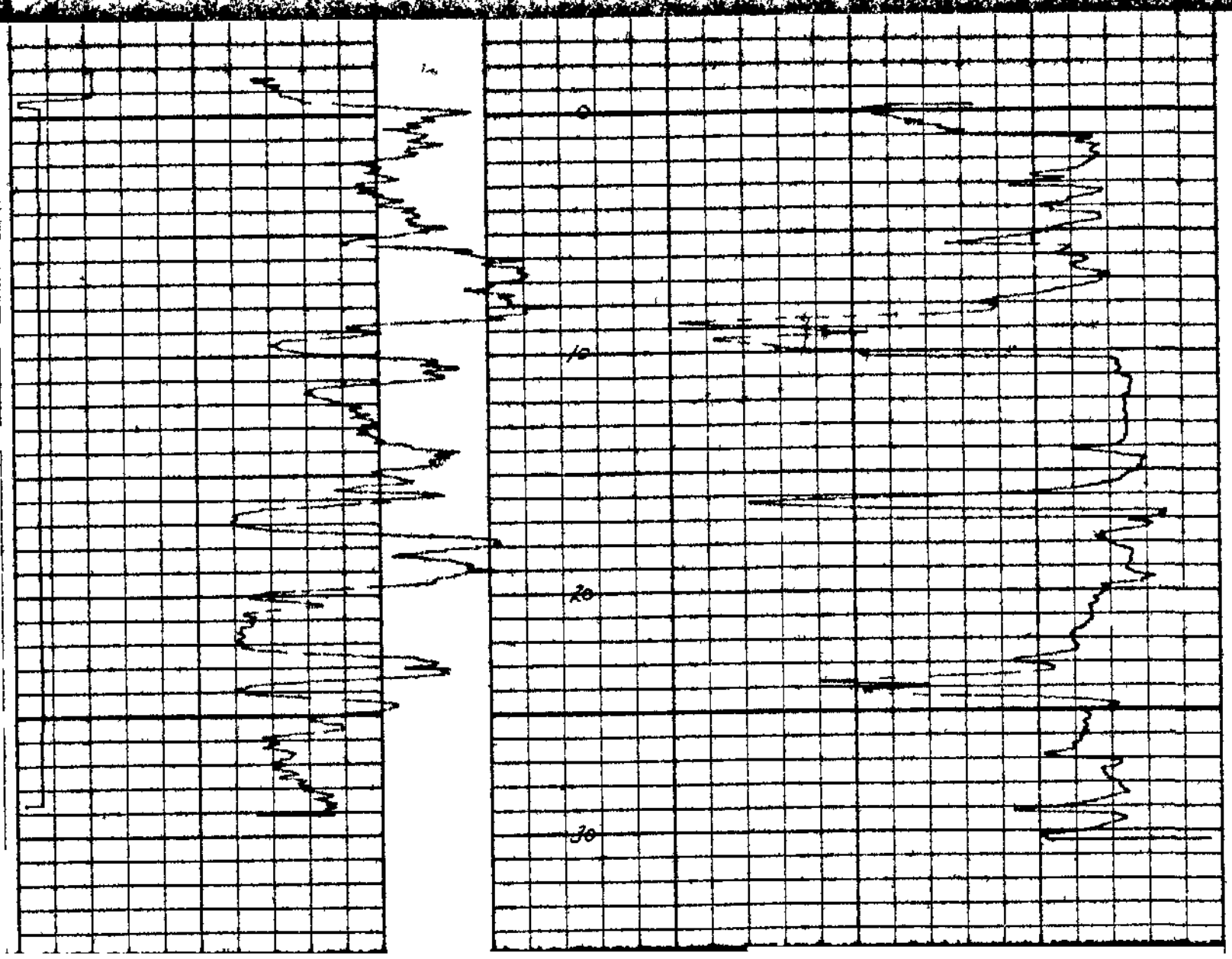
REMARKS

Reg U.S. Pat. Off

CALIPER

GAMMA
100 cps
2.5 T.C.

DENSITY
1000 cps
2.2 T.C.



FOLD

81-185
Carbon Creek 81(3)A

Widco WELL LOG

COMPANY Utah Mines Ltd.
WELL R.D.H.-C.C.-81-185
LOCATION 38,176.2 N X
47,417 1 E
ELEVATION 927.6 m
D.F.
K.B.
G.L.

COMPANY Utah Mines Ltd.
WELL R.D.H.-C.C.-81-185
LOCATION 38,176.2 N X
47,417 1 E

504

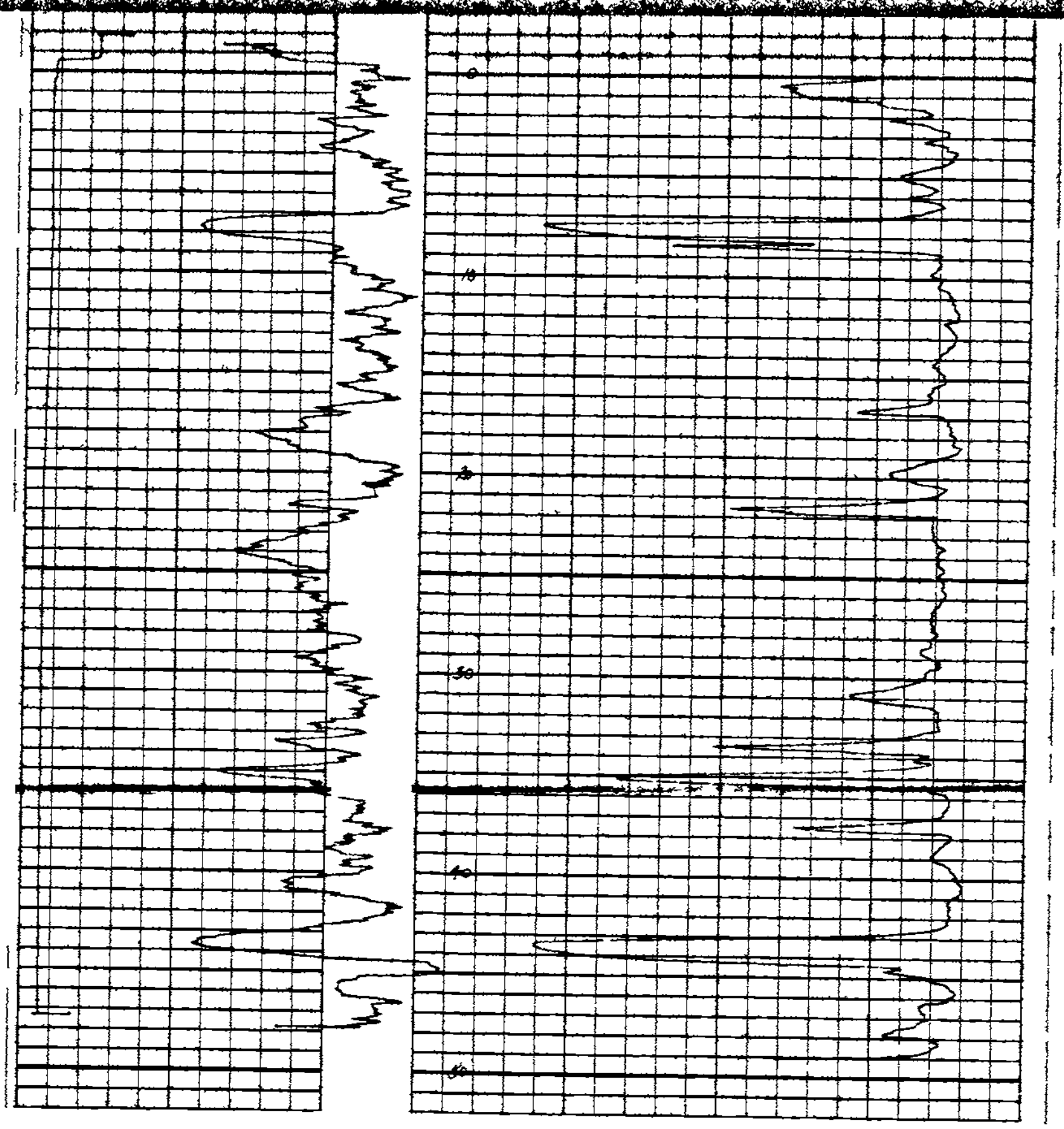
AREA Carbon Creek
WELL R.D.H.-C.C.-81-185
COUNTY Peace R. Land District STATE B.C.

	Run No.	Run No. 2	MUD	Run No. 1	Run No. 2
Date	July 14, 1981		Nature		
First Reading	49.0 m		Density		
Last Reading	0 m		Viscosity	@ °F	@ °F
Footage Logged	49.0 m		Resistivity	@ °F	@ °F
Bottom (Driller)	49.0 m		Res. @ BHT	@ °F	@ °F
Casing (From Log)			pH		
Casing (Driller)			Inc. Temp.		
Casing Size			B.H. Temp.		
Bit Size	11.4 cm				
Bit Size					
			Logged by	D N Dunn	
			Witnessed by		

REMARKS

Reg. U.S. Pat. Off.

CALIPER 6 100 CPS 16 T.C. | GAMMA | DENSITY 1000 CPS 2.2 T.C.



PR Carbon Creek 81(3)A

Widco WELL LOG

COMPANY Utah Mines Ltd.
WELL RDH-C.C.-81 185A
LOCATION 38 176 2 N X 47 417 1 E

COMPANY Utah Mines Ltd.
AREA Carbon Creek
WELL RDH-C.C. 81 185A
COUNTY Peace R. Land District PROV. B.C.

504

COORDINATES 38,176.2 N
X 47,417.1 E
ELEVATION 927.6 m
D.F.
K.B.
G.L.

	Run No. 1	Run No. 2	MUD	Run No. 1	Run No. 2
Date	July 14, 1981		Nature		
First Reading	61.6 m		Density		
Last Reading	0 m		Viscosity	@ °F	@ °F
Footage Logged	61.6 m		resistivity	@ °F	@ °F
Bottom (Driller)	61.57 m		Res. @ BHT	@ °F	@ °F
Casing (From Log)			pH		
Casing (Driller)			Circ Temp.		
Casing Siz			B.H. Temp		
Bit Size	11.4 cm				
Bit Size					
			Logged by	D.W Duncan	
			Witnessed by		

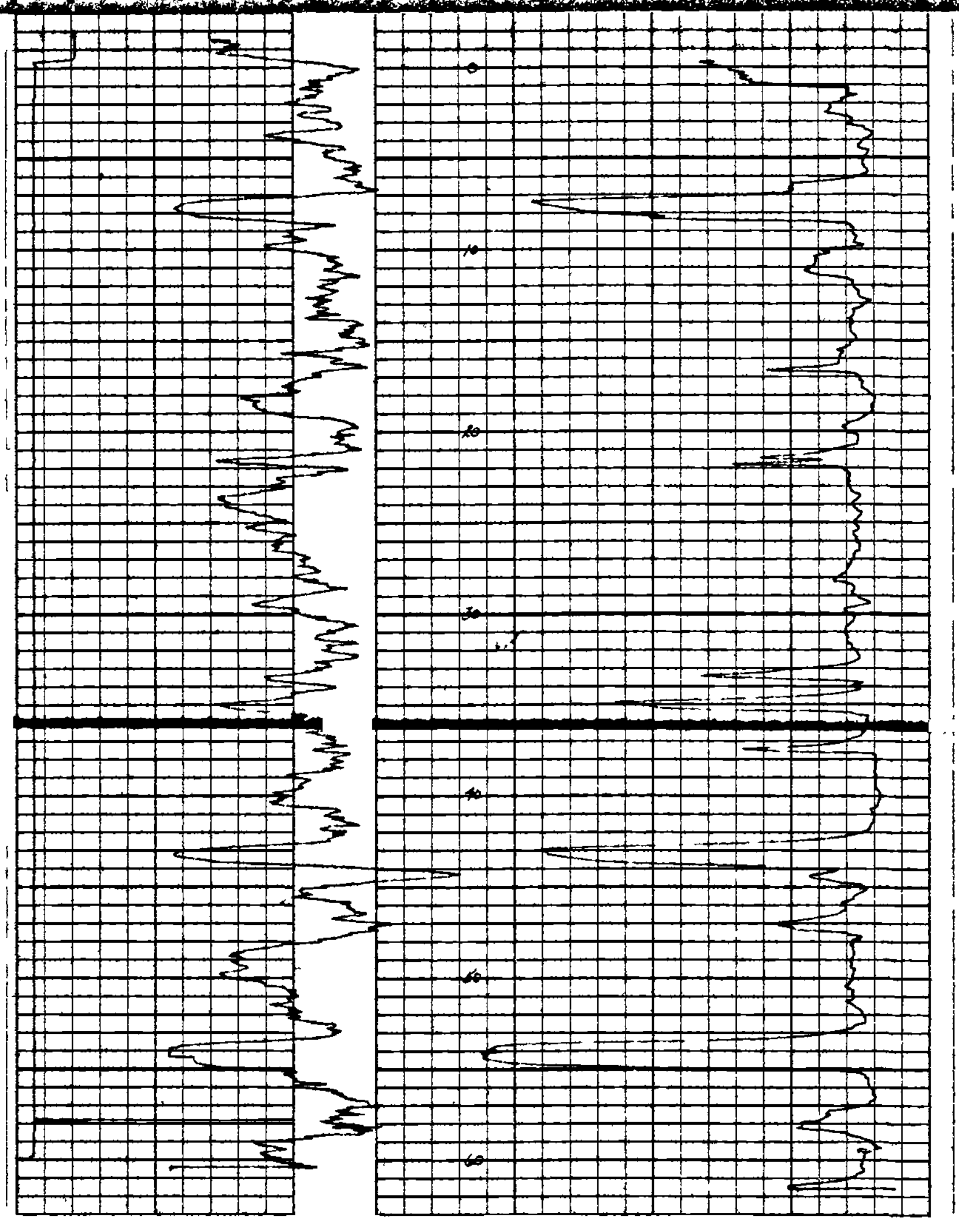
REMARKS

* Reg. U.S. Pat. Off.

CALIPER GAMMA DENSITY

108 CPS
2.5 T.C

1000 CPS
2.2 T.C



PR-Carbon Creek 81-186 81(3)A

Widco WELL LOG

COMPANY Utah Mines Ltd.
WELL RDH-C.C.-81-186
LOCATION X 37,788.2 N
46 539 2 E

COMPANY Utah Mines Ltd.
AREA Carbon Creek
WELL RDH-C.C.-81 186
COUNTY Peace R. Land District B.C.

504

COORDINATES 37,788.2 N
N 46,539.2 E
S
ELEVATION 982.9 m
D.F.
K.B.
G.L.

	Run No. 1	Run No. 2	MUD	Run No. 1	Run No. 2
Date	July 19, 1981		Nature		
First Reading	36.9 m		Density		
Last Reading	0 m		Viscosity	@ °F	@ °F
Footage Logged	36.9 m		Resistivity	@ °F	@ °F
Bottom (Driller)	37.49 m		Res. @ BHT	@ °F	@ °F
Casing (From Log)			pH		
Casing (Driller)			Circ. Temp.		
Casing Size			B.H. Temp.		
Bit Size	11.4 cm				
Bit Size					
			Logged by	D.N. Duncan	
			Witnessed by		

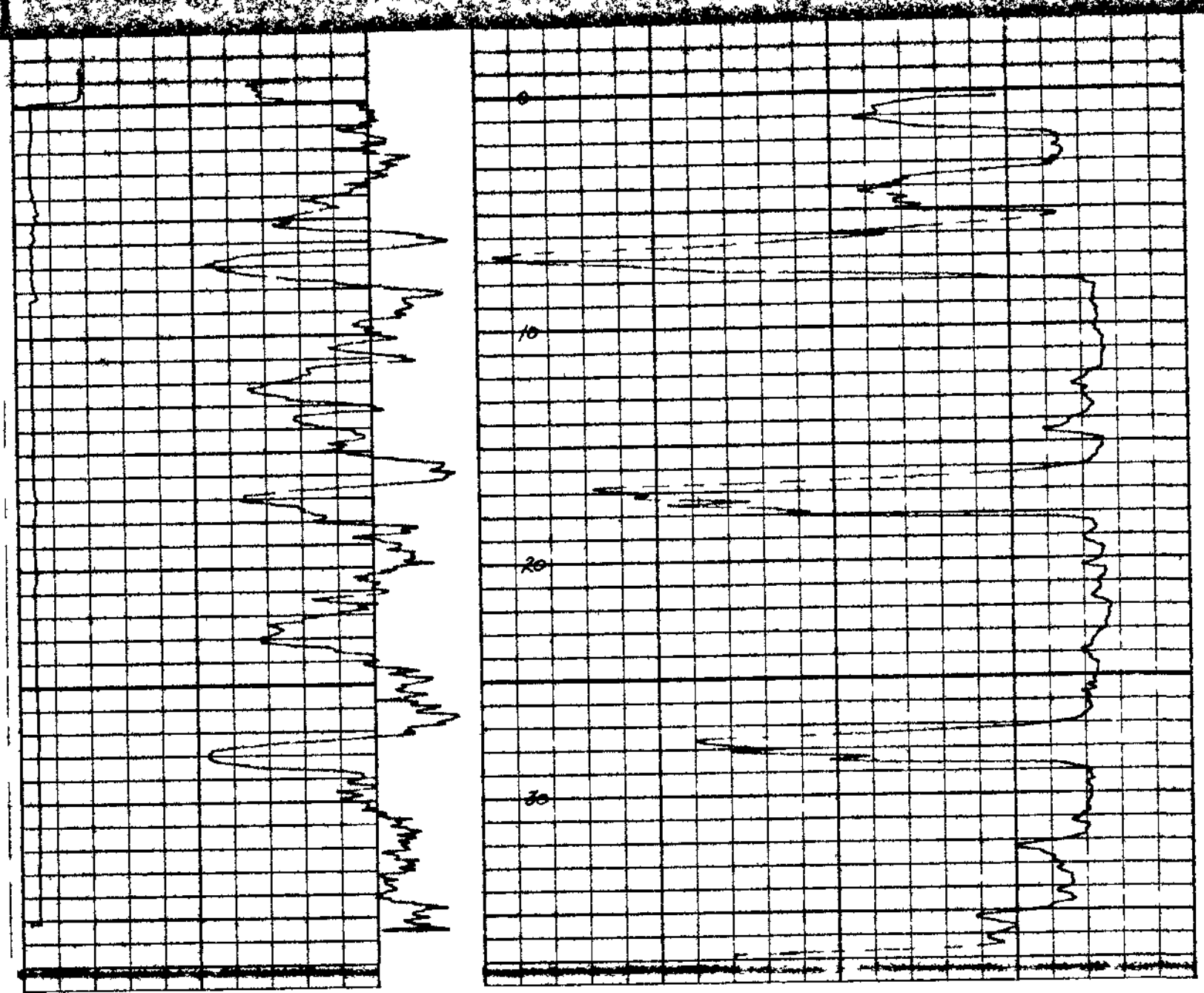
REMARKS

Reg. U.S. Pat. Off.

CALIPER 100 cps 2.5 T.C.

GAMMA

DENSITY 1000 cps 2.2 T.C.



PR-Carbon Creek 81(3)A

Widco WELL LOG

COMPANY Utah Mines Ltd.
AREA Carbon Creek
WELL RDH C.C. 81 187
COUNTY Peace R. Land District B.C.

504

COORDINATES: 37,415.1 N
N X 46,888.9 E
ELEVATION: 982.6 m
D.F.
K.B.
G.L.

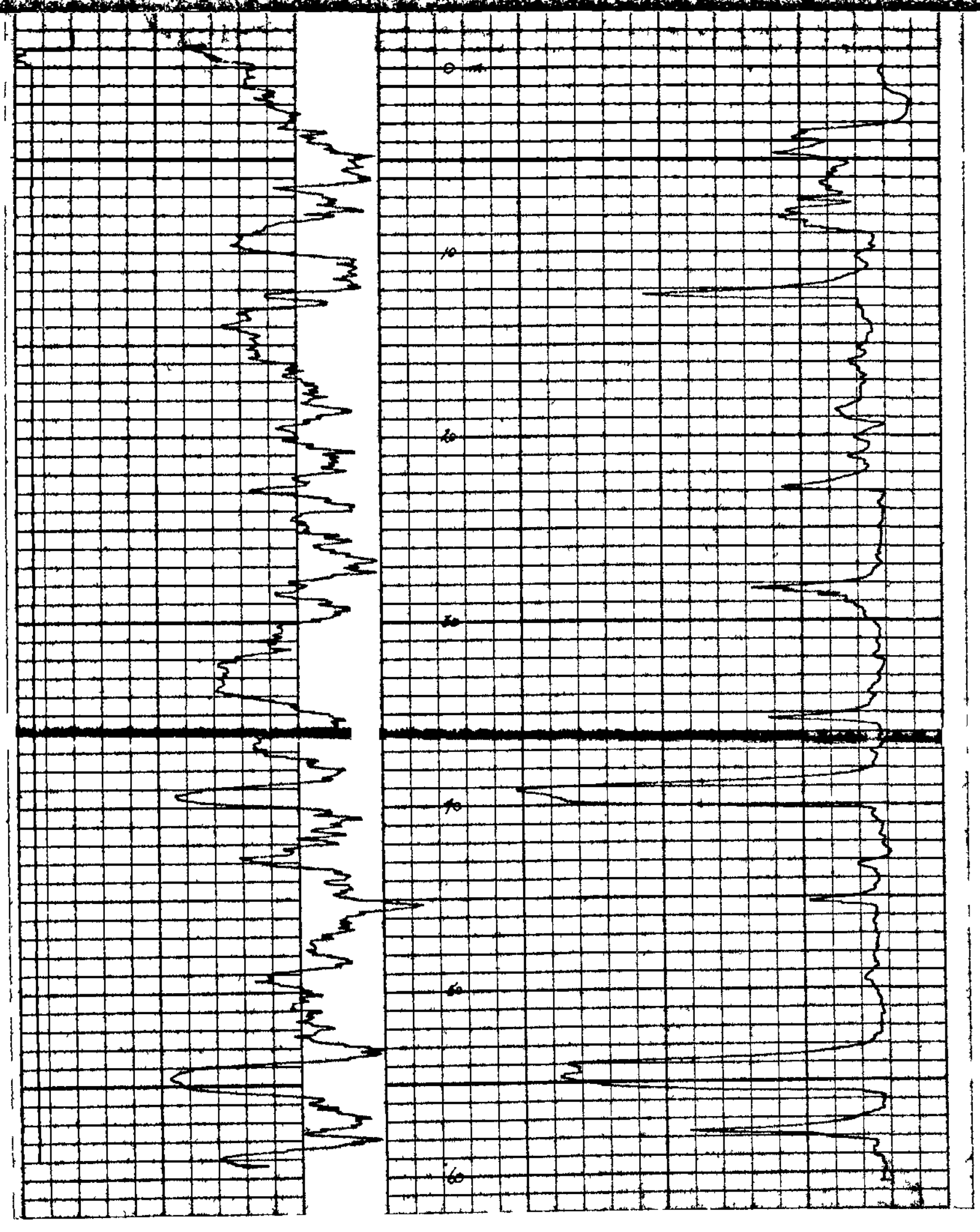
COMPANY Utah Mines Ltd.
WELL RDH C.C. 81 187
LOCATION 37,415.1 N 46 888 9 E

	Run No.	Run No. 2	MUD	Run No. 1	Run No. 2
Date	July 19, 1981		Nature		
First Reading	60.4 m		Density		
Last Reading	0 m		Viscosity	@ °F	@ °F
Footage Logged	60.4 m		Resistivity	@ °F	@ °F
Bottom (Driller)	56.7 m		Res. @ BHT	@ °F	@ °F
Casing (rem Log)			pH		
Casing (Driller)			Circ. Temp		
Casing Size			H. Temp		
Bit Size	11.4				
Bit Size					
			Logged by	D.N. Duncan	
			Witnessed by		

REMARKS

Reg. U.S. Pat. Off.

GAMMA 100 cps 2.5 T C. DENSITY 1000 cps 2 2 T C.



81-193
PR-Carbon Creek 81(3)A

Widco WELL LOG

COMPANY Utah Mines Ltd.
WELL BDH-C.C.-81-188
LOCATION 37,449.0 N
X 46 590 0 E

COMPANY Utah Mines Ltd.
AREA Carbon Creek
WELL BDH-C.C.-81-188
COUNTY Peace R. Land District DOMK B.C.

504

COORDINATES 37,449.0 N
N X 46,590.0 E
E
ELEVATION 1000.8 m
D.F.
K.B.
G.L.

	Run No. 1	Run No. 2
Date	July 21, 1981	
First Reading	43.1 m	
Last Reading	0 m	
Footage Logged	43 1 m	
Bottom (Driller)	43.89 m	
Casing (From Log)		
Casing (Driller)		
Casing Size		
Bit Size	11.4 cm	
Bit Size		

MUD	Run No. 1	Run No. 2
Nature		
Density		
Viscosity	@ °F	@ °F
Resistivity	@ °F	@ °F
res. @ BHT	@ °F	@ °F
pH		
inc. Temp.		
B.H. Temp.		
Logged by	D.N Duncan	
Witnessed by		

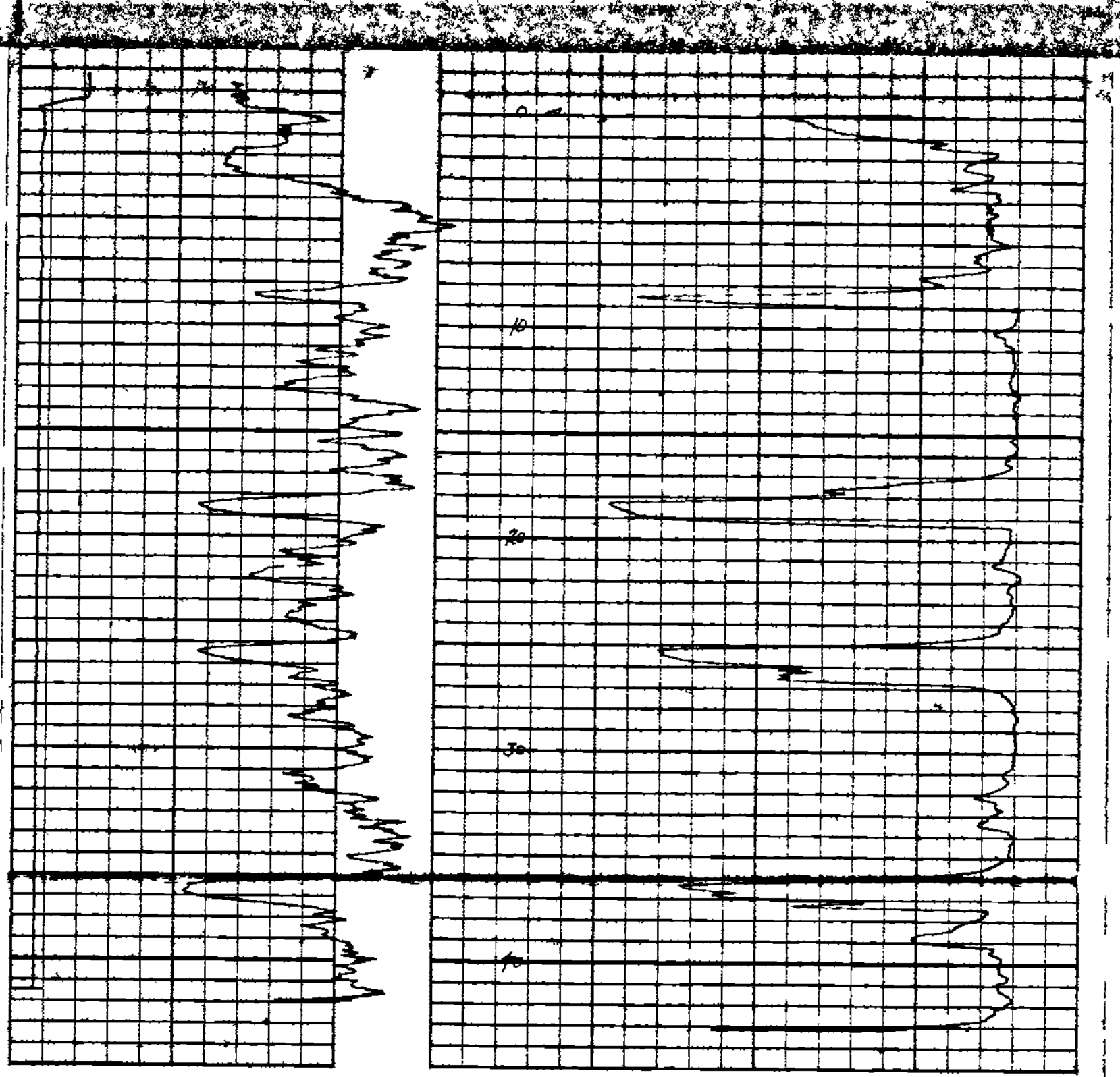
REMARKS

Reg. U.S. Pat. Off.

CALIPER

GAMMA
100 cps
7 5 T.C

DENSITY
1000 cps
2 2 T.C



PR-Carbon Creek 81(3)A

Widco WELL LOG

COMPANY Utah Mines Ltd.
WELL BDH-C.C.-81-189
LOCATION 36,705.7 N
X 45 779 6 E

COMPANY Utah Mines Ltd.
AREA Carbon Creek
WELL BDH-C.C. 81 189
COUNTY Peace R. Land District PRINCE R.B.C.

504

COORDINATES 36,705.7 N
X 45,779.6 E
ELEVATION 1157.3 m
D.F.
K.B.
G.L.

	Run No. 1	Run No. 2	MUD	Run No. 1	Run No. 2
Date	July 23, 1981		Nature		
First Reading	40.4 m		Density		
Last Reading	0 m		Viscosity	@ °F	@ °F
Footage Logged	40.4 m		Resistivity	@ °F	@ °F
Bottom (Driller)	40.84 m		Res. @ BHT	@ °F	@ °F
Casing (From Log)			pH		
Casing (Driller)			mc Temp.		
Casing Size			H Temp.		
Bit Size	11.4 cm				
Bit Size					
			Logged by		
			Witnessed by		

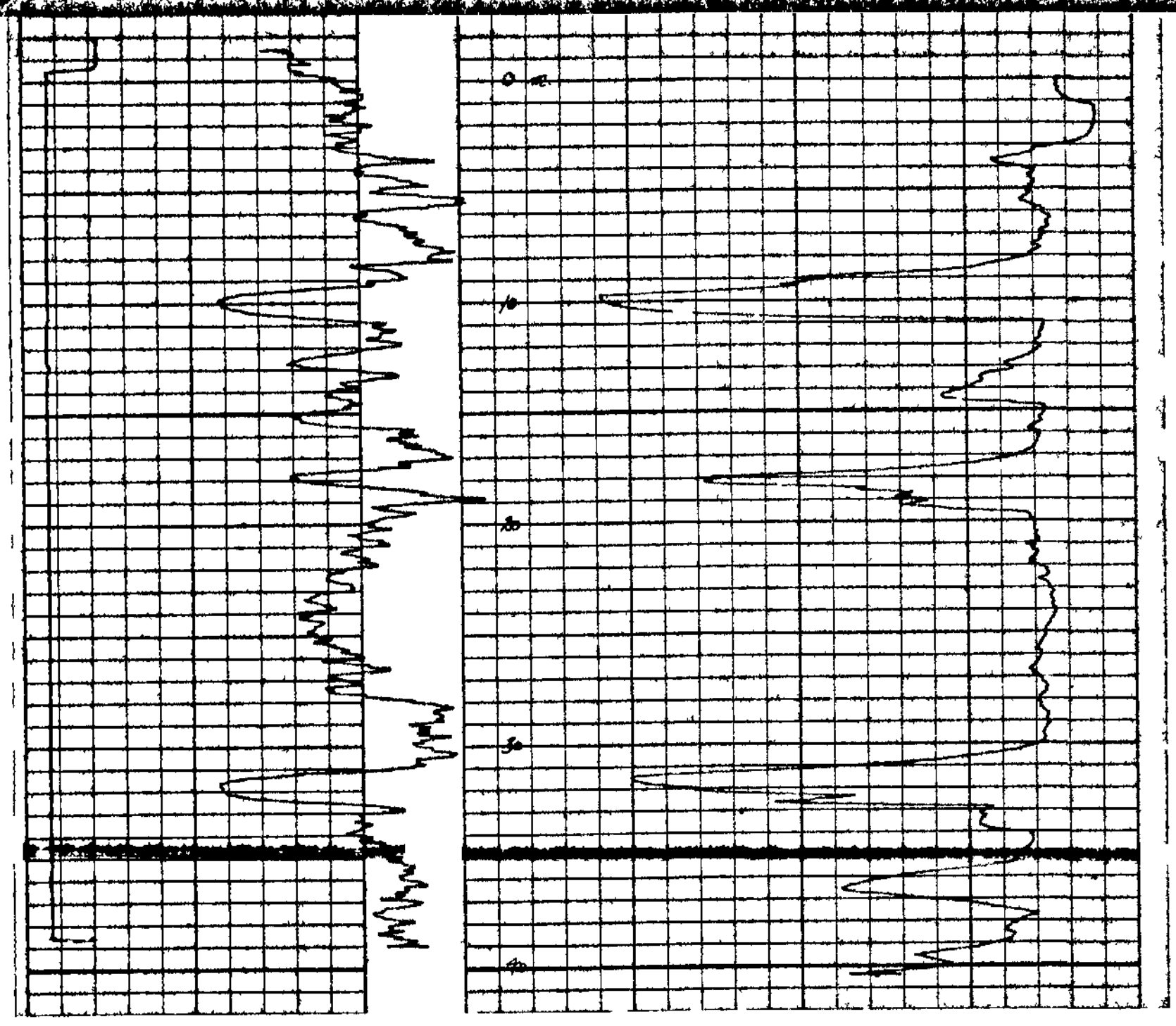
REMARKS

Reg U.S. Pat. Off

CALIPER

GAMMA
100 cps
2 5 T C

DENSITY
1000 cps
2 2 T.C.



81 190
PR-Carbon Creek 81(L3)A

Widco WELL LOG

COMPANY Utah Mine Ltd
AREA Carbon Creek
WELL RDH-C.C. 81 190
COUNTY Peace R. Land District PROVINCE B.C.

504

COORDINATES 36,434.4 N
N X 45,926 5 E
S
ELEVATION 1167.6 m
D.F
K.B.
G.L.

COMPANY Utah Mines Ltd.
WELL RDH-C.C.-81 190
LOCATION 36,434.4 N
X 45 926 5 E

	Run No. 1	Run No. 2	MUD	Run No. 1	Run No. 2
Date	July 25, 1981		Nature		
First Reading	43 0 m		Density		
Last Reading	0 m		Viscosity	@ °F	@ °F
Footage Logged	43 0 m		Resistivity	@ °F	@ °F
Bottom (Driller)	43 59 m		Res. @ BHT	@ °F	@ °F
Casing (From Log)			pH		
Casing (Driller)			Circ Temp.		
Casing Size			H Temp		
Bit Size.	11 4 cm				
Bit Size.					
			Logged by	D N Duncan	
			Witnessed by		

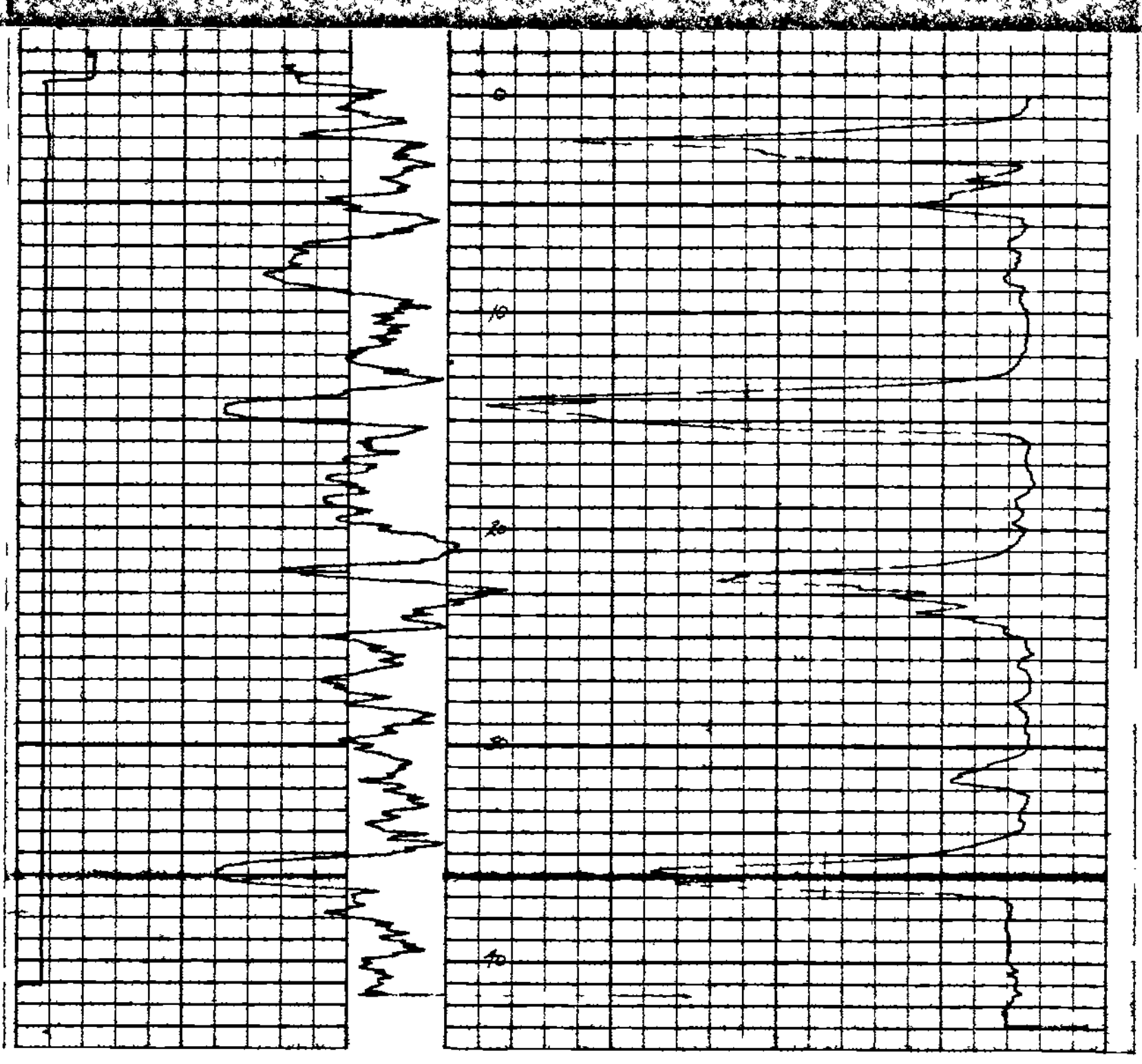
REMARKS

Reg U.S. Pat. Off

CALIPER

GAMMA
100 cps
2 5 T C.

DENSITY
1000 cps
2.2 T C.



PR-Carbon Creek 81(3)A

Widco WELL LOG

COMPANY Utah Mines Ltd.

AREA Carbon Creek

WELL RDH-C C 81 191

COUNTY Peace R Land District STATE B.C.

504

COORDINATES 36,411 1 N
N X 45,634 7 E
S

ELEVATION 1240.9 m
D.F
K.B.
G.L.

COMPANY Utah Mines Ltd.
WELL RDH-C.C. 81 191
LOCATION 36,411 1 N
X 45 634 7 E

	Run No. 1	Run No. 2	MUD	Run No. 1	Run No. 2
Date	July 26, 1981		Nature		
First Reading	36 3 m		Density		
Last Reading	0 m		Viscosity	@ °F	@ °F
Footage Logged	36 3 m		Resistivity	@ °F	@ °F
Bottom (Driller)	38.2 m		Res. @ BHT	@ °F	@ °F
Casing (From Log)			pH		
Casing (Driller)			Circ Temp.		
Casing Size			B.H. Temp.		
Bit Size	11.4 cm				
Bit Size					
			Logged by	D.N. Duncan	
			Witnessed by		

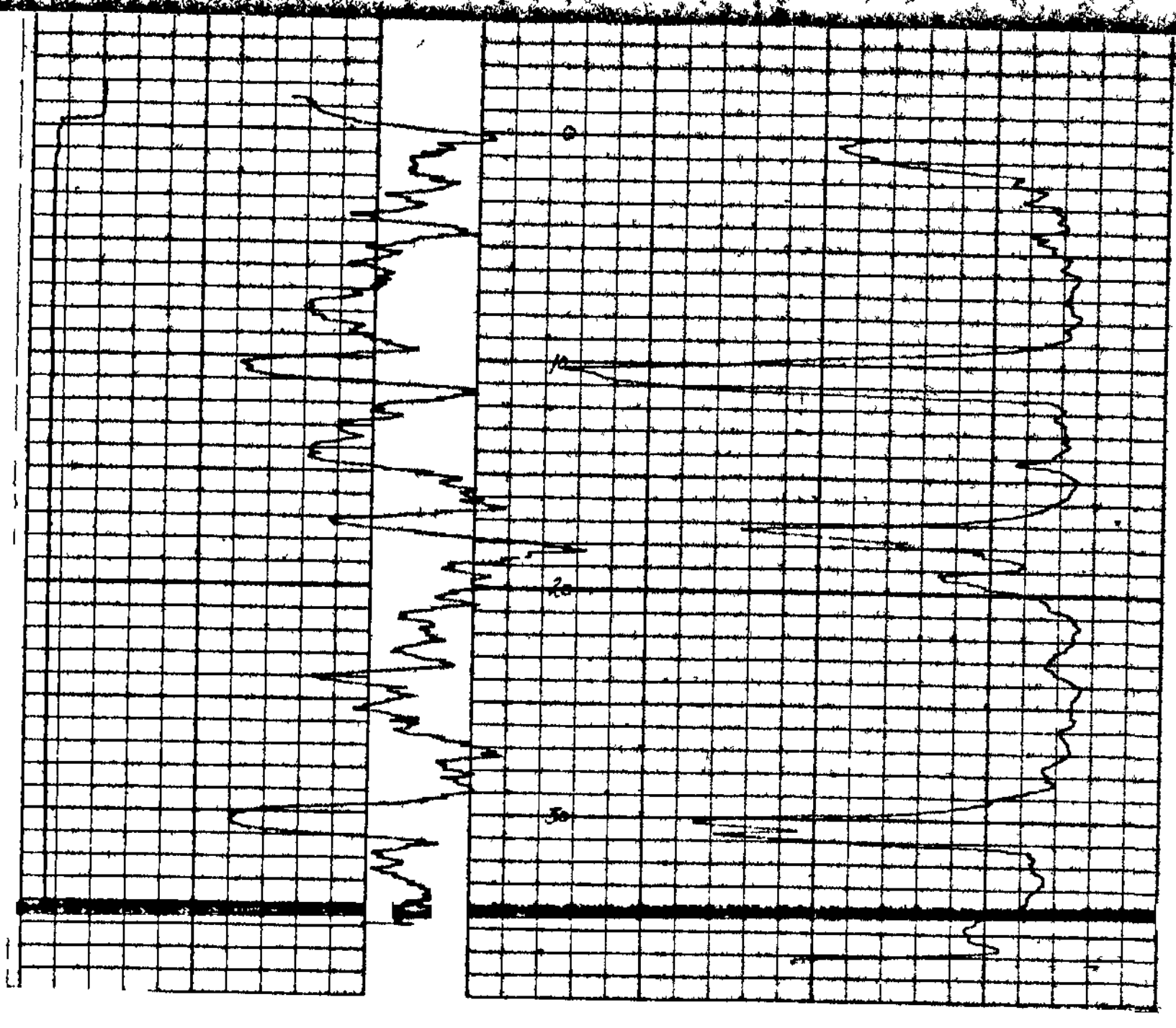
REMARKS

Reg. U.S. Pat. Off.

CALIPER 100 cps 2 5 T C.

GAMMA

DENSITY 1000 cps 2 2 T C.



81-192 Pk Carbon Creek 84(3)A

Widco WELL LOG

COMPANY Utah Mines Ltd.
WELL R.D.H.-C.C. 81 192
LOCATION 37 323 8 N 46 142 5 E

COMPANY Utah Mines Ltd.
AREA Carbon Creek
WELL RDH-C.C. 81-192
COUNTY Peace R. Land District B.C.

504

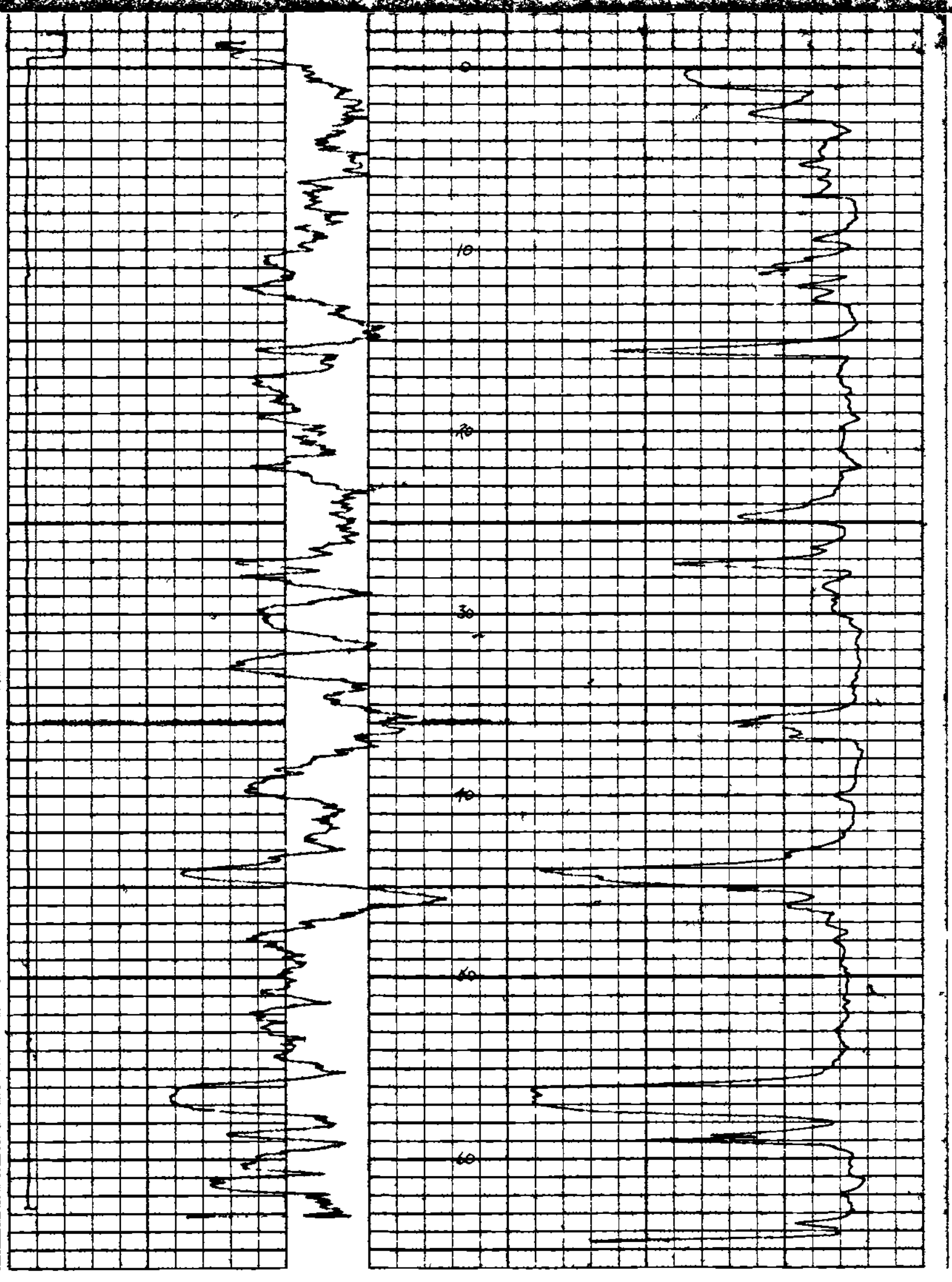
COORDINATES 37,323.8 N
NK 46,142.5 E
S
ELEVATION 1034.2 m
D.F.
K.B.
G.L.

	Run No. 1	Run No. 2	MUD	Run No. 1	Run No. 2
Date	July 29, 1981		Nature		
First Reading	64.4 m		Density		
Last Reading	0 m		Viscosity	@ °F	@ °F
Footage Logged	64.4 m		Resistivity	@ °F	@ °F
Bottom (Driller)	64.92 m		cm @ BHT	@ °F	@ °F
Casing (From Log)			pH		
Casing (Driller)			Circ. Temp.		
Casing Size			B.H. Temp.		
Bit Size	11.4 cm				
Bit Size					
			Logged by	D.H. Duncan	
			Witnessed by		

REMARKS

Reg. U.S. Pat. Off.

PER GAMMA 100 CPS 2.5 T.C. DENSITY 1000 cps 2.2 T.C.



BR Carbon Creek 81(3)A

Widco WELL LOG

COMPANY Utah Mines Ltd.
WELL D.D.H. C.C. 81-195
LOCATION 39,040 S N
45,343 1 E X

COMPANY Utah Mines Ltd.
AREA Carbon Creek
WELL D H -C C.-81 195
COUNTY Peace R. Land District PROV. B.C.

504

COORDINATES 39,040 S N
N X 45,343.1 E
S
ELEVATION 1223.4 m
D.F.
K.B.
G.L.

	Run No. 1	Run No. 2	MUD	Run No. 1	Run No. 2
Date	Aug 7/81		Nature		
First Reading	36.90 m		Density		
Last Reading	0 m		Viscosity	@ °F	@ °F
Footage Logged	36 90 m		Resistivity	@ °F	@ °F
Bottom (Driller)	37.18 m		Res. @ BHT	@ °F	@ °F
Casing (From Log)			pH		
Casing (Driller)			Circ Temp.		
Casing Size			B.H. Temp.		
Bit Size	11.4 cm				
Bit Size					
			Logged by	D.N Duncan	
			Witnessed by		

REMARKS

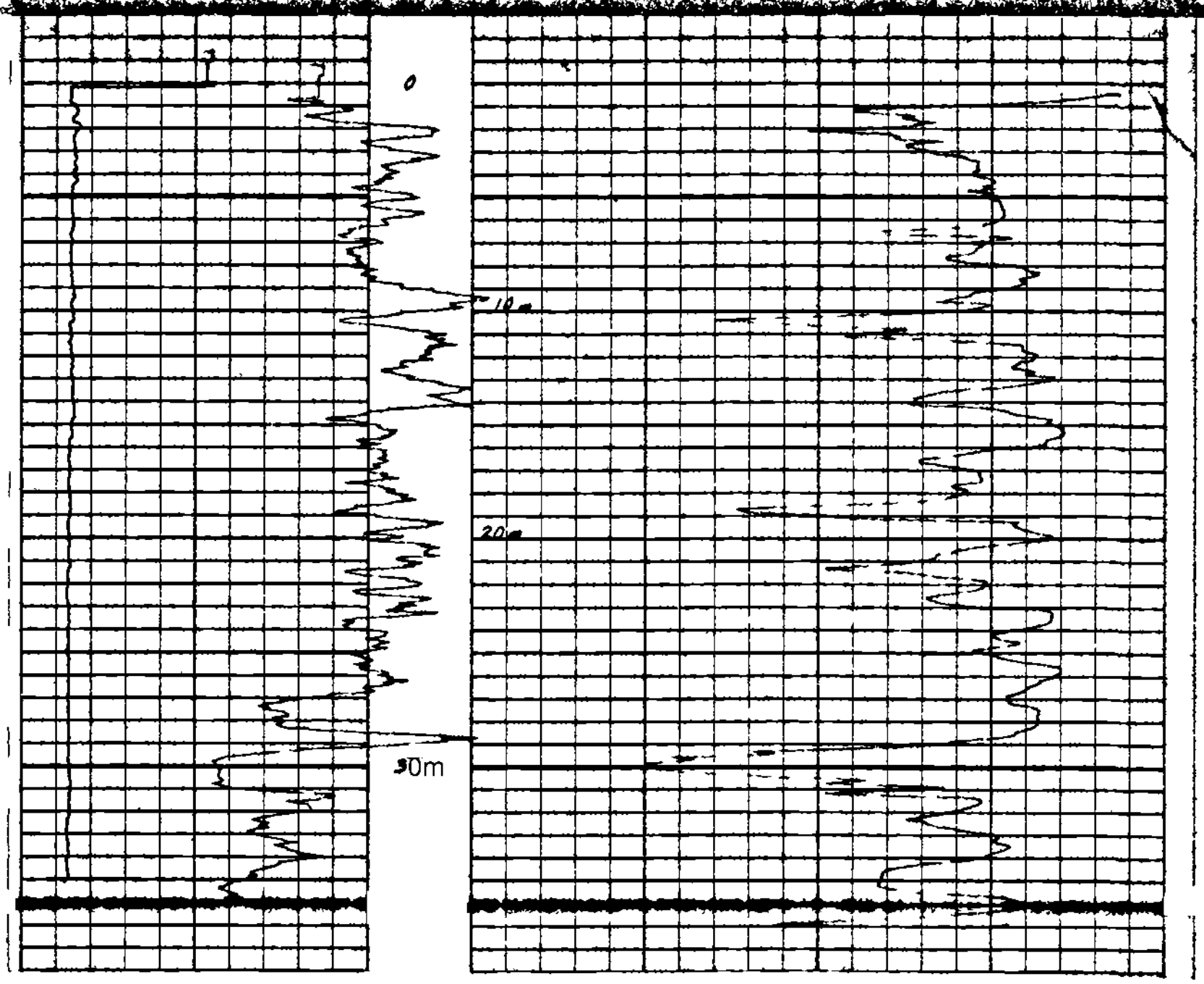
Reg. U.S. Pat. Off.

CALIPER 0 — 5 cm

GAMMA 0 — 100 cps

DENSITY 2.2 — 3.2 g/cc

1000 cps



81-196
PK Carbon Creek 81(3)A

Widco WELL LOG

COMPANY Utah Mines Ltd.
AREA Carbon Creek
WELL R D H C.C. 81-196
COUNTY Peace R. Land District STATE B.C.

504

COORDINATES 39,219.4 N
46,031.4 E
ELEVATION 1134.1 m
D.F.
K.B.
G.L.

COMPANY Utah Mines Ltd.
WELL R.D.H. C.C. 81-196
LOCATION 39 219.4 N
46 031.4 E

	Run No. 1	Run No. 2	MUD	Run No. 1	Run No. 2
Date	Aug 10, 1981		Nature		
First Reading	91.5 m		Density		
Last Reading	0 m		Viscosity	@ °F	@ °F
Footage Logged	91.5 m		Resistivity	@ °F	@ °F
Bottom (Driller)	93.88 m		Res. @ BHT	@ °F	@ °F
Casing (From Log)			pH		
Casing (Driller)			Circ. Temp.		
Casing Size			B.H. Temp.		
Bit Size	11.4 cm				
Bit Size					
			Logged by	D B Duncan	
			Witnessed by		

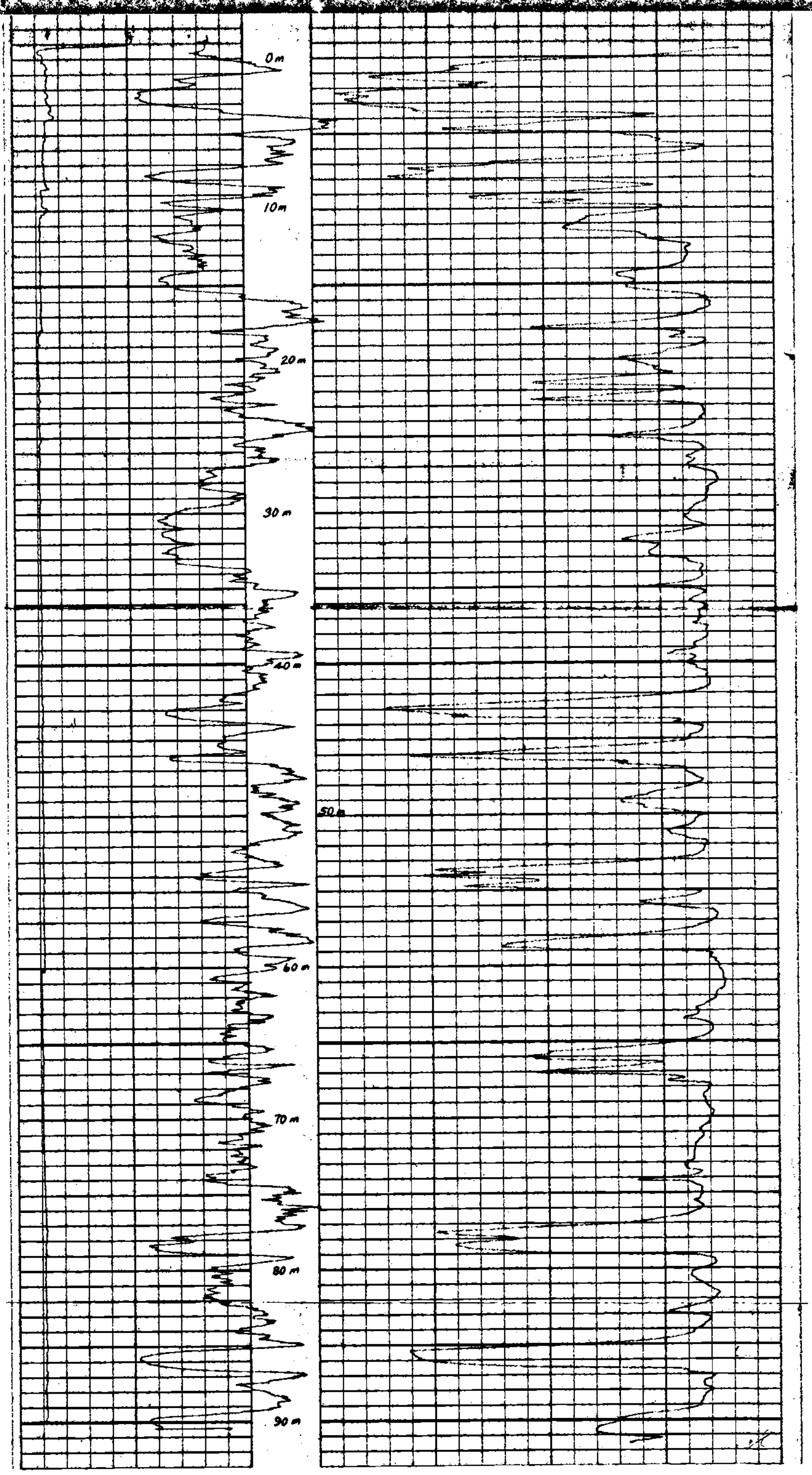
REMARKS

Reg. U.S. Pat. Off.

CALIPER

GAMMA
100 CPS
2.5 T.C.

DENSITY
1000 CPS
2.7 T.C.



PR-Carbon Creek 81(L3)A

Widco WELL LOG

COMPANY Utah Mines Ltd.
WELL BDH-C.C. 81-198
LOCATION 38,452.6 N
X 46,215.8 E

COMPANY Utah Mines Ltd.
AREA Carbon Creek
WELL BDH-C.C. 81 198
COUNTY Peace R. Land District YUK B.C.

504

COORDINATES 38,452.6 N
X 46,215.8 E
ELEVATION 949.8 m
DF
KB
GL

	Run No 1	Run No. 2	MUD	Run No. 1	Run No. 2
Date	Aug. 12, 1981		Nature		
First Reading	18.1 m		Density		
Last Reading	0 m		Viscosity	@ °F	@ °F
Footage Logged	18.1 m		Resistivity	@ °F	@ °F
Bottom (Driller)	19.2 m		Res. @ BHT	@ °F	@ °F
Casing (From Log)			pH		
Casing (Driller)			Circ. Temp.		
Casing Size			B.H. Temp.		
Bit Size	11.4 cm				
Bit Stop					
			Logged by	D. H. Duncan	
			Witnessed by		

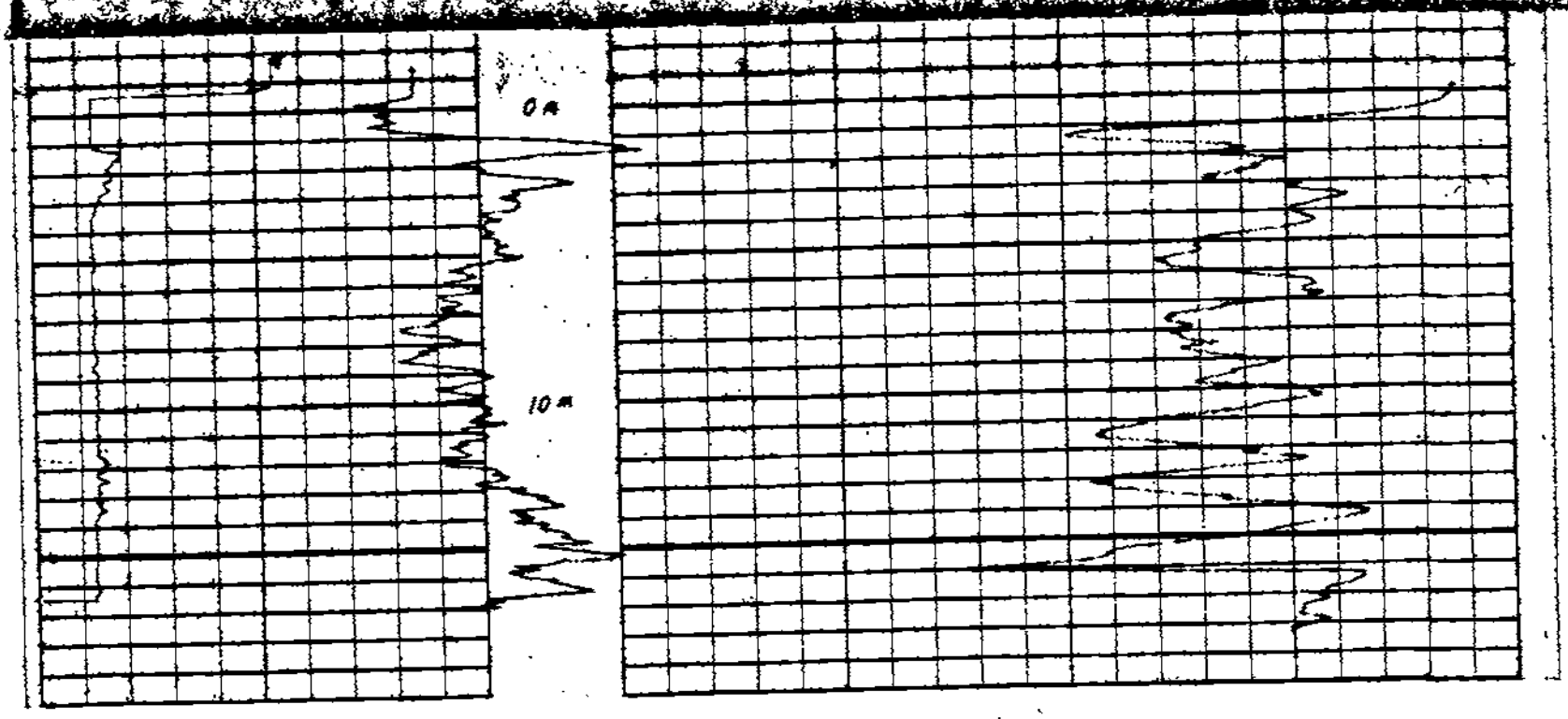
REMARKS

Reg U.S. Pat Off

CALIPER

GAMMA
100 cps
2.5 T.C.

DENSITY
1000 cps
2.2 T.C.



PR Carbon Creek 81-37A

Widco WELL LOG

COMPANY Utah Mines Ltd
AREA Carbon Creek
WELL R.D.H.-C.C.-81-20M
COUNTY MAYO B.C.

504

COORDINATES 32,444.8 N
M.X. 81,643.9 E
S
ELEVATION 866.15 m
D.F.
K.B.
G.L.

LOCATION 32,444.8 N 81,643.9 E

WELL R.D.H.-C.C.-81-20M

COMPANY Utah Mines Ltd.

	Run No. 1	Run No. 2	MUD	Run No. 1	Run No. 2
Date	Aug. 29, 1981		Nature		
First Reading	146 9 m		Density		
Last Reading	0 m		Viscosity	@ °F	@ °F
Footage Logged	146 9 m		Resistivity	@ °F	@ °F
Bottom (Driller)	146 46 m		Res. @ BHT	@ °F	@ °F
Casing (From Log)			pH		
Casing (Driller)			Circ. Temp.		
Casing Size			H. Temp.		
Bit Size	11 4 cm				
Bit Size					
			Logged by	D N B nean	
			Witnessed by		

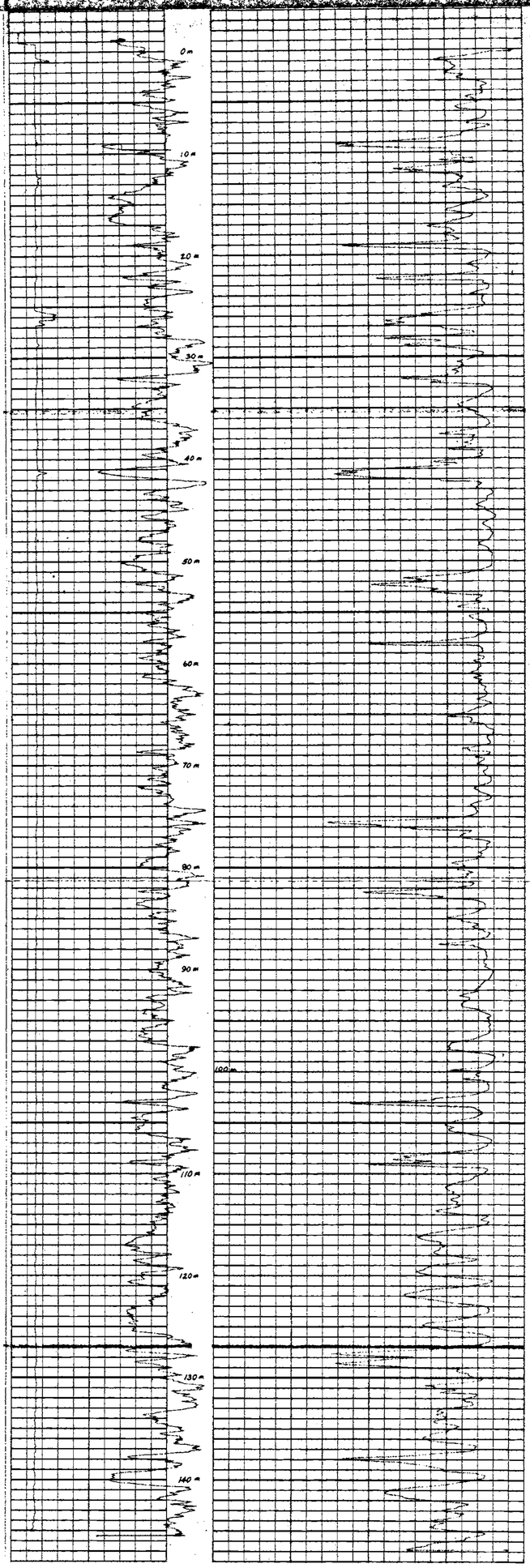
REMARKS

Reg. U.S. Pat. Off.

CALIPER

GAMMA 100 CPS 2.3 F.O.

DENSITY 1000 CPS 2 2 F.O.



PR Carbon Creek 81(3)4

Widco WELL LOG

COMPANY Utah Mines Ltd.
AREA Carbon Creek
WELL R.D.H.-E C-81-201
COUNTY STATE B.C.

504

COORDINATES: 32,129.2 N
N 81,441.0 E
ELEVATION 881.50 m
D.F.
K.B.
D.S.

LOCATION: 32,129.2 N 81,441.0 E

COMPANY Utah Mines Ltd.
WELL R.D.H.-E C-81-201

	Run No. 1	Run No. 2	MUD	Run No. 1	Run No. 2
Date	Sept. 2, 1981		Nature		
First Reading	143.3 m		Density		
Last Reading	0 m		Viscosity	@ °F	@ °F
Footage Logged	143.3 m		Resistivity	@ °F	@ °F
Bottom (Driller)	146.91 m		Res. @ BHT	@ °F	@ °F
Casing (From Log)			pH		
Casing (Driller)			Circ. Temp.		
Casing Size			B.H. Temp.		
Bit Susp.	11.4 mm				
Bit Size					
			Logged by	P. Cowley	
			Witnessed by		

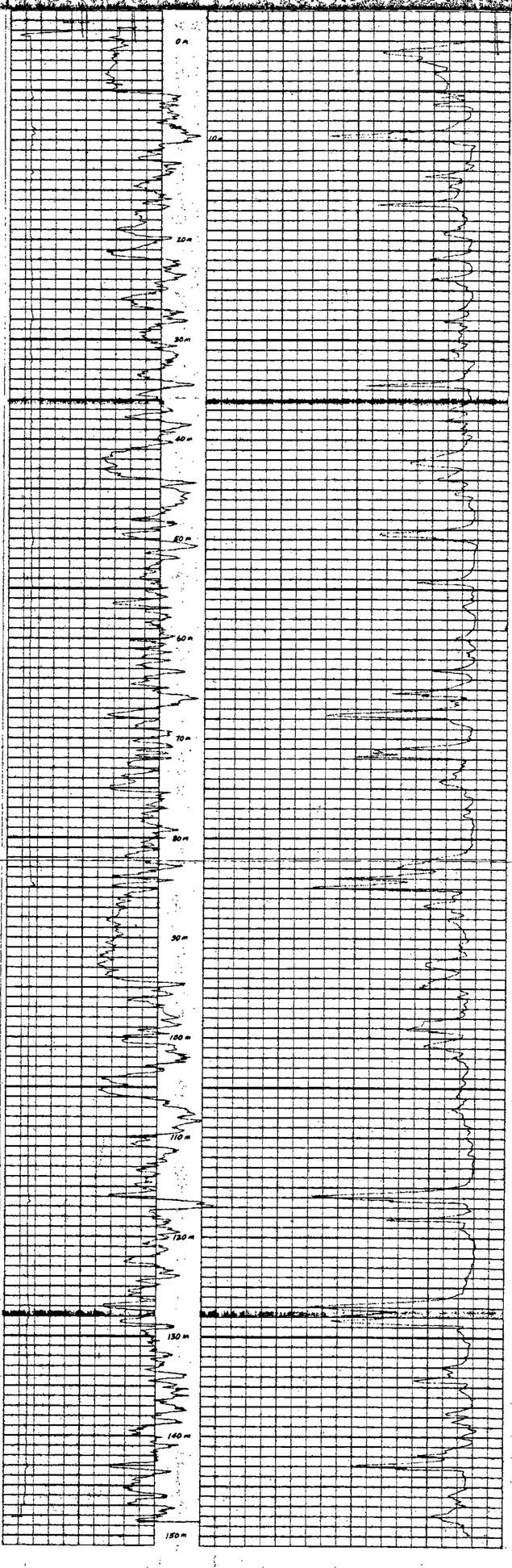
REMARKS

Reg. U.S. Pat. Off.

CALIPER 100 CPS 2 ± 2 C

GAMMA

DENSITY 1000 CPS 2 ± 2 C



81-202
PR Carbon Creek 81G31A

Widco WELL LOG

COMPANY Utah Mines Ltd.
WELL R.D.H. C.C. 81-202
LOCATION 32 309.0 N
81 889.0 E

COMPANY Utah Mines Ltd.
AREA Carbon Creek
WELL R.D.H.-C.C. 81 202
COUNTY STATE B.C.

504

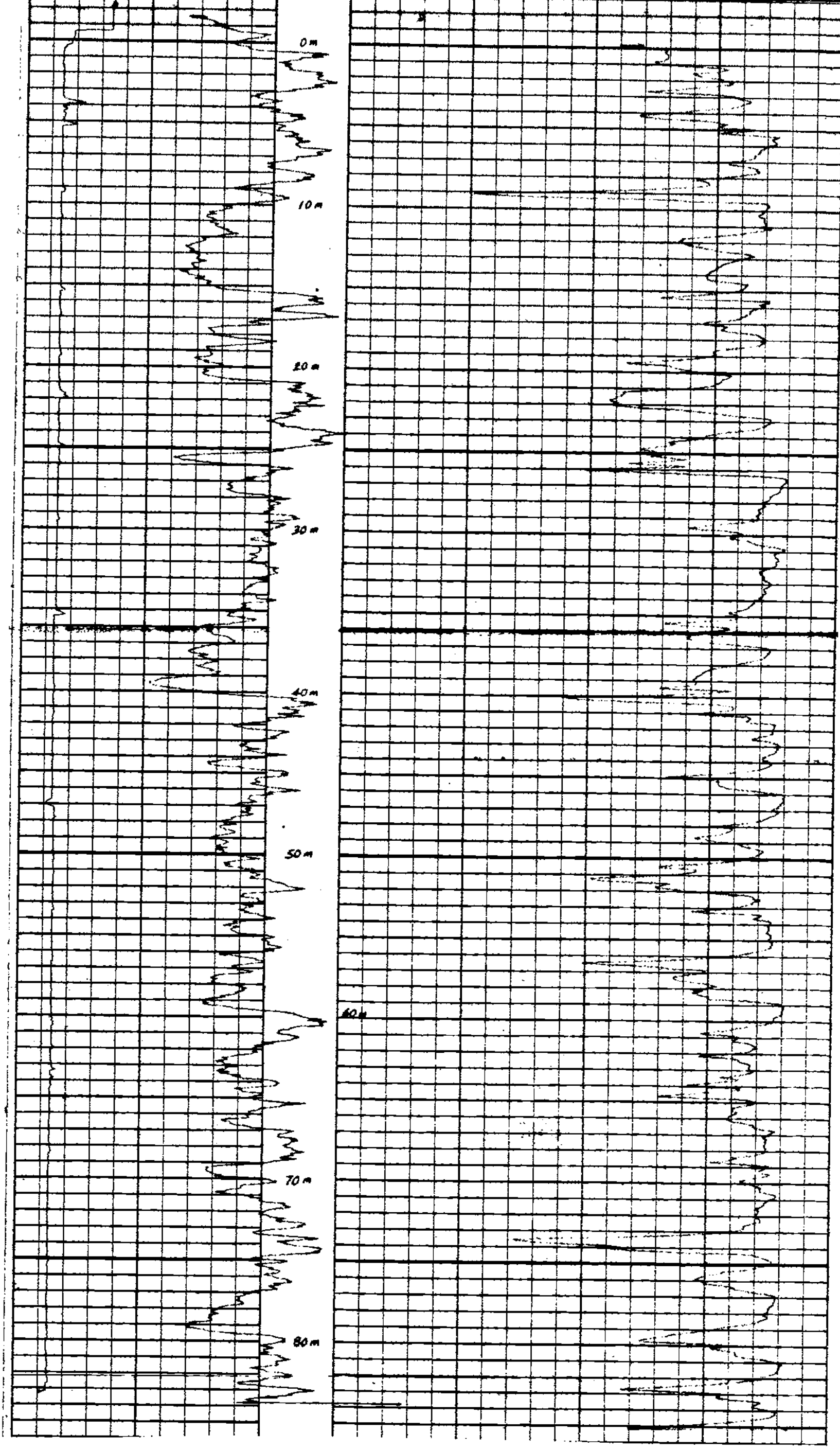
COORDINATES 32,309.0 N
N X 81,889.0 E
ELEVATION 871.30 m
D.F.
K.B.
G.L.

	Run No.	Run No. 2	MUD	Run No. 1	Run No. 2
Date	Sept. 8, 1981		Nature		
First Reading	85.1 m		Density		
Last Reading	0. m		Viscosity	@ °F	@ °F
Footage Logged	85.1 m		Resistivity	@ °F	@ °F
Bottom (Driller)	86.87 m		Res. @ BHT	@ °F	@ °F
Casing (From Log)			pH		
Casing (Driller)			Circ Temp.		
Casing Size			B.H. Temp.		
Bit Size	11.4 cm				
Bit Size					
			Logged by	D.N. Duncan	
			Witnessed by		

REMARKS

Reg. U.S. Pat. Off.

CALIPER GAMMA DENSITY

100 CPS
2.5 F.C

1000 CPS
2 2 F C