7-11-22W

TEST REPORT

(303) 473-6909
P.O. Box 2260
Colorado Springs, CO 80901

Company A. Scott Ritchie ✓ Test Ticket No. 2917
Company Address 125 N. Market, Suite 950 Wichita KS 67202 Date 6/11/83 ✓
Location: Sec. 7 Twp. 11S Rge. 22W ✓ Co. Trego State Kansas No. of Charts 5
Well Name And Number Buchholz #4 Tester Troy Leiker
Contractor Murfin Rig No. 8 Co. Rep. Roger Fisher

Engineering Data

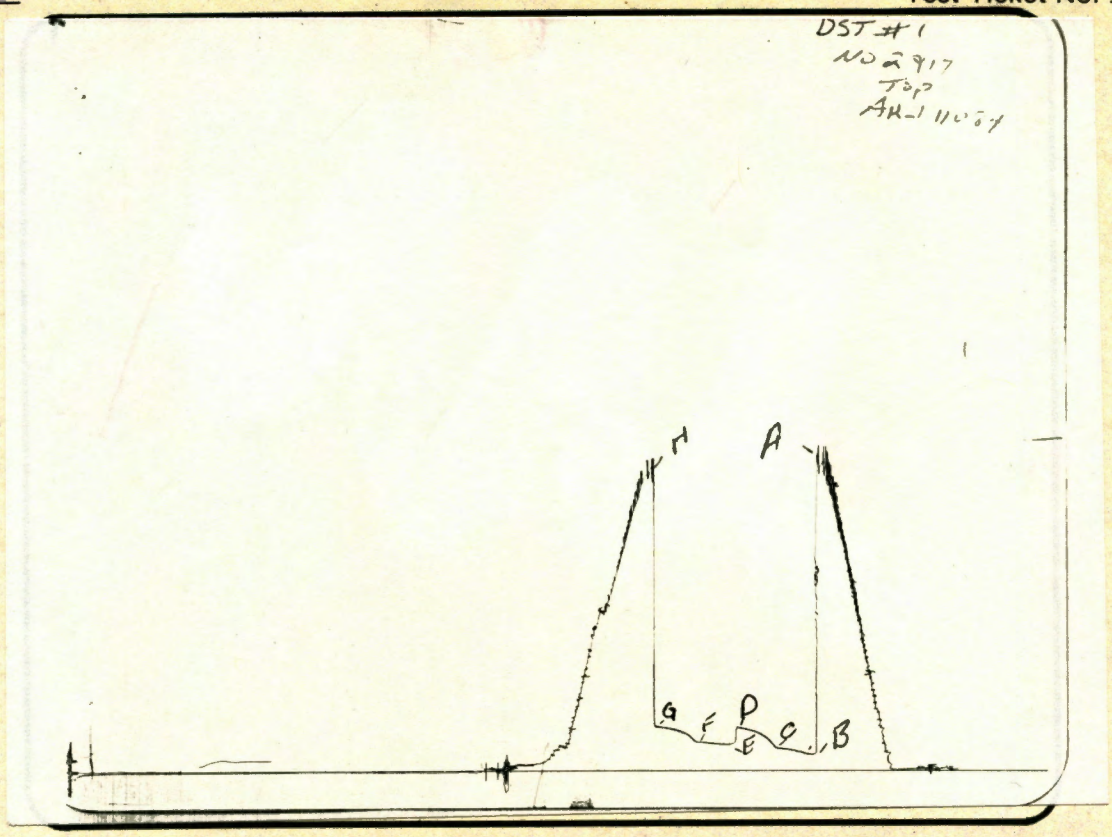
Elevation 2,212 K.B. ✓
Mud Viscosity 44
Mud Weight 9.1
Water Loss
Type of Mud Starch
Anchor Length 53
Hole Size 7 7/8
Casing Size 8 5/8
Surface Choke 3/4
Bottom Choke 3/4
Drill Pipe Length 2,529 I.D. 3.8 In.
Weight Pipe Length 691 I.D. 2.76 In.
Drill Collar Length 228 I.D. 2.25 In.
Top Packer Depth. 3,430
Bottom Packer Depth 3,435
Tool Joint Size 4 1/2"
Test Tool Size 5 1/2
Packer Size 6 3/4
Reversed Out No
Recorder Type and No. AK-1 11084 Clock Range No. 22337 12 Hr.
Recorder Type and No. AK-1 10995 Clock Range No. 23839 12 Hr.
Extra Equipment
Remarks Mudpit sample - 10,000 P.P.M.
Open Hole Test

CRUDE OIL TESTING INC.

7-11-22W

Date 6/11/83 Test Ticket No. 2917

DST # 1



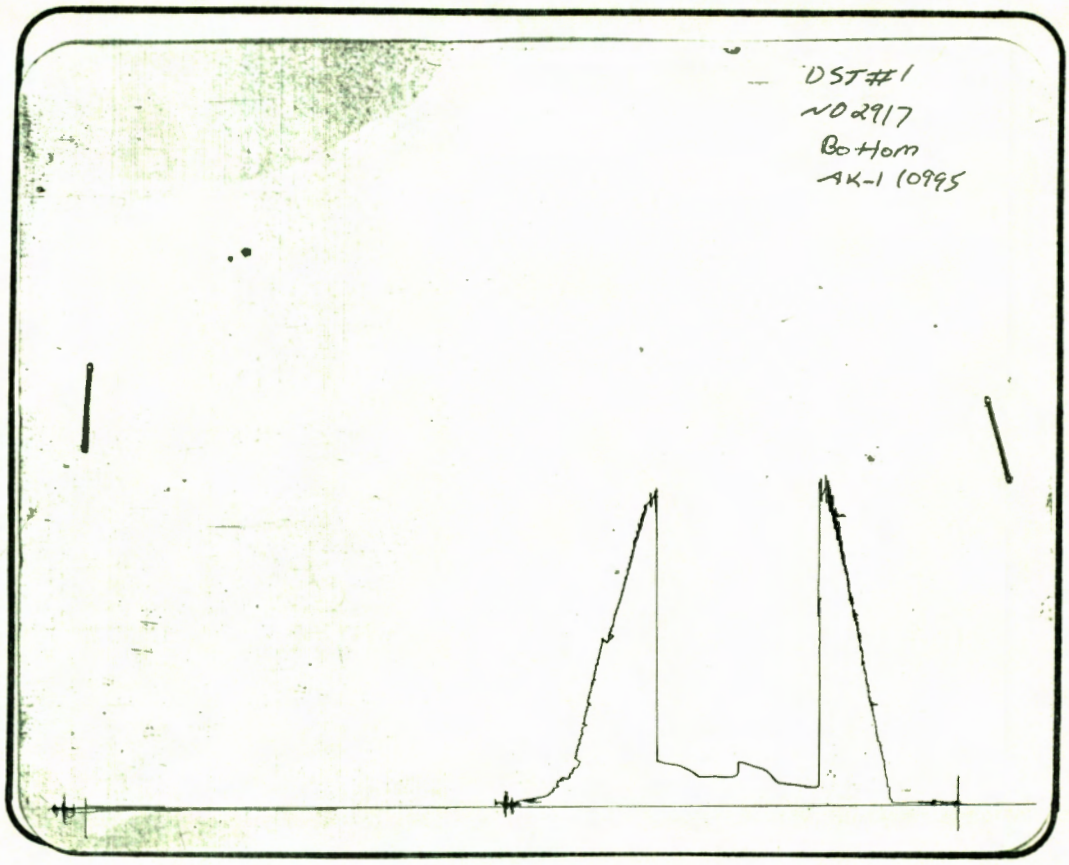
Formation Kansas City Zone Toronto & A Type of Test Conventional
Interval 3,435 To 3,488 Total Depth 3,488
Open 30 Shut In 30 Open 30 Shut In 30
Packer(s) Set 2:28A M. Started off Bottom 4:30A M.
Blow 1st Opening Strong blow off bottom in 8 minutes.
2nd Opening Fair increasing blow to 6" in bucket.

Recovery Total Feet 255
Recovered 15 Ft. of Rotary mud
Recovered 240 Ft. of Gassy oil cut watery mud
Recovered _____ Ft. of _____
Recovered _____ Ft. of _____

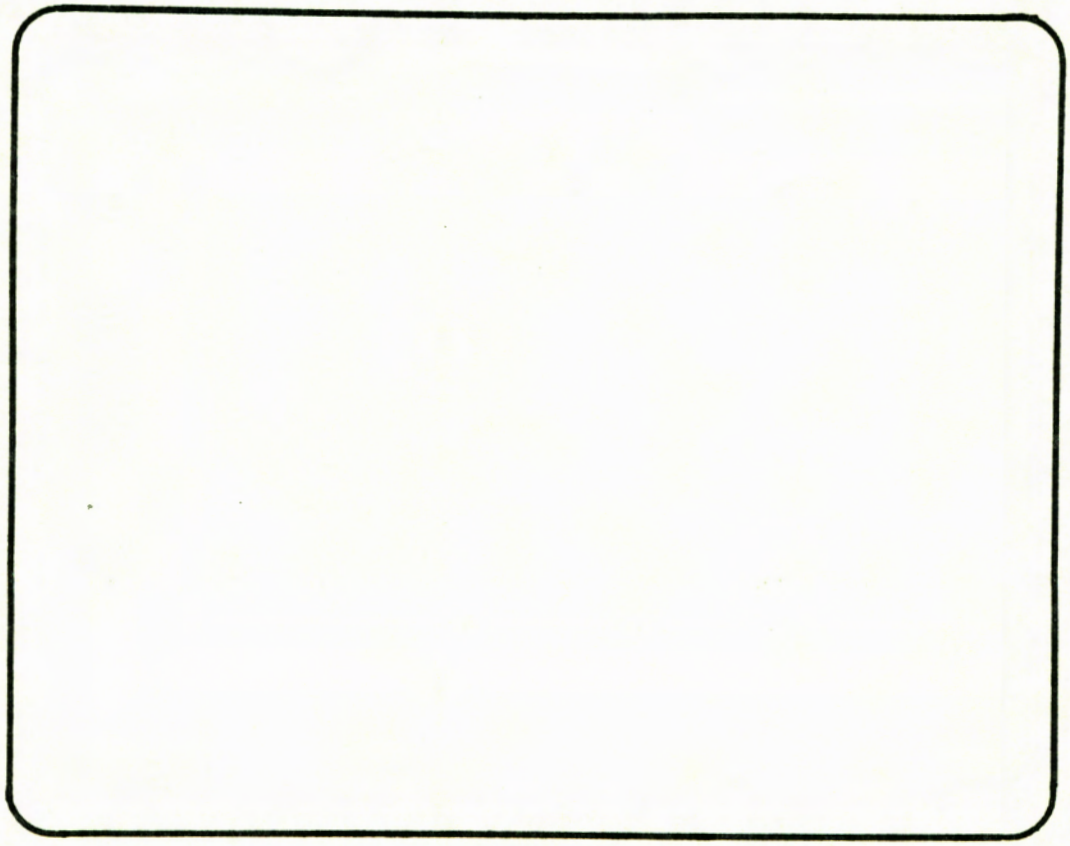
Calculated Recovery Gas 24 Oil 48 WTR 82.5 MUD 100.5
Gravity (Oil) _____ Corrected To Temp. _____ °F Test Water Chlorides 22,000 P.P.M.
Test Area Temperature 110 °F Mud System Chlorides _____ P.P.M.

PRESSURE		**Field Reading**	**Office Reading**	
(A)	Initial Hydrostatic Mud	1,713	1,756	PSI
(B)	First Initial Flow Pressure	88	90	PSI
(C)	First Final Flow Pressure	132	128	PSI
(D)	Initial Closed-in Pressure	252	247	PSI
(E)	Second Initial Flow Pressure	154	152	PSI
(F)	Second Final Flow Pressure	164	166	PSI
(G)	Final Closed-in Pressure	252	253	PSI
(H)	Final Hydrostatic Mud	1,692	1,700	PSI

CRUDE OIL TESTING INC.



Extra recorder chart



Blank off recorder chart

These are actual photographs of recorder charts.

CRUDE OIL TESTING

P.O. Box 2260
Colorado Springs, Colorado 80901
(303) 473-6909

Recorder Location 3,478 Ft. Recorder No. 11084 Test Ticket No. 2917

PRESSURE BREAKDOWN

First Flow Pressure Breakdown: 6 Inc. of 5 mins. and a final inc. of _____ Min.

Initial Shut-In Breakdown: 6 Inc. of 5 mins. and a final inc. of _____ Min.

Second Flow Pressure Breakdown: 6 Inc. of 5 mins. and a final inc. of _____ Min.

Final Shut-In Breakdown: 6 Inc. of 5 mins. and a final inc. of _____ Min.

	Points Minutes	Press.	Points Minutes	Press.	Points Minutes	Press.	Points Minutes	Press.
P01	00	90	00	128	00	152	00	166
P02	05	90	05	175	05	152	05	206
P03	10	103	10	206	10	152	10	223
P04	15	110	15	223	15	153	15	236
P05	20	116	20	233	20	157	20	245
P06	25	125	25	242	25	163	25	250
P07	30	128	30	247	30	166	30	253
P08								
P09								
P10								
P11								
P12								
P13								
P14								
P15								
P16								
P17								
P18								
P19								
P20								
P21								
P22								
P23								
P24								
P25								
P26								
P27								
P28								
P29								
P30								
P31								
P32								
P33								
P34								
P35								
P36								
P37								
P38								
P39								
P40								

7-11-22W

CRUDE OIL TESTING INC.

DRILL STEM TEST RECOVERY ANALYSIS

(303) 473-6909
P.O. Box 2260
Colorado Springs, CO 80901

COMPANY: A. Scott Ritchie **LEASE:** Buchholz #4 **DST #** 1

15' Rotary mud
240' Gassy oil cut watery mud

VISUAL DST RECOVERY:

Ticket #2917

CALCULATED DST RECOVERY

SAMPLE #	TOTAL FOOTAGE
1	15
2	60
3	60
4	60
5	60
Totals	

GAS IN FLUID

x	%	=	Feet
x		=	
x	5	=	3
x	15	=	9
x	10	=	6
x	10	=	6
			24

OIL

x	%	=	Feet
x		=	
x	10	=	6
x	10	=	6
x	30	=	18
x	30	=	18
			48

MUD

x	%	=	Feet
x	90	=	13.5
x	45	=	27
x	45	=	27
x	35	=	21
x	20	=	12
			100.5

WATER

SAMPLE #	TOTAL FOOTAGE	x	%	=	Feet	CHLORIDES PPM	RESISTIVITY OHMS
1	15	x	10	=	1.5	22,000	
2	60	x	40	=	24		
3	60	x	30	=	18		
4	60	x	25	=	15		
5	60	x	40	=	24		
Totals					82.5		

GAS 24

OIL 48

MUD 100.5

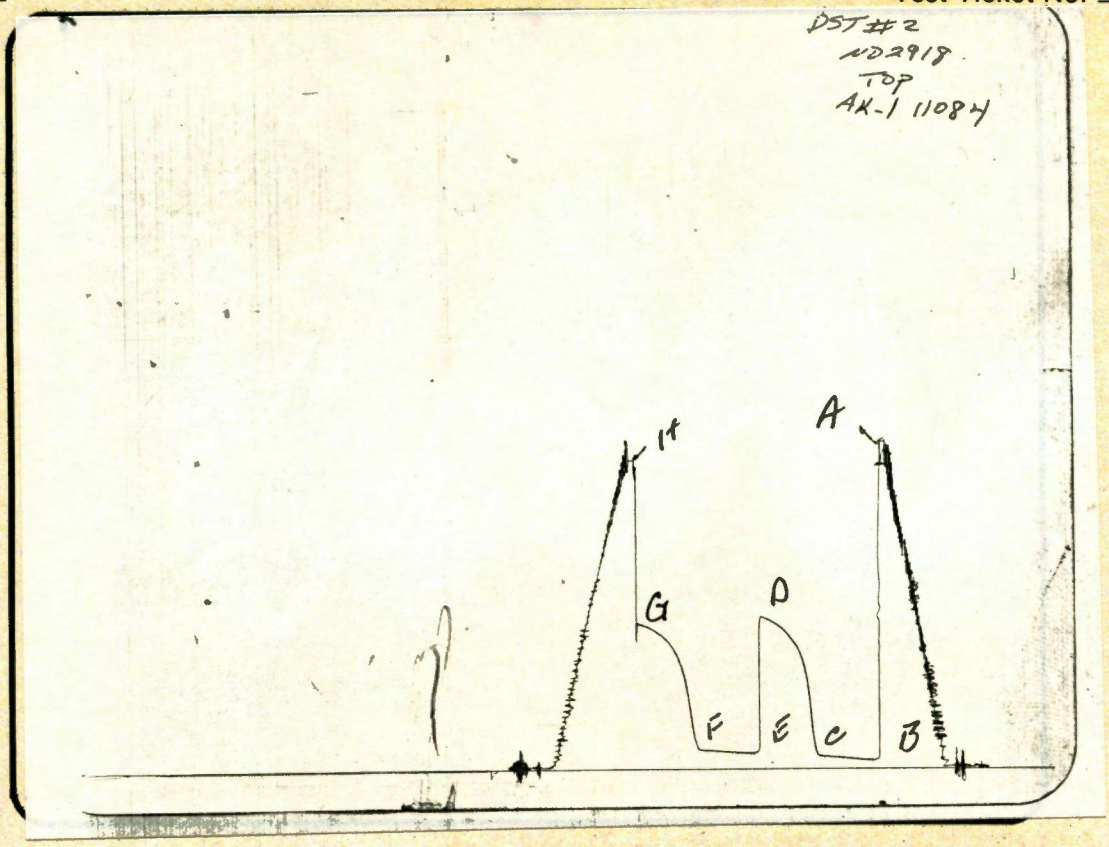
WTR 82.5

TOTAL FLUID 255

CRUDE OIL TESTING INC.

Date 6/11/83 Test Ticket No. 2918

DST # 2



Formation Kansas City Zone _____ Type of Test Conventional

Interval 3,500 To 3,524 Total Depth 3,524

Open 45 Shut In 45 Open 45 Shut In 45

Packer(s) Set 3:13P M. Started off Bottom 6:15P M.

Blow 1st Opening weak blow-increased slowly to 2" in bkt.

2nd Opening weak blow-increased slowly to 1" in bkt.

Recovery

Total Feet 135

Recovered 135 Ft. of Oil spotted muddy water

Recovered _____ Ft. of _____

Recovered _____ Ft. of _____

Recovered _____ Ft. of _____

Calculated Recovery

Gas _____ Oil 5.55 WTR 74.7 MUD 54.75

Gravity (Oil) _____ Corrected To Temp. _____ °F Test Water Chlorides 40,000 P.P.M.

Test Area Temperature 110 °F Mud System Chlorides 36,000 P.P.M.

PRESSURE	Field Reading	Office Reading	
(A) Initial Hydrostatic Mud	1,767	1,803	PSI
(B) First Initial Flow Pressure	55	47	PSI
(C) First Final Flow Pressure	66	70	PSI
(D) Initial Closed-in Pressure	851	853	PSI
(E) Second Initial Flow Pressure	88	90	PSI
(F) Second Final Flow Pressure	110	111	PSI
(G) Final Closed-in Pressure	807	825	PSI
(H) Final Hydrostatic Mud	1,746	1,730	PSI

CRUDE OIL TESTING INC

(303) 473-6909
P.O. Box 2260
Colorado Springs, CO 80901

TEST REPORT

Test Ticket No. 2918

Company A. Scott Ritchie Date 6/11/83

Company Address 125 N. Market, Suite 950 Wichita KS 67202 No. of Charts 5

Location: Sec. 7 Twp. 11S Rge. 22W Co. Trego State Kansas

Well Name And Number Buchholz #4 Tester Troy Leiker

Contractor Murfin Rig No. 8 Co. Rep. Roger Fisher

Engineering Data

Elevation 2,212 K.B.

Mud Viscosity 41

Mud Weight 9.3

Water Loss 8.2

Type of Mud Starch

Anchor Length 24

Hole Size 7 7/8

Casing Size 8 5/8

Surface Choke 3/4

Bottom Choke 3/4

Drill Pipe Length 2,592 I.D. 3.8 In.

Weight Pipe Length 691 I.D. 2.76 In.

Drill Collar Length 228 I.D. 2.25 In.

Top Packer Depth. 3,495

Bottom Packer Depth 3,500

Tool Joint Size 4 1/2"

Test Tool Size 5 1/2

Packer Size 6 3/4

Reversed Out No

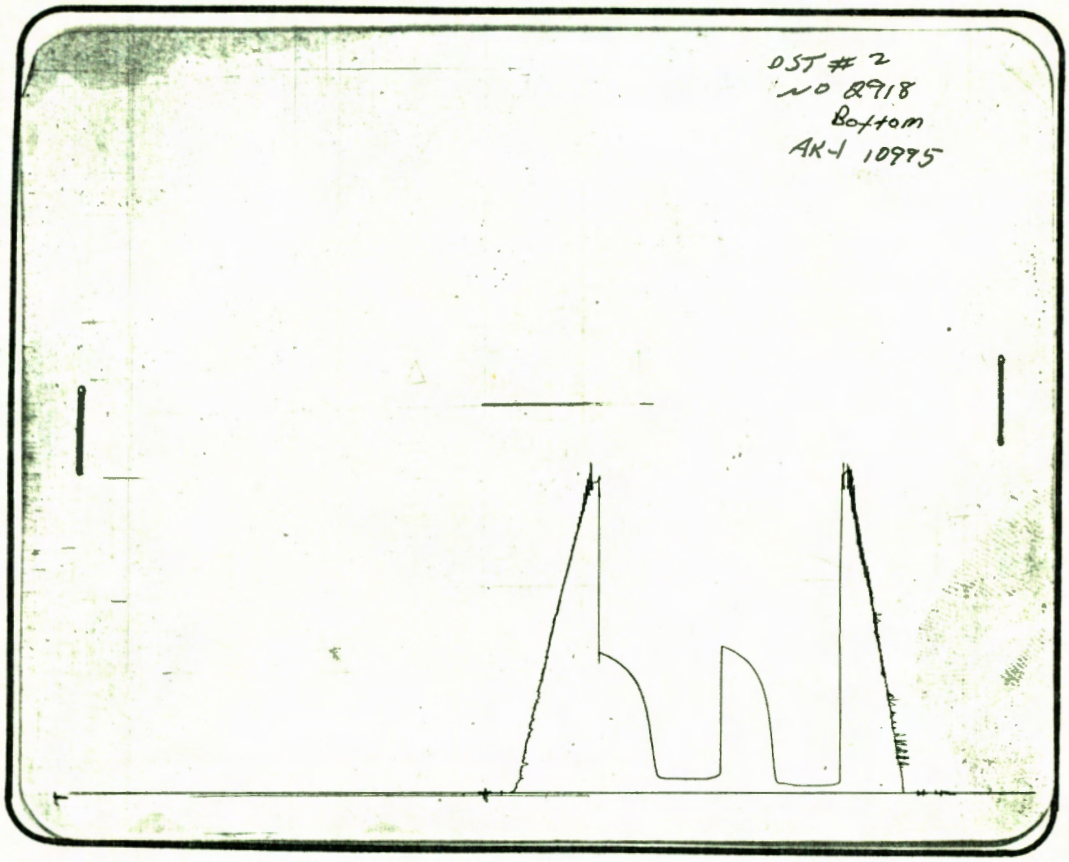
Recorder Type and No. AK-1 11084 Clock Range No. 22337 12 Hr.

Recorder Type and No. AK-1 10995 Clock Range No. 23839 12 Hr.

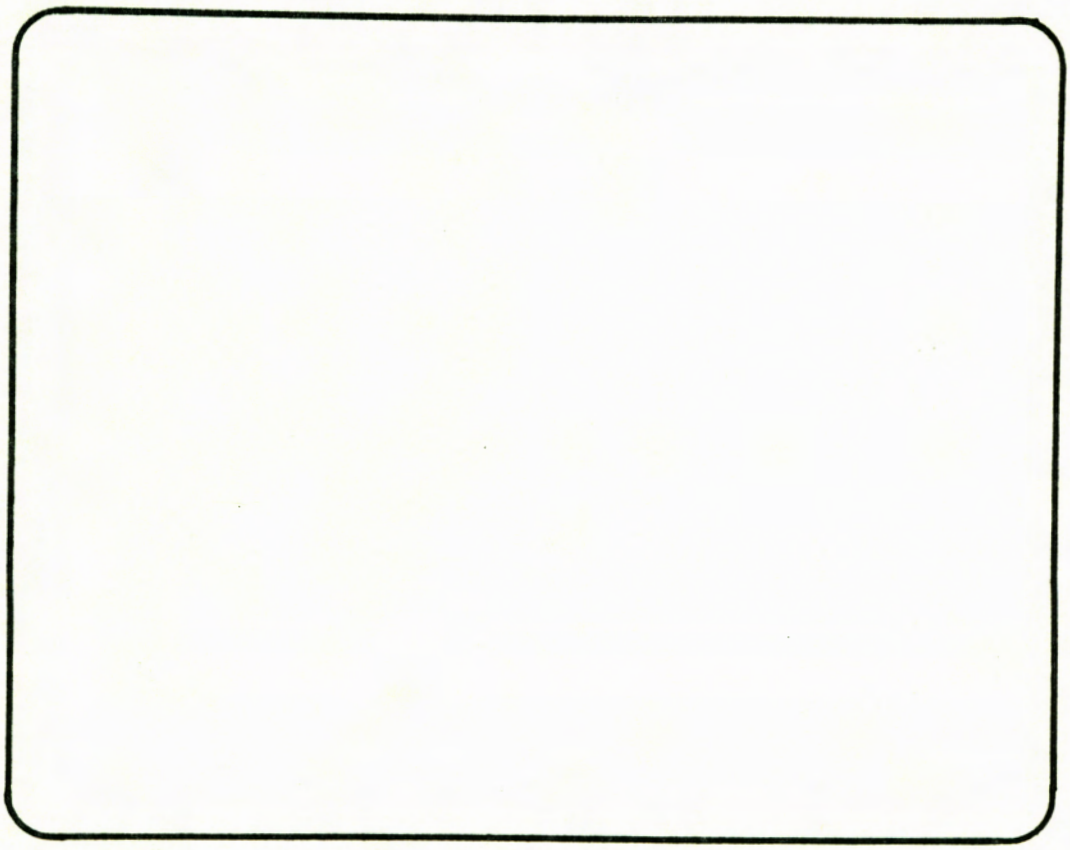
Extra Equipment

Remarks Mudpit sample - 30,000 P.P.M.
Open Hole Test

CRUDE OIL TESTING INC.



Extra recorder chart



Blank off recorder chart

These are actual photographs of recorder charts.

CRUDE OIL TESTING

P.O. Box 2260
Colorado Springs, Colorado 80901
(303) 473-6909

Recorder Location 3,514 Ft. Recorder No. 11084 Test Ticket No. 2918

PRESSURE BREAKDOWN

First Flow Pressure Breakdown: 9 Inc. of 5 mins. and a final inc. of _____ Min.

Initial Shut-In Breakdown: 9 Inc. of 5 mins. and a final inc. of _____ Min.

Second Flow Pressure Breakdown: 9 Inc. of 5 mins. and a final inc. of _____ Min.

Final Shut-In Breakdown: 9 Inc. of 5 mins. and a final inc. of _____ Min.

	Points Minutes	Press.	Points Minutes	Press.	Points Minutes	Press.	Points Minutes	Press.
P01	00	47	00	70	00	90	00	111
P02	05	47	05	288	05	90	05	261
P03	10	47	10	570	10	90	10	502
P04	15	49	15	678	15	93	15	625
P05	20	50	20	733	20	96	20	697
P06	25	59	25	780	25	98	25	740
P07	30	62	30	811	30	102	30	772
P08	35	64	35	833	35	105	35	798
P09	40	67	40	844	40	107	40	812
P10	45	70	45	853	45	111	45	825
P11								
P12								
P13								
P14								
P15								
P16								
P17								
P18								
P19								
P20								
P21								
P22								
P23								
P24								
P25								
P26								
P27								
P28								
P29								
P30								
P31								
P32								
P33								
P34								
P35								
P36								
P37								
P38								
P39								
P40								

CRUDE OIL TESTING INC.

DRILL STEM TEST RECOVERY ANALYSIS

(303) 473-6909
P.O. Box 2260
Colorado Springs, CO 80901

COMPANY: A. Scott Ritchie **LEASE:** Buchholz #4 **DST #** 2

135' Oil spotted muddy water

VISUAL DST RECOVERY:

Ticket #2918

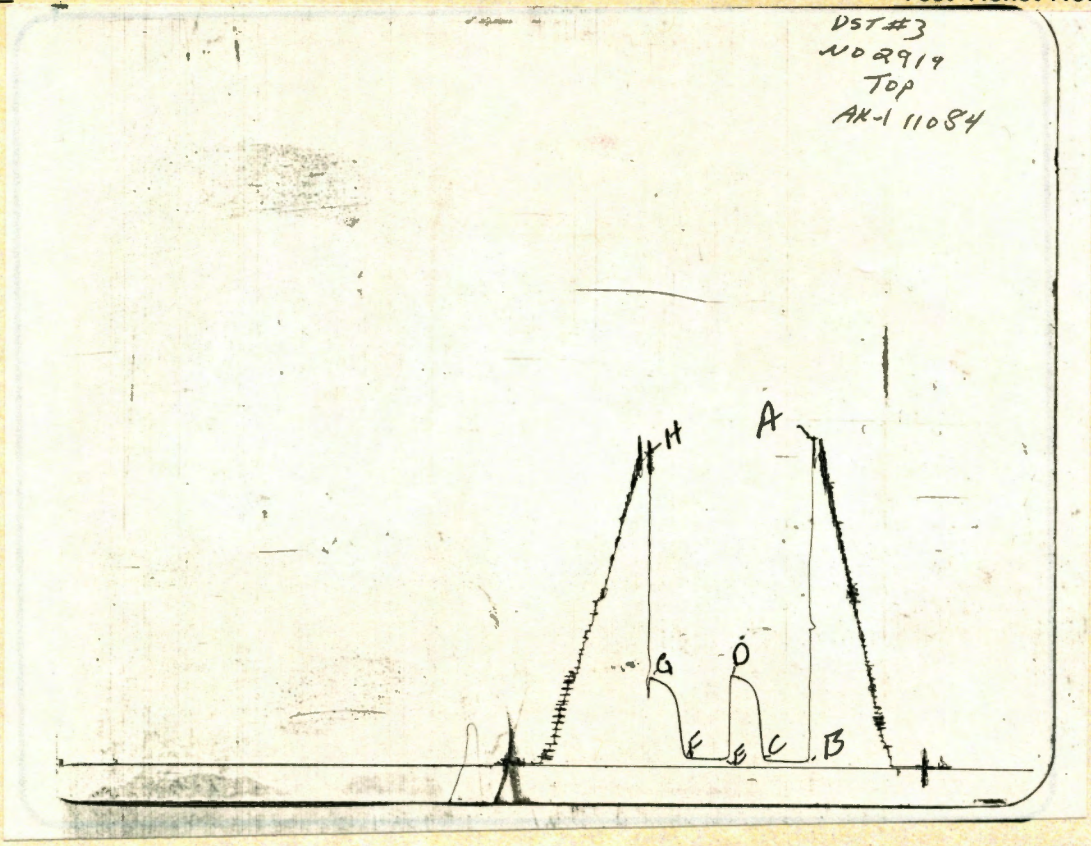
CALCULATED DST RECOVERY

SAMPLE #	TOTAL FOOTAGE
1	15
2	60
3	60

CRUDE OIL TESTING INC.

Date 6/12/83 Test Ticket No. 2919

DST # 3



Formation Kansas City Zone 50 Type of Test Conventional
Interval 3,525 To 3,536 Total Depth 3,536
Open 30 Shut In 30 Open 30 Shut In 30
Packer(s) Set 2:58A M. Started off Bottom 5:00A M.
Blow 1st Opening Weak blow on top of bkt-died in 28 mins.
2nd Opening No blow

Recovery Total Feet 60
Recovered 60 Ft. of Oil spotted muddy water
Recovered ____ Ft. of ____
Recovered ____ Ft. of ____
Recovered ____ Ft. of ____

Calculated Recovery Gas ____ Oil 1.8 WTR 40.2 MUD 18
Gravity (Oil) ____ Corrected To Temp. ____ °F Test Water Chlorides 51,000 P.P.M.
Test Area Temperature 110 °F Mud System Chlorides 36,000 P.P.M.

PRESSURE		**Field Reading**	**Office Reading**	
(A)	Initial Hydrostatic Mud	1,756	1,845	PSI
(B)	First Initial Flow Pressure	44	32	PSI
(C)	First Final Flow Pressure	44	40	PSI
(D)	Initial Closed-in Pressure	515	522	PSI
(E)	Second Initial Flow Pressure	55	48	PSI
(F)	Second Final Flow Pressure	55	48	PSI
(G)	Final Closed-in Pressure	504	503	PSI
(H)	Final Hydrostatic Mud	1,735	1,765	PSI

TEST REPORT

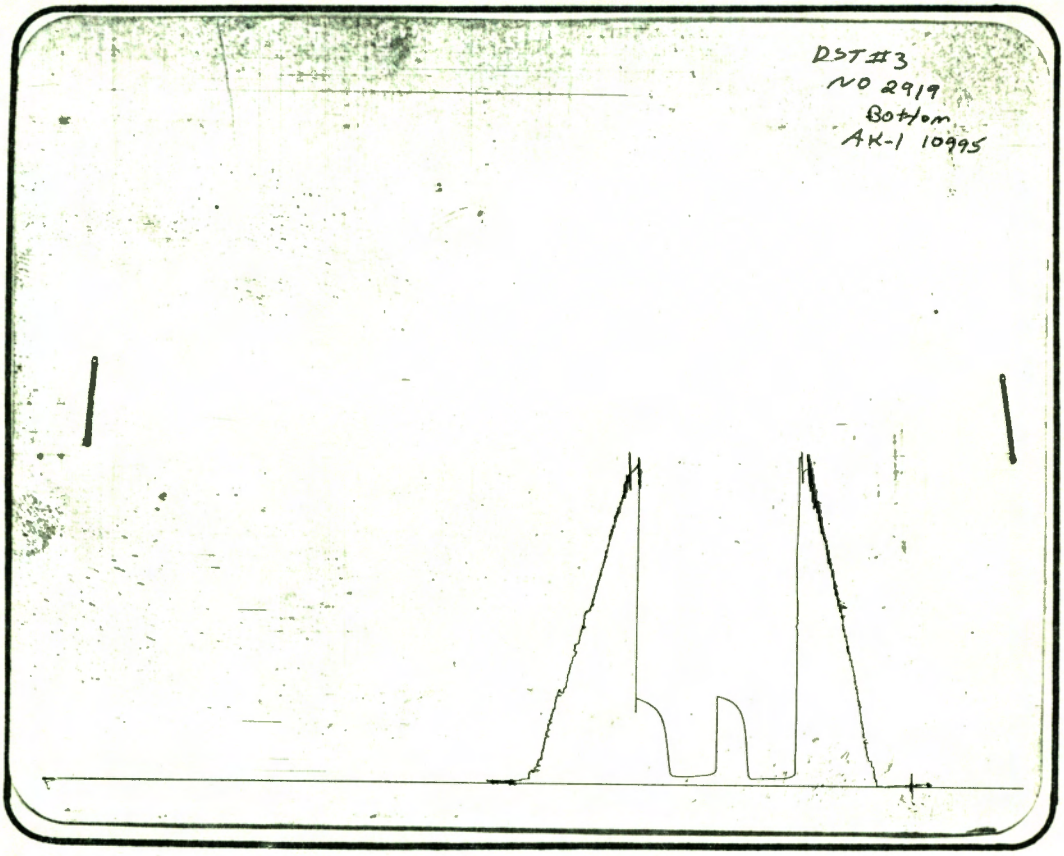
(303) 473-6909
P.O. Box 2260
Colorado Springs, CO 80901

Test Ticket No. 2919
Company A. Scott Ritchie Date 6/12/83
Company Address 125 N. Market, Suite 950 Wichita KS 67202 No. of Charts 5
Location: Sec. 7 Twp. 11S Rge. 22W Co. Trego State Kansas
Well Name And Number Buchholz #4 Tester Troy Leiker
Contractor Murfin Rig No. 8 Co. Rep. Roger Fisher

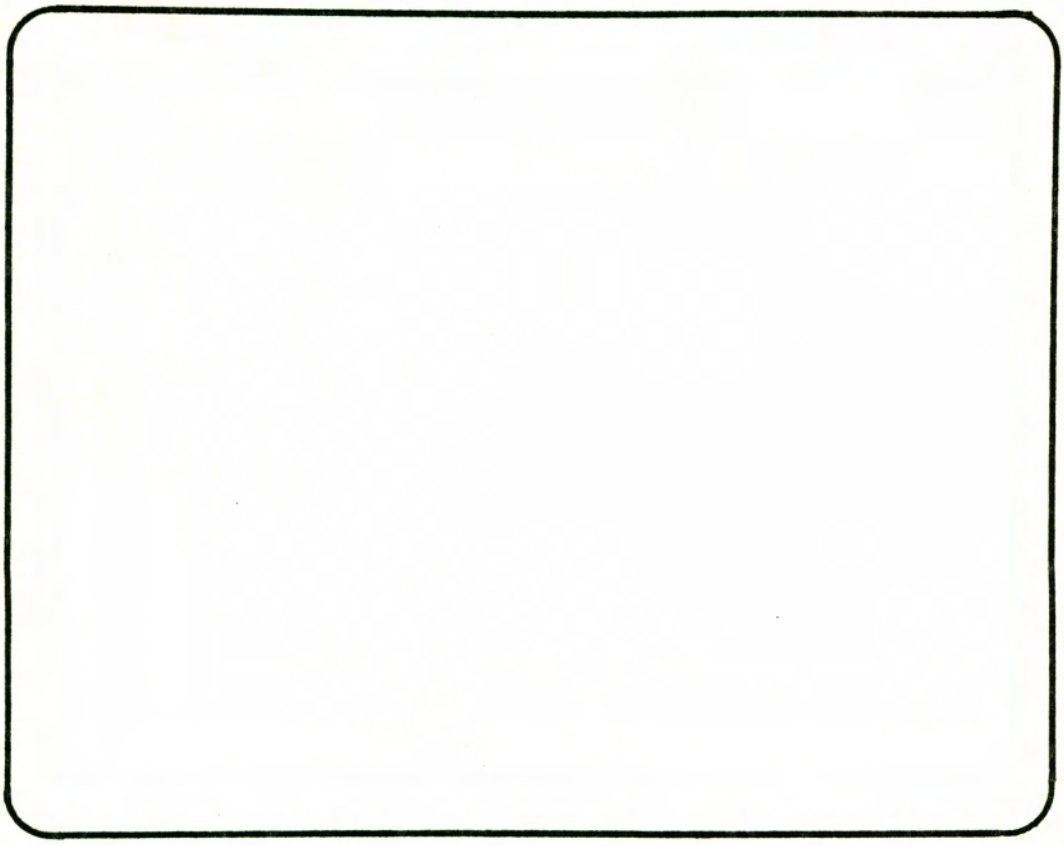
Engineering Data

Elevation 2,212 K.B.
Mud Viscosity 42
Mud Weight 9.3
Water Loss 8.2
Type of Mud Starch
Anchor Length 11
Hole Size 7 7/8
Casing Size 8 5/8
Surface Choke 3/4
Bottom Choke 3/4
Drill Pipe Length 2,592 I.D. 3.8 In.
Weight Pipe Length 691 I.D. 2.76 In.
Drill Collar Length 228 I.D. 2.25 In.
Top Packer Depth. 3,520
Bottom Packer Depth 3,525
Tool Joint Size 4 1/2"
Test Tool Size 5 1/2
Packer Size 6 3/4
Reversed Out No
Recorder Type and No. AK-1 11084 Clock Range No. 22337 12 Hr.
Recorder Type and No. AK-1 10995 Clock Range No. 23839 12 Hr.
Extra Equipment
Remarks Mudpit sample - 35,000 P.P.M.
Open Hole Test

CRUDE OIL TESTING INC.



Extra recorder chart



Blank off recorder chart

These are actual photographs of recorder charts.

CRUDE OIL TESTING

P.O. Box 2260
Colorado Springs, Colorado 80901
(303) 473-6909

Recorder Location 3,530 Ft. Recorder No. 11084 Test Ticket No. 2919

PRESSURE BREAKDOWN

First Flow Pressure Breakdown: 6 Inc. of 5 mins. and a final inc. of _____ Min.

Initial Shut-In Breakdown: 6 Inc. of 5 mins. and a final inc. of _____ Min.

Second Flow Pressure Breakdown: 6 Inc. of 5 mins. and a final inc. of _____ Min.

Final Shut-In Breakdown: 6 Inc. of 5 mins. and a final inc. of _____ Min.

Points	Minutes	Press.	Minutes	Press.	Minutes	Press.	Minutes	Press.
P01	00	32	00	40	00	48	00	48
P02	05	32	05	119	05	48	05	164
P03	10	32	10	415	10	48	10	392
P04	15	34	15	479	15	48	15	453
P05	20	36	20	500	20	48	20	481
P06	25	38	25	513	25	48	25	497
P07	30	40	30	522	30	48	30	503
P08								
P09								
P10								
P11								
P12								
P13								
P14								
P15								
P16								
P17								
P18								
P19								
P20								
P21								
P22								
P23								
P24								
P25								
P26								
P27								
P28								
P29								
P30								
P31								
P32								
P33								
P34								
P35								
P36								
P37								
P38								
P39								
P40								

CRUDE OIL TESTING INC

DRILL STEM TEST RECOVERY ANALYSIS

(303) 473-6909
P.O. Box 2260
Colorado Springs, CO 80901

COMPANY: A. Scott Ritchie LEASE: Buchholz #4 DST # 3

VISUAL DST RECOVERY:

60' Oil spotted muddy water

Ticket #2919

CALCULATED DST RECOVERY

SAMPLE #	TOTAL FOOTAGE
1	60
Totals	

GAS IN FLUID

x	%	=	Feet
x		=	
x		=	
x		=	
x		=	
x		=	
x		=	
x		=	
x		=	
x		=	
x		=	
x		=	
x		=	
x		=	
x		=	
x		=	
x		=	
x		=	
x		=	
x		=	

OIL

x	%	=	Feet
x	3	=	1.8
x		=	
x		=	
x		=	
x		=	
x		=	
x		=	
x		=	
x		=	
x		=	
x		=	
x		=	
x		=	
x		=	
x		=	
x		=	
x		=	
x		=	
x		=	
			1.8

MUD

x	%	=	Feet
x	30	=	18
x		=	
x		=	
x		=	
x		=	
x		=	
x		=	
x		=	
x		=	
x		=	
x		=	
x		=	
x		=	
x		=	
x		=	
x		=	
x		=	
x		=	
x		=	
			18

WATER

SAMPLE #	TOTAL FOOTAGE	x	%	=	Feet	CHLORIDES PPM	RESISTIVITY OHMS
1	60	x	67	=	40.2	51,000	
		x		=			
		x		=			
		x		=			
		x		=			
		x		=			
		x		=			
		x		=			
		x		=			
		x		=			
		x		=			
		x		=			
		x		=			
		x		=			
		x		=			
		x		=			
		x		=			
		x		=			
Totals					40.2		

GAS _____

OIL 1.8

MUD 18

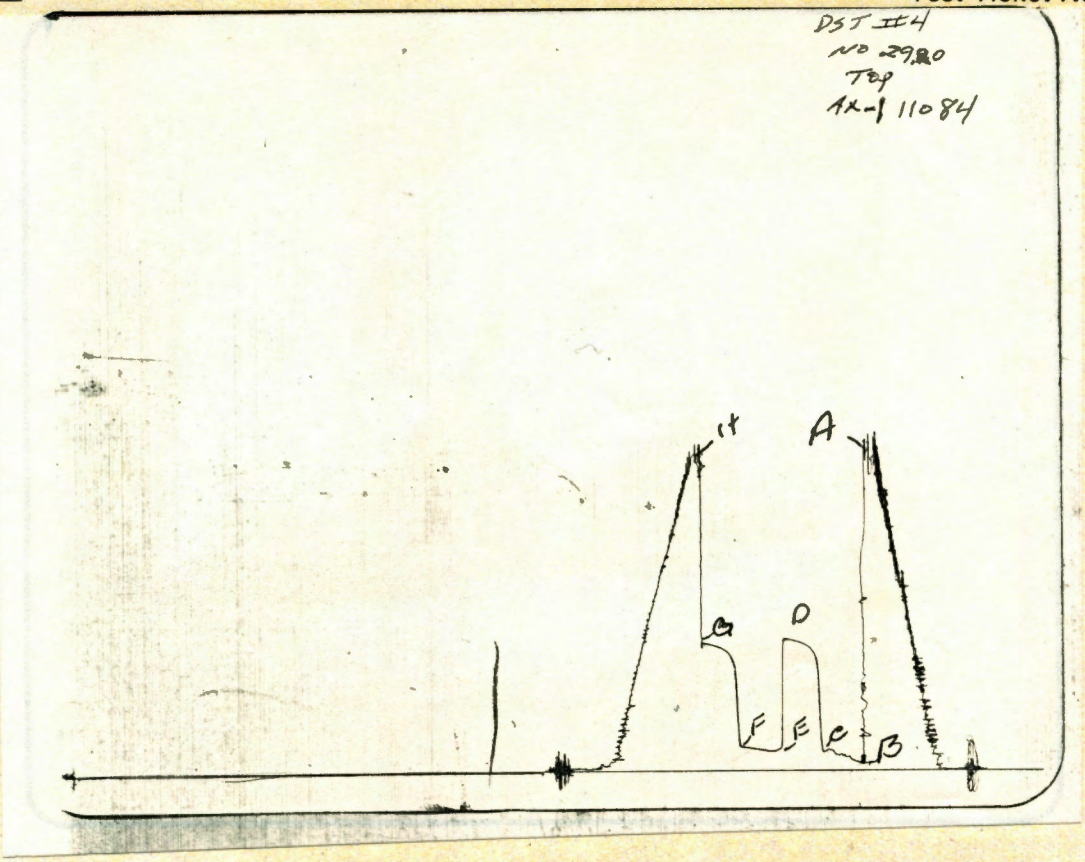
WTR 40.2

TOTAL FLUID 60

CRUDE OIL TESTING INC.

Date 6/12/83 Test Ticket No. 2920

DST # 4



Formation Kansas City Zone 70 Type of Test Conventional
Interval 3,540 To 3,552 Total Depth 3,552
Open 30 Shut In 30 Open 30 Shut In 30
Packer(s) Set 1:43P M. Started off Bottom 3:45P M.
Blow 1st Opening Strong blow off bottom in 7 mins.
2nd Opening Strong blow off bottom in 5 mins.

Recovery
Total Feet 1,520
Recovered 320 Ft. of Gassy frothy oil
Recovered 1,200 Ft. of Gas in pipe
Recovered ____ Ft. of
Recovered ____ Ft. of

Calculated Recovery
Gas 106 Oil 198 WTR 16 MUD
Gravity (Oil) ____ Corrected To Temp. ____ °F Test Water Chlorides ____ P.P.M.
Test Area Temperature 112 °F Mud System Chlorides 38,000 P.P.M.

PRESSURE	**Field Reading**	**Office Reading**	
(A) Initial Hydrostatic Mud	1,789	1,793	PSI
(B) First Initial Flow Pressure	55	402	PSI
(C) First Final Flow Pressure	110	105	PSI
(D) Initial Closed-in Pressure	742	746	PSI
(E) Second Initial Flow Pressure	110	112	PSI
(F) Second Final Flow Pressure	143	139	PSI
(G) Final Closed-in Pressure	721	725	PSI
(H) Final Hydrostatic Mud	1,767	1,780	PSI

TEST REPORT

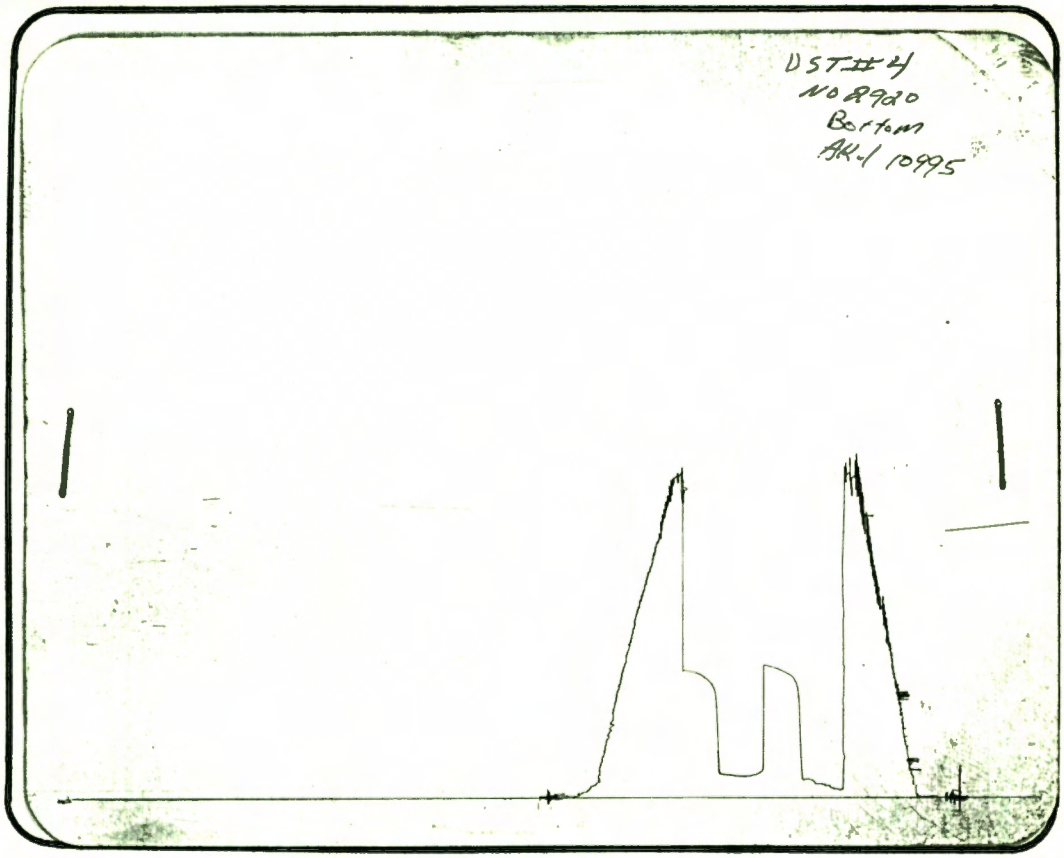
(303) 473-6909
P.O. Box 2260
Colorado Springs, CO 80901

Company A. Scott Ritchie — Test Ticket No. 2920
Company Address 125 N. Market, Suite 950 Wichita KS 67202 — Date 6/12/83
Location: Sec. 7 Twp. 11S Rge. 22W Co. Trego State Kansas — No. of Charts 5
Well Name And Number Buchholz #4 — Tester Troy Leiker
Contractor Murfin — Rig No. 8 — Co. Rep. Roger Fisher

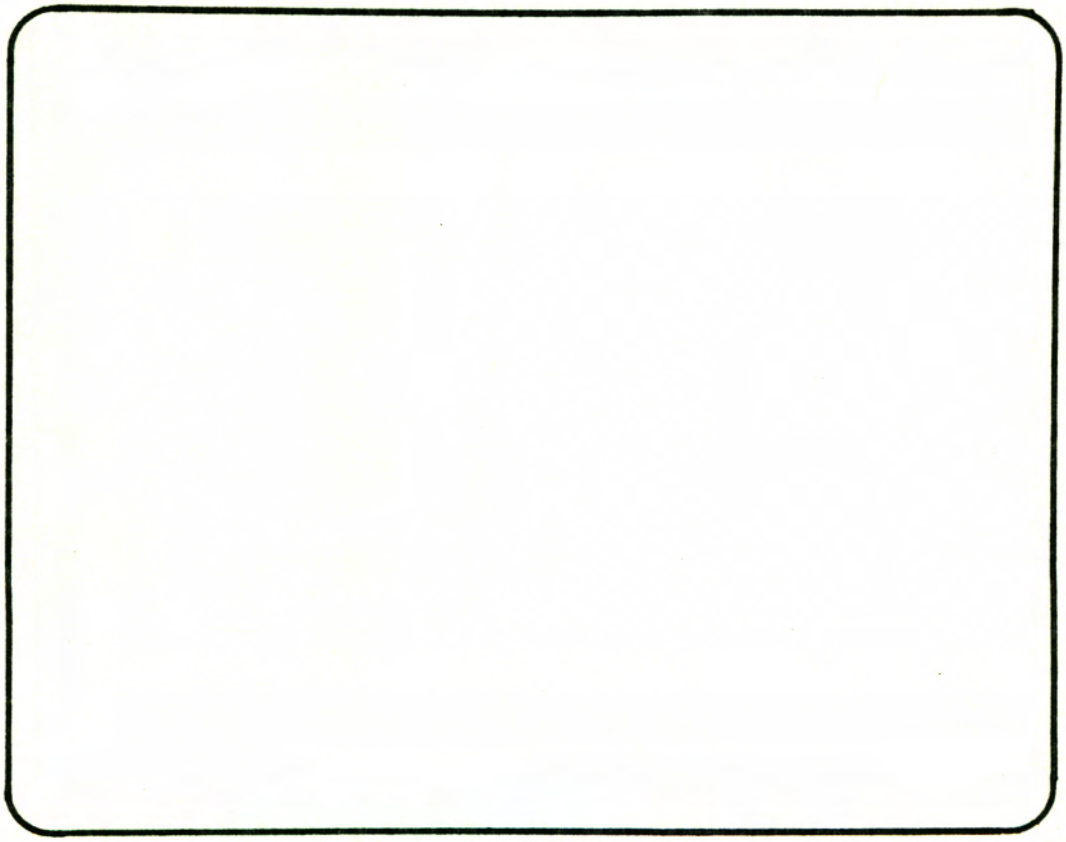
Engineering Data

Elevation 2,212 K.B.
Mud Viscosity 44
Mud Weight 9.3
Water Loss 11.2
Type of Mud Starch
Anchor Length 12
Hole Size 7 7/8
Casing Size 8 5/8
Surface Choke 3/4
Bottom Choke 3/4
Drill Pipe Length 2,623 I.D. 3.8 In.
Weight Pipe Length 691 I.D. 2.76 In.
Drill Collar Length 228 I.D. 2.25 In.
Top Packer Depth. 3,535
Bottom Packer Depth 3,540
Tool Joint Size 4 1/2"
Test Tool Size 5 1/2
Packer Size 6 3/4
Reversed Out No
Recorder Type and No. AK-1 11084 Clock Range No. 22337 12 Hr.
Recorder Type and No. AK-1 10995 Clock Range No. 23839 12 Hr.
Extra Equipment
Remarks Mudpit sample - 38,000 P.P.M.
had a weak blow on final shut-in.
Open Hole Test

CRUDE OIL TESTING INC.



Extra recorder chart



Blank off recorder chart

These are actual photographs of recorder charts.

CRUDE OIL TESTING

P.O. Box 2260
Colorado Springs, Colorado 80901
(303) 473-6909

Recorder Location 3,545 Ft. Recorder No. 11084 Test Ticket No. 2920

PRESSURE BREAKDOWN

First Flow Pressure Breakdown: 6 Inc. of 5 mins. and a final inc. of _____ Min.

Initial Shut-In Breakdown: 6 Inc. of 5 mins. and a final inc. of _____ Min.

Second Flow Pressure Breakdown: 6 Inc. of 5 mins. and a final inc. of _____ Min.

Final Shut-In Breakdown: 6 Inc. of 5 mins. and a final inc. of _____ Min.

	Points Minutes	Press.	Points Minutes	Press.	Points Minutes	Press.	Points Minutes	Press.
P01	00	40	00	105	00	112	00	139
P02	05	42	05	643	05	112	05	612
P03	10	62	10	699	10	114	10	676
P04	15	73	15	721	15	116	15	699
P05	20	86	20	732	20	126	20	713
P06	25	97	25	742	25	132	25	722
P07	30	105	30	746	30	139	30	725
P08								
P09								
P10								
P11								
P12								
P13								
P14								
P15								
P16								
P17								
P18								
P19								
P20								
P21								
P22								
P23								
P24								
P25								
P26								
P27								
P28								
P29								
P30								
P31								
P32								
P33								
P34								
P35								
P36								
P37								
P38								
P39								
P40								

CRUDE OIL TESTING INC.

DRILL STEM TEST RECOVERY ANALYSIS

(303) 473-6909
P.O. Box 2260
Colorado Springs, CO 80901

COMPANY: A. Scott Ritchie LEASE: Buchholz #4 DST # 4

VISUAL DST RECOVERY:

320' Gassy frothy oil
1,200' Gas in pipe

Ticket #2920

CALCULATED DST RECOVERY

SAMPLE #	TOTAL FOOTAGE
1	20
2	60
3	60
4	60
5	60
6	60
Totals	

GAS IN FLUID

x	%	=	Feet
x	5	=	1
x	30	=	18
x	25	=	15
x	35	=	21
x	35	=	21
x	50	=	30
x		=	
x		=	
x		=	
x		=	
x		=	
x		=	
x		=	
x		=	
x		=	
			106

OIL

x	%	=	Feet
x	90	=	18
x	65	=	39
x	70	=	42
x	60	=	36
x	60	=	36
x	45	=	27
x		=	
x		=	
x		=	
x		=	
x		=	
x		=	
x		=	
x		=	
x		=	
x		=	
			198

MUD

x	%	=	Feet
x		=	
x		=	
x		=	
x		=	
x		=	
x		=	
x		=	
x		=	
x		=	
x		=	
x		=	
x		=	
x		=	
x		=	
x		=	
x		=	

WATER

SAMPLE #	TOTAL FOOTAGE	x	%	=	Feet	CHLORIDES PPM	RESISTIVITY OHMS
1	20	x	5	=	1		
2	60	x	5	=	3		
3	60	x	5	=	3		
4	60	x	5	=	3		
5	60	x	5	=	3		
6	60	x	5	=	3		
		x		=			
		x		=			
		x		=			
		x		=			
		x		=			
		x		=			
		x		=			
		x		=			
		x		=			
		x		=			
Totals					16		

GAS 106

OIL 198

MUD

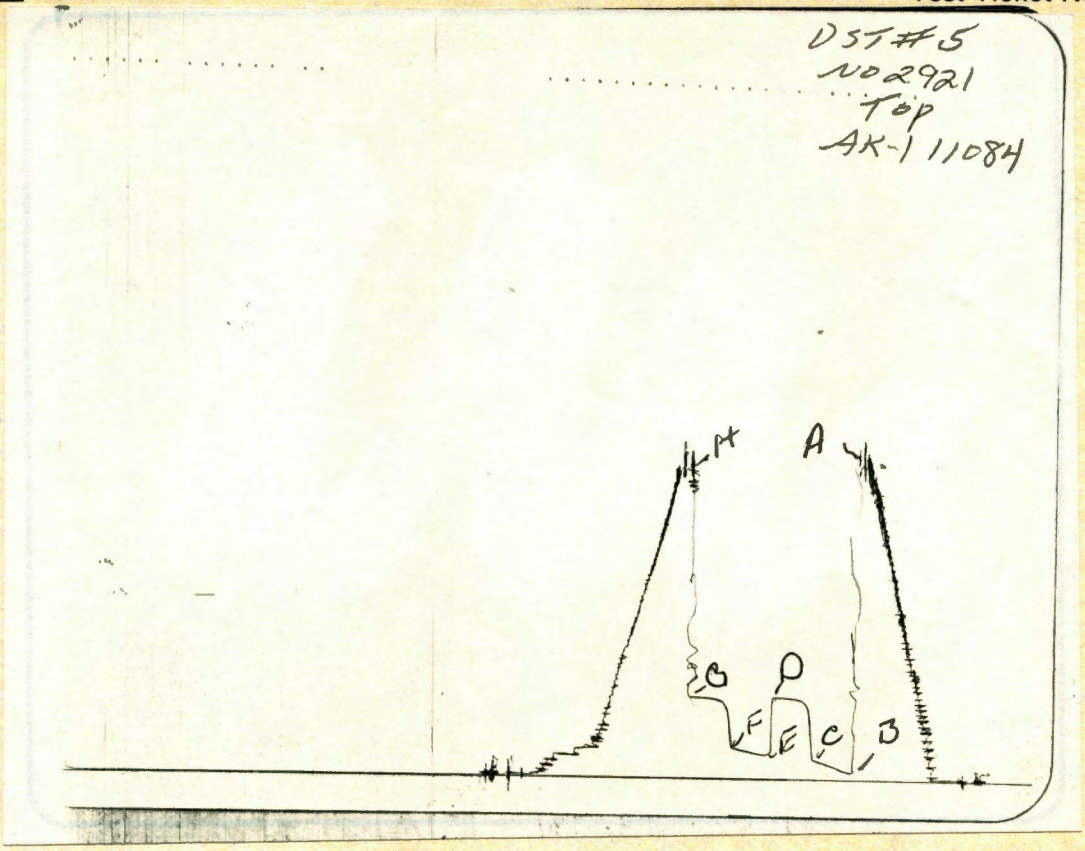
WTR 16

TOTAL FLUID 320

CRUDE OIL TESTING INC.

Date 6/13/83 Test Ticket No. 2921

DST # 5



Formation Kansas City Zone 90 Type of Test Conventional
Interval 3,540 To 3,562 Total Depth 3,562
Open 30 Shut In 30 Open 30 Shut In 30
Packer(s) Set 12:43P M. Started off Bottom 2:45A M.
Blow 1st Opening Strong blow off bottom in 10 mins.
2nd Opening Strong blow off bottom in 10 mins.

Recovery Total Feet 1,180
Recovered 220 Ft. of Clean gassy oil
Recovered 60 Ft. of Mud cut watery oil
Recovered 120 Ft. of Oil cut muddy water
Recovered 780 Ft. of Gas in pipe

Calculated Recovery Gas 70 Oil 198 WTR 105 MUD 27
Gravity (Oil) ____ Corrected To Temp. ____ °F Test Water Chlorides 57,000 P.P.M.
Test Area Temperature 112 °F Mud System Chlorides 38,000 P.P.M.

PRESSURE		**Field Reading**	**Office Reading**	
(A)	Initial Hydrostatic Mud	1,789	1,793	PSI
(B)	First Initial Flow Pressure	44	41	PSI
(C)	First Final Flow Pressure	110	109	PSI
(D)	Initial Closed-in Pressure	471	463	PSI
(E)	Second Initial Flow Pressure	143	139	PSI
(F)	Second Final Flow Pressure	175	184	PSI
(G)	Final Closed-in Pressure	471	463	PSI
(H)	Final Hydrostatic Mud	1,767	1,750	PSI

CRUDE OIL TESTING INC.

(303) 473-6909
P.O. Box 2260
Colorado Springs, CO 80901

TEST REPORT

Test Ticket No. 2921
Company A. Scott Ritchie Date 6/13/83
Company Address 125 N. Market, Suite 950 Wichita, KS 67202 No. of Charts 5
Location: Sec. 7 Twp. 11S Rge. 22W Co. Trego State Kansas
Well Name And Number Buchholz #4 Tester Troy Leiker
Contractor Murfin Rig No. 8 Co. Rep. Roger Fisher

Engineering Data

Elevation 2,212 K.B.
Mud Viscosity 44
Mud Weight 9.3
Water Loss 11.2
Type of Mud Starch
Anchor Length 5
Hole Size 7 7/8
Casing Size 8 5/8
Surface Choke 3/4
Bottom Choke 3/4
Drill Pipe Length 2,623 I.D. 3.8 In.
Weight Pipe Length 691 I.D. 2.76 In.
Drill Collar Length 228 I.D. 2.25 In.
Top Packer Depth. 3,557
Bottom Packer Depth
Tool Joint Size 4 1/2"
Test Tool Size 5 1/2
Packer Size 6 3/4
Reversed Out No
Recorder Type and No. AK-1 11084 Clock Range No. 22337 12 Hr.
Recorder Type and No. AK-1 Clock Range No. 12 Hr.
Extra Equipment Single conventional packer
Remarks Mudpit sample 40,000 P.P.M. Ran recorder above packer.
Ran 1 recorder because of short anchor.
Open Hole Test.

CRUDE OIL TESTING

P.O. Box 2260
Colorado Springs, Colorado 80901
(303) 473-6909

Recorder Location 3,545 Ft. Recorder No. 11084 Test Ticket No. 2921

PRESSURE BREAKDOWN

First Flow Pressure Breakdown: 6 Inc. of 5 mins. and a final inc. of _____ Min.

Initial Shut-In Breakdown: 6 Inc. of 5 mins. and a final inc. of _____ Min.

Second Flow Pressure Breakdown: 6 Inc. of 5 mins. and a final inc. of _____ Min.

Final Shut-In Breakdown: 6 Inc. of 5 mins. and a final inc. of _____ Min.

Points	First Flow Pressure		Initial Shut-In		Second Flow Pressure		Final Shut-In	
	Minutes	Press.	Minutes	Press.	Minutes	Press.	Minutes	Press.
P01	00	41	00	109	00	139	00	184
P02	05	46	05	425	05	139	05	427
P03	10	58	10	449	10	142	10	447
P04	15	73	15	457	15	150	15	457
P05	20	87	20	458	20	161	20	461
P06	25	98	25	461	25	168	25	462
P07	30	109	30	463	30	184	30	463
P08								
P09								
P10								
P11								
P12								
P13								
P14								
P15								
P16								
P17								
P18								
P19								
P20								
P21								
P22								
P23								
P24								
P25								
P26								
P27								
P28								
P29								
P30								
P31								
P32								
P33								
P34								
P35								
P36								
P37								
P38								
P39								
P40								

CRUDE OIL TESTING INC.

DRILL STEM TEST RECOVERY ANALYSIS

(303) 473-6909
P.O. Box 2260
Colorado Springs, CO 80901

COMPANY: A. Scott Ritchie **LEASE:** Buchholz #4 **DST #** 5

VISUAL DST RECOVERY:

60' Mud cut watery oil
120' Oil cut muddy water
220' Clean gassy oil/780' Gas in pipe

Ticket #2921

CALCULATED DST RECOVERY

SAMPLE #	TOTAL FOOTAGE
1	40
2	60
3	60
4	60
5	60
6	60
7	60
Totals	

GAS IN FLUID

x	%	=	Feet
x	10	=	4
x	30	=	18
x	40	=	24
x	20	=	12
x	20	=	12
			70

OIL

x	%	=	Feet
x	90	=	36
x	70	=	42
x	60	=	36
x	80	=	48
x	40	=	24
x	10	=	6
x	10	=	6
			198

MUD

x	%	=	Feet
x		=	
x		=	
x		=	
x		=	
x	10	=	6
x	25	=	15
x	10	=	6
			27

WATER

SAMPLE #	TOTAL FOOTAGE	x	%	=	Feet	CHLORIDES PPM	RESISTIVITY OHMS
1	40	x		=			
2	60	x		=			
3	60	x		=			
4	60	x		=			
5	60	x	30	=	18	57,000	
6	60	x	65	=	39	57,000	
7	60	x	80	=	48	57,000	.045
		x		=			
		x		=			
		x		=			
		x		=			
		x		=			
		x		=			
		x		=			
		x		=			
Totals					105		

GAS 70

OIL 198

MUD 27

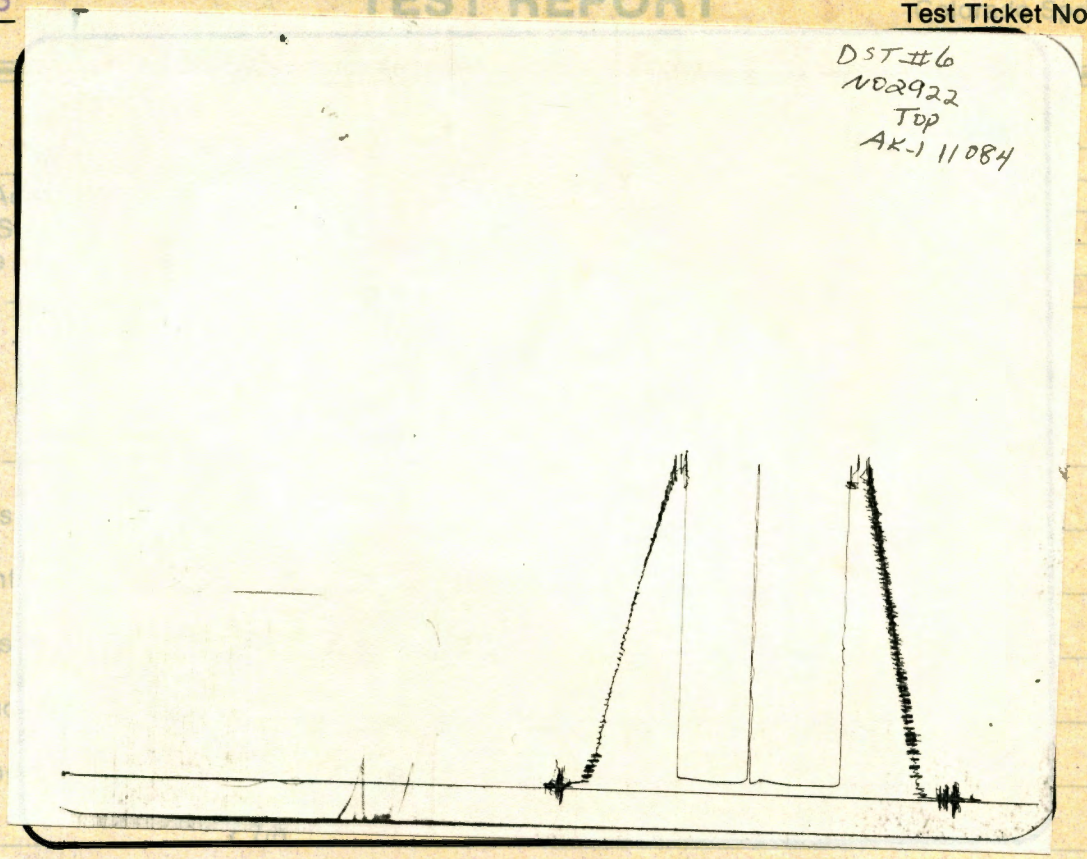
WTR 105

TOTAL FLUID 400

CRUDE OIL TESTING INC.

Date 6/13/83 Test Ticket No. 2922

DST # 6



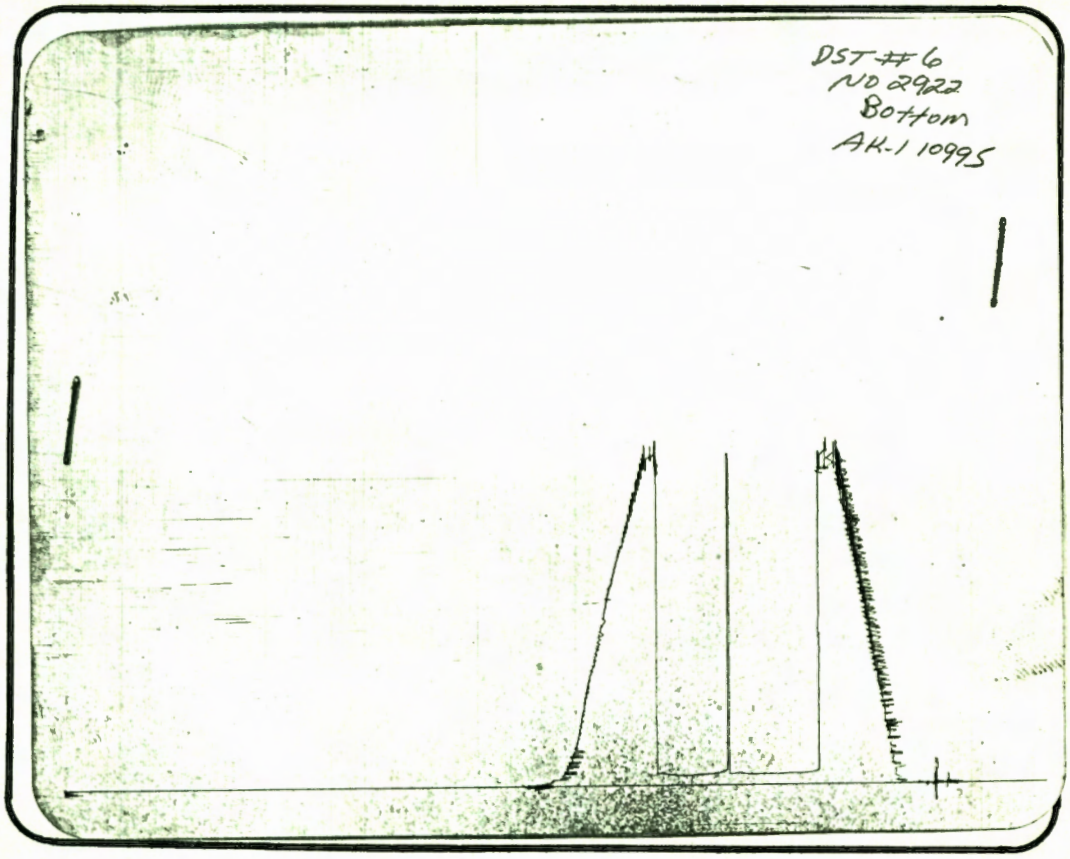
Formation Kansas City Zone Type of Test Conventional
Interval 3,593 To 3,659 Total Depth 3,659
Open 30 Shut In 30 Open 30 Shut In 30
Packer(s) Set 5:28P M. Started off Bottom 7:30P M.
Blow 1st Opening Weak decreasing blow died in 12 mins.
2nd Opening Flushed tool-No blow

Recovery
Total Feet 5
Recovered 5 Ft. of Rotary mud
Recovered Ft. of (No show of oil)
Recovered Ft. of
Recovered Ft. of

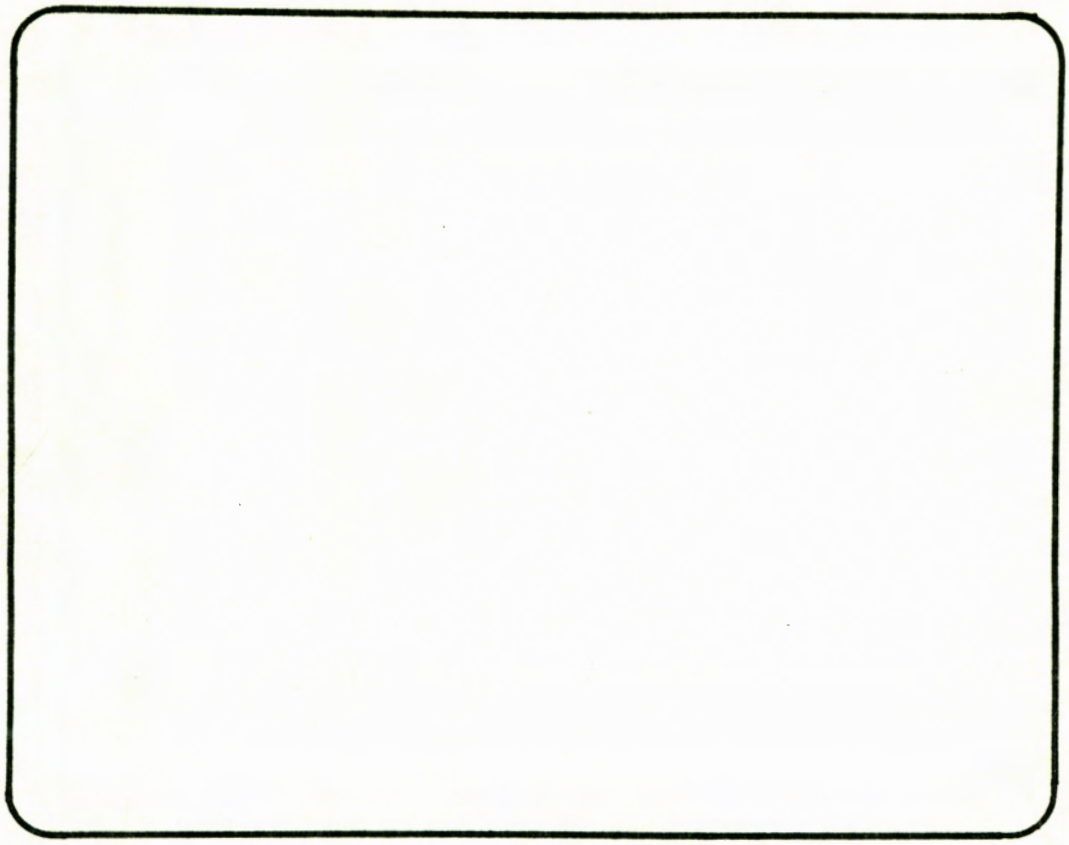
Calculated Recovery
Gas Oil WTR .25 MUD 4.75
Gravity (Oil) Corrected To Temp. °F Test Water Chlorides P.P.M.
Test Area Temperature 110 °F Mud System Chlorides 40,000 P.P.M.

PRESSURE		Field Reading	Office Reading	
	(A) Initial Hydrostatic Mud	1,810		PSI
	(B) First Initial Flow Pressure	66		PSI
	(C) First Final Flow Pressure	66		PSI
	(D) Initial Closed-in Pressure	88		PSI
	(E) Second Initial Flow Pressure	66		PSI
	(F) Second Final Flow Pressure	66		PSI
	(G) Final Closed-in Pressure	88		PSI
	(H) Final Hydrostatic Mud	1,789		PSI

CRUDE OIL TESTING INC.



Extra recorder chart



Blank off recorder chart

These are actual photographs of recorder charts.

CRUDE OIL TESTING INC.

DRILL STEM TEST RECOVERY ANALYSIS

(303) 473-6909
P.O. Box 2260
Colorado Springs, CO 80901

COMPANY: A. Scott Ritchie LEASE: Buchholz #4 DST # 6

5' Rotary mud
(No show of oil)

VISUAL DST RECOVERY:

Ticket #2922

CALCULATED DST RECOVERY

SAMPLE #	TOTAL FOOTAGE
1	5
Totals	

GAS IN FLUID

x	%	=	Feet
x		=	
x		=	
x		=	
x		=	
x		=	
x		=	
x		=	
x		=	
x		=	
x		=	
x		=	
x		=	
x		=	
x		=	
x		=	
x		=	
x		=	

OIL

x	%	=	Feet
x		=	
x		=	
x		=	
x		=	
x		=	
x		=	
x		=	
x		=	
x		=	
x		=	
x		=	
x		=	
x		=	
x		=	
x		=	
x		=	
x		=	
x		=	

MUD

x	%	=	Feet
x	95	=	4.75
x		=	
x		=	
x		=	
x		=	
x		=	
x		=	
x		=	
x		=	
x		=	
x		=	
x		=	
x		=	
x		=	
x		=	
x		=	
x		=	
x		=	

4.75

WATER

SAMPLE #	TOTAL FOOTAGE	x	%	=	Feet	CHLORIDES PPM	RESISTIVITY OHMS
1	5	x	5	=	.25		
		x		=			
		x		=			
		x		=			
		x		=			
		x		=			
		x		=			
		x		=			
		x		=			
		x		=			
		x		=			
		x		=			
		x		=			
		x		=			
		x		=			
		x		=			
		x		=			
		x		=			
Totals					.25		

GAS _____

OIL _____

MUD 4.75

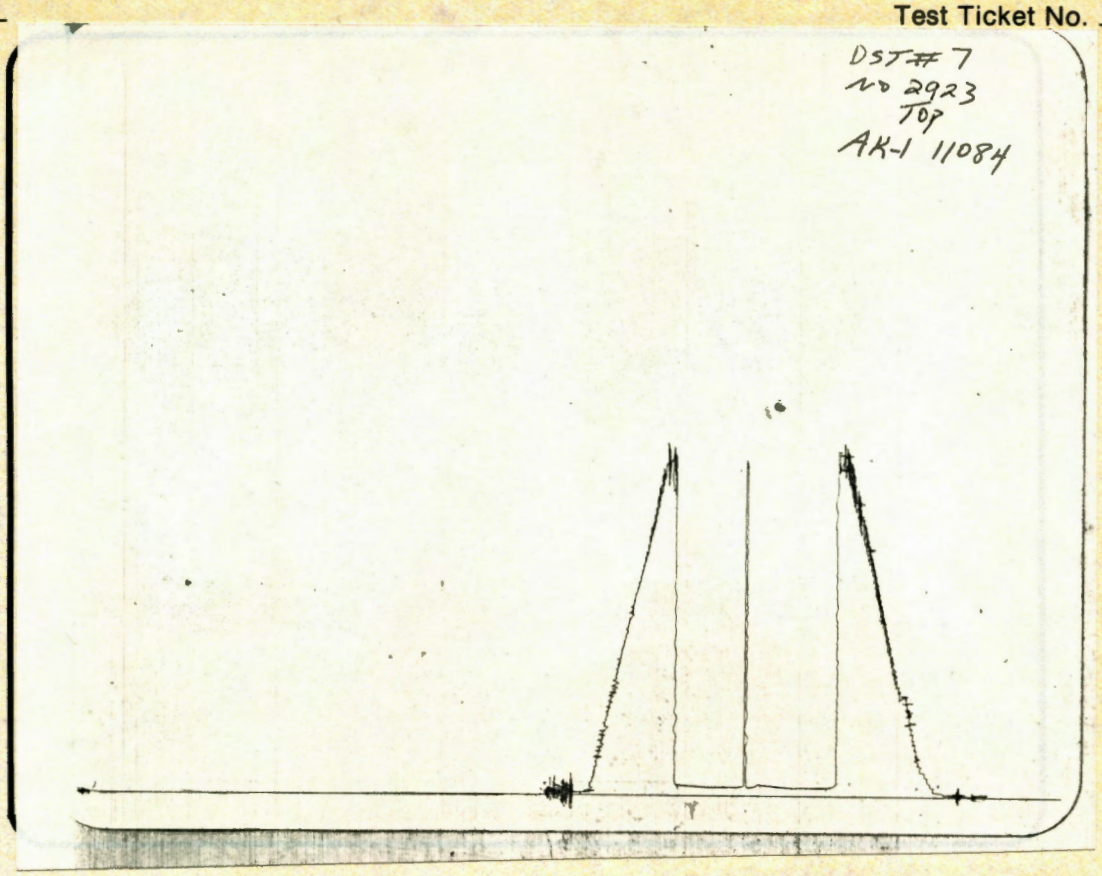
WTR .25

TOTAL FLUID 5

CRUDE OIL TESTING INC.

Date 6/14/83 Test Ticket No. 2923

DST # 7



Formation Kansas City Zone 200 & 220 Type of Test Conventional
Interval 3,656 To 3,695 Total Depth 3,695
Open 30 Shut In 30 Open 30 Shut In 30
Packer(s) Set 5:58A M. Started off Bottom 8:00A M.
Blow 1st Opening Weak decreasing blow-died in 17 mins.
2nd Opening No blow-flushed tool

Recovery
Total Feet 5
Recovered 5 Ft. of Rotary mud
Recovered ____ Ft. of (No show of oil)
Recovered ____ Ft. of
Recovered ____ Ft. of

Calculated Recovery
Gas ____ Oil ____ WTR .5 MUD 4.5
Gravity (Oil) ____ Corrected To Temp. ____ °F Test Water Chlorides ____ P.P.M.
Test Area Temperature 111 °F Mud System Chlorides 40,000 P.P.M.

PRESSURE	Field Reading	Office Reading	
(A) Initial Hydrostatic Mud	1,821		PSI
(B) First Initial Flow Pressure	55		PSI
(C) First Final Flow Pressure	55		PSI
(D) Initial Closed-in Pressure	77		PSI
(E) Second Initial Flow Pressure	55		PSI
(F) Second Final Flow Pressure	55		PSI
(G) Final Closed-in Pressure	66		PSI
(H) Final Hydrostatic Mud	1,800		PSI

CRUDE OIL TESTING INC.

(303) 473-6909
P.O. Box 2260
Colorado Springs, CO 80901

TEST REPORT

Test Ticket No. 2923

Company A. Scott Ritchie Date 6/14/83

Company Address 125 N. Market, Suite 950 Wichita, KS 67202 No. of Charts 5

Location: Sec. 7 Twp. 11S Rge. 22W Co. Trego State Kansas

Well Name And Number Buchholz #4 Tester Troy Leiker

Contractor Murfin Rig No. 8 Co. Rep. Roger Fisher

Engineering Data

Elevation 2,212 K.B.

Mud Viscosity 40

Mud Weight 9.2

Water Loss 11.0

Type of Mud Starch

Anchor Length 39

Hole Size 7 7/8

Casing Size 8 5/8

Surface Choke 3/4

Bottom Choke 3/4

Drill Pipe Length 2,749 I.D. 3.8 In.

Weight Pipe Length 691 I.D. 2.76 In.

Drill Collar Length 228 I.D. 2.25 In.

Top Packer Depth. 3,651

Bottom Packer Depth 3,656

Tool Joint Size 4 1/2"

Test Tool Size 5 1/2

Packer Size 6 3/4

Reversed Out No

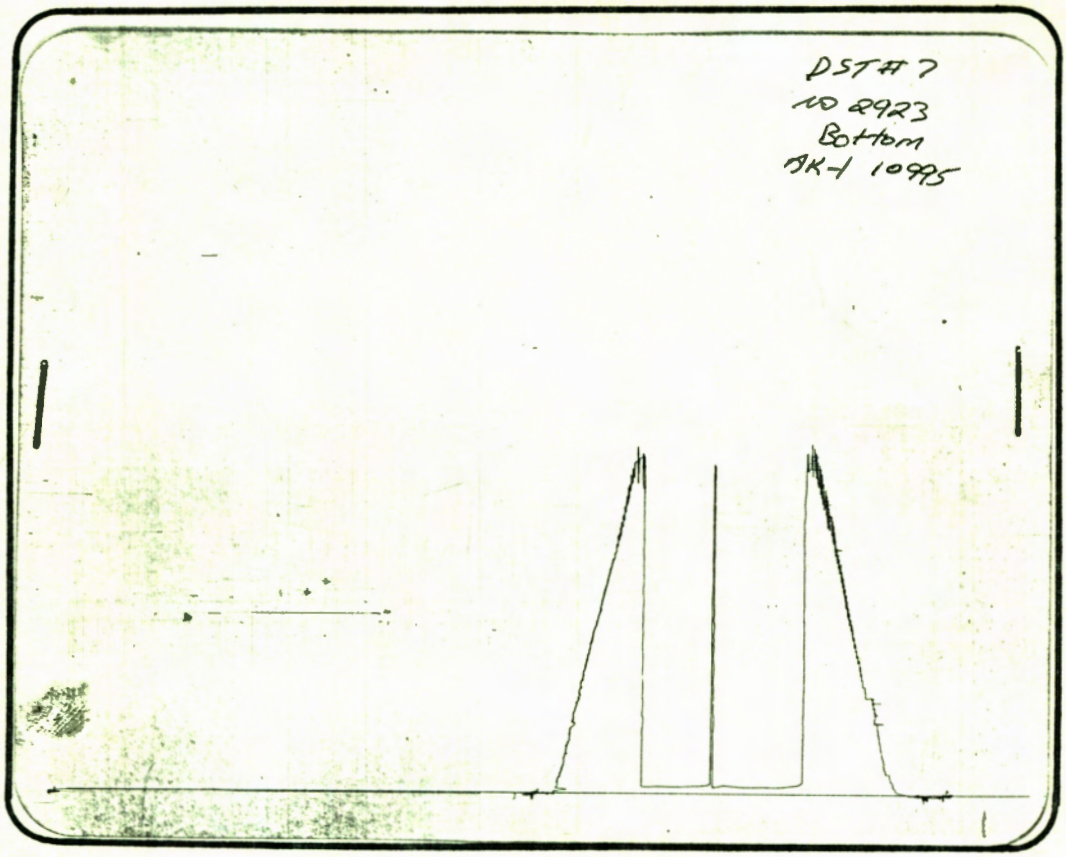
Recorder Type and No. AK-1 11084 Clock Range No. 22337 12 Hr.

Recorder Type and No. AK-1 10995 Clock Range No. 23839 12 Hr.

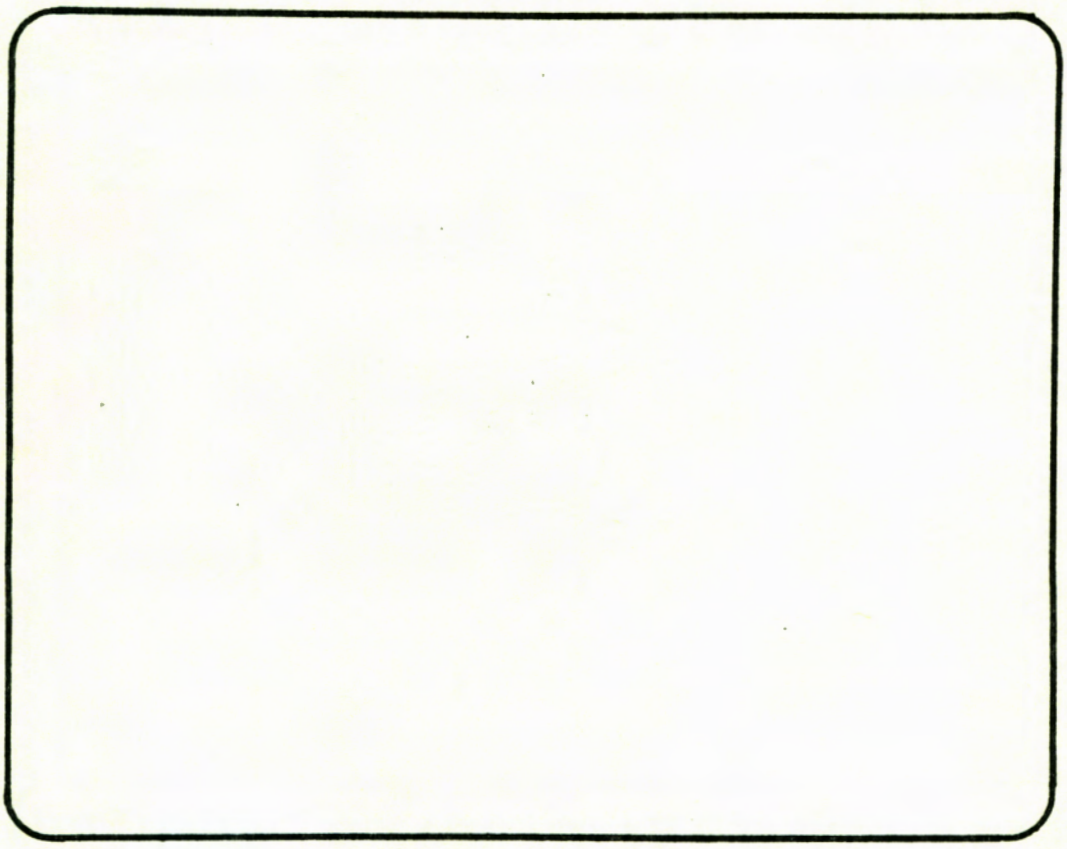
Extra Equipment

Remarks Flushed tool-got surge-no help.
Mudpit sample - 44,000 P.P.M.
Open Hole Test.

CRUDE OIL TESTING INC.



Extra recorder chart



Blank off recorder chart

These are actual photographs of recorder charts.

CRUDE OIL TESTING INC.

DRILL STEM TEST RECOVERY ANALYSIS

(303) 473-6909
P.O. Box 2260
Colorado Springs, CO 80901

COMPANY: A. Scott Ritchie **LEASE:** Buchholz #4 **DST #** 7

5' Rotary mud

VISUAL DST RECOVERY:

Ticket #2923

CALCULATED DST RECOVERY

SAMPLE #	TOTAL FOOTAGE
1	5