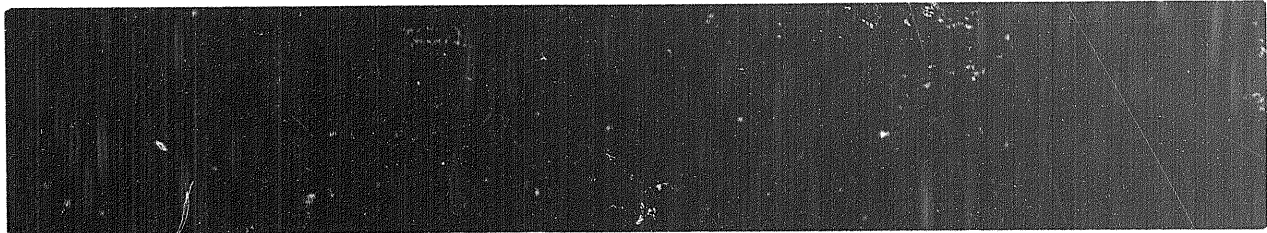


D. S. T. REPORT



BJ SERVICE DIVISION
BORG-WARNER (CANADA) LIMITED

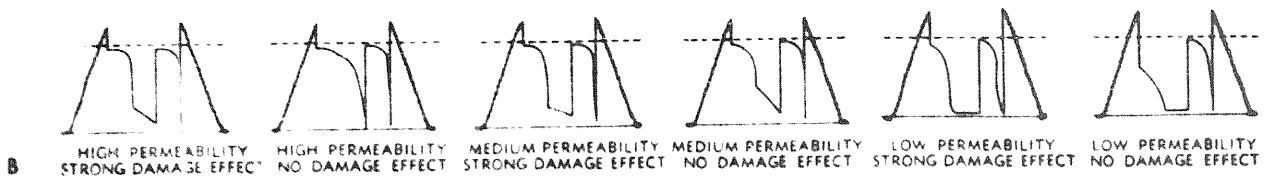


TESTING REPORT

	4S LANDING SUB	_____	
	4S CHAMBER	_____	
	4S TOOL OR P.O. SUB	_____	
	CO SUB	_____	1.10
	SHUT IN TOOL	_____	5.20
	RES No.	_____	
	HYDRAULIC TOOL	_____	7.30
	JARS	_____	5.50
	RECORDER No.	_____	DEPTH _____
	RECORDER No.	_____	DEPTH _____
	SAFETY JOINT	_____	1.60
	BY PASS SUB	_____	
	PACKER	_____	5.00
		_____	1.00
1.	PACKER DEPTH	2384	
	PACKER	_____	
2.	PACKER DEPTH	_____	TOTAL TOOL ABOVE INTERVAL 25.70
	ANCHOR—SPECIFY	_____	

	BLANK OFF OR BY PASS SUB	_____	
	RECORDER No.	_____	DEPTH _____
3.	PACKER DEPTH	_____	TOTAL INTERVAL 57.00
	PACKER	_____	
4.	PACKER DEPTH	_____	
	PACKER	_____	
	ANCHOR—SPECIFY	Perfs	20.00
	Recorder No.	2844	5.00 Depth 2406
	Perfs		6.00
	Recorder No.	2845	5.00 Depth 2417
	Perfs		17.00
TOTAL DEPTH	2441		TOTAL TEST TOOL 82.70
	BULLNOSE	_____	3.00

DST CHARTS FOR COMPARATIVE VISUAL ANALYSIS





DST PRESSURE INCREMENTS

Recorder No 2845

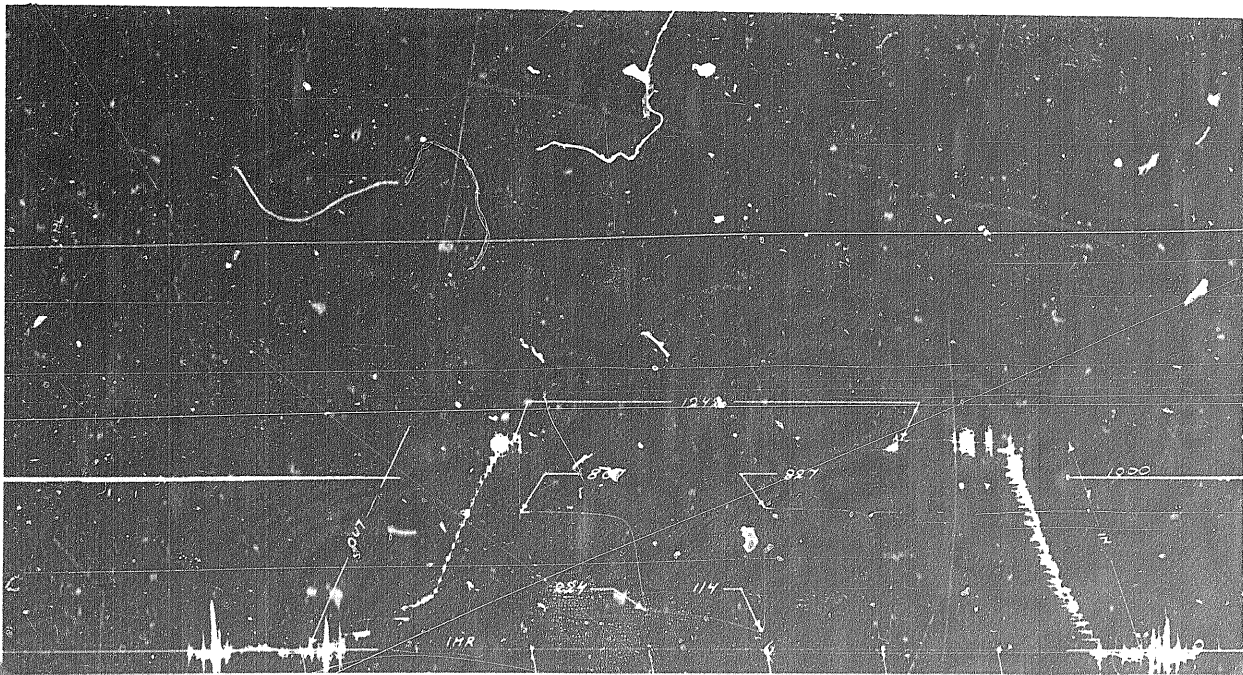
Depth 2417

Points	INITIAL CIP				FINAL CIP			
	Time Defl "	T + θ	$\frac{T + \theta}{\theta}$	PSIG	Time Defl "	T + θ	$\frac{T + \theta}{\theta}$	PSIG
1	0	5 + 0		88	0	60 + 0		224
2	5	5 + 5	2	755	5	60 + 5	13	510
3	10	5 + 10	1.5	806	10	60 + 10	7	732
4	15	5 + 15	1.33	816	15	60 + 15	5	770
5	20	5 + 20	1.25	820	20	60 + 20	4	784
6	25	5 + 25	1.2	824	25	60 + 25	3.4	793
7	30	5 + 30	1.167	827	30	60 + 30	3	795
8	35	5 + 35	1.143	827	35	60 + 35	2.71	799
9	40	5 + 40	1.125	828	40	60 + 40	2.5	801
10	45	5 + 45	1.11	828	45	60 + 45	2.33	803
11	50	5 + 50	1.1	828	50	60 + 50	2.2	805
12	55	5 + 55	1.091	828	55	60 + 55	2.09	807
13	60	5 + 60	1.083	828	60	60 + 60	2.00	807
14					65	60 + 65	1.924	807
15								
16								
17								
18								
19								
20								
21								
22								
23								
24								

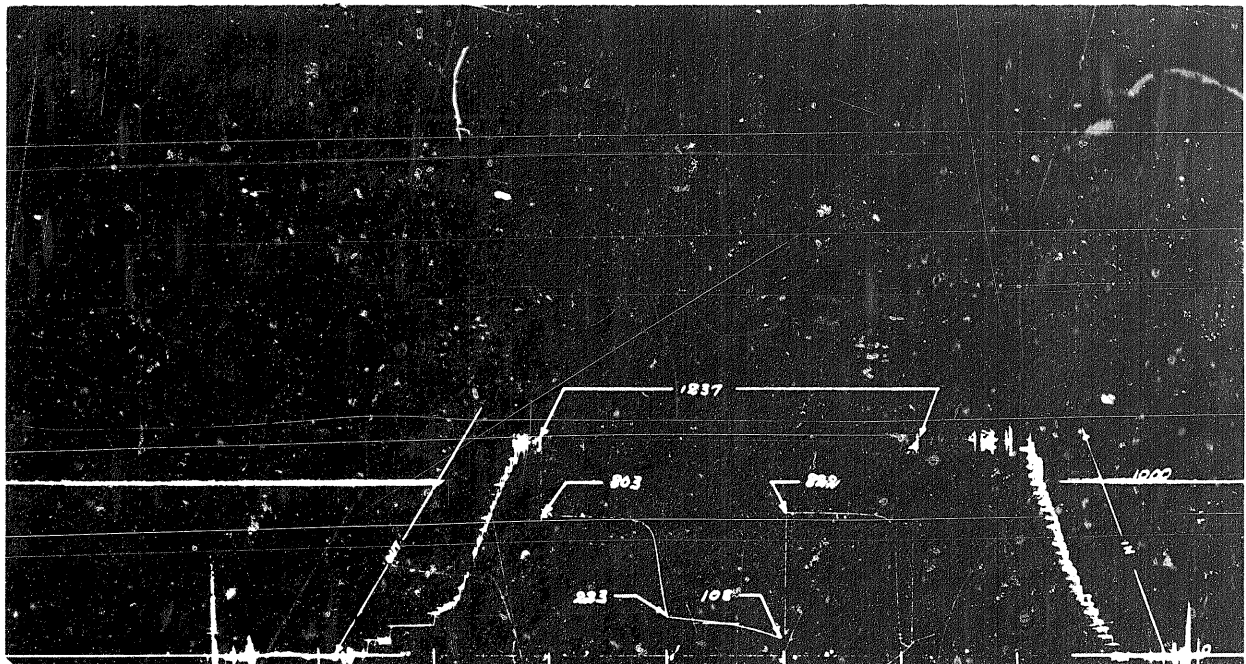
Canoe River Chance YT-G-19
Ins. Rec. # 2844 Test # 1



Canoe River Chance YT-G-19
Outs. Rec. # 2845 Test # 1



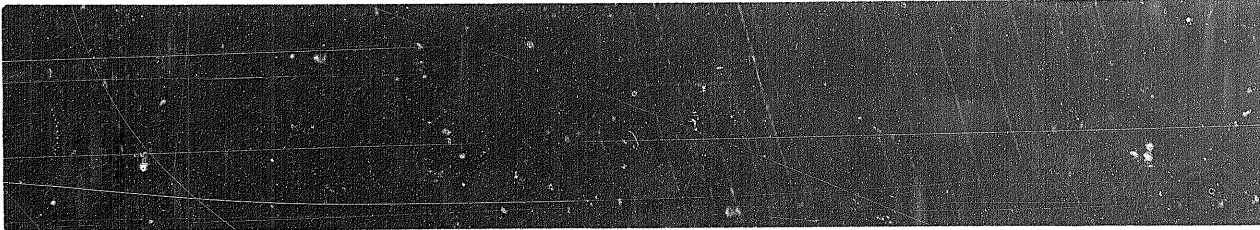
Canoe River Chance YT-G-19
Ins. Rec. # 2844 Test # 1



Canoe River Chance YT-G-19
Outs. Rec. # 2845 Test # 1



D. S. T. REPORT



BJ SERVICE DIVISION
BORG-WARNER (CANADA) LIMITED



DRILL-STEM TEST DATA

Well Name	Cance River Chance	Test No	2
Well Number	YI - G-19	Zone Tested	Chance Sand
Company	Western Minerals Limited	Interval	4066 - 4136
Comp Rep	C.D. Gilbreath	Tester	P. Dakus
		Date	January 9, 1968

Preflow 15 mins ISI 27 mins Flow 180 mins FSI 117 mins

Specify Inside or Outside	Ins REC No 2845	Outs REC No 2844	REC No
	0:400 RANGE 12 HR CLOCK	0:350 RANGE 12 HR CLOCK	RANGE HR CLOCK
DEPTH	4078	4113	
Initial Hydro Mud Press	2080	2097	
Initial Shut-In Press	1889	1892	
Initial Flow Press	1526	1646	
Final Flow Press	1652	1752	
Final Shut-In Press	1394	1897	
Final Hydro Mud Press	2080	2097	

Mud Drop 100 Fluid Loss 4.2 Mud Weight 10.0

Viscosity 70 Temperature °F 102 Net Pay Tested

Top Packer Depth 4066 Bottom Packer Depth - Total Depth 4136

Drill Pipe Size 4 1/2" FH Wt 16.6 Drill Collar I.D. 2 3/8" Ft Run 350

Surface Choke Size 1 1/8 Bottom Choke Size 1/2" Main Hole Size 8 5/8"

Anchor Size 4 3/4" OD Rat Hole Size Feet of Rat Hole

Cushion Amount Type Rubber Size 7 1/2"

Fluid Recovery Total Feet 140 Type of Test Bottom Hole

Recovered 140 Feet of Condensate

Recovered Feet of

Recovered Feet of

Gas Recovery How Measured Side Static 2" Riser

60 mins	Press Rdg 25 ps	Orifice Size =	6.520	MCF Day
90 mins	Press Rdg 25 ps	Orifice Size =	6.520	MCF Day
120 mins	Press Rdg 25 ps	Orifice Size =	6.520	MCF Day
180 mins	Press Rdg 25 ps	Orifice Size =	6.520	MCF Day

RFS Tool No. Bleed Off Time

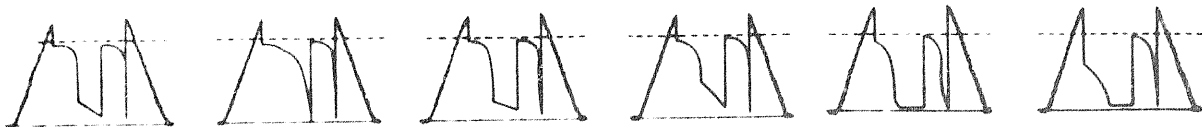
REMARKS Skid tool 20 ft. to bottom. Lost approx. 5 bbls. during skid. G.T.S. in 4 mins. mixed with mud. Let well clean for 30 mins. before using chart recorder. Gas and condensate blow remained steady during test.



TESTING REPORT

		4S LANDING SUB _____	_____	
		4S CHAMBER _____	_____	
		4S TOOL OR P.O. SUB _____	_____	
		CO SUB _____	1.10	
		SHUT IN TOOL _____	5.50	
		RES No. _____	_____	
		HYDRAULIC TOOL _____	7.20	
		JARS _____	5.20	
		RECORDER No. _____	_____	DEPTH _____
		RECORDER No. _____	_____	DEPTH _____
		SAFETY JOINT _____	_____	
		BY PASS SUB _____	1.75	
		PACKER _____	_____	
1. PACKER DEPTH _____				
		PACKER _____	5.00	
2. PACKER DEPTH 4066				TOTAL TOOL ABOVE INTERVAL 25.75
		ANCHOR—SPECIFY _____	1.00	
		_____	_____	
		BLANK OFF OR BY PASS SUB _____	_____	
		RECORDER No. _____	_____	DEPTH _____
3. PACKER DEPTH _____		PACKER _____	_____	TOTAL INTERVAL 70.00
		PACKER _____	_____	
4. PACKER DEPTH _____				
		ANCHOR—SPECIFY Perfs _____	10.00	
		Recorder No. Ins. 2245 _____	5.00	Depth 4078
		Perfs _____	30.00	
		Recorder No. Outs. 2844 _____	5.00	Depth 4113
		Perfs _____	16.00	
TOTAL DEPTH 4136		BULLNOSE _____	3.00	TOTAL TEST TOOL 95.75

DST CHARTS FOR COMPARATIVE VISUAL ANALYSIS



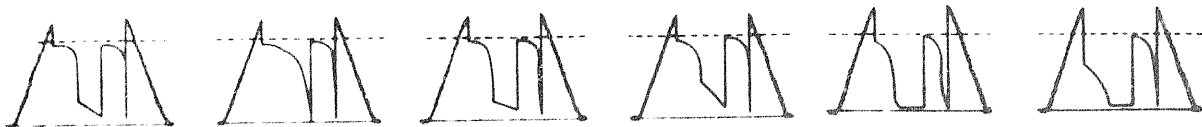
B HIGH PERMEABILITY STRONG DAMAGE EFFECT HIGH PERMEABILITY NO DAMAGE EFFECT MEDIUM PERMEABILITY STRONG DAMAGE EFFECT MEDIUM PERMEABILITY NO DAMAGE EFFECT LOW PERMEABILITY STRONG DAMAGE EFFECT LOW PERMEABILITY NO DAMAGE EFFECT



TESTING REPORT

		4S LANDING SUB _____	_____	
		4S CHAMBER _____	_____	
		4S TOOL OR P.O. SUB _____	_____	
		CO SUB _____	1.10	
		SHUT IN TOOL _____	5.50	
		RES No. _____	_____	
		HYDRAULIC TOOL _____	7.20	
		JARS _____	5.20	
		RECORDER No. _____	_____	DEPTH _____
		RECORDER No. _____	_____	DEPTH _____
		SAFETY JOINT _____	_____	
		BY PASS SUB _____	1.75	
		PACKER _____	_____	
1. PACKER DEPTH _____				
		PACKER _____	5.00	
2. PACKER DEPTH 4066			1.00	TOTAL TOOL ABOVE INTERVAL 25.75
		ANCHOR—SPECIFY _____	_____	
		_____	_____	
		BLANK OFF OR BY PASS SUB _____	_____	
		RECORDER No. _____	_____	DEPTH _____
3. PACKER DEPTH _____		PACKER _____	_____	TOTAL INTERVAL 70.00
		PACKER _____	_____	
4. PACKER DEPTH _____				
		ANCHOR—SPECIFY Perfs	10.00	
		Recorder No. Ins. 2245	5.00	Depth 4078
		Perfs	30.00	
		Recorder No. Outs. 2844	5.00	Depth 4113
		Perfs	16.00	
TOTAL DEPTH 4136		BULLNOSE	3.00	TOTAL TEST TOOL 95.75

DST CHARTS FOR COMPARATIVE VISUAL ANALYSIS



B HIGH PERMEABILITY STRONG DAMAGE EFFECT HIGH PERMEABILITY NO DAMAGE EFFECT MEDIUM PERMEABILITY STRONG DAMAGE EFFECT MEDIUM PERMEABILITY NO DAMAGE EFFECT LOW PERMEABILITY STRONG DAMAGE EFFECT LOW PERMEABILITY NO DAMAGE EFFECT

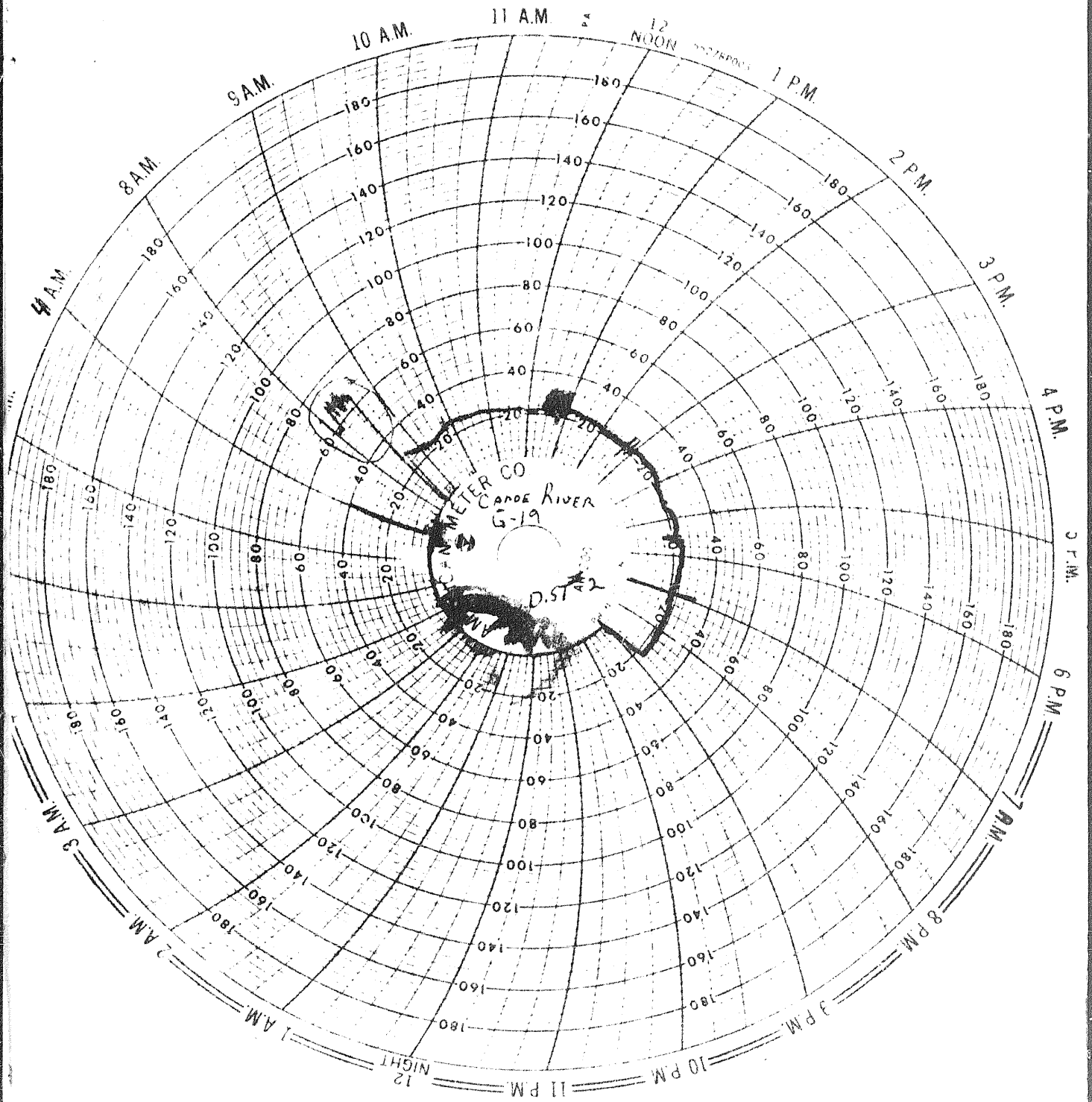


DST PRESSURE INCREMENTS

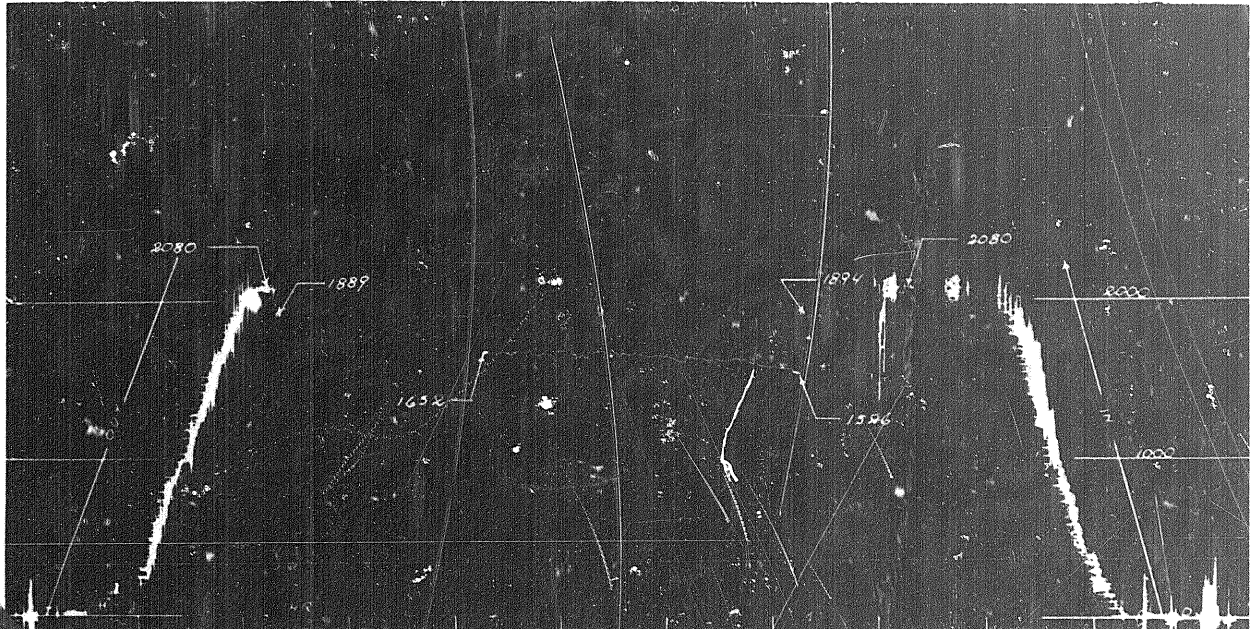
Recorder No. 2844

Depth 4113

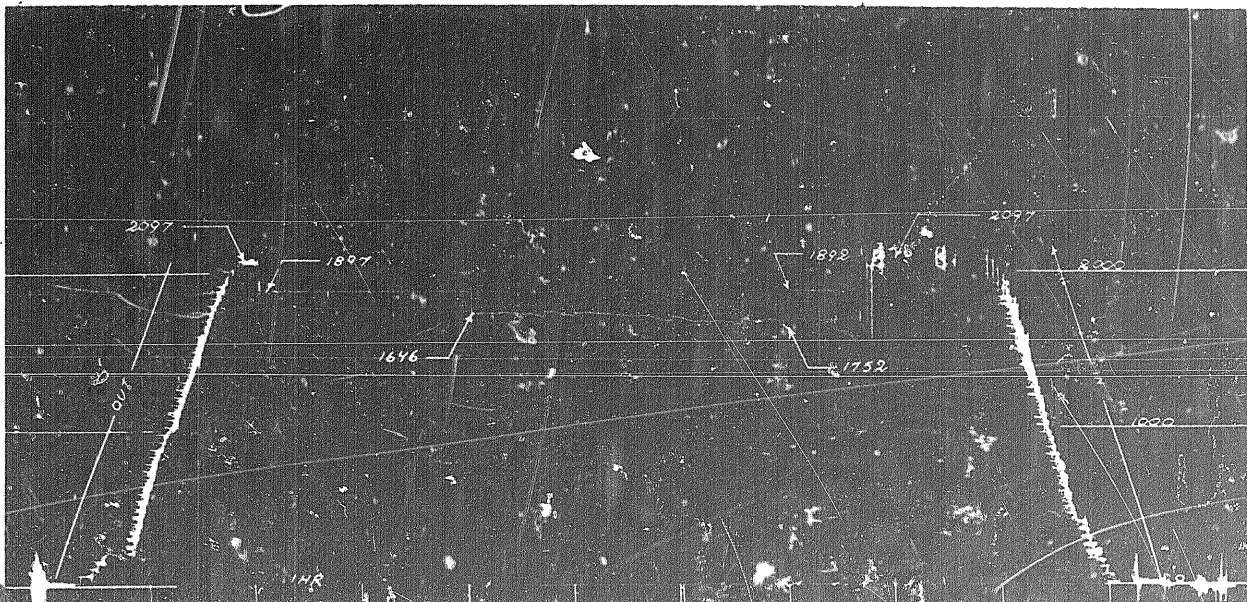
Points	INITIAL CIP				FINAL CIP			
	Time Defl. "	T + θ	$\frac{T + \theta}{\theta}$	PSIG	Time Defl. "	T + θ	$\frac{T + \theta}{\theta}$	PSIG
1	0			1649	0			1752
2	5			1890	5			1893
3	10			1890	10			1893
4	15			1890	15			1893
5	20			1892	20			1893
6	25			1892	25			1893
7	27			1892	30			1893
8					35			1893
9					40			1893
10					45			1893
11					50			1895
12					55			1895
13					60			1895
14					65			1895
15					70			1895
16					75			1895
17					80			1895
18					85			1895
19					90			1895
20					95			1895
21					100			1897
22					105			1897
23					110			1897
24					115			1897
					117			1897



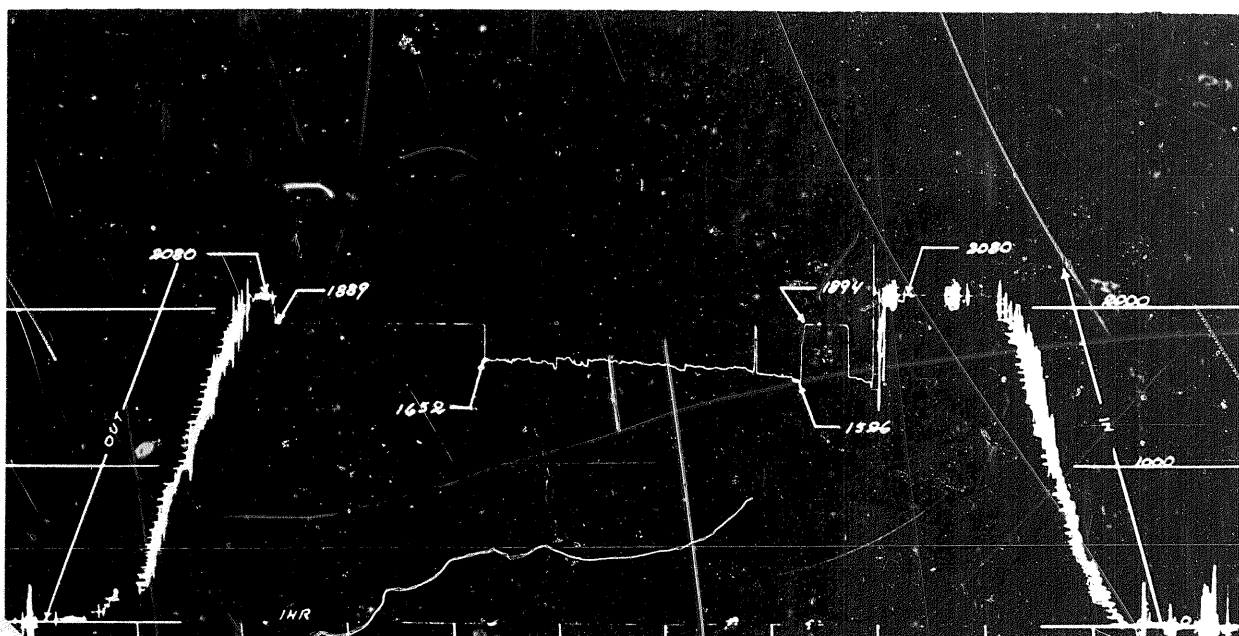
Canoe River Chance YT-G-19
Ins. rec. # 2845 Test # 2



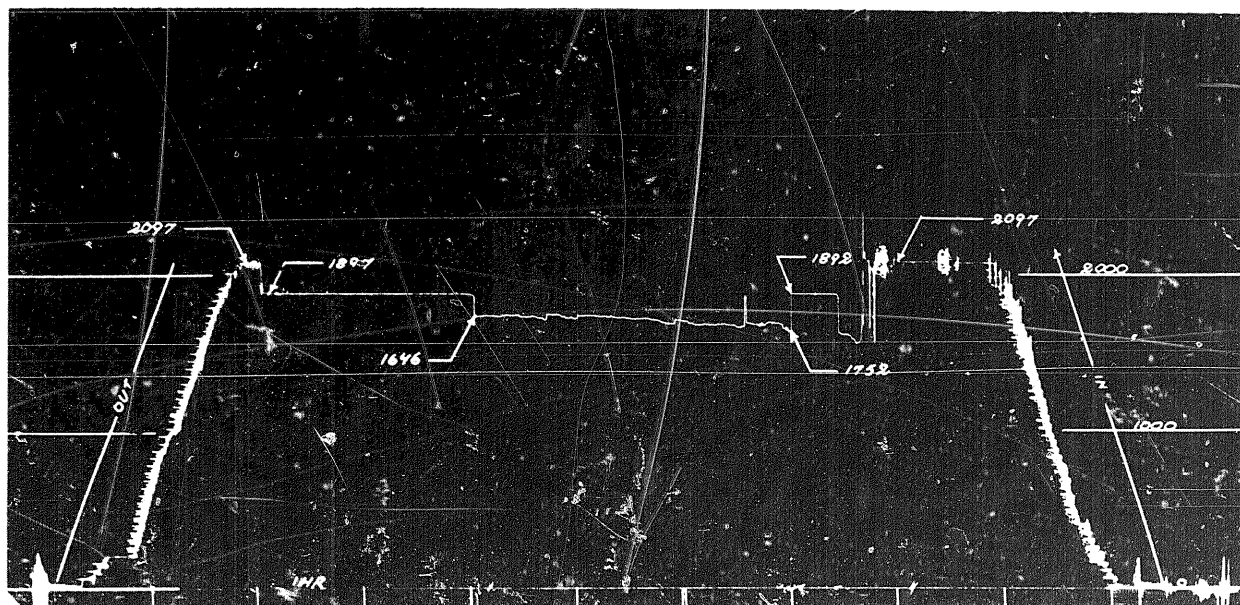
Canoe River Chance YT-G-19
Outs. rec. # 2844 Test # 2



Canoe River Chance YT-G-19
Ins. rec. # 2845 Test # 2



Canoe River Chance YT-G-19
Outs. rec. # 2844 Test # 2



D. S. T. REPORT



BJ SERVICE DIVISION
BORG-WARNER (CANADA) LIMITED



TESTING REPORT

		45 LANDING SUB _____	_____
		45 CHAMBER _____	_____
		45 TOOL OR P.O. SUB _____	_____
		CO SUB _____	1.10
		SHUT IN TOOL _____	5.50
		RES. No. _____	_____
		HYDRAULIC TOOL _____	7.20
		JARS _____	5.20
		RECORDER No. _____	DEPTH _____
		RECORDER No. _____	DEPTH _____
		SAFETY JOINT _____	1.75
		BY PASS SUB _____	_____
		PACKER _____	_____
1. PACKER DEPTH _____			
		PACKER _____	5.00
2. PACKER DEPTH 4150 _____			TOTAL TOOL ABOVE INTERVAL 25.75
		ANCHOR—SPECIFY _____	1.00
		_____	_____
		BLANK OFF OR BY PASS SUB _____	_____
		RECORDER No. _____	DEPTH _____
3. PACKER DEPTH _____		PACKER _____	TOTAL INTERVAL 47.00
		PACKER _____	_____
4. PACKER DEPTH _____			
		ANCHOR—SPECIFY Perfs	10.00
		Recorder No. Ins. 2844	5.00 Depth 4162
		Perfs	10.00
		Recorder No. Outs. 2845	5.00 Depth 4177
		Perfs	13.00
TOTAL DEPTH 4197 _____		BULLNOSE _____	3.00
			TOTAL TEST TOOL 72.75

DST CHARTS FOR COMPARATIVE VISUAL ANALYSIS



B HIGH PERMEABILITY STRONG DAMAGE EFFECT HIGH PERMEABILITY NO DAMAGE EFFECT MEDIUM PERMEABILITY STRONG DAMAGE EFFECT MEDIUM PERMEABILITY NO DAMAGE EFFECT LOW PERMEABILITY STRONG DAMAGE EFFECT LOW PERMEABILITY NO DAMAGE EFFECT

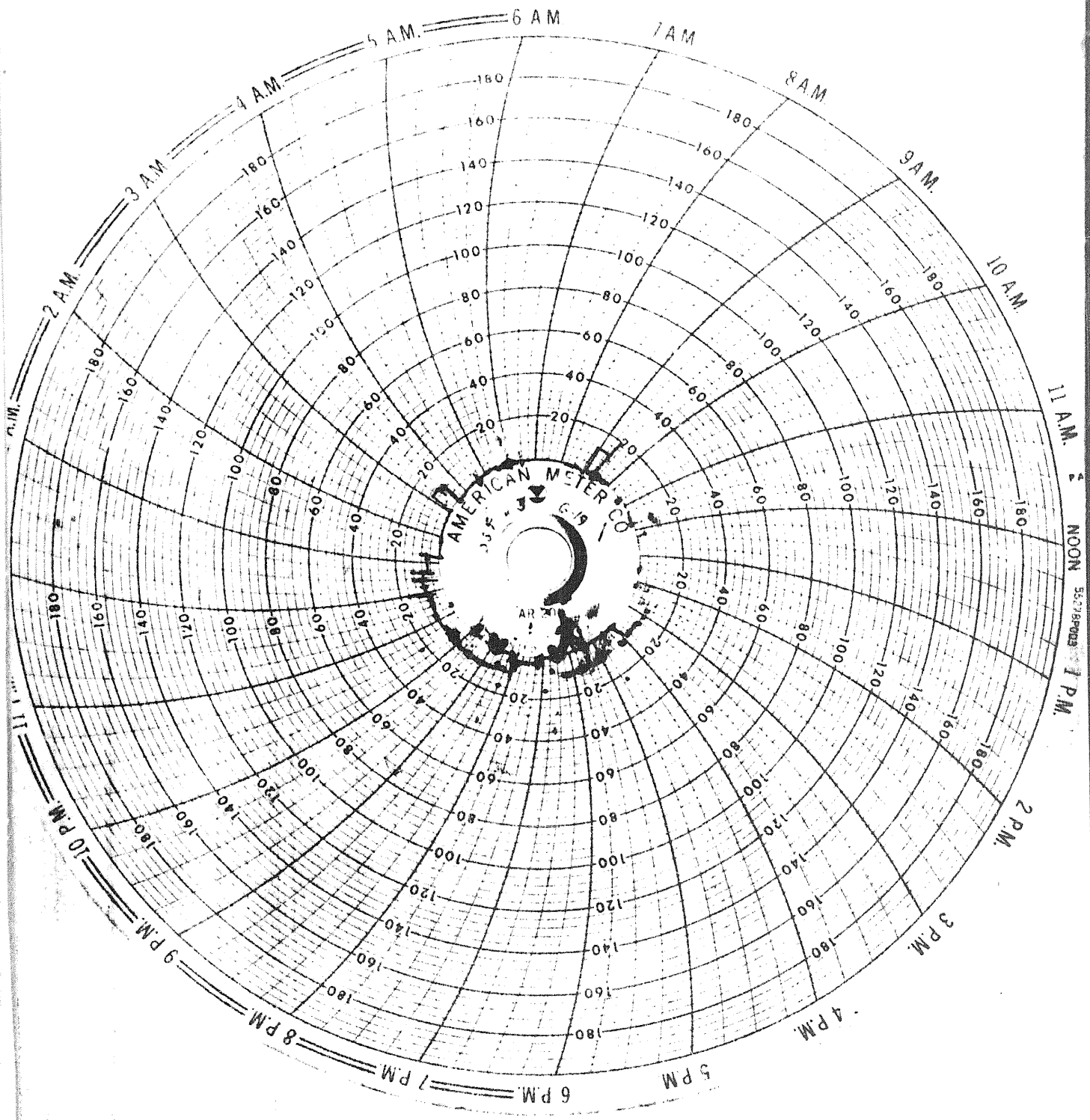


DST PRESSURE INCREMENTS

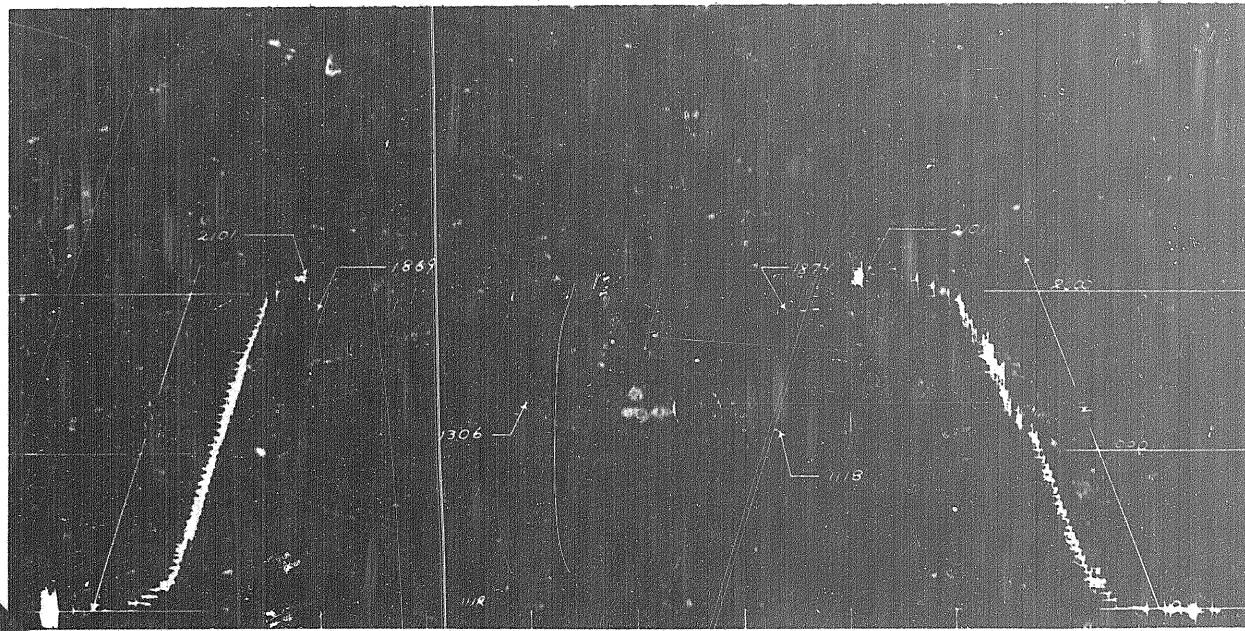
Recorder No. 2845

Depth 4177

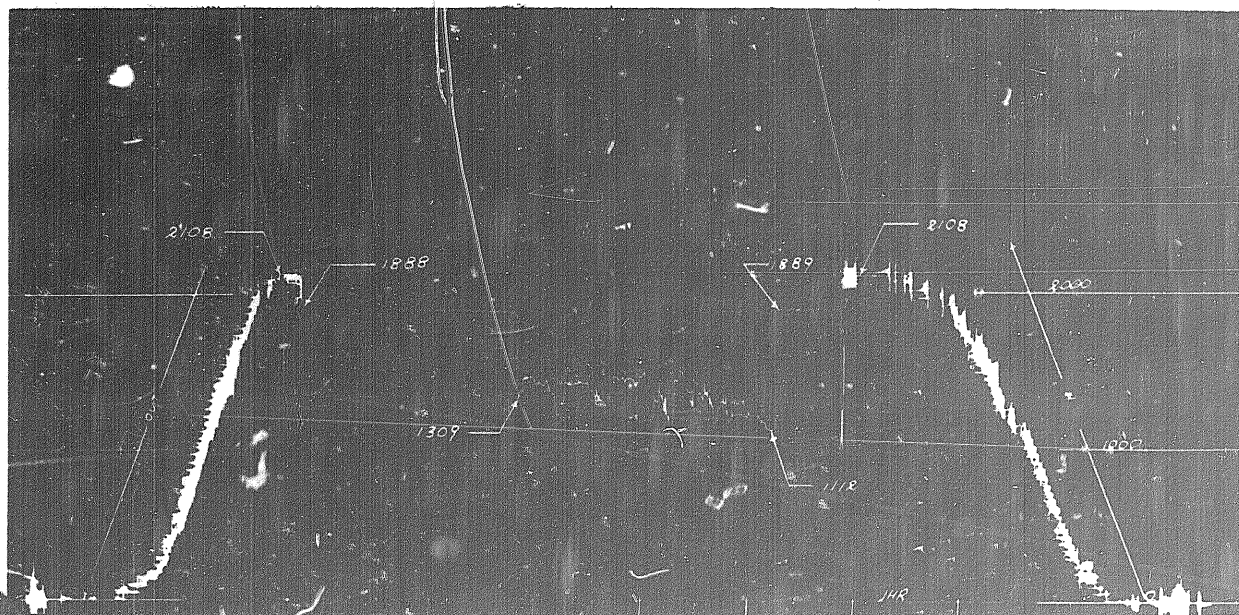
Points	INITIAL CIP			FINAL CIP				
	Time Defl. "	T + 0	$\frac{T+0}{0}$	PSIG	Time Defl. "	T + 0	$\frac{T+0}{0}$	PSIG
1	0			1062	0			1309
2	5			1885	5			1870
3	10			1888	10			1876
4	15			1888	15			1877
5	20			1889	20			1879
6	25			1889	25			1880
7	30			1889	30			1880
8	31			1889	35			1882
9					40			1882
10					45			1883
11					50			1883
12					55			1883
13					60			1883
14					65			1885
15					70			1885
16					75			1885
17					80			1886
18					85			1886
19					90			1886
20					95			1886
21					100			1886
22					105			1886
23					110			1886
					115			1888
24					120			1888
					124			1888



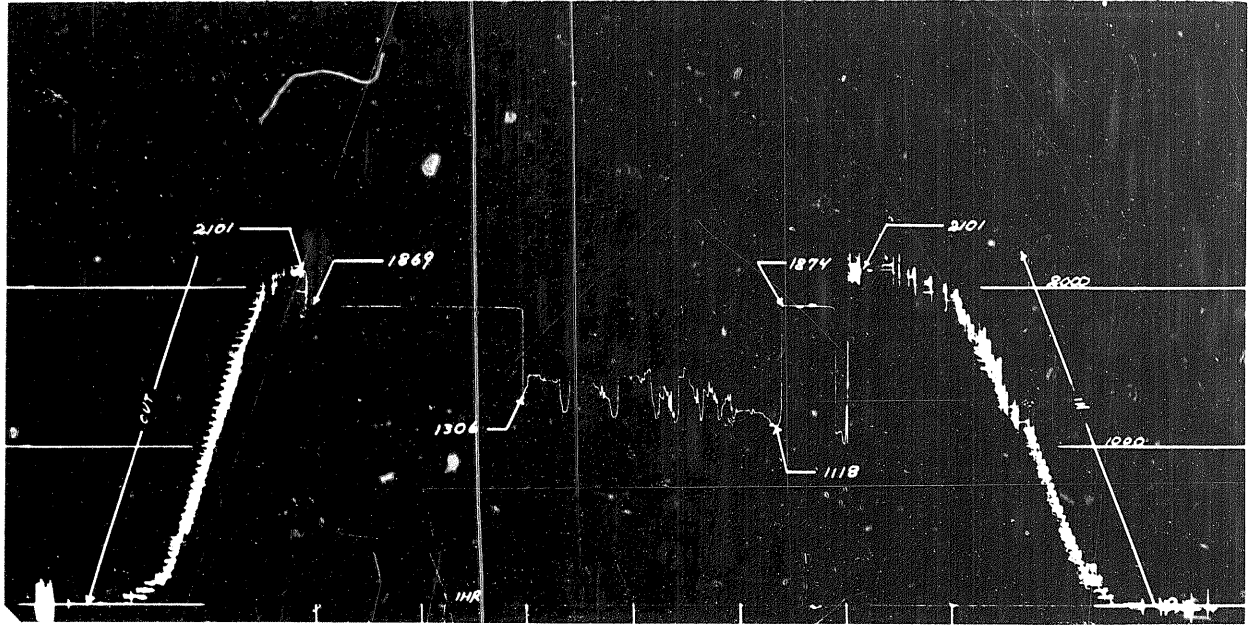
Canoe River Chance YT-G-19
Ins. rec. # 2844 Test # 3



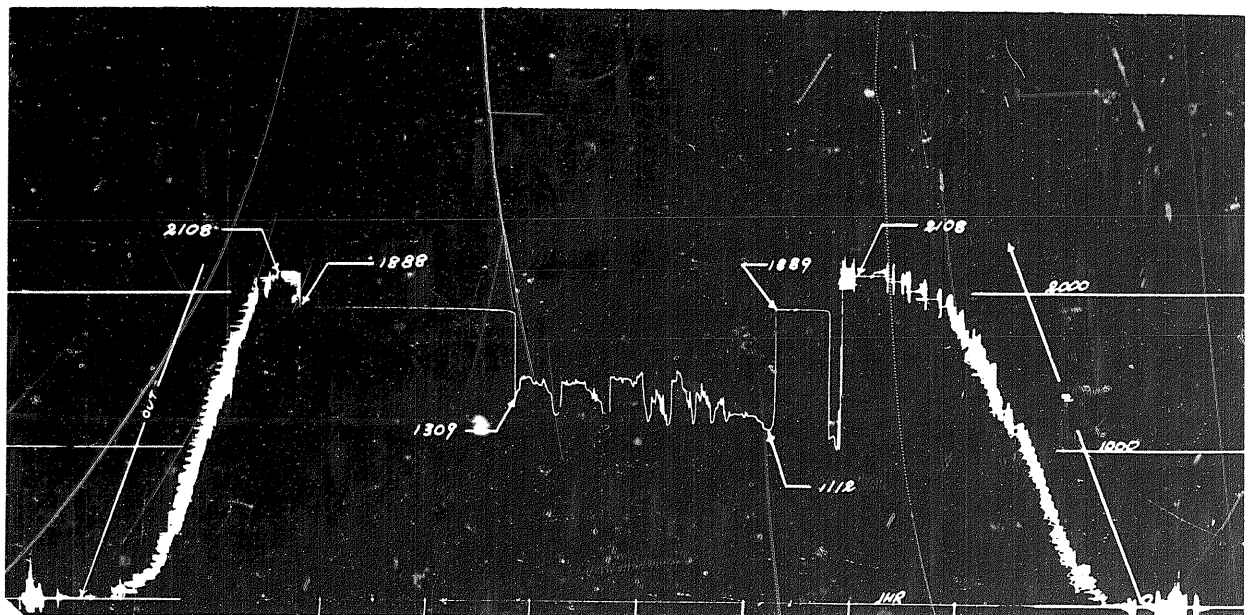
Canoe River Chance YT-G-19
Outs. rec. # 2845 Test # 3



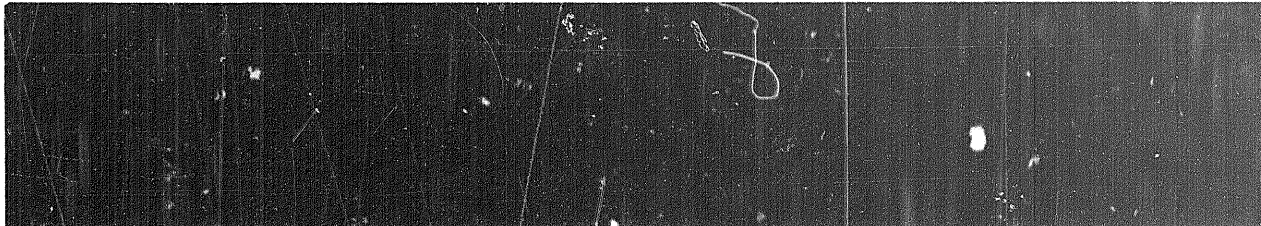
Canoe River Chance YT-G-19
Ins. rec. # 2844 Test # 3



Canoe River Chance YT-G-19
Outs. rec. # 2845 Test # 3



D. S. T. REPORT



BJ SERVICE DIVISION
BORG-WARNER (CANADA) LIMITED



DRILL-STEM TEST DATA

Well Name	Canoe River Chance	Test No	7
Well Number	YT C-19	Zone Tested	
Company	Western Minerals	Interval	4625 - 4745
Comp Rep	Mr. D.D. Gilbreath	Tester	P. Seemann
		Date	Feb. 13/68

Preflow _____ mins ISI _____ mins Flow _____ mins FSI _____ mins

Specify Inside or Outside	Ins. REC No. 2844 6350 RANGE 12 HR CLOCK	Outs. REC No. 2845 6400 RANGE 12 HR CLOCK	REC No. _____ RANGE _____ HR CLOCK
DEPTH	4627	4647	
Initial Hydro Mud Press	2502	2513	
Initial Shut-In Press			
Initial Flow Press			
Final Flow Press			
Final Shut In Press			
Final Hydro Mud Press			

Mud Drop 50° Fluid Loss 3.8 Mud Weight 10.4

Viscosity 180 Temperature °F _____ Net Pay Tested _____

Top Packer Depth _____ Bottom Packer Depth 4625 Total Depth 4745

Drill Pipe Size 4 1/2" FH Wt 16.6 Drill Collar I.D. 2 7/8" Fr Run 350.31

Surface Choke Size Adj. Bottom Choke Size 1/2" Main Hole Size 8 5/8"

Anchor Size 4 3/4" OD Rat Hole Size _____ Feet of Rat Hole _____

Cushion Amount _____ Type _____ Rubber Size 7 1/2"

Fluid Recovery Total Feet 380 Mud Type of test Single Bottom Hole

Recovered _____ Feet of _____

Recovered _____ Feet of _____

Recovered _____ Feet of _____

Gas Recovery How Measured _____


_____ mins	Press Rdg _____ ps	Orifice Size _____	= _____	MCF Day
_____ mins	Press Rdg _____ ps	Orifice Size _____	= _____	MCF Day
_____ mins	Press Rdg _____ ps	Orifice Size _____	= _____	MCF Day
_____ mins	Press Rdg _____ ps	Orifice Size _____	= _____	MCF Day

RFS Tool No. _____ Bleed Off Time _____

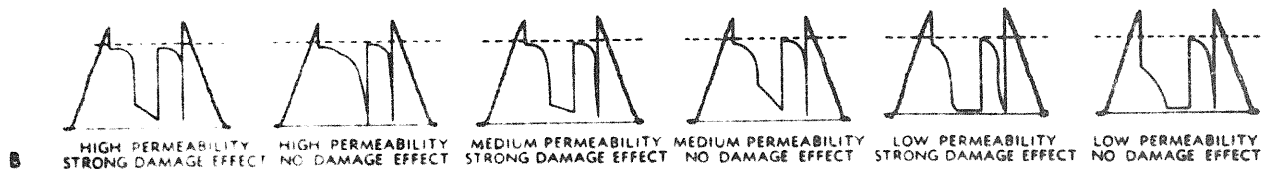
REMARKS Misrun Seat Failure



TESTING REPORT


		45 LANDING SUB _____	_____
		45 CHAMBER _____	_____
		45 TOOL OR P.O. SUB _____	_____
		CO SUB _____	1.00
		SHUT IN TOOL _____	5.20
		RES No _____	_____
		HYDRAULIC TOOL _____	7.10
		JARS _____	4.40
		RECORDER No. _____	DEPTH _____
		RECORDER No. _____	DEPTH _____
		SAFETY JOINT _____	1.75
		BY PASS SUB _____	_____
		PACKER _____	_____
1. PACKER DEPTH _____			
		PACKER _____	5.00
2. PACKER DEPTH <u>4625</u>			TOTAL TOOL ABOVE INTERVAL <u>24.45</u>
		ANCHOR—SPECIFY _____	1.00
		_____	_____
		BLANK OFF OR BY PASS SUB _____	_____
		RECORDER No. <u>2844 Ins.</u>	5.00 DEPTH <u>4627</u>
3. PACKER DEPTH _____			TOTAL INTERVAL <u>120.85</u>
		PACKER _____	_____
4. PACKER DEPTH _____			
		ANCHOR—SPECIFY _____	_____
		Perfs _____	15.00
		Recorder No. <u>2845 Outs.</u>	5.00 Depth <u>4647</u>
		Perfs _____	3.00
		Drill Collars and CO Subs _____	90.05
TOTAL DEPTH <u>4745</u>		BULLNOSE _____	1.80
			TOTAL TEST TOOL <u>57.25</u>

DST CHARTS FOR COMPARATIVE VISUAL ANALYSIS

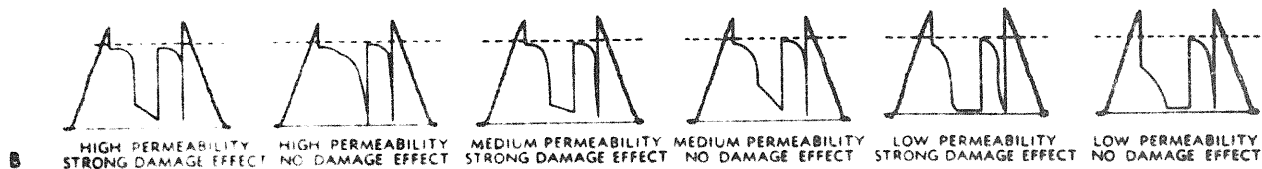




TESTING REPORT

		45 LANDING SUB _____	_____
		45 CHAMBER _____	_____
		45 TOOL OR P.O. SUB _____	_____
		CO SUB _____	1.00
		SHUT IN TOOL _____	5.20
		RES No _____	_____
		HYDRAULIC TOOL _____	7.10
		JARS _____	4.40
		RECORDER No. _____	DEPTH _____
		RECORDER No. _____	DEPTH _____
		SAFETY JOINT _____	1.75
		BY PASS SUB _____	_____
		PACKER _____	_____
1. PACKER DEPTH _____			
		PACKER _____	5.00
2. PACKER DEPTH <u>4625</u>			TOTAL TOOL ABOVE INTERVAL <u>24.45</u>
		ANCHOR—SPECIFY _____	1.00
		_____	_____
		BLANK OFF OR BY PASS SUB _____	_____
		RECORDER No. <u>2844 Ins.</u>	5.00 DEPTH <u>4627</u>
3. PACKER DEPTH _____			TOTAL INTERVAL <u>120.85</u>
		PACKER _____	_____
4. PACKER DEPTH _____			
		ANCHOR—SPECIFY _____	_____
		Perfs _____	15.00
		Recorder No. <u>2845 Outs.</u>	5.00 Depth <u>4647</u>
		Perfs _____	3.00
		Drill Collars and CO Subs _____	90.05
TOTAL DEPTH <u>4745</u>		BULLNOSE _____	1.80
			TOTAL TEST TOOL <u>57.25</u>

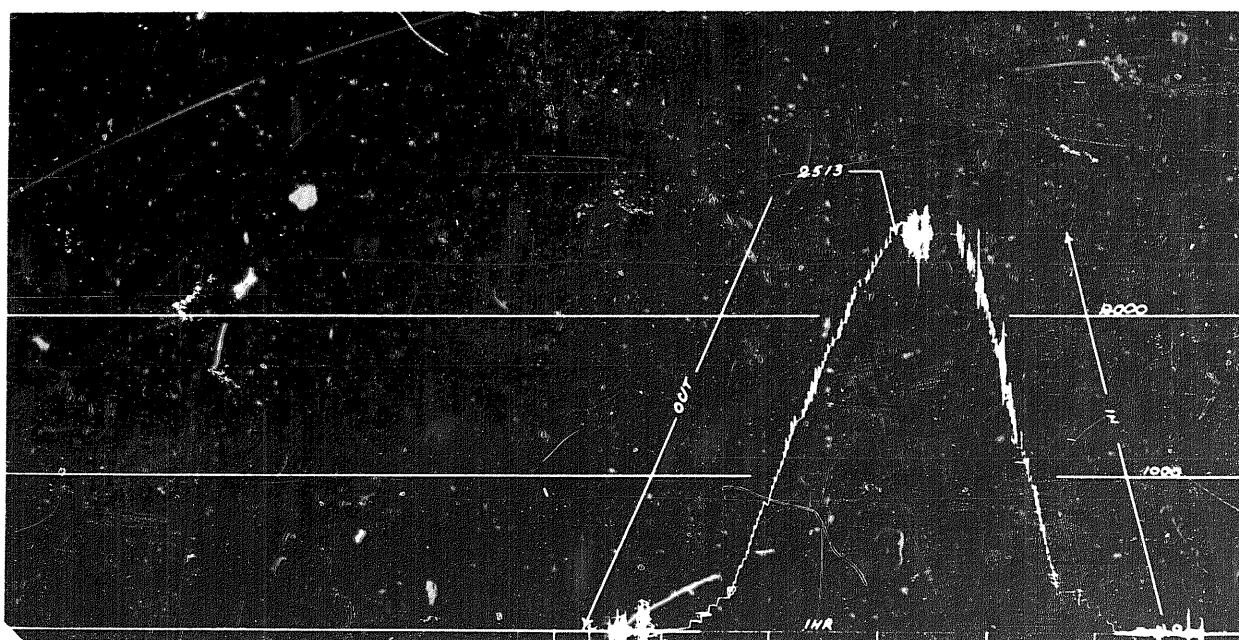
DST CHARTS FOR COMPARATIVE VISUAL ANALYSIS



Canoe River Chance YT G-19
Ins. rec. # 2844 Test # 7



Canoe River Chance YT G-19
Outs. rec. # 2845 Test # 7





DRILL-STEM TEST DATA

Well Name	Canoe River Chance	Test No	5
Well Number	YT G-19	Zone Tested	Chance Sand
Company	Western Minerals	Interval	4364 - 4449
Comp Rep	Tester P. Seemann	Date	Jan. 31, 1968

Preflow 3 mins ISI 31 mins Flow 120 mins FSI 35 mins

Specify Inside or Outside	Ins. REC No <u>2845</u>	Outs. REC No <u>2844</u>	REC No
	<u>6400</u> RANGE <u>12</u> HR CLOCK	<u>6350</u> RANGE <u>12</u> HR CLOCK	RANGE _____ HR CLOCK
DEPTH	<u>4365</u>	<u>4383</u>	
Initial Hydro Mud Press	<u>2410</u>	<u>2415</u>	
Initial Shut-In Press	<u>1954</u>	<u>2056</u>	
Initial Flow Press	<u>1384</u>	<u>1424</u>	
Final Flow Press	<u>1479</u>	<u>1482</u>	
Final Shut In Press	<u>1949</u>	<u>1916</u>	
Final Hydro Mud Press	<u>2410</u>	<u>2426</u>	

Mud Drop Nil Fluid Loss 3.4 Mud Weight 10.4

Viscosity 95 Temperature °F 119 Net Pay Tested 26

Top Packer Depth _____ Bottom Packer Depth 4364 Total Depth 4449

Drill Pipe Size 4 1/2" FH Wt. 16.6 Drill Collar I.D. 2 7/8" Ft. Run 354

Surface Choke Size Adj. Bottom Choke Size 1/2" Main Hole Size 8 5/8"

Anchor Size 4 3/4" : 7" OD Rat Hole Size _____ Feet of Rat Hole _____

Cushion Amount _____ Type _____ Rubber Size 7 1/2"

Fluid Recovery Total Feet 175 Type of Test Single Bottom Hole

Recovered 175 Feet of _____

Recovered _____ Feet of _____

Recovered _____ Feet of _____

Gas Recovery How Measured Side static 2" riser

<u>80</u> mins	Press Rdg. <u>16</u> psi	Orifice Size _____	=	<u>5,040</u>	MCF/Day
<u>90</u> mins	Press Rdg. <u>11</u> psi	Orifice Size _____	=	<u>4,220</u>	MCF/Day
_____ mins	Press Rdg. _____ psi	Orifice Size _____	=	_____	MCF/Day
_____ mins	Press Rdg. _____ psi	Orifice Size _____	=	_____	MCF/Day

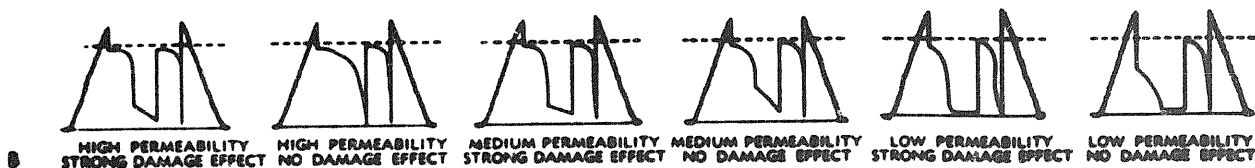
R F S Tool No. _____ Bleed Off Time _____

REMARKS G.I.P. Gas to surface in 3 mins. Mud to surface in 10 mins.



	4S LANDING SUB _____	_____	
	4S CHAMBER _____	_____	
	4S TOOL OR P.O. SUB _____	_____	
	CO SUB _____	<u>1.00</u>	
	SHUT IN TOOL _____	<u>5.20</u>	
	RES. No. _____	_____	
	HYDRAULIC TOOL _____	<u>7.10</u>	
	JARS _____	<u>4.40</u>	
	RECORDER No. _____	_____	DEPTH _____
	RECORDER No. _____	_____	DEPTH _____
	SAFETY JOINT _____	<u>1.75</u>	
	BY PASS SUB _____	_____	
	PACKER _____	_____	
1. PACKER DEPTH _____			
	PACKER _____	<u>5.00</u>	
2. PACKER DEPTH <u>4364</u>			TOTAL TOOL ABOVE INTERVAL <u>24.45</u>
	ANCHOR—SPECIFY _____	<u>1.00</u>	
	_____	_____	
	_____	_____	
	BLANK OFF OR BY PASS SUB _____	_____	
	RECORDER No. <u>2845 Ins.</u>	<u>5.00</u>	DEPTH <u>4365</u>
3. PACKER DEPTH _____			TOTAL INTERVAL <u>85.22</u>
	PACKER _____	_____	
4. PACKER DEPTH _____			
	PACKER _____	_____	
	ANCHOR—SPECIFY _____	_____	
	Perfs. _____	<u>12.00</u>	
	Recorder No. <u>2844</u> Outs. _____	<u>5.00</u>	Depth <u>4383</u>
	Drill Collars CO Subs _____	<u>59.52</u>	
	_____	_____	
TOTAL DEPTH <u>4504</u>	BULLNOSE _____	<u>2.70</u>	TOTAL TEST TOOL <u>50.15</u>

BST CHARTS FOR COMPARATIVE VISUAL ANALYSIS





DST PRESSURE INCREMENTS

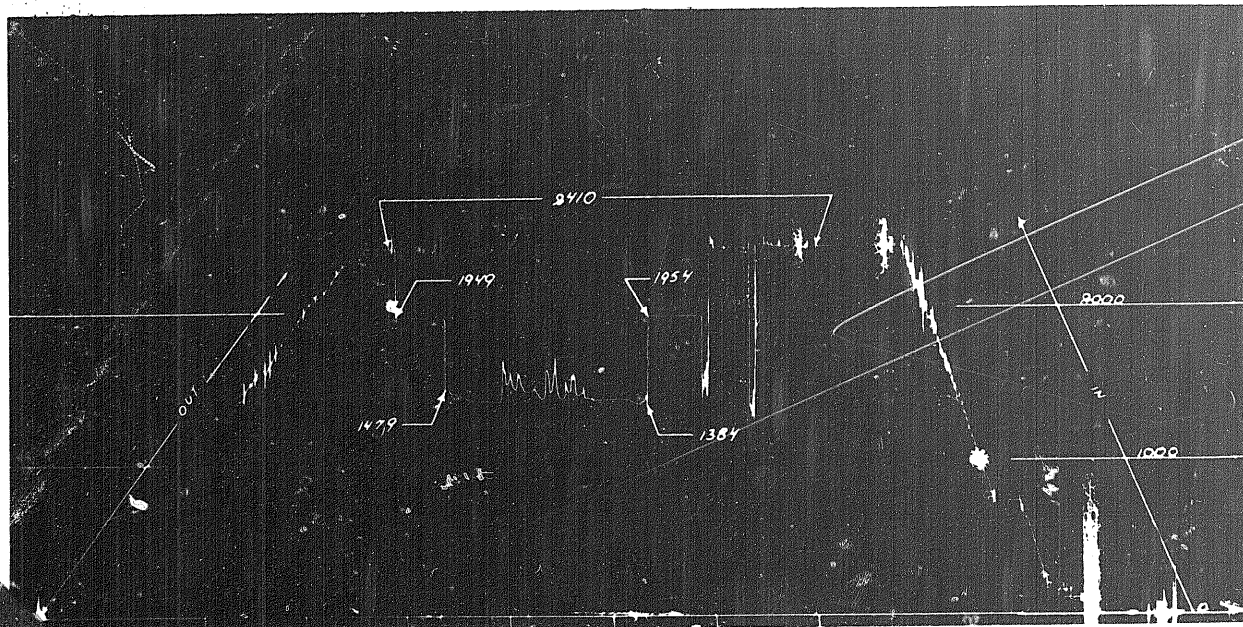
Recorder No. 2845

Depth 4365

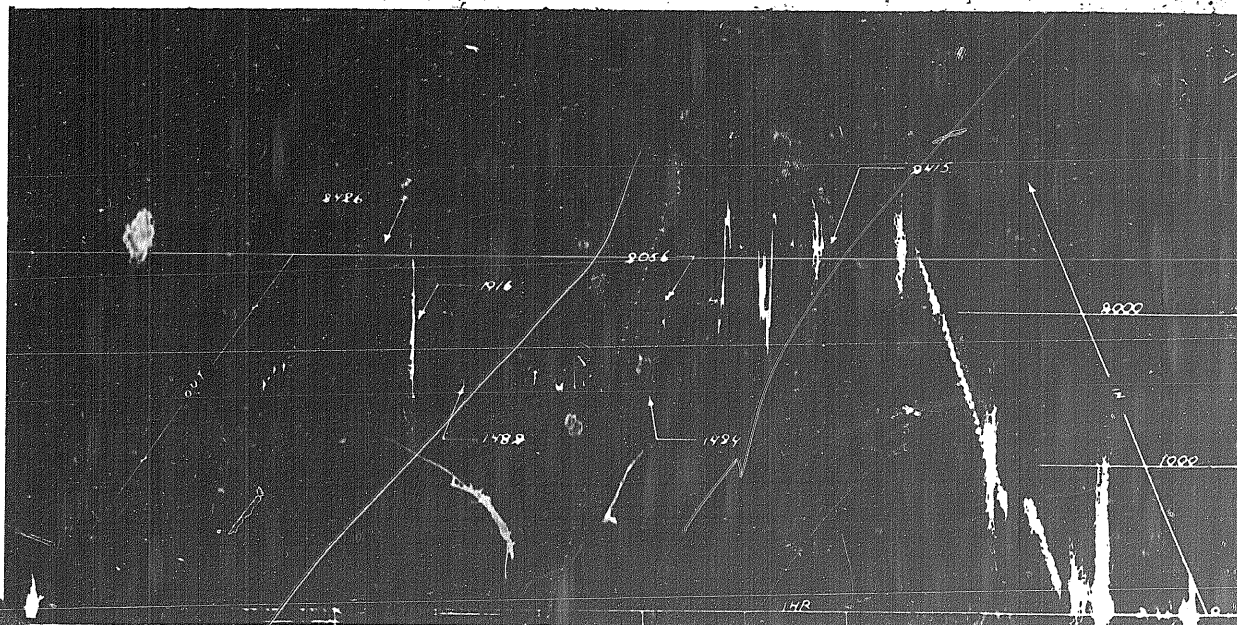
Points	INITIAL CIP			FINAL CIP				
	Time Defl. "	T + θ	$\frac{T + \theta}{\theta}$	PSIG	Time Defl. "	T + θ	$\frac{T + \theta}{\theta}$	PSIG
1	0			1414	0			1479
2	5			1954	5			1946
3	10			1954	10			1947
4	15			1954	15			1949
5	20			1954	20			1949
6	25			1954	25			1949
7	30			1954	30			1949
8	31			1954	35			1949
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Outside Recorder # 2844 shows perforation plugging, which was due to poor communication between interval and recorder. The tailpipe was set in a considerable amount of fill which plugged the perforations below the drill collars, the only source to activate the recorder. The reason for placing a recorder in this position was due to blow out danger, to allow the closing of the B.O.P.s around the drill collars and prevent the fluid from blowing through the inside of the collars.

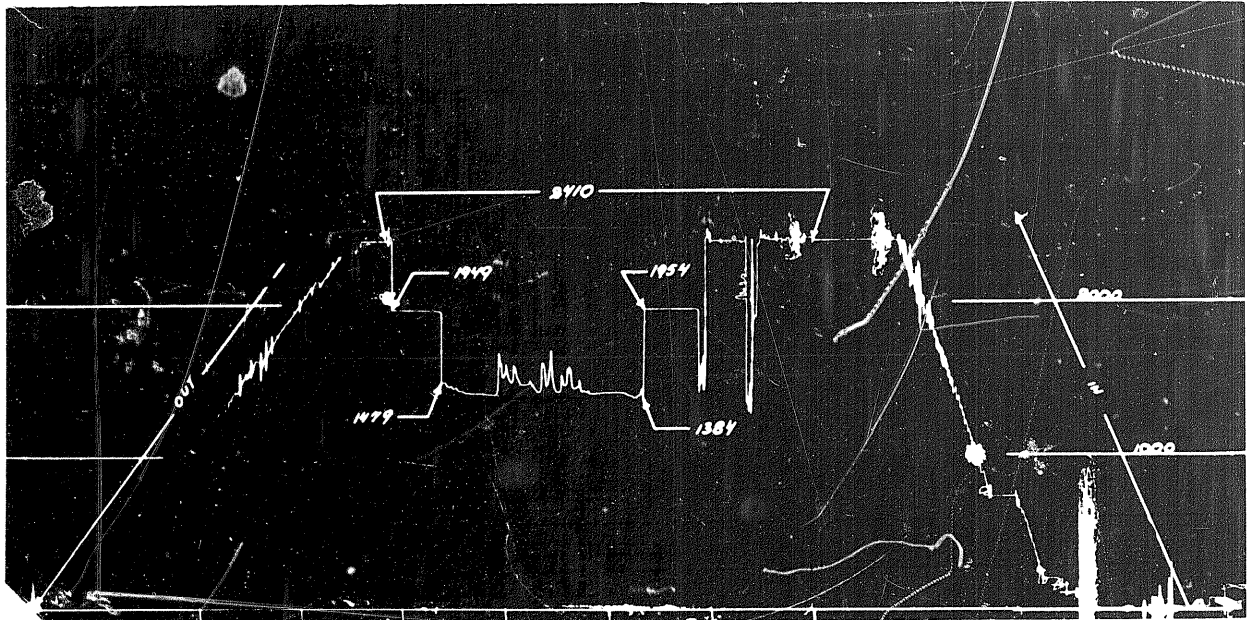
Canoe River Chance YT G-19
Ins. recorder # 2845 Test # 5



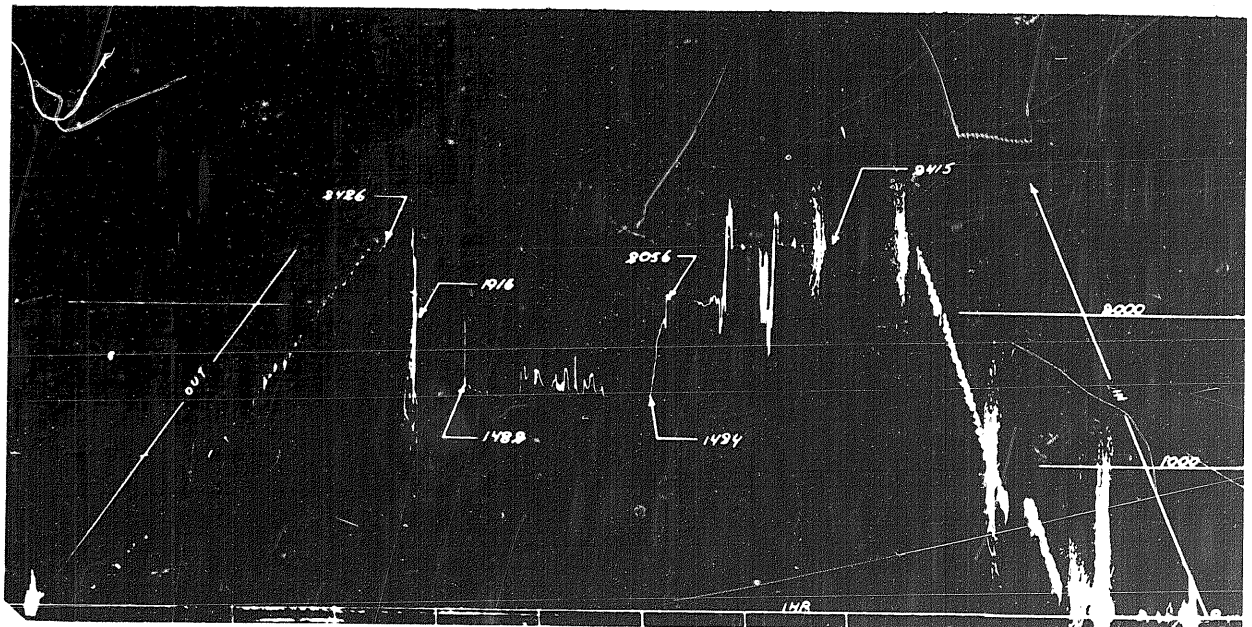
Canoe River Chance YT G-19
Outs. recorder # 2844 Test # 5



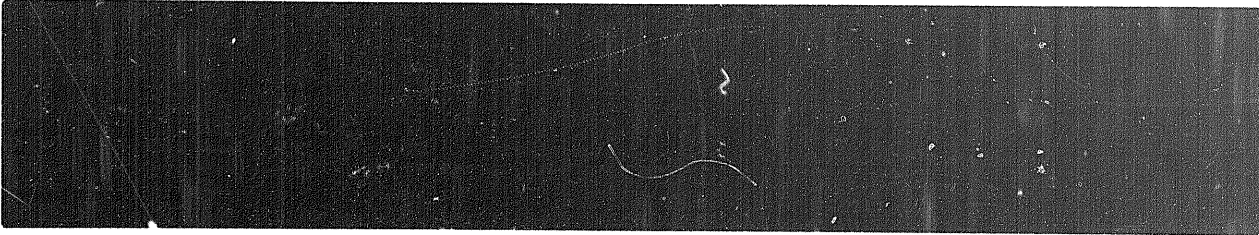
Canoe River Chance YT G-19
Ins. recorder # 2845 Test # 5



Canoe River Chance YT G-19
Outs. recorder # 2844 Test # 5



D. S. T. REPORT



BJ SERVICE DIVISION
BORG-WARNER (CANADA) LIMITED



DRILL-STEM TEST DATA

Well Name	CHANCE RIVER CHANCE	Test No	1
Well Number	G-11	Zone Tested	CHANCE
Company	WESTERN MINERALS	Interval	4196 - 4363
Comp Rep	C.D. GILBREATH	Tester	PAUL DAKUS
		Date	JAN. 18, 1968

Preflow 6 mins ISI 60 mins Flow 194 mins FSI 164 mins

Specify Inside or Outside	INS REC No <u>2844</u> 6350 RANGE 12 HR CLOCK	OUTS REC No <u>2845</u> 6400 RANGE 12 HR CLOCK	REC No RANGE HR CLOCK
DEPTH	1208	1232	
Initial Hydro Mud Press	2114	2128	
Initial Shut-In Press	1872	1880	
Initial Flow Press	30	41	
Final Flow Press	52	65	
Final Shut-In Press	1881 1831	1874 1838	
Final Hydro Mud Press	2114	2128	

Mud Drop NIL Fluid Loss 4.8 Mud Weight 9.6

Viscosity 75 Temperature °F BROKEN Net P ly Tested

Top Packer Depth 4106 Bottom Packer Depth --- Total Depth 4363

Drill Pipe Size 4 1/2" FH Wt. 16.6 Drill Collar ID 2 3/8" Ft Run 380"

Surface Choke Size 1 1/8" ADJ. Bottom Choke Size 1/2" Min Hole Size 8 5/8"

Anchor Size 4 3/4" & 6 1/4" OD Rat Hole Size --- Feet of Rat Hole ---

Cushion Amount --- Type --- Rubber Size 7 1/2"

Fluid Recovery Total Feet 140 Type of Test BOTTOM HOLE

Recovered 140 Feet of SLIGHTLY SULPHUREOUS AND GAS CUT MUD

Recovered --- Feet of ---

Recovered --- Feet of ---

Gas Recovery	How Measured	ORFICE WELL TESTER				
<u>15</u> mins	Press Rdg	<u>12</u> psi	Orifice Size	<u>1/4"</u>	=	<u>31.6</u> MCF/Day
<u>45</u> mins	Press Rdg	<u>6</u> psi	Orifice Size	<u>1/4"</u>	=	<u>84.5</u> MCF/Day
<u>60</u> mins	Press Rdg	<u>8</u> psi	Orifice Size	<u>1/4"</u>	=	<u>99.8</u> MCF/Day
<u>120</u> mins	Press Rdg	<u>5</u> psi	Orifice Size	<u>1/4"</u>	=	<u>76.2</u> MCF/Day

RFS Tool No. --- Bleed Off Time ---

REMARKS GAS TO SURFACE IN 4 MINS. REMAINING STEADY AFTER 2 HRS.
OF FLOW TO END OF TEST AT 76.2 MCF/DAY



TESTING REPORT

	4S LANDING SUB	_____	
	4S CHAMBER	_____	
	4S TOOL OR P.O. SUB	_____	
	CO SUB	_____	1.00
	SHUT IN TOOL	_____	5.50
	RES. No.	_____	
	HYDRAULIC TOOL	_____	7.20
	JARS	_____	5.20
	RECORDER No.	_____	DEPTH _____
	RECORDER No.	_____	DEPTH _____
	SAFETY JOINT	_____	
	BY PASS SUB	_____	
	PACKER	_____	
1. PACKER DEPTH			
	PACKER	_____	5.00
2. PACKER DEPTH	4196		TOTAL TOOL ABOVE INTERVAL 23.90
	ANCHOR—SPECIFY	_____	1.00
	PERFS	_____	10.00
	BLANK OFF OR BY PASS SUB	_____	
	RECORDER No. 2844 INS	_____	5.00 DEPTH 4208
3. PACKER DEPTH			TOTAL INTERVAL 167.20
	PACKER	_____	
4. PACKER DEPTH			
	ANCHOR—SPECIFY	_____	
	PERFS	_____	19.00
	RECORDER No. 2845 OUTS.	_____	5.00 DEPTH 4232
	DRILL COLLARS C.O. SUBS	_____	119.00
	PERFS	_____	5.00
TOTAL DEPTH	4363		TOTAL TEST TOOL 50.20
	BULLNOSE	_____	3.20

DST CHARTS FOR COMPARATIVE VISUAL ANALYSIS



B HIGH PERMEABILITY STRONG DAMAGE EFFECT HIGH PERMEABILITY NO DAMAGE EFFECT MEDIUM PERMEABILITY STRONG DAMAGE EFFECT MEDIUM PERMEABILITY NO DAMAGE EFFECT LOW PERMEABILITY STRONG DAMAGE EFFECT LOW PERMEABILITY NO DAMAGE EFFECT



DST PRESSURE INCREMENTS

Recorder No. 2845

Depth 4223

Points	INITIAL CIP			FINAL CIP				
	Time Defl. "	T + @	$\frac{T + @}{@}$	PSIG	Time Defl. "	T + @	$\frac{T + @}{@}$	PSIG
1	0			138				
2	5			565				
3	10			962				
4	15			1224				
5	20			1435				
6	25			1607				
7	30			1728				
8	35			1801				
9	40			1848				
10	45			1869				
11	50			1876				
12	55			1879				
13	60			1880				
14								
15								
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THE UNEVEN BUILD UP CURVE ON THE FINAL SHUT-IN WAS
DUE TO SEVERAL POSSIBILITIES, ALTHOUGH VERY DIFFICULT
TO PIN DOWN TO ONE SPECIFIC REASON.

THIS TYPE OF SHUT-IN IS OF LITTLE OR NO VALUE AND SHOULD
NOT BE CONSIDERED FOR USE OF ANY BUILD UP PLOTS OR
EXTRAPULATION OF RESERVOIR PRESSURES.

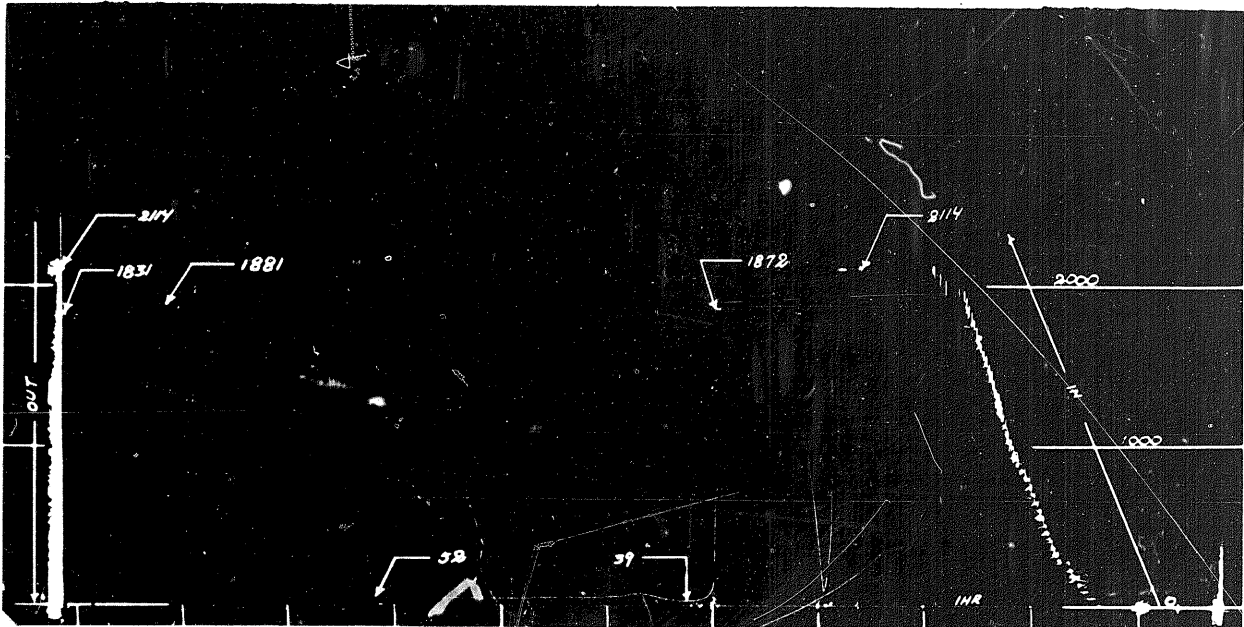
CANOE RIVER CHANCE YT-G-19
INS. REC. # 2844 TEST # 4



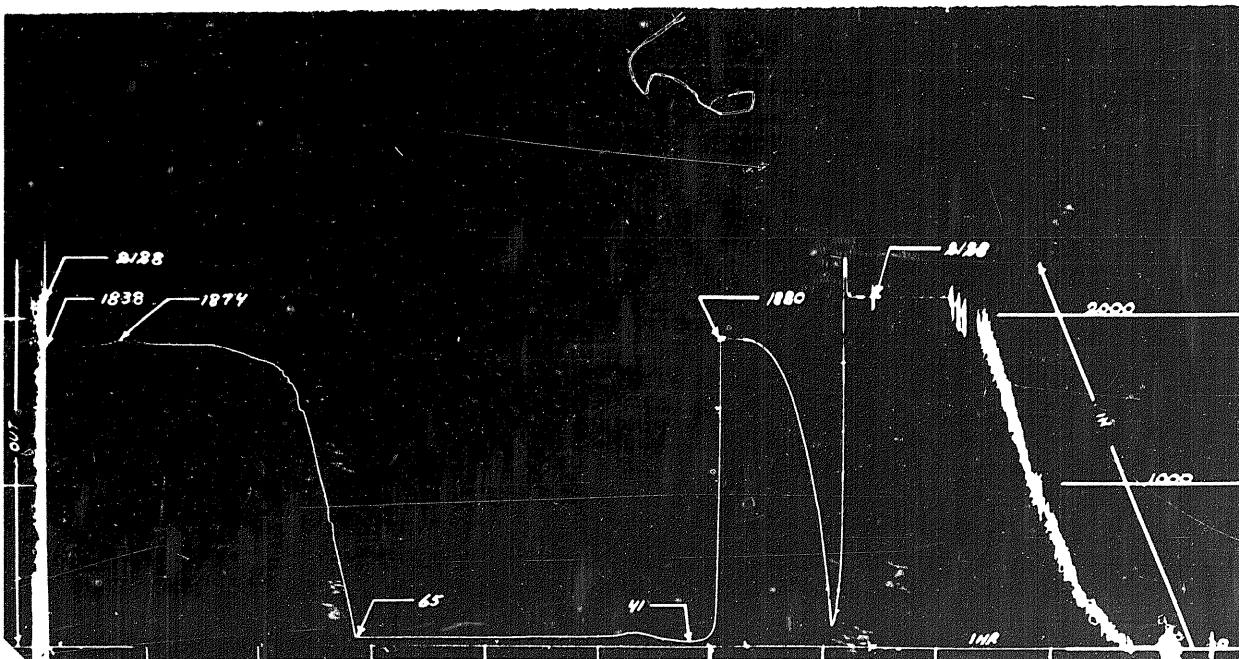
CANOE RIVER CHANCE YT-G-19
OUTS. REC. # 2845 TEST # 4



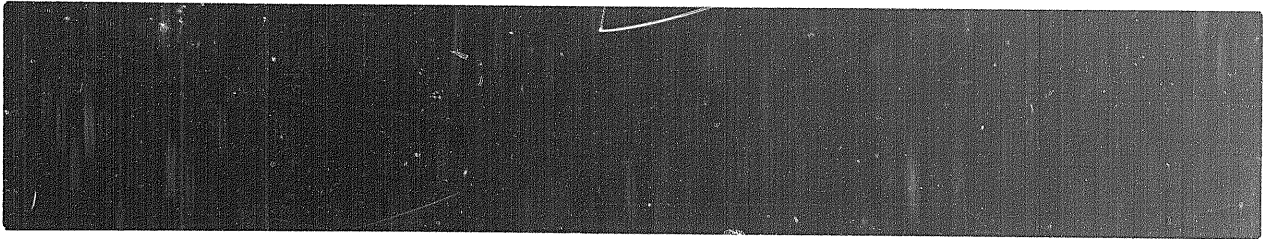
CANOE RIVER CHANCE YT-G-19
INS. REC. # 2844 TEST # 4



CANOE RIVER CHANCE YT-G-19
OUTS. REC. # 2845 TEST # 4



D. S. T. REPORT



BJ SERVICE DIVISION
BORG-WARNER (CANADA) LIMITED



DRILL-STEM TEST DATA

Well Name	Chance River Chance	Test No	8
Well Number	YT G-19	Zone Tested	Chance Sand
Company	Western Minerals	Interval	4520 - 4570
Comp Rep	Mr. C.D. Gilbreath	Tester	P. Seemann
		Date	Feb. 13/68

Preflow _____ mins ISI _____ mins Flow 88 mins FSI 93 mins

Specify Inside or Outside	Ins. REC No <u>2844</u>		Outs. REC No <u>2845</u>		REC No _____
	<u>6350</u>	RANGE <u>12</u> HR CLOCK	<u>6400</u>	RANGE <u>12</u> HR CLOCK	RANGE _____ HR CLOCK
DEPTH	<u>4508</u>		<u>4533</u>		
Initial Hydro Mud Press	<u>2452</u>		<u>2463</u>		
Initial Shut-In Press					
Initial Flow Press	<u>555</u>		<u>754</u>		
Final Flow Press	<u>536</u>		<u>833</u>		
Final Shut-In Press	<u>1949</u>		<u>1956</u>		
Final Hydro Mud Press	<u>2452</u>		<u>2463</u>		

Mud Drop _____ Fluid Loss 3.8 Mud Weight 10.4

Viscosity 180 Temperature °F 116 Net Pay Tested 9'

Top Packer Depth 4520 Bottom Packer Depth 4570 Total Depth 4745

Drill Pipe Size 4 1/2" FH Wt. 16.6 Drill Collar ID 2 7/8" Ft Run 350.31

Surface Choke Size Adj. Bottom Choke Size 1/2" Main Hole Size 8 5/8"

Anchor Size 4 3/4" OD Rat Hole Size _____ Feet of Rat Hole _____

Cushion Amount _____ Type _____ Rubber Size 7 1/2"

Fluid Recovery Total Feet 300 Type of Test Straddle by pass

Recovered 300 Feet of gassy oil cut mud

Recovered _____ Feet of _____

Recovered _____ Feet of _____

Gas Recovery	How Measured	Critical Flow Prover			
<u>15</u> mins	Press Rdg.	<u>164</u>	psi	Orifice Size <u>3/4"</u>	= <u>2214</u> MCF/Day
<u>20</u> mins	Press Rdg.	<u>160</u>	psi	Orifice Size <u>3/4"</u>	= <u>2164</u> MCF/Day
<u>60</u> mins	Press Rdg.	<u>140</u>	psi	Orifice Size <u>3/4"</u>	= <u>1914</u> MCF/Day
<u>80</u> mins	Press Rdg.	<u>140</u>	psi	Orifice Size <u>3/4"</u>	= <u>1914</u> MCF/Day

RFS Tool No. _____ Bleed Off Time _____

REMARKS G.I.I. G.T.S. in 2 mins.

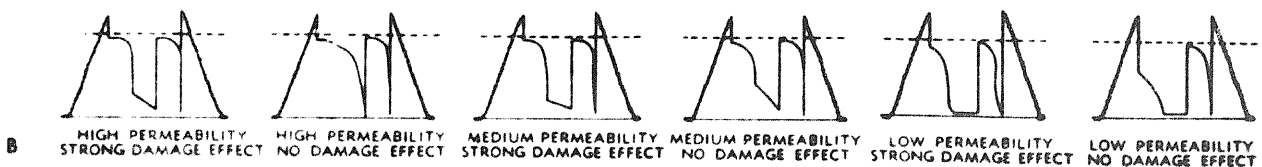


TESTING REPORT

		45 LANDING SUB _____	_____	
		45 CHAMBER _____	_____	
		45 TOOL OR P.O. SUB _____	_____	
		CO SUB _____	1.00	
		SHUT IN TOOL _____	5.20	
		RES. No. _____	_____	
		HYDRAULIC TOOL _____	7.10	
		JARS _____	4.40	
		RECORDER No. <u>2844 Ins.</u>	5.00	DEPTH <u>4508</u>
		RECORDER No. _____	_____	DEPTH _____
		SAFETY JOINT _____	1.75	
		BY PASS SUB _____	1.00	
		PACKER _____	_____	
1. PACKER DEPTH _____				
		PACKER _____	5.00	
2. PACKER DEPTH <u>4520</u>				TOTAL TOOL ABOVE INTERVAL <u>30.45</u>
		ANCHOR—SPECIFY _____	1.00	
		<u>Perfs</u>	11.00	
		ANCHOR BY PASS SUB _____	1.00	
		RECORDER No. <u>2845 Outs.</u>	4.00	DEPTH <u>4533</u>
3. PACKER DEPTH <u>4570</u>		Drill Collar & CO Subs.	30.08	
		PACKER _____	3.00	TOTAL INTERVAL <u>50.08</u>
			3.00	
4. PACKER DEPTH _____		PACKER _____	_____	
		ANCHOR—SPECIFY _____	_____	
		<u>Perfs</u>	11.00	
		Drill Pipe & CO Subs.	158.88	

TOTAL DEPTH <u>4745</u>		BULLNOSE _____	2.80	TOTAL TEST TOOL <u>67.25</u>

DST CHARTS FOR COMPARATIVE VISUAL ANALYSIS





DST PRESSURE INCREMENTS

Recorder No. 2845

Depth 4533

Points	INITIAL CIP				FINAL CIP			
	Time Defl. "	T + θ	$\frac{T + \theta}{\theta}$	PSIG	Time Defl. "	T + θ	$\frac{T + \theta}{\theta}$	PSIG
1					0			833
2					5			1905
3					10			1921
4					15			1926
5					20			1929
6					25			1932
7					30			1935
8					35			1938
9					40			1940
10					45			1943
11					50			1945
12					55			1946
13					60			1948
14					65			1949
15					70			1951
16					75			1953
17					80			1955
18					85			1955
19					90			1956
20					93			1956
21								
22								
23								
24								

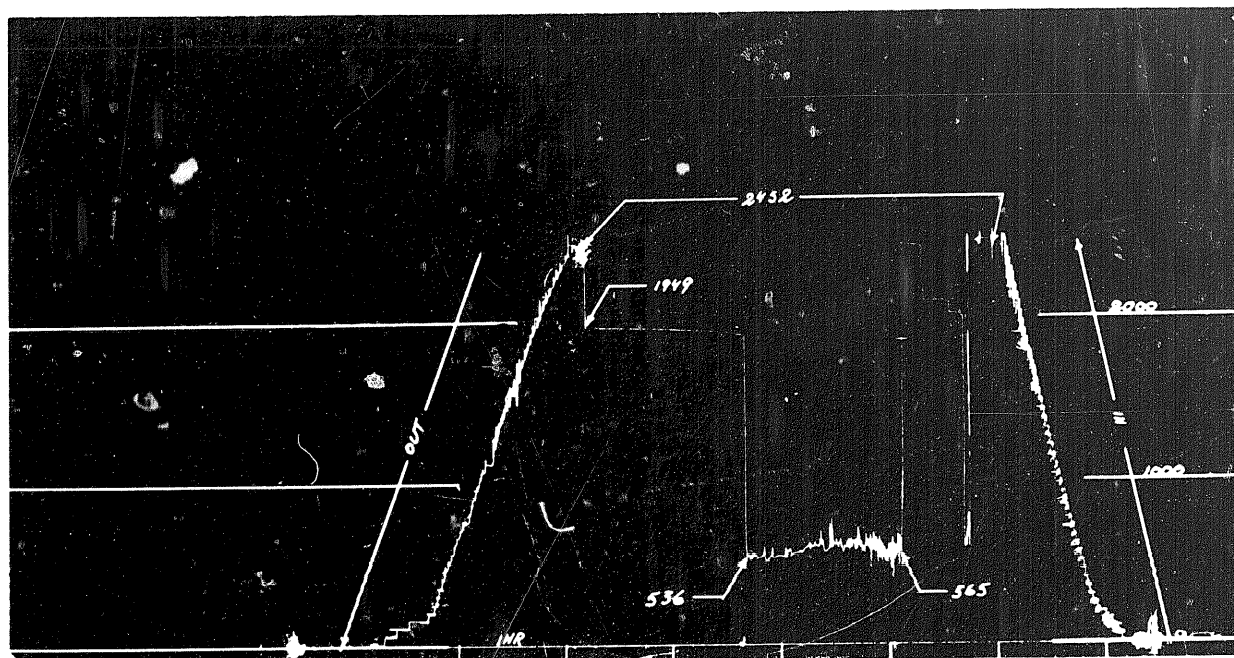
Canoe River Chance YT G-19
Ins. rec. # 2844 Test # 8



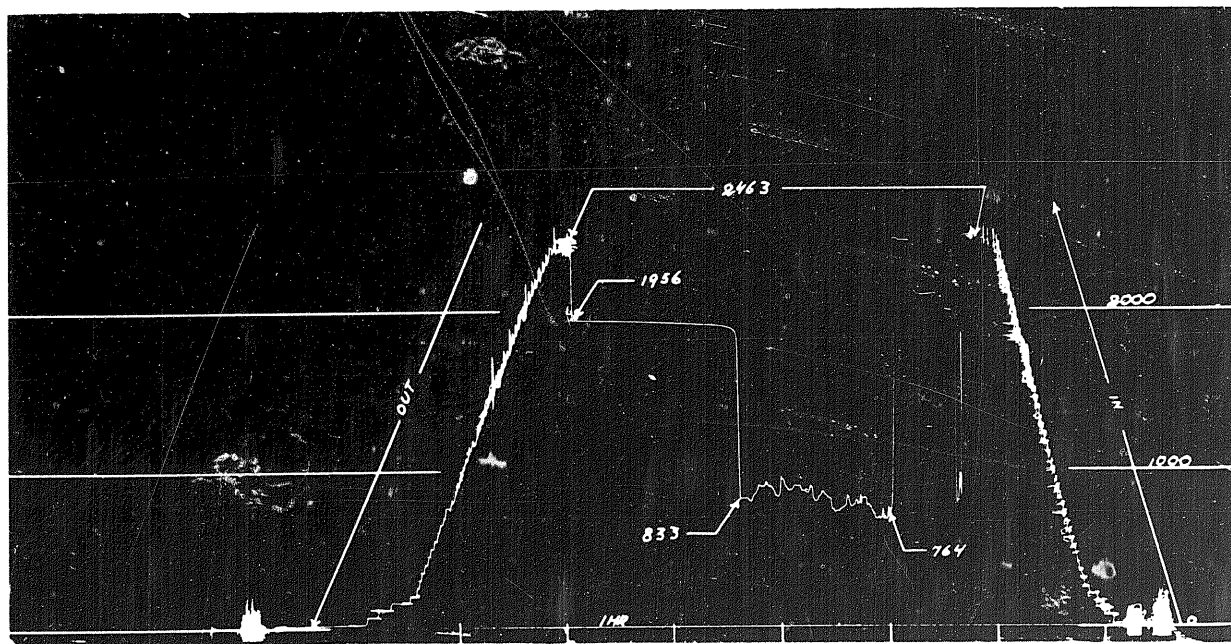
Canoe River Chance YT G-19
Outs. rec. # 2845 Test # 8



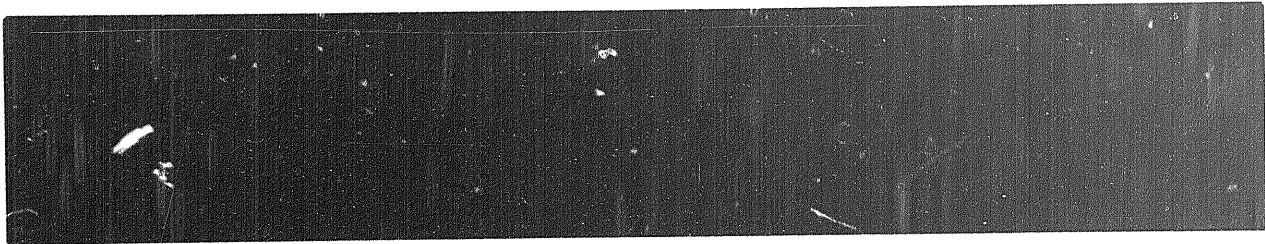
Canoe River Chance YT G-19
Ins. rec. # 2844 Test # 8



Canoe River Chance YT G-19
Outs. rec. # 2845 Test # 8



D. S. T. REPORT



BJ SERVICE DIVISION
BORG-WARNER (CANADA) LIMITED



DRILL-STEM TEST DATA

Well Name	Canoe River Chance	Test No	9
Well Number	YT G-19	Zone Tested	
Company	Western Minerals	Interval	4580 - 4745
Comp Rep	Mr. C.D. Gilbreath	Tester	P. Seemann
		Date	Feb. 14/68

Preflow 6 mins ISI 31 mins Flow 65 mins FSI 59 mins

Specify Inside or Outside	Ins. REC No. <u>2845</u>	Outs REC No. <u>2844</u>	REC No. _____
	<u>6400</u> RANGE <u>12</u> HR CLOCK	<u>6350</u> RANGE <u>12</u> HR CLOCK	_____ RANGE _____ HR CLOCK
DEPTH	<u>4582</u>	<u>4617</u>	
Initial Hydro Mud Press	<u>2400</u>	<u>2506</u>	
Initial Shut-In Press	<u>1990</u>	<u>2000</u>	
Initial Flow Press	<u>276</u>	<u>290</u>	
Final Flow Press	<u>549</u>	<u>565</u>	
Final Shut In Press	<u>1934</u>	<u>1949</u>	
Final Hydro Mud Press	<u>2490</u>	<u>2506</u>	

Mud Drop Nil Fluid Loss 3.4 Mud Weight 10.3

Viscosity 150 Temperature °F 110 Net Pay Tested _____

Top Packer Depth _____ Bottom Packer Depth 4580 Total Depth 4745

Drill Pipe Size 4 1/2" FH Wt 16.6 Drill Collar I.D. 2 7/8" Ft Run 352.03

Surface Choke Size Adj. Bottom Choke Size 1/2" Main Hole Size 8 5/8"

Anchor Size 4 3/4" OD Rat Hole Size _____ Feet of Rat Hole _____

Cushion Amount _____ Type _____ Rubber Size 7 1/2"

Fluid Recovery Total Feet 1170 Type of Test Bottom Hole

Recovered 465 Feet of Gassy Mud

Recovered 180 Feet of Gassy Muddy Water

Recovered 525 Feet of Salt water

Gas Recovery How Measured Orifice Well Tester

<u>15</u> mins	Press Rdg. <u>5</u> psi	Orifice Size <u>1/4"</u>	=	<u>8.9</u>	MCF/Day
<u>30</u> mins	Press Rdg. <u>16</u> psi	Orifice Size <u>1/4"</u>	=	<u>16.8</u>	MCF/Day
<u>45</u> mins	Press Rdg. <u>22</u> psi	Orifice Size <u>1/4"</u>	=	<u>20.1</u>	MCF/Day
<u>60</u> mins	Press Rdg. <u>20</u> psi	Orifice Size <u>1/4"</u>	=	<u>19.0</u>	MCF/Day

RFS Tool No. _____ Bleed Off Time _____

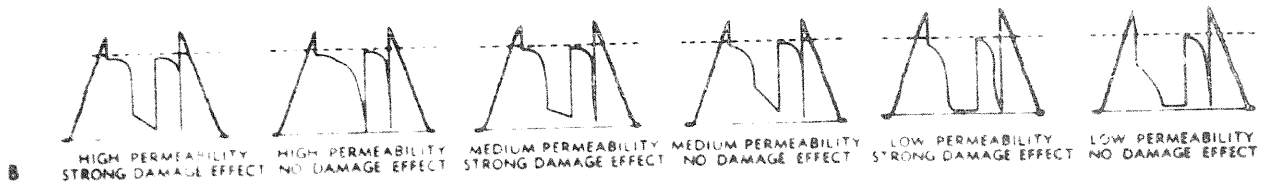
REMARKS: G.I.B. G.T.S. in 5 mins.



TESTING REPORT

	4S LANDING SUB _____	_____	
	4S CHAMBER _____	_____	
	4S TOOL OR P.O. SUB _____	_____	
	CO SUB _____	1.00	
	SHUT IN TOOL _____	5.20	
	RES No _____	_____	
	HYDRAULIC TOOL _____	7.10	
	JARS _____	4.40	
	RECORDER No. _____	_____	DEPTH _____
	RECORD 2 No. _____	_____	DEPTH _____
	SAFETY JOINT _____	1.75	
	BY PASS SUB _____	_____	
	PACKER _____	6.00	
1. PACKER DEPTH	4574		
	PACKER _____	5.00	
2. PACKER DEPTH	4580		TOTAL TOOL ABOVE INTERVAL 30.45
	ANCHOR—SPECIFY _____	1.00	
	BLANK OFF OR BY PASS SUB _____	_____	
	RECORDER No. 2845 Ins.	5.00	DEPTH 4582
3. PACKER DEPTH			TOTAL INTERVAL 165.54
	PACKER _____		
4. PACKER DEPTH			
	ANCHOR—SPECIFY _____		
	Perfs _____	30.00	
	Recorder No. 2844 Outs.	5.00	Depth 4617
	Perfs _____	3.00	
	Drill Collars & CO Subs	118.74	
TOTAL DEPTH	4745		TOTAL TEST TOOL 79.25
	BULLNOSE _____	2.80	

BST CHARTS FOR COMPARATIVE VISUAL ANALY.



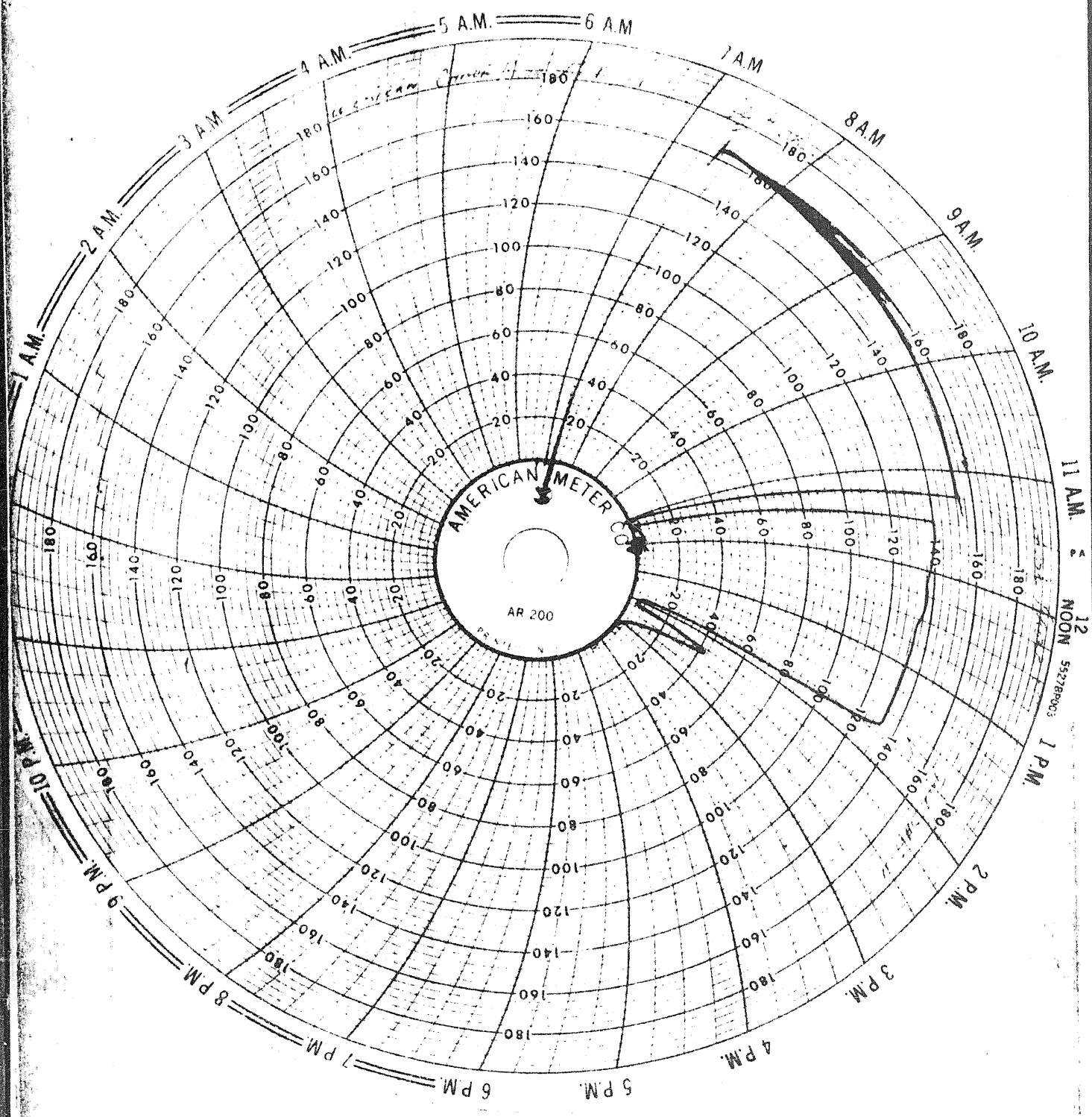


DST PRESSURE INCREMENTS

Recorder No 2844

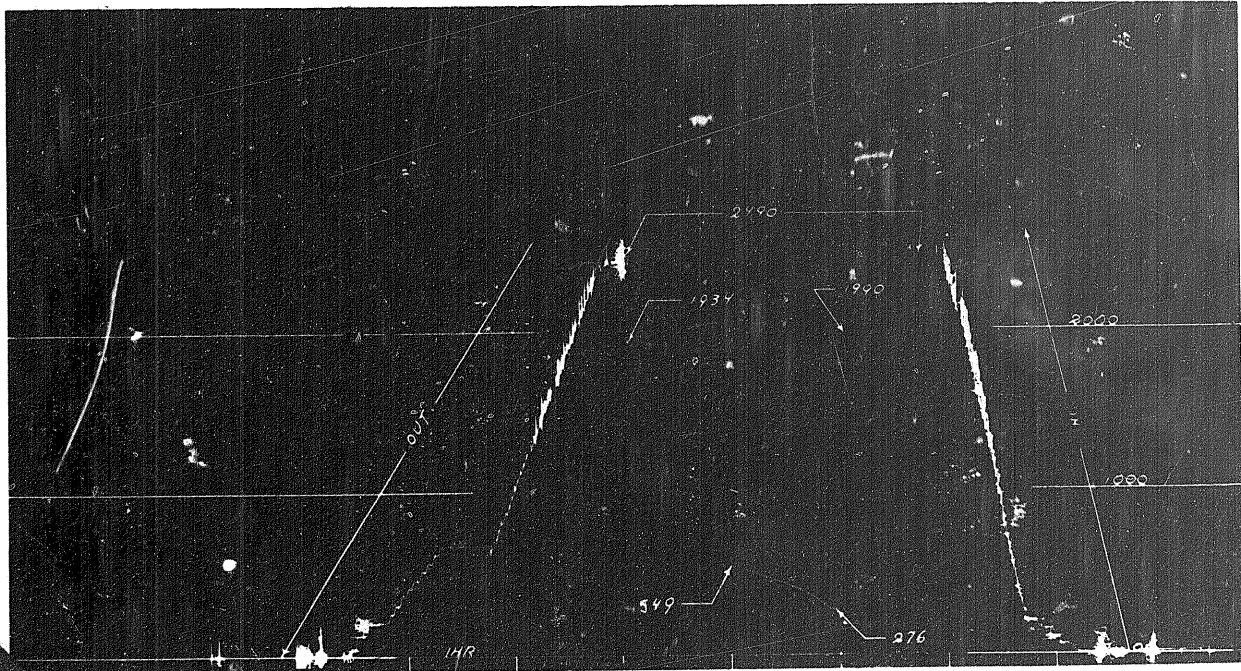
Depth 4617

Points	INITIAL CIP				FINAL CIP			
	Time Defl. "	T + θ	$\frac{T + \theta}{\theta}$	PSIG	Time Defl. "	T + θ	$\frac{T + \theta}{\theta}$	PSIG
1	0			295	0			565
2	5			275	5			1243
3	10			1718	10			1684
4	15			1937	15			1253
5	20			1980	20			1903
6	25			1992	25			1919
7	30			1999	30			1928
8	31			2000	35			1934
9					40			1939
10					45			1942
11					50			1945
12					55			1947
13					59			1948
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11 A.M. 12 NOON 55278003

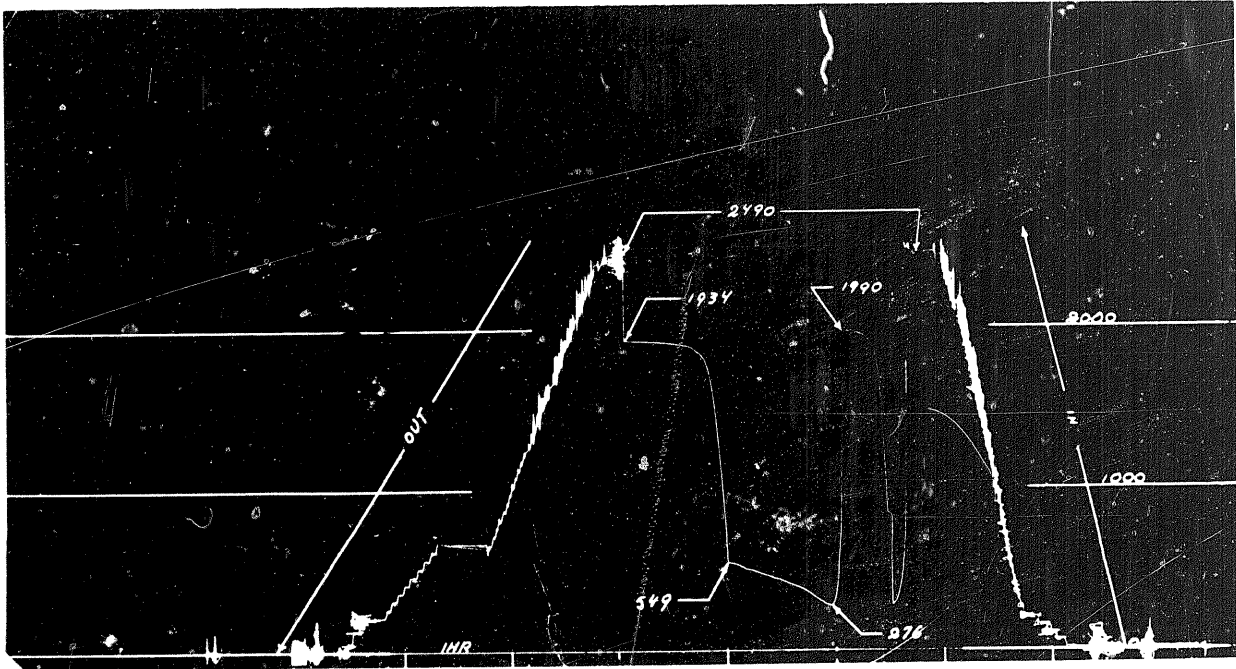
Canoe River Chance YT G-19
Ins. rec. # 2845 Test # 9



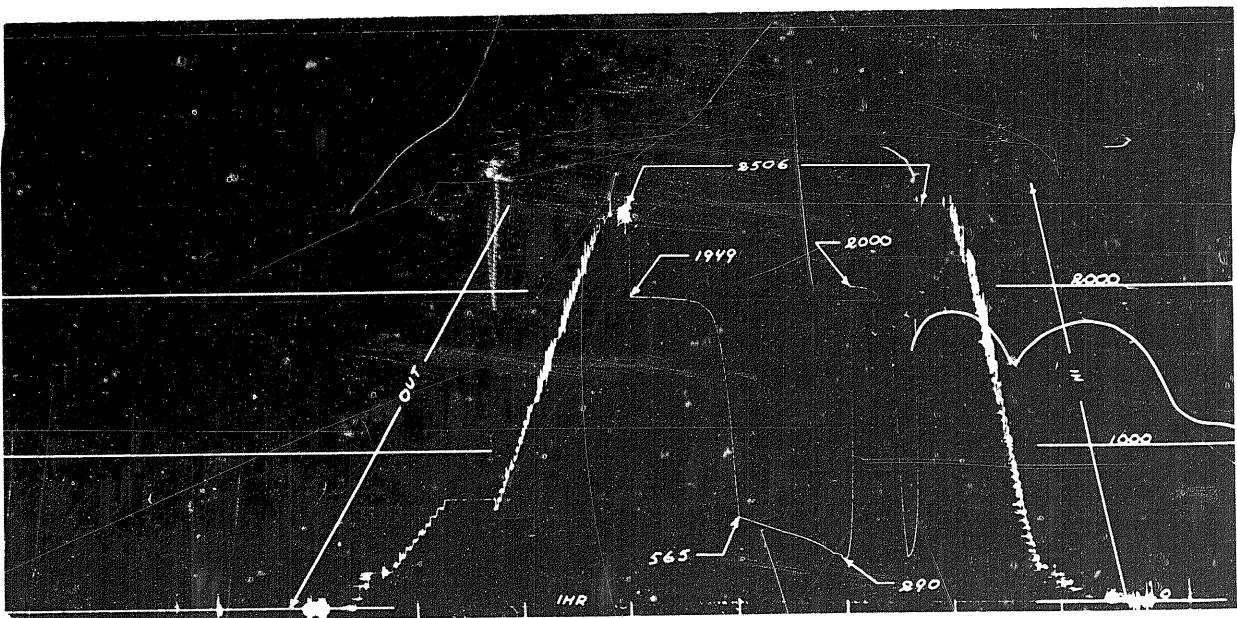
Canoe River Chance YT G-19
Outs. rec. # 2844 Test # 9



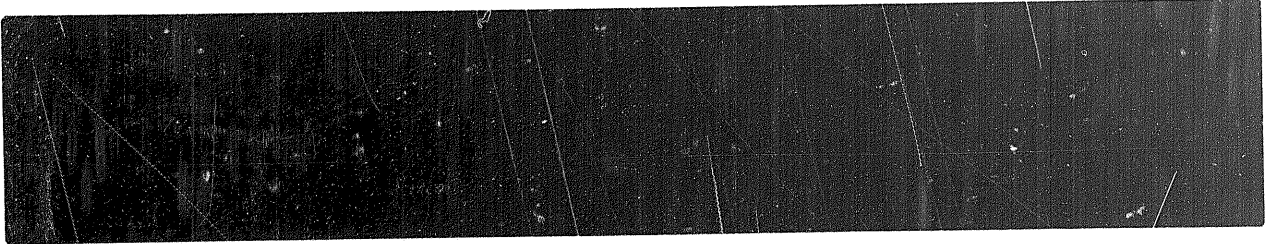
Canoe River Chance YT G-19
Ins. rec. # 2845 Test # 9



Canoe River Chance YT G-19
Outs. rec. # 2844 Test # 9



D. S. T. REPORT



BJ SERVICE DIVISION
BORG-WARNER (CANADA) LIMITED



DRILL-STEM TEST DATA

Well Name	Canoe River Chance		Test No	6	
Well Number	YT G-19		Zone Tested	Chance Sand	
Company	Western Minerals		Interval	4449 - 4504	
Comp. Rep	C. D. Gilbreath	Tester	P. Seemann	Date	Feb. 4th, 1968

Preflow 6 mins ISI 60 mins Flow 60 mins FSI 90 mins

Specify Inside or Outside	Ins.	REC No.	2845	Outs.	REC No.	2844	REC No.	
	RANGE	HR	CLOCK	RANGE	HR	CLOCK	RANGE	HR
DEPTH	4451			4466				
Initial Hydro Mud Press	2398			2412				
Initial Shut-In Press	1947			1875				
Initial Flow Press	380							
Final Flow Press	773			750				
Final Shut-In Press	1935			1167				
Final Hydro Mud Press	2398			2412				

Mud Drop Nil Fluid Loss 3.2 Mud Weight 10.3

Viscosity 94 Temperature °F 112 Net Pay Tested 20'

Top Packer Depth Bottom Packer Depth 4449 Total Depth 4504

Drill Pipe Size 4 1/2" FH Wt 16.6 Drill Collar I.D. 2 7/8" Ft Run 350

Drill Pipe Size 4 1/2" FH Wt 16.6 Drill Collar I.D. 2 7/8" Ft Run 350

Surface Choke Size Adj. Bottom Choke Size 1/2" Main Hole Size 8 5/8"

Anchor Size 4 3/4" + 7" OD Rat Hole Size Feet of Rat Hole

Cushion Amount Type Rubber Size 7 1/2"

Fluid Recovery Total Feet 2000 Type of Test Single Bottom Hole

Recovered 1640 Feet of Gassy Oil

Recovered 360 Feet of Salt Water (1925 PPM)

Recovered Feet of

Gas Recovery	Flow Measured	Orifice Size	MCF/Day
mins Press Rdg.	ps.	Orifice Size	MCF/Day
mins Press Rdg.	ps.	Orifice Size	MCF/Day
mins Press Rdg.	ps.	Orifice Size	MCF/Day

RFS Tool No. Bleed Off Time

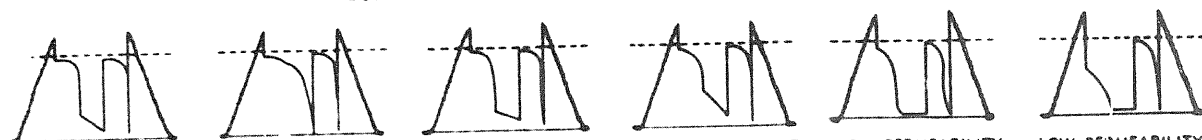
REMARKS G.I.B. G.T.S. in 25 mins. T.S.T.M.



TESTING REPORT

	4S LANDING SUB	_____	_____
	4S CHAMBER	_____	_____
	4S TOOL OR P.O. SUB	_____	_____
	CO SUB	_____	1.00
	SHUT IN TOOL	_____	5.20
	RES. No.	_____	_____
	HYDRAULIC TOOL	_____	7.10
	JARS	_____	4.40
	RECORDER No.	_____	DEPTH _____
	RECORDER No.	_____	DEPTH _____
	SAFETY JOINT	_____	1.75
	BY PASS SUB	_____	_____
	PACKER	_____	_____
1. PACKER DEPTH		_____	_____
	PACKER	_____	5.00
2. PACKER DEPTH	4449	_____	TOTAL TOOL ABOVE INTERVAL 24.45
		_____	1.00
	ANCHOR—SPECIFY	_____	_____
	ANCHOR—SPECIFY	_____	_____
	ANCHOR—SPECIFY	_____	_____
	BLANK OFF OR BY PASS SUB	_____	_____
	RECORDER No. 2845 Ins.	_____	5.00 DEPTH 4451
3. PACKER DEPTH		_____	TOTAL INTERVAL 55.75
	PACKER	_____	_____
4. PACKER DEPTH		_____	_____
	PACKER	_____	_____
	ANCHOR—SPECIFY	_____	_____
	Perfs	_____	10.00
	Recorder No. 2844 Outs.	_____	5.00 Depth 4466
	Drill Collar & CO Subs	_____	32.05
	_____	_____	_____
TOTAL DEPTH	4504	_____	TOTAL TEST TOOL 50.15
	BULLNOSE	_____	2.70

DST CHARTS FOR COMPARATIVE VISUAL ANALYSIS



B HIGH PERMEABILITY STRONG DAMAGE EFFECT
 HIGH PERMEABILITY NO DAMAGE EFFECT
 MEDIUM PERMEABILITY STRONG DAMAGE EFFECT
 MEDIUM PERMEABILITY NO DAMAGE EFFECT
 LOW PERMEABILITY STRONG DAMAGE EFFECT
 LOW PERMEABILITY NO DAMAGE EFFECT



DST PRESSURE INCREMENTS

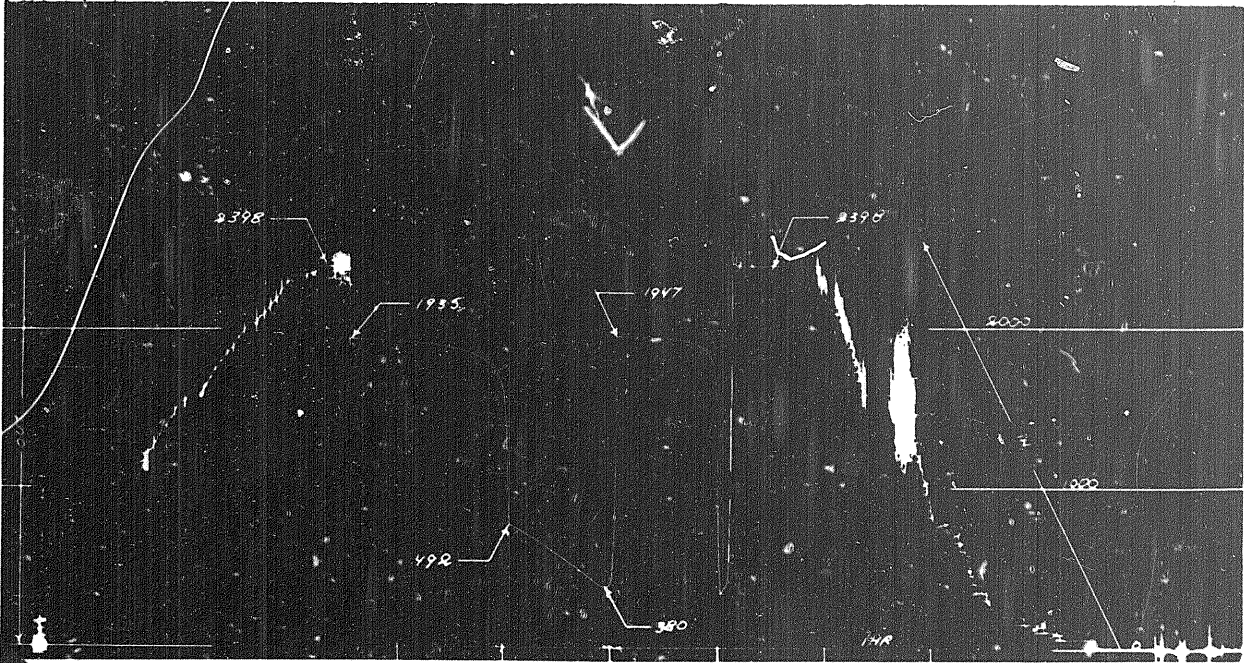
Recorder No. 2845

Depth 4451

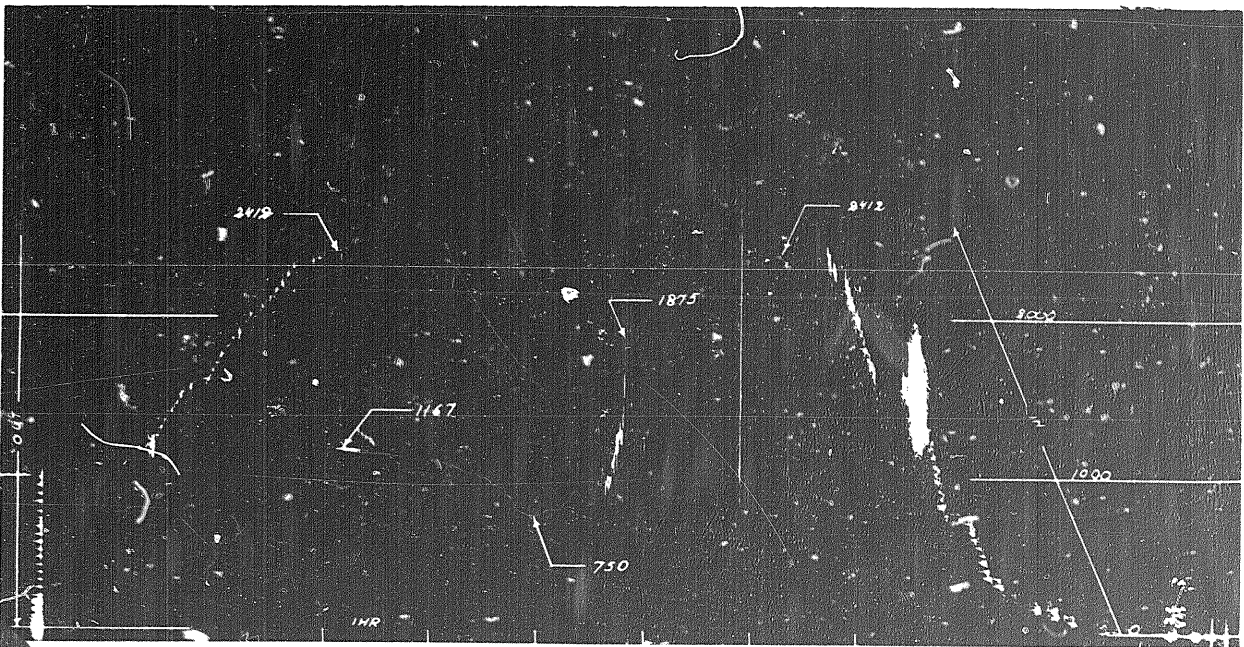
Points	INITIAL CIP				FINAL CIP			
	Time Defl. "	T + θ	$\frac{T + \theta}{\theta}$	PSIG	Time Defl. "	T + θ	$\frac{T + \theta}{\theta}$	PSIG
1	0			332	0			773
2	5			1809	5			1636
3	10			1878	10			1737
4	15			1904	15			1788
5	20			1917	20			1817
6	25			1928	25			1840
7	30			1935	30			1858
8	35			1938	35			1868
9	40			1940	40			1879
10	45			1945	45			1889
11	50			1946	50			1895
12	55			1947	55			1900
13	60			1947	60			1905
14					65			1910
15					70			1915
16					75			1920
17					80			1925
18					85			1930
19					90			1935
20								
21								
22								
23								
24								

Outside Recorder # 2844 shows perforation plugging, which was due to poor communication between interval and recorder. The tailpipe was set in a considerable amount of fill which plugged the perforations below the drill collars, the only source to activate the recorder. The reason for placing a recorder in this position was due to blow out danger, to allow the closing of the B.O.P.s around the drill collars and prevent the fluid from blowing through the inside of the collars.

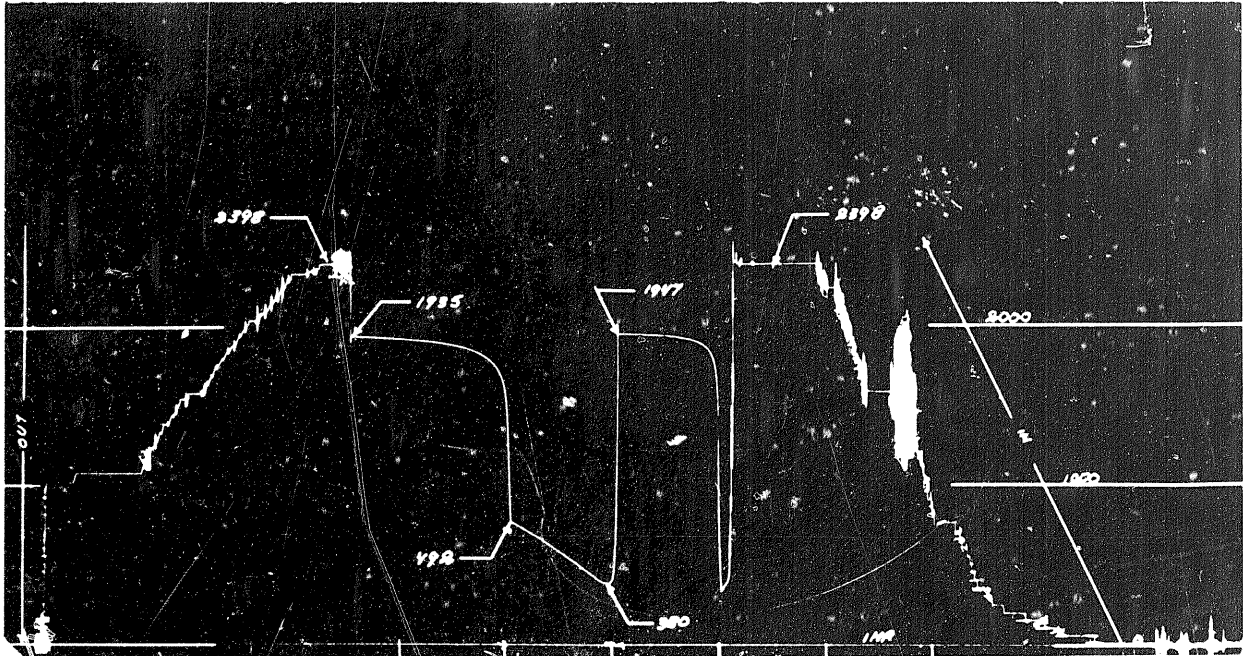
Canoe River Chance YT G-19
Ins. recorder # 2845 Test # 6



Canoe River Chance YT G-19
Outs. recorder # 2844 Test # 6



Canoe River Chance YT G-19
Ins. recorder # 2845 Test # 6



Canoe River Chance YT G-19
Outs. recorder # 2844 Test # 6

