

ORIGINAL

CONFIDENTIAL

CHARTER PRODUCTION COMPANY
224 E. DOUGLAS, SUITE 400
WICHITA, KANSAS 67202
316-264-2808

SEP 27

CONFIDENTIAL

DAILY DRILLING REPORT

BOYD FOX "A" #1—1993 HPEP
C SE SW/4 SECTION 24-32S-30W
MEADE COUNTY, KANSAS
CLAIRETTE PROSPECT
API # 15-119-20867

2724' GL
2734' KB

DST #1 5606'-5655'

Times: 30"-60"-30"-30"

1st Open: Weak Surface Blow—died in 20"

2nd Open: No Blow

RECOVERED 30' MUD

Initial Flow: 58-56 PSI Initial Shut In: 81 PSI

Final Flow: 58-58 PSI Final Shut In: 81 PSI

Initial Hydrostatic: 2955 PSI Final Hydrostatic: 2934 PSI

BHT 126°

DST #2 5605'-5688'

Times: 60"-60"-90"-120"

1st Open: Weak blow bldg. to BOB in 22" (unseated packers momentarily when opening tool)

2nd Open: GTS in 5", TSM

RECOVERED: 180' MUD

170' GCM (3% gas)

Initial Flow: 132-172 PSI

Initial Shut In: 718 PSI

Final Flow: 142-182 PSI

Final Shut In: 1326 PSI

Initial Hydrostatic: 2787 PSI

Final Hydrostatic: 2758 PSI

BHT 128°

8-16-93

7:00 AM 5800' OPERATION: DRILLING

DST #3 5677'-5731'

Times: 60"-60"-60"-60"

1st Open: Very weak blow bldg. to 1 1/2" and steady

2nd Open: Very weak blow bldg to 1/2"

RECOVERED: 130' DRILLING MUD

Initial Flow: 81-75 PSI

Initial Shut In: 154 PSI

Final Flow: 121-105 PSI

Final Shut In: 152 PSI

Initial Hydrostatic: 2810 PSI

Final Hydrostatic: 2772 PSI

BHT 129°

8-18-93

RELEASED

OCT 12 1994

FROM CONFIDENTIAL

RECEIVED
STATE CORPORATION COMMISSION

SEP 28 1993

CONSERVATION DIVISION
Wichita, Kansas

ORIGINAL CONFIDENTIAL

DST #4 5856'-6073'

Times: 60"-60"-60"-90"

1st open: Strong Blow—Nearly died

2nd open: Weak Blow to 1/2"

RECOVERED: 90' MUD

30' GCM (3% GAS)

Initial Flow: 71-65 PSI

Initial Shut In: 113 PSI

Final Flow: 73-93 PSI

Final Shut In: 126 PSI

1/2° at 6075'

Mud Properties: WT 9.2, Viscosity 51, WL 10.4, Chl 6000, MCD 10299.

SEP 27

CONFIDENTIAL

8-19-93

DST #5 5746'-5790'

Times: 60"-60"-60"-90"

Strong blow BOB 11"

Strong blow 1"

No gas to surface, NO GIP

RECOVERED: 380' Total Fluid

80' Mud

60' GOCM (10% oil, 55% mud, 35% gas)

60' HMC GO (45% oil, 50% mud, 5% gas)

60' SMC O (44% oil, 38% mud, 18% gas)

60' VSMCO (68% oil, 15% gas, 14% mud)

60' VHOCM (44% oil, 50% mud, 6% gas)

Initial Flow: 172-146 PSI

Initial Shut In: 872 PSI

Final Flow: 174-176 PSI

Final Shut In: 997 PSI

Initial Hydrostatic: 2897 PSI

Final Hydrostatic: 2887 PSI

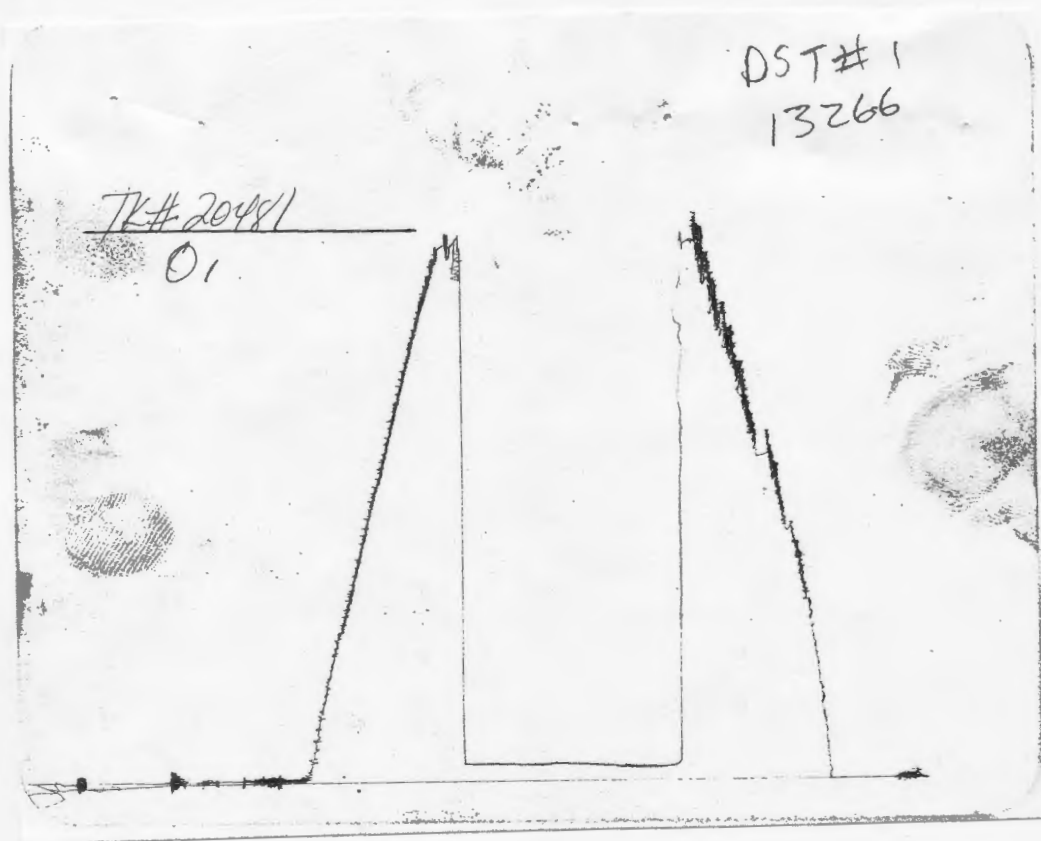
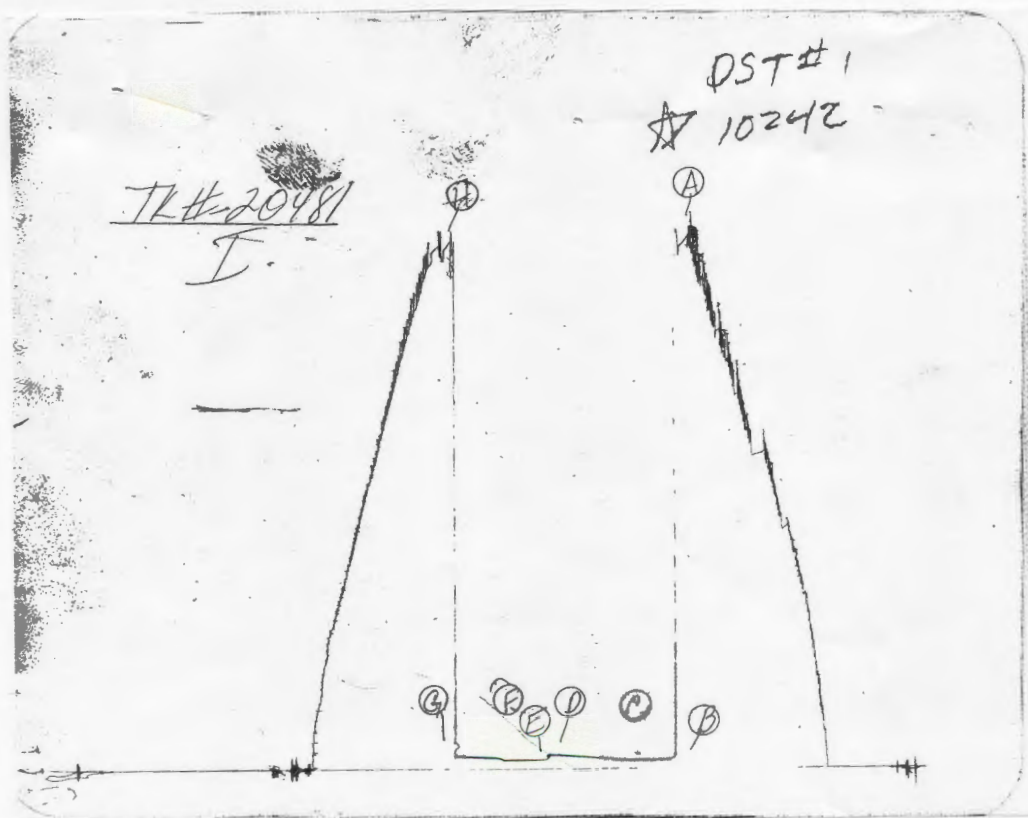
Temp 139°

Bottom packer did not hold.

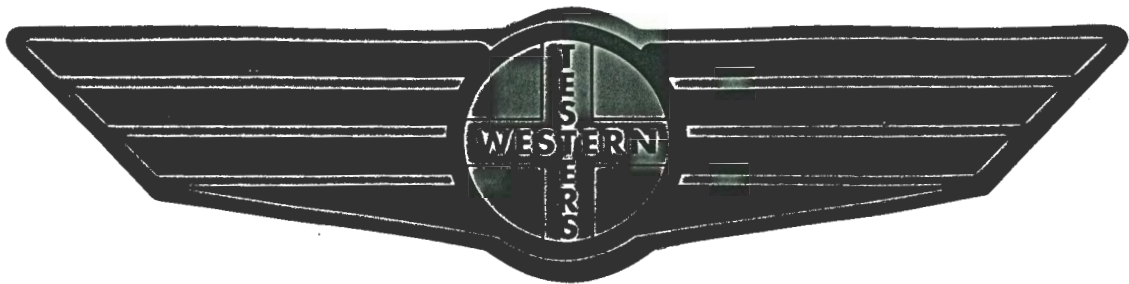
RELEASED

OCT 12 1994

FROM CONFIDENTIAL



FORMATION TEST REPORT



Home Office:

Wichita, Kansas 67201

P.O. Box 1599

Phone 1 - 800-688- 7021

DST REPORT

GENERAL INFORMATION

DATE	: 8/13/93	TICKET	: 20481
CUSTOMER	: CHARTER PRODUCTION CO.	LEASE	: BOYD FOX A
WELL	: #1	TEST:	1
ELEVATION:	2724	GEOLOGIST:	?
SECTION	: 24	FORMATION:	
RANGE	: 30W	TOWNSHIP	: 32S
GAUGE SN#:	10242	STATE	: KS
		CLOCK	: 12
	COUNTY: MEADE		
	RANGE : 4100		

WELL INFORMATION

PERFORATION INTERVAL FROM:	5606.00 ft	TO:	5655.00 ft	TVD:	5655.0 ft
DEPTH OF SELECTIVE ZONE:				TEST TYPE:	OIL
DEPTH OF RECORDERS:	5645.0 ft		5648.0 ft		
TEMPERATURE:	126.0				
DRILL COLLAR LENGTH:	520.0 ft	I.D.:		2.250 in	
WEIGHT PIPE LENGTH :	0.0 ft	I.D.:		0.000 in	
DRILL PIPE LENGTH :	5058.0 ft	I.D.:		3.800 in	
TEST TOOL LENGTH :	28.0 ft	TOOL SIZE :		5.500 in	
ANCHOR LENGTH :	49.0 ft	ANCHOR SIZE:		5.500 in	
SURFACE CHOKE SIZE :	0.750 in	BOTTOM CHOKE SIZE:		0.750 in	
MAIN HOLE SIZE :	7.875 in	TOOL JOINT SIZE :		4.5XH	
PACKER DEPTH:	5601.0 ft	SIZE:		6.630 in	
PACKER DEPTH:	5606.0 ft	SIZE:		6.630 in	
PACKER DEPTH:	0.0 ft	SIZE:		0.000 in	
PACKER DEPTH:	0.0 ft	SIZE:		0.000 in	

MUD INFORMATION

DRILLING CON. :	MURFIN DRLG RIG 21	VISCOSITY :	44.00 cp
MUD TYPE :	CHEMICAL	WATER LOSS:	9.600 cc
WEIGHT :	9.200 ppg		
CHLORIDES :	5000 ppm	SERIAL NUMBER:	415
JARS-MAKE :	WTC	REVERSED OUT?:	NO
DID WELL FLOW?:	NO		

COMMENTS

Comment

INITIAL FLOW PERIOD WEAK SURFACE BLOW BUILT TO 1/2
INCH IN BUCKET - DIED IN 20 MINUTES.
FINAL FLOW PERIOD NO BLOW.

DST REPORT (CONTINUED)

FLUID RECOVERY

Feet of Fluid	% Oil	% Gas	% Water	% Mud	Comments
30.0	0.0	0.0	0.0	100.0	MUD

RATE INFORMATION

OIL VOLUME:	0.0000	STB	TOTAL FLOW TIME:	60.0000	min.
GAS VOLUME:	0.0000	SCF	AVERAGE OIL RATE:	0.0000	STB/D
MUD VOLUME:	0.1475	STB	AVERAGE WATER RATE:	0.0000	STB/D
WATER VOLUME:	0.0000	STB			
TOTAL FLUID :	0.1475	STB			

FIELD TIME & PRESSURE INFORMATION

INITIAL HYDROSTATIC PRESSURE: 2955.00

Description	Duration	p1	p End
INITIAL FLOW	30.00	58.00	56.00
INITIAL SHUT-IN	60.00		81.00
FINAL FLOW	30.00	58.00	58.00
FINAL SHUT-IN	30.00		81.00

FINAL HYDROSTATIC PRESSURE: 2934.00

OFFICE TIME & PRESSURE INFORMATION

INITIAL HYDROSTATIC PRESSURE: 2924.00

Description	Duration	p1	p End
INITIAL FLOW	30.00	67.00	57.00
INITIAL SHUT-IN	60.00		86.00
FINAL FLOW	30.00	61.00	56.00
FINAL SHUT-IN	30.00		72.00

FINAL HYDROSTATIC PRESSURE: 2864.00

PRESSURE TRANSIENT REPORT

GENERAL INFORMATION

DATE : 8/13/93	TICKET : 20481
CUSTOMER : CHARTER PRODUCTION CO.	LEASE : BOYD FOX A
WELL : #1	GEOLOGIST: ?
ELEVATION: 2724	FORMATION:
SECTION : 24	TOWNSHIP : 32S
RANGE : 30W	STATE : KS
GAUGE SN#: 10242	CLOCK : 12
COUNTY: MEADE	
RANGE : 4100	

INITIAL FLOW

Time (min)	Pressure	Delta P
0.00	67.00	67.00
5.00	56.00	-11.00
10.00	57.00	1.00
15.00	57.00	0.00
20.00	57.00	0.00
25.00	57.00	0.00
30.00	57.00	0.00

INITIAL SHUT IN

Time (min)	Pressure	Delta P	Horner T
3.00	57.00	57.00	0.00
6.00	57.00	0.00	0.00
9.00	61.00	4.00	0.00
12.00	63.00	2.00	0.00
15.00	65.00	2.00	0.00
18.00	67.00	2.00	0.00
21.00	69.00	2.00	0.00
24.00	71.00	2.00	0.00
27.00	73.00	2.00	0.00
30.00	75.00	2.00	0.00
33.00	77.00	2.00	0.00
36.00	78.00	1.00	0.00
39.00	79.00	1.00	0.00
42.00	80.00	1.00	0.00
45.00	81.00	1.00	0.00
48.00	82.00	1.00	0.00
51.00	83.00	1.00	0.00
54.00	84.00	1.00	0.00
57.00	85.00	1.00	0.00

PRESSURE TRANSIENT REPORT (CONTINUED)

INITIAL SHUT IN (CONTINUED)

<u>Time (min)</u>	<u>Pressure</u>	<u>Delta P</u>	<u>Horner T</u>
60.00	86.00	1.00	0.00

FINAL FLOW

<u>Time (min)</u>	<u>Pressure</u>	<u>Delta P</u>
0.00	61.00	61.00
5.00	56.00	-5.00
10.00	56.00	0.00
15.00	56.00	0.00
20.00	56.00	0.00
25.00	56.00	0.00
30.00	56.00	0.00

FINAL SHUT IN

<u>Time (min)</u>	<u>Pressure</u>	<u>Delta P</u>	<u>Horner T</u>
3.00	63.00	63.00	0.00
6.00	68.00	5.00	0.00
9.00	68.00	0.00	0.00
12.00	69.00	1.00	0.00
15.00	69.00	0.00	0.00
18.00	70.00	1.00	0.00
21.00	70.00	0.00	0.00
24.00	71.00	1.00	0.00
27.00	71.00	0.00	0.00
30.00	72.00	1.00	0.00



WESTERN TESTING CO., INC.
FORMATION TESTING

TICKET N^o 20481

P. O. BOX 1599 PHONE (316) 262-5861
WICHITA, KANSAS 67201

Elevation 2724 Formation _____ Eff. Pay _____ Ft.

District Garden City Date 8-13-93 Customer Order No. _____

COMPANY NAME Charter Prod. Comp.

ADDRESS 224 E. Douglas Suite 400

LEASE AND WELL NO. Boyd Fox A #1 COUNTY Mcade STATE KS Sec. 24 Twp. 32S Rge. 30W

Mail Invoice To Charter Prod Co. Co. Name SAME Address SAME No. Copies Requested Recs

Mail Charts To SAME #1 Boyd Fox A #1 Address SAME No. Copies Requested Recs

Formation Test No. 1 Interval Tested From 5606 ft. to 5655 ft. Total Depth 5655 ft.

Packer Depth 5601 ft. Size 658 in. Packer Depth _____ ft. Size _____ in.

Packer Depth 5606 ft. Size 658 in. Packer Depth _____ ft. Size _____ in.

Depth of Selective Zone Set _____

Top Recorder Depth (Inside) 5645 ft. Recorder Number 10242 Cap. 4100

Bottom Recorder Depth (Outside) 5648 ft. Recorder Number 13266 Cap. 4000

Below Straddle Recorder Depth _____ ft. Recorder Number _____ Cap. _____

Drilling Contractor Murfin Drilling #21 Drill Collar Length 520 I. D. 2 1/4 in.

Mud Type Chem. Viscosity 44 Weight Pipe Length _____ I. D. _____ in.

Weight 9.2 Water Loss 9.6 cc. Drill Pipe Length 5089-5058 I. D. 3.8 in.

Chlorides 5000 P.P.M. Test Tool Length 28 ft. Tool Size _____ in.

Jars: Make WTC Serial Number 415 Anchor Length (31 + 18) 49 ft. Size 4 1/2 + 5 1/2 in.

Did Well Flow? NO Reversed Our NO Surface Choke Size 3/4 in. Bottom Choke Size 3/4 in.

Main Hole Size 7 7/8 in. Tool Joint Size 4 1/2 x 4 in.

Blow: weak surface built to 1/2 in bucket - died in 20 min I.F.
NO BLOW P.F.

Recovered 30 ft. of _____

Recovered _____ ft. of _____

Recovered _____ ft. of _____

Recovered _____ ft. of _____

Recovered _____ ft. of _____

Chlorides _____ P.P.M. Sample Jars used _____ Remarks: Total P/I Rec 30'

Time On Location 12:45 AM Time Pick Up Tool 2:30 AM Time Off Location _____ AM

Time Set Packer(s) 5:25 AM Time Started Off Bottom 7:55 AM Maximum Temperature 126° F

Initial Hydrostatic Pressure _____ (A) 2955 P.S.I.

Initial Flow Period _____ Minutes 30 (B) 58 P.S.I. to (C) 56 P.S.I.

Initial Closed In Period _____ Minutes 60 (D) 81 P.S.I.

Final Flow Period _____ Minutes 30 (E) 58 P.S.I. to (F) 58 P.S.I.

Final Closed In Period _____ Minutes 30 (G) 81 P.S.I.

Final Hydrostatic Pressure _____ (H) 2934 P.S.I.

COMPANY TERMS

Western Testing Co., Inc. shall not be liable for damages of any kind to the property or personnel of the one for whom a test is made or for any loss suffered or sustained directly or indirectly through the use of its equipment, of its statements or opinion concerning the results of any test. Tools lost or damaged in the hole shall be paid at cost by the party for whom the test is made.

All charges subject to 12% interest after 60 days from date of invoice. Any expense incurred for collection will be added to the original amount.

Test Approved By [Signature]
Signature of Customer or his authorized representative

Western Representative [Signature]

FIELD INVOICE

Open Hole Test ☒ \$ ✓
Misrun \$ _____
Straddle Test \$ _____
Jars ☒ \$ ✓
Selective Zone \$ _____
Safety Joint ☒ \$ ✓
Standby \$ _____
Evaluation \$ _____
Extra Packer \$ _____
Circ. Sub. ☒ \$ _____
Mileage \$ _____
Fluid Sampler \$ _____
Extra Charts \$ _____
Insurance \$ _____
Telecopier \$ _____
TOTAL \$ _____

WESTERN TESTING CO., INC.

Pressure Data

Backside

Date 8-13-93

Test Ticket No. 20481

Recorder No. _____ Capacity _____ Location _____ Ft. _____

Clock No. _____ Elevation _____ Well Temperature _____ °F

Point	Pressure		Time Given	Time Computed
A Initial Hydrostatic Mud	<u>2924</u>	P.S.I.	<u>30</u>	<u>30</u>
B First Initial Flow Pressure	<u>67</u>	P.S.I.	<u>30</u>	<u>30</u>
C First Final Flow Pressure	<u>57</u>	P.S.I.	<u>60</u>	<u>60</u>
D Initial Closed-in Pressure	<u>86</u>	P.S.I.	<u>30</u>	<u>30</u>
E Second Initial Flow Pressure	<u>61</u>	P.S.I.	<u>30</u>	<u>30</u>
F Second Final Flow Pressure	<u>56</u>	P.S.I.		
G Final Closed-in Pressure	<u>72</u>	P.S.I.		
H Final Hydrostatic Mud	<u>2864</u>	P.S.I.		

Open Tool

First Flow Pressure

Initial Closed-in Pressure

Second Flow Pressure

Final Closed-in Pressure

PRESSURE BREAKDOWN

First Flow Pressure

Breakdown: _____ Inc.
of 5 mins. and a
final inc. of 0 Min.

Initial Shut-In

Breakdown: _____ Inc.
of 3 mins. and a
final inc. of 0 Min.

Second Flow Pressure

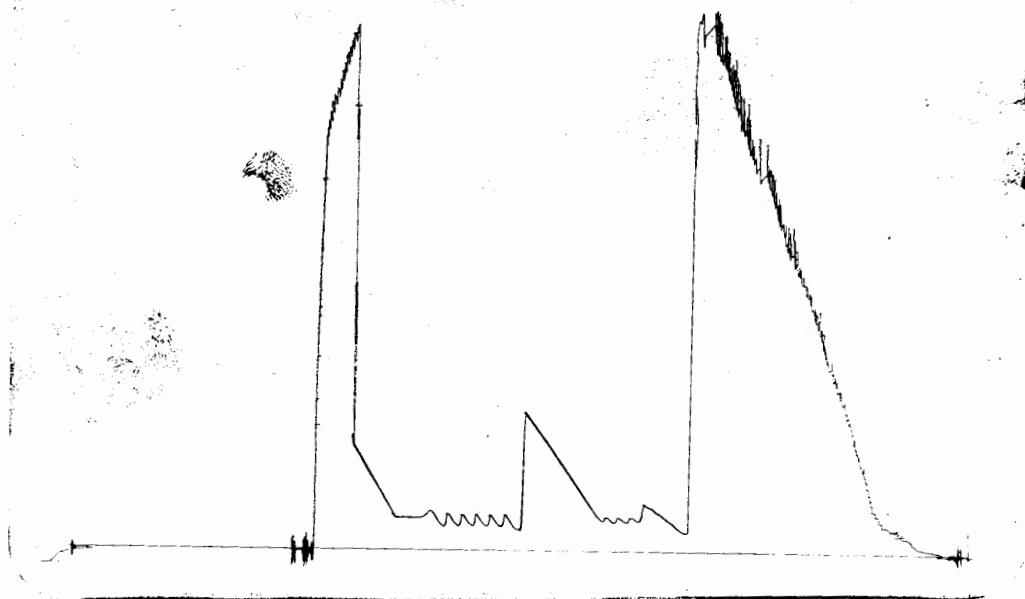
Breakdown: _____ Inc.
of 5 mins. and a
final inc. of 0 Min.

Final Shut-In

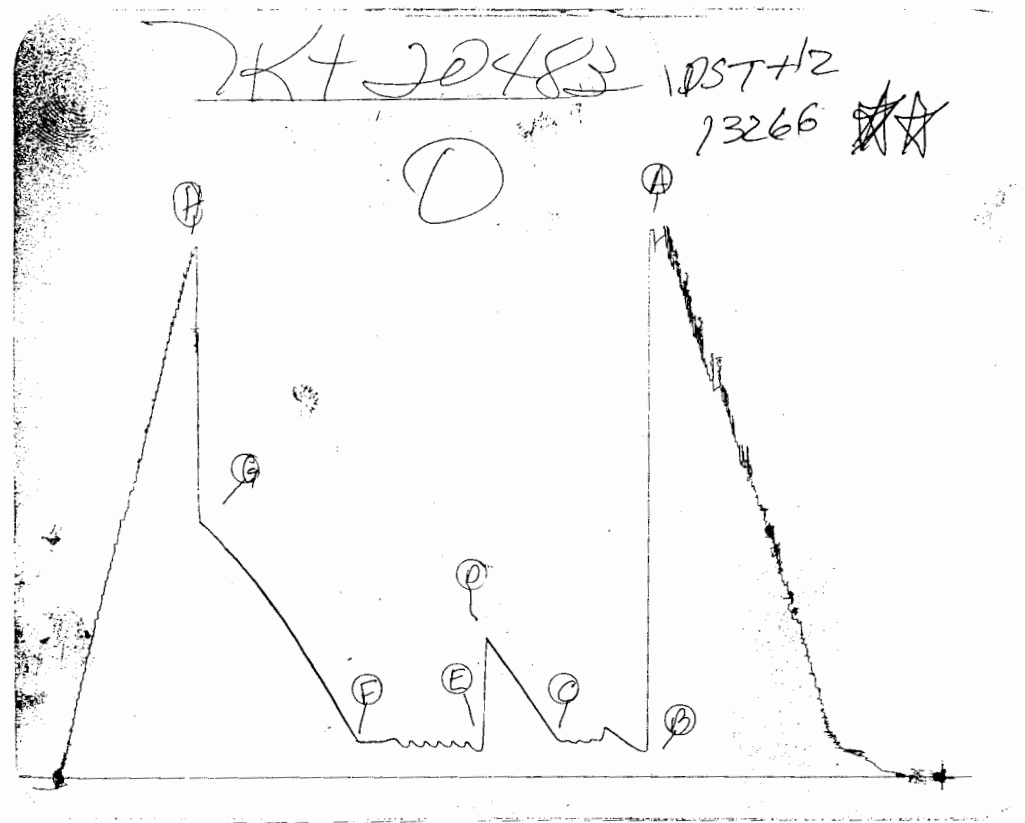
Breakdown: _____ Inc.
of 3 mins. and a
final inc. of 0 Min.

Point Mins.	Press.	Point Minutes	Press.	Point Minutes	Press.	Point Minutes	Press.
P 1 0	<u>67</u>	0	<u>57</u>	0	<u>61</u>	0	<u>56</u>
P 2 5	<u>56</u>	3	<u>57</u>	5	<u>56</u>	3	<u>63</u>
P 3 10	<u>57</u>	6	<u>57</u>	10	<u>56</u>	6	<u>68</u>
P 4 15	<u>57</u>	9	<u>61</u>	15	<u>56</u>	9	<u>68</u>
P 5 20	<u>57</u>	12	<u>63</u>	20	<u>56</u>	12	<u>69</u>
P 6 25	<u>57</u>	15	<u>65</u>	25	<u>56</u>	15	<u>69</u>
P 7 30	<u>57</u>	18	<u>67</u>	30	<u>56</u>	18	<u>70</u>
P 8 35		21	<u>69</u>	35		21	<u>70</u>
P 9 40		24	<u>71</u>	40		24	<u>71</u>
P10 45		27	<u>73</u>	45		27	<u>71</u>
P11 50		30	<u>75</u>	50		30	<u>72</u>
P12 55		33	<u>77</u>	55		33	
P13 60		36	<u>78</u>	60		36	
P14 65		39	<u>79</u>	65		39	
P15 70		42	<u>80</u>	70		42	
P16 75		45	<u>81</u>	75		45	
P17 80		48	<u>82</u>	80		48	
P18 85		51	<u>83</u>	85		51	
P19 90		54	<u>84</u>	90		54	
P20 95		57	<u>85</u>	95		57	
100		60	<u>86</u>	100		60	

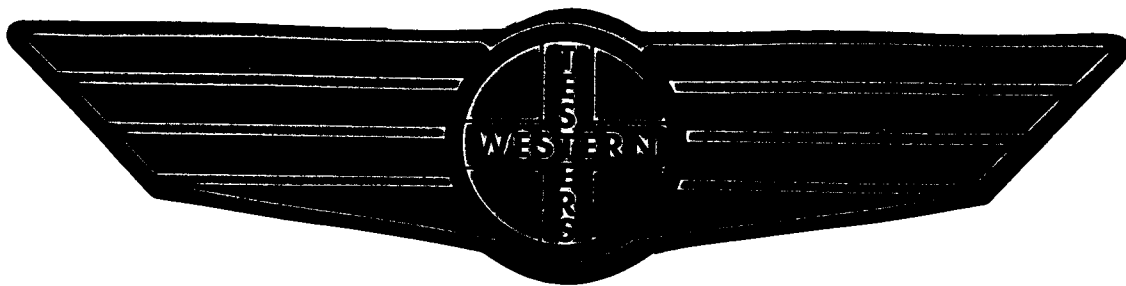
OK+20483 * DST#2
10242



OK+20483 10ST#12
13266 **



FORMATION TEST REPORT



Home Office:

Wichita, Kansas 67201

P.O. Box 1599

Phone **1 - 800-688-7021**

DST REPORT

GENERAL INFORMATION

DATE	: 8/14/93	TICKET	: 20483
CUSTOMER	: CHARTER PRODUCTION CO.	LEASE	: BOYD FOX A
WELL	: #1	TEST:	2
ELEVATION:	2724	GEOLOGIST:	?
SECTION	: 24	FORMATION:	
RANGE	: 30W	TOWNSHIP	: 32S
GAUGE SN#:	13266	STATE	: KS
		CLOCK	: 12
	COUNTY: MEADE		
	RANGE : 4000		

WELL INFORMATION

PERFORATION INTERVAL FROM:	5605.00 ft	TO:	5688.00 ft	TVD:	5688.0 ft
DEPTH OF SELECTIVE ZONE:				TEST TYPE:	OIL
DEPTH OF RECORDERS:	5679.0 ft		5682.0 ft		
TEMPERATURE:	128.0				
DRILL COLLAR LENGTH:	520.0 ft	I.D.:		2.250 in	
WEIGHT PIPE LENGTH :	0.0 ft	I.D.:		0.000 in	
DRILL PIPE LENGTH :	5057.0 ft	I.D.:		3.800 in	
TEST TOOL LENGTH :	28.0 ft	TOOL SIZE :		5.500 in	
ANCHOR LENGTH :	83.0 ft	ANCHOR SIZE:		5.500 in	
SURFACE CHOKE SIZE :	0.750 in	BOTTOM CHOKE SIZE:		0.750 in	
MAIN HOLE SIZE :	7.875 in	TOOL JOINT SIZE :		4.5XH	
PACKER DEPTH:	5600.0 ft	SIZE:		6.630 in	
PACKER DEPTH:	5605.0 ft	SIZE:		6.630 in	
PACKER DEPTH:	0.0 ft	SIZE:		0.000 in	
PACKER DEPTH:	0.0 ft	SIZE:		0.000 in	

MUD INFORMATION

DRILLING CON. :	MURFIN DRLG RIG 21	VISCOSITY :	46.00 cp
MUD TYPE :	CHEMICAL	WATER LOSS:	9.600 cc
WEIGHT :	9.100 ppq		
CHLORIDES :	6000 ppm	SERIAL NUMBER:	415
JARS-MAKE :	WTC	REVERSED OUT?:	NO
DID WELL FLOW?:	NO		

COMMENTS

Comment

INITIAL FLOW PERIOD WEAK BLOW SLOWLY BUILT TO
BOTTOM OF BUCKET IN 22 MINUTES. FINAL FLOW PERIOD
WEAK BLOW SLOWLY BUILT TO BOTTOM OF BUCKET IN 12

DST REPORT (CONTINUED)

COMMENTS (CONTINUED)

Comment

MINUTES. GAS TO SURFACE IN 5 MINUTES - TOO WEAK
TO GUAGE.
PLUGGING ACTION INITIAL & FINAL FLOW PERIODS.

FLUID RECOVERY

Feet of Fluid	% Oil	% Gas	% Water	% Mud	Comments
180.0	0.0	0.0	0.0	100.0	MUD
170.0	0.0	3.0	0.0	97.0	GAS CUT MUD

RATE INFORMATION

OIL VOLUME:	0.0000	STB		
GAS VOLUME:	0.1408	SCF		
MUD VOLUME:	1.6960	STB		
WATER VOLUME:	0.0000	STB		
TOTAL FLUID :	1.6960	STB		
			TOTAL FLOW TIME:	150.0000 min.
			AVERAGE OIL RATE:	0.0000 STB/D
			AVERAGE WATER RATE:	0.0000 STB/D

FIELD TIME & PRESSURE INFORMATION

INITIAL HYDROSTATIC PRESSURE: 2787.00

Description	Duration	p1	p End
INITIAL FLOW	60.00	132.00	172.00
INITIAL SHUT-IN	60.00		718.00
FINAL FLOW	90.00	142.00	182.00
FINAL SHUT-IN	120.00		1326.00

FINAL HYDROSTATIC PRESSURE: 2758.00

DST REPORT (CONTINUED)

OFFICE TIME & PRESSURE INFORMATION

INITIAL HYDROSTATIC PRESSURE: 2789.00

Description	Duration	p1	p End
INITIAL FLOW	60.00	133.00	192.00
INITIAL SHUT-IN	60.00		728.00
FINAL FLOW	90.00	140.00	189.00
FINAL SHUT-IN	123.00		1327.00

FINAL HYDROSTATIC PRESSURE: 2763.00

PRESSURE TRANSIENT REPORT

GENERAL INFORMATION

DATE : 8/14/93	TICKET : 20483
CUSTOMER : CHARTER PRODUCTION CO.	LEASE : BOYD FOX A
WELL : #1	GEOLOGIST: ?
ELEVATION: 2724	FORMATION:
SECTION : 24	TOWNSHIP : 32S
RANGE : 30W	STATE : KS
GAUGE SN#: 13266	CLOCK : 12
COUNTY: MEADE	
RANGE : 4000	

INITIAL FLOW

Time (min)	Pressure	Delta P
0.00	133.00	133.00
5.00	136.00	3.00
10.00	153.00	17.00
15.00	177.00	24.00
20.00	201.00	24.00
25.00	227.00	26.00
30.00	253.00	26.00
35.00	193.00	-60.00
40.00	193.00	0.00
45.00	183.00	-10.00
50.00	191.00	8.00
55.00	183.00	-8.00
60.00	192.00	9.00

INITIAL SHUT IN

Time (min)	Pressure	Delta P	Horner T
3.00	185.00	185.00	0.00
6.00	199.00	14.00	0.00
9.00	224.00	25.00	0.00
12.00	260.00	36.00	0.00
15.00	289.00	29.00	0.00
18.00	321.00	32.00	0.00
21.00	354.00	33.00	0.00
24.00	382.00	28.00	0.00
27.00	411.00	29.00	0.00
30.00	445.00	34.00	0.00
33.00	478.00	33.00	0.00
36.00	508.00	30.00	0.00
39.00	537.00	29.00	0.00

PRESSURE TRANSIENT REPORT (CONTINUED)

INITIAL SHUT IN (CONTINUED)

Time (min)	Pressure	Delta P	Horner T
42.00	560.00	23.00	0.00
45.00	588.00	28.00	0.00
48.00	620.00	32.00	0.00
51.00	646.00	26.00	0.00
54.00	672.00	26.00	0.00
57.00	704.00	32.00	0.00
60.00	728.00	24.00	0.00

FINAL FLOW

Time (min)	Pressure	Delta P
0.00	140.00	140.00
5.00	136.00	-4.00
10.00	173.00	37.00
15.00	159.00	-14.00
20.00	179.00	20.00
25.00	159.00	-20.00
30.00	177.00	18.00
35.00	161.00	-16.00
40.00	180.00	19.00
45.00	159.00	-21.00
50.00	176.00	17.00
55.00	163.00	-13.00
60.00	171.00	8.00
65.00	189.00	18.00
70.00	189.00	0.00
75.00	189.00	0.00
80.00	189.00	0.00
85.00	189.00	0.00
90.00	189.00	0.00

FINAL SHUT IN

Time (min)	Pressure	Delta P	Horner T
3.00	220.00	220.00	0.00
6.00	254.00	34.00	0.00
9.00	291.00	37.00	0.00
12.00	321.00	30.00	0.00

PRESSURE TRANSIENT REPORT (CONTINUED)

FINAL SHUT IN (CONTINUED)

Time (min)	Pressure	Delta P	Horner T
15.00	360.00	39.00	0.00
18.00	384.00	24.00	0.00
21.00	417.00	33.00	0.00
24.00	447.00	30.00	0.00
27.00	488.00	41.00	0.00
30.00	523.00	35.00	0.00
33.00	542.00	19.00	0.00
36.00	574.00	32.00	0.00
39.00	610.00	36.00	0.00
42.00	640.00	30.00	0.00
45.00	670.00	30.00	0.00
48.00	708.00	38.00	0.00
51.00	744.00	36.00	0.00
54.00	772.00	28.00	0.00
57.00	806.00	34.00	0.00
60.00	834.00	28.00	0.00
63.00	861.00	27.00	0.00
66.00	896.00	35.00	0.00
69.00	922.00	26.00	0.00
72.00	950.00	28.00	0.00
75.00	978.00	28.00	0.00
78.00	1010.00	32.00	0.00
81.00	1036.00	26.00	0.00
84.00	1060.00	24.00	0.00
87.00	1082.00	22.00	0.00
90.00	1108.00	26.00	0.00
93.00	1126.00	18.00	0.00
96.00	1149.00	23.00	0.00
99.00	1167.00	18.00	0.00
102.00	1187.00	20.00	0.00
105.00	1217.00	30.00	0.00
108.00	1239.00	22.00	0.00
111.00	1261.00	22.00	0.00
114.00	1283.00	22.00	0.00
117.00	1303.00	20.00	0.00
120.00	1315.00	12.00	0.00
123.00	1327.00	12.00	0.00



WESTERN TESTING CO., INC.

FORMATION TESTING

TICKET N^o 20483P. O. BOX 1599
WICHITA, KANSAS 67201Elevation 2724 Formation MORROW CHESTER Eff. Pay _____ Ft.District G.C. Date 8-14-93 Customer Order No. _____
COMPANY NAME Charter Prod. Co.ADDRESS 224 E. Douglas Suite 400LEASE AND WELL NO Boyd Fox A#1 COUNTY MEADE STATE KS Sec 24 Twp 32S Rge 30WMail Invoice To SAME Address SAME No. Copies Requested ResMail Charts To SAME Address SAME No. Copies Requested ResFormation Test No. 2 Interval Tested From 5605 ft. to 5688 ft. Total Depth 5688 ft.Packer Depth 5600 ft. Size 65/8 in. Packer Depth _____ ft. Size _____ in.Packer Depth 5605 ft. Size 65/8 in. Packer Depth _____ ft. Size _____ in.

Depth of Selective Zone Set _____

Top Recorder Depth (Inside) 5679 ft. Recorder Number 10242 Cap. 4000Bottom Recorder Depth (Outside) 5682 ft. Recorder Number 13266 Cap. 4000

Below Straddle Recorder Depth _____ ft. Recorder Number _____ Cap. _____

Drilling Contractor Martin 21 Drill Collar Length 520 I. D. 2 1/4 in.Mud Type Gem Viscosity 46 Weight Pipe Length _____ I. D. _____ in.Weight 9.1 Water Loss 9.6 cc. Drill Pipe Length 5115 SDS I. D. 3.8 in.Chlorides 6000 P.P.M. Test Tool Length 28 ft. Tool Size 5 1/2 in.Jars: Make WTC Serial Number 415 Anchor Length (58+25) 83 Size 6 1/4 5 1/2 in.Did Well Flow? NO Reversed Out NO Surface Choke Size 3/4 in. Bottom Choke Size 3/4 in.Main Hole Size 7 7/8 in. Tool Joint Size 4 1/2 X H in.Blow: WPKR - slowly built to B.O.B. in 22 min + F
12 min G.T.S. in 5 min too weak to gaugeRecovered 180 ft. of mudRecovered 170 ft. of Gas cut mud 3% gas 97% mud

Recovered _____ ft. of _____

Recovered _____ ft. of _____

Recovered _____ ft. of Total H.P. Rec. 350

Chlorides _____ P.P.M. Sample Jars used _____ Remarks: _____

Time On Location 11:30 AM Time Pick Up Tool 12:15 AM Time Off Location _____ AMTime Set Packer(s) 3:09 AM Time Started Off Bottom 8:40 AM Maximum Temperature 128 °FInitial Hydrostatic Pressure _____ (A) 2787 P.S.I.Initial Flow Period _____ Minutes 60 (B) 132 P.S.I. to (C) 172 P.S.I.Initial Closed In Period _____ Minutes 60 (D) 718 P.S.I.Final Flow Period _____ Minutes 90 (E) 742 P.S.I. to (F) 182 P.S.I.Final Closed In Period _____ Minutes 120 (G) 1326 P.S.I.Final Hydrostatic Pressure _____ (H) 2758 P.S.I.

COMPANY TERMS

Western Testing Co., Inc. shall not be liable for damages of any kind to the property or personnel of the one for whom a test is made or for any loss suffered or sustained directly or indirectly through the use of its equipment, of its statements or opinion concerning the results of any test. Tools lost or damaged in the hole shall be paid at cost by the party for whom the test is made.

All charges subject to 12% interest after 60 days from date of invoice. Any expense incurred for collection will be added to the original amount.

Test Approved By Dylan H. Sailer
Signature of Customer or his authorized representativeWestern Representative Victor C. Ezels

FIELD INVOICE

Open Hole Test	\$	✓
Misrun	\$	
Straddle Test	\$	
Jars	\$	✓
Selective Zone	\$	
Safety Joint	\$	✓
Standby	\$	
Evaluation	\$	
Extra Packer	\$	
Circ. Sub.	\$	
Mileage	\$	
Fluid Sampler	\$	
Extra Charts	\$	
Insurance	\$	
Telecopier	\$	
TOTAL	\$	

WESTERN TESTING CO., INC.

Pressure Data

Date 8-14-93 Test Ticket No. 20483
 Recorder No. 70242 / B264 Capacity _____ Location _____ Ft. _____
 Clock No. _____ Elevation _____ Well Temperature _____ °F

Point	Pressure	Time Given	Time Computed
A Initial Hydrostatic Mud _____ P.S.I.		3:09 P M	
B First Initial Flow Pressure <u>133</u> P.S.I.		60 Mins	60 Mins
C First Final Flow Pressure <u>192</u> P.S.I.		60 Mins	60 Mins
D Initial Closed-in Pressure <u>728</u> P.S.I.		90 Mins	90 Mins
E Second Initial Flow Pressure <u>140</u> P.S.I.		120 Mins	
F Second Final Flow Pressure _____ P.S.I.			
G Final Closed-in Pressure _____ P.S.I.			
H Final Hydrostatic Mud _____ P.S.I.			

Open Tool _____
 First Flow Pressure _____
 Initial Closed-in Pressure _____
 Second Flow Pressure _____
 Final Closed-in Pressure _____

*Plugging action
 initial + final
 flow mud*

PRESSURE BREAKDOWN

First Flow Pressure		Initial Shut-In		Second Flow Pressure		Final Shut-In	
Breakdown: _____ Inc.		Breakdown: _____ Inc.		Breakdown: _____ Inc.		Breakdown: _____ Inc.	
of <u>5</u> mins. and a		of <u>3</u> mins. and a		of <u>5</u> mins. and a		of <u>3</u> mins. and a	
final inc. of <u>0</u> Min.		final inc. of <u>0</u> Min.		final inc. of <u>0</u> Min.		final inc. of <u>0</u> Min.	
Point Mins.	Press.	Point Minutes	Press.	Point Minutes	Press.	Point Minutes	Press.
P 1 0	133	0	192	0	140	0	18
P 2 5	136	3	185	5	136	3	226
P 3 10	153	6	199	10	173	6	257
P 4 15	197	9	224	15	159	9	291
P 5 20	201	12	260	20	179	12	321
P 6 25	227	15	289	25	159	15	364
P 7 30	253	18	321	30	177	18	384
P 8 35	193	21	354	35	161	21	417
P 9 40	193	24	382	40	180	24	448
P10 45	183	27	411	45	159	27	488
P11 50	191	30	445	50	176	30	523
P12 55	183	33	478	55	163	33	574
P13 60	192	36	508	60	171	36	579
P14 65		39	537	65	189	39	610
P15 70		42	566	70	189	42	644
P16 75		45	588	75		45	670
P17 80		48	620	80		48	708
P18 85		51	646	85		51	741
P19 90		54	672	90	189	54	772
P20 95		57	704	95		57	808
'00		60	728	100		60	834

WESTERN TESTING CO., INC.

Pressure Data

Date: _____ Test Ticket No. _____

Recorder No. _____ Capacity _____ Location _____ Ft.

Clock No. _____ Elevation _____ Well Temperature _____ °F

Point	Pressure		Time Given	Time Computed
A Initial Hydrostatic Mud _____ P.S.I.		Open Tool _____ M _____		
B First Initial Flow Pressure _____ P.S.I.		First Flow Pressure _____ Mins. _____ Mins.		
C First Final Flow Pressure _____ P.S.I.		Initial Closed-in Pressure _____ Mins. _____ Mins.		
D Initial Closed-in Pressure _____ P.S.I.		Second Flow Pressure _____ Mins. _____ Mins.		
E Second Initial Flow Pressure _____ P.S.I.		Final Closed-in Pressure _____ Mins. _____ Mins.		
F Second Final Flow Pressure _____ P.S.I.				
G Final Closed-in Pressure _____ P.S.I.				
H Final Hydrostatic Mud _____ P.S.I.				

PRESSURE BREAKDOWN

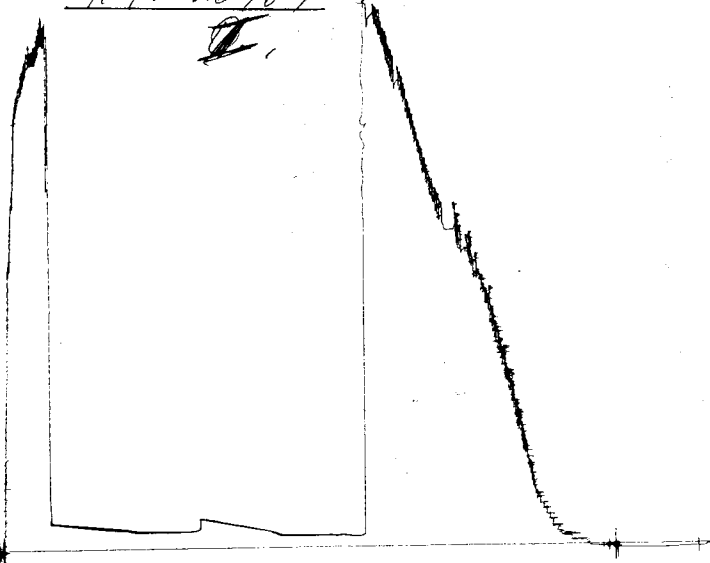
First Flow Pressure		Initial Shut-In		Second Flow Pressure		Final Shut-In	
Breakdown: _____ Inc.		Breakdown: _____ Inc.		Breakdown: _____ Inc.		Breakdown: _____ Inc.	
of _____ mins. and a		of _____ mins. and a		of _____ mins. and a		of _____ mins. and a	
final inc. of _____ Min.		final inc. of _____ Min.		final inc. of _____ Min.		final inc. of _____ Min.	
Point Mins.	Press.	Point Minutes	Press.	Point Minutes	Press.	Point Minutes	Press.
P 1 105		63		105		63 861	894
P 2 110		66		110		66 896	922
P 3 115		69		115		69 922	950
P 4 120		72		120		72 950	978
P 5 125		75		125		75 978	1010
P 6 130		78		130		78 1010	1036
P 7 135		81		135		81 1036	1060
P 8 140		84		140		84 1060	1082
P 9 145		87		145		87 1082	1108
P10 150		90		150		90 1108	1126
P11 155		93		155		93 1126	1149
P12 160		96		160		96 1149	1167
P13 165		99		165		99 1167	1187
P14 170		102		170		102 1187	1217
P15 175		105		175		105 1217	1239
P16 180		108		180		108 1239	1261
P17 185		111		185		111 1261	1283
P18 190		114		190		114 1283	1303
P19 195		117		195		117 1303	1315
P20 200		120		200		120 1315	1327

DST #3

10242

TK# 20484

I.



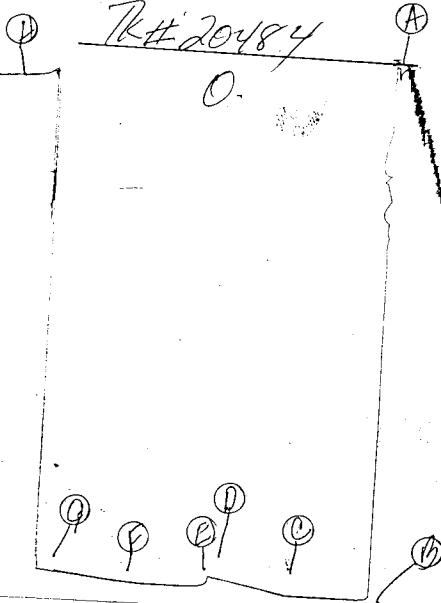
DST #3

13266

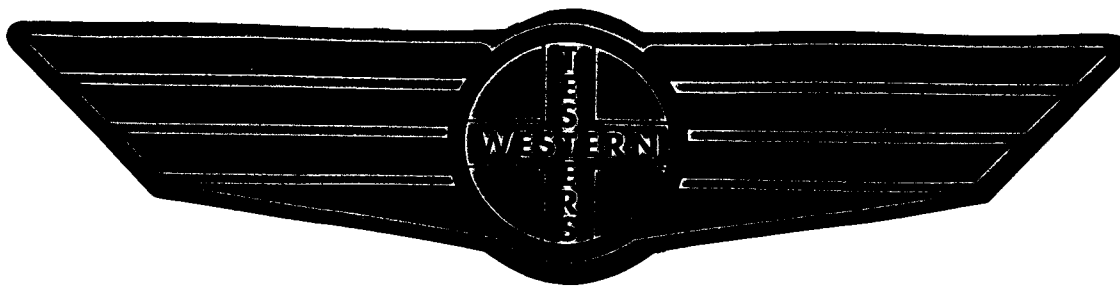


TK# 20484

O.



FORMATION TEST REPORT



Home Office:

Wichita, Kansas 67201

P.O. Box 1599

Phone **1 - 800-688-7021**

DST REPORT

GENERAL INFORMATION

DATE	: 8/15/93	TICKET	: 20484
CUSTOMER	: CHARTER PRODUCTION CO.	LEASE	: BOYD FOX A
WELL	: #1 TEST: 3	GEOLOGIST	: ?
ELEVATION	: 2724	FORMATION	:
SECTION	: 24	TOWNSHIP	: 32S
RANGE	: 30W	STATE	: KS
GAUGE SN#	: 10242	CLOCK	: 12
	COUNTY: MEADE		
	RANGE : 4100		

WELL INFORMATION

PERFORATION INTERVAL FROM:	5677.00 ft	TO:	5731.00 ft	TVD:	5731.0 ft
DEPTH OF SELECTIVE ZONE:				TEST TYPE:	OIL
DEPTH OF RECORDERS:	5721.0 ft		5724.0 ft		
TEMPERATURE:	129.0				
DRILL COLLAR LENGTH:	520.0 ft	I.D.:	2.250 in		
WEIGHT PIPE LENGTH :	0.0 ft	I.D.:	0.000 in		
DRILL PIPE LENGTH :	5129.0 ft	I.D.:	3.800 in		
TEST TOOL LENGTH :	28.0 ft	TOOL SIZE :	5.500 in		
ANCHOR LENGTH :	54.0 ft	ANCHOR SIZE:	5.500 in		
SURFACE CHOKE SIZE :	0.750 in	BOTTOM CHOKE SIZE:	0.750 in		
MAIN HOLE SIZE :	7.875 in	TOOL JOINT SIZE :	4.5XH		
PACKER DEPTH:	5672.0 ft	SIZE:	6.630 in		
PACKER DEPTH:	5677.0 ft	SIZE:	6.630 in		
PACKER DEPTH:	0.0 ft	SIZE:	0.000 in		
PACKER DEPTH:	0.0 ft	SIZE:	0.000 in		

MUD INFORMATION

DRILLING CON. :	MURFIN DRLG RIG 21	VISCOSITY :	49.00 cp
MUD TYPE :	CHEMICAL	WATER LOSS:	9.600 cc
WEIGHT :	9.000 ppg		
CHLORIDES :	6000 ppm	SERIAL NUMBER:	415
JARS-MAKE :	WTC	REVERSED OUT?:	NO
DID WELL FLOW?:	NO		

COMMENTS

Comment

INITIAL FLOW PERIOD WEAK BLOW - SLOWLY BUILT TO
1 1/2 INCHES IN BUCKET. FINAL FLOW PERIOD WEAK
BLOW SLOWLY BUILT TO 1/2 INCH IN BUCKET.

DST REPORT (CONTINUED)

FLUID RECOVERY

Feet of Fluid	% Oil	% Gas	% Water	% Mud	Comments
130.0	0.0	0.0	0.0	100.0	MUD

RATE INFORMATION

OIL VOLUME:	0.0000	STB		
GAS VOLUME:	0.0000	SCF		
MUD VOLUME:	0.6393	STB		
WATER VOLUME:	0.0000	STB		
TOTAL FLUID :	0.6393	STB		
			TOTAL FLOW TIME:	120.0000 min.
			AVERAGE OIL RATE:	0.0000 STB/D
			AVERAGE WATER RATE:	0.0000 STB/D

FIELD TIME & PRESSURE INFORMATION

INITIAL HYDROSTATIC PRESSURE: 2810.00

Description	Duration	p1	p End
INITIAL FLOW	60.00	81.00	75.00
INITIAL SHUT-IN	60.00		154.00
FINAL FLOW	60.00	121.00	105.00
FINAL SHUT-IN	60.00		152.00

FINAL HYDROSTATIC PRESSURE: 2772.00

OFFICE TIME & PRESSURE INFORMATION

INITIAL HYDROSTATIC PRESSURE: 2828.00

Description	Duration	p1	p End
INITIAL FLOW	60.00	73.00	73.00
INITIAL SHUT-IN	60.00		154.00
FINAL FLOW	60.00	122.00	107.00
FINAL SHUT-IN	66.00		154.00

FINAL HYDROSTATIC PRESSURE: 2740.00

PRESSURE TRANSIENT REPORT

GENERAL INFORMATION

DATE	: 8/15/93	TICKET	: 20484
CUSTOMER	: CHARTER PRODUCTION CO.	LEASE	: BOYD FOX A
WELL	: #1	TEST:	3
ELEVATION:	2724	GEOLOGIST:	?
SECTION	: 24	FORMATION:	
RANGE	: 30W	TOWNSHIP	: 32S
GAUGE SN#:	10242	STATE	: KS
		CLOCK	: 12
	COUNTY: MEADE		
	RANGE : 4100		

INITIAL FLOW

Time (min)	Pressure	Delta P
0.00	73.00	73.00
5.00	73.00	0.00
10.00	73.00	0.00
15.00	73.00	0.00
20.00	73.00	0.00
25.00	73.00	0.00
30.00	73.00	0.00
35.00	73.00	0.00
40.00	73.00	0.00
45.00	73.00	0.00
50.00	73.00	0.00
55.00	73.00	0.00
60.00	73.00	0.00

INITIAL SHUT IN

Time (min)	Pressure	Delta P	Horner T
3.00	73.00	73.00	0.00
6.00	81.00	8.00	0.00
9.00	89.00	8.00	0.00
12.00	94.00	5.00	0.00
15.00	98.00	4.00	0.00
18.00	102.00	4.00	0.00
21.00	106.00	4.00	0.00
24.00	108.00	2.00	0.00
27.00	112.00	4.00	0.00
30.00	116.00	4.00	0.00
33.00	124.00	8.00	0.00
36.00	126.00	2.00	0.00
39.00	130.00	4.00	0.00

PRESSURE TRANSIENT REPORT (CONTINUED)

INITIAL SHUT IN (CONTINUED)

Time (min)	Pressure	Delta P	Horner T
42.00	134.00	4.00	0.00
45.00	138.00	4.00	0.00
48.00	142.00	4.00	0.00
51.00	144.00	2.00	0.00
54.00	148.00	4.00	0.00
57.00	152.00	4.00	0.00
60.00	154.00	2.00	0.00

FINAL FLOW

Time (min)	Pressure	Delta P
0.00	122.00	122.00
5.00	106.00	-16.00
10.00	102.00	-4.00
15.00	102.00	0.00
20.00	103.00	1.00
25.00	103.00	0.00
30.00	104.00	1.00
35.00	104.00	0.00
40.00	105.00	1.00
45.00	105.00	0.00
50.00	106.00	1.00
55.00	106.00	0.00
60.00	107.00	1.00

FINAL SHUT IN

Time (min)	Pressure	Delta P	Horner T
3.00	110.00	110.00	0.00
6.00	113.00	3.00	0.00
9.00	116.00	3.00	0.00
12.00	119.00	3.00	0.00
15.00	122.00	3.00	0.00
18.00	125.00	3.00	0.00
21.00	128.00	3.00	0.00
24.00	131.00	3.00	0.00
27.00	134.00	3.00	0.00
30.00	137.00	3.00	0.00

PRESSURE TRANSIENT REPORT (CONTINUED)

FINAL SHUT IN (CONTINUED)

<u>Time (min)</u>	<u>Pressure</u>	<u>Delta P</u>	<u>Horner T</u>
33.00	140.00	3.00	0.00
36.00	143.00	3.00	0.00
39.00	145.00	2.00	0.00
42.00	146.00	1.00	0.00
45.00	147.00	1.00	0.00
48.00	148.00	1.00	0.00
51.00	149.00	1.00	0.00
54.00	150.00	1.00	0.00
57.00	151.00	1.00	0.00
60.00	152.00	1.00	0.00
63.00	153.00	1.00	0.00
66.00	154.00	1.00	0.00

Pressure Data

Test Ticket No. 22484

Point	Pressure	Time Given	Time Computed
-------	----------	---------------	------------------

A Initial Hydrostatic Mud	2828	P.S.I.	Open Tool	M
B First Initial Flow Pressure	73	P.S.I.	First Flow Pressure	60 Mins. 60 Mins.
C First Final Flow Pressure	73	P.S.I.	Initial Closed-in Pressure	90 Mins. 60 Mins.
D Initial Closed-in Pressure	154 73	P.S.I.	Second Flow Pressure	60 Mins. 60 Mins.
E Second Initial Flow Pressure	122	P.S.I.	Final Closed-in Pressure	60 Mins. 60 Mins.
F Second Final Flow Pressure	107	P.S.I.		
G Final Closed-in Pressure	154	P.S.I.		
H Final Hydrostatic Mud	2740	P.S.I.		

Final Shut-In

Breakdown: _____ Inc.

of 3 mins. and a

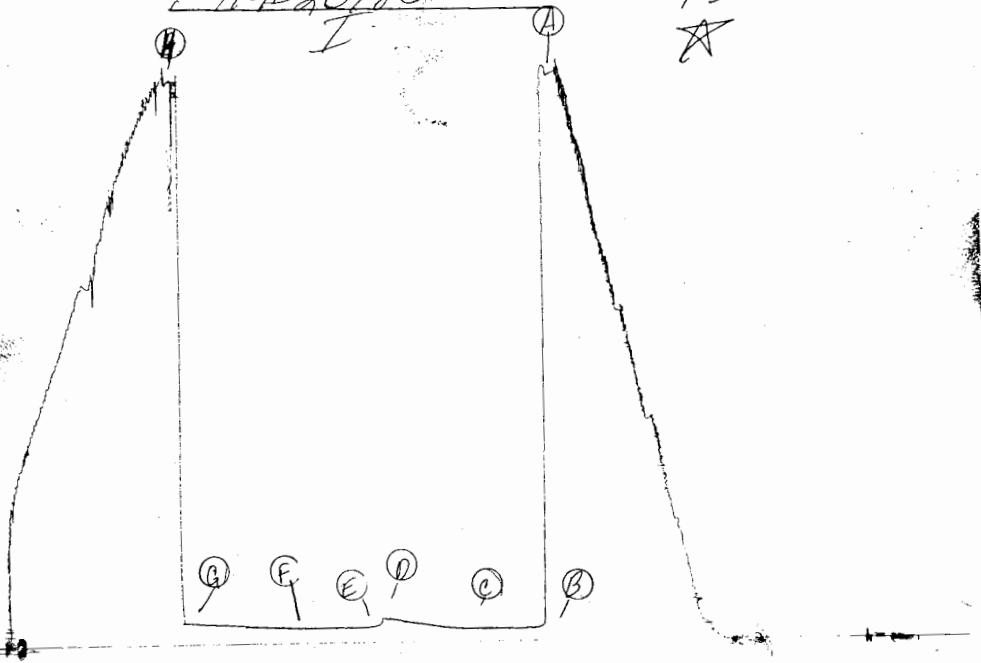
final inc. of 0 Min.

Point Mins.	Press.	Point Minutes	Press.	Point Minutes	Press.	Point Minutes	Press.
P 1 0	73	0	73	0	122	0	107
P 2 5	73	3	73	5	104	3	110
P 3 10	73	6	81	10	102	6	113
P 4 15	V	9	89	15	102	9	116
P 5 20		12	94	20	103	12	119
P 6 25		15	98	25	103	15	122
P 7 30		18	102	30	104	18	125
P 8 35		21	106	35	104	21	128
P 9 40		24	108	40	105	24	131
P10 45		27	112	45	105	27	134
P11 50		30	116	50	106	30	137
P12 55		33	124	55	106	33	140
P13 60		73	36	126	60	107	36
P14 65		39	130	65		39	145
P15 70		42	134	70		42	146
P16 75		45	138	75		45	147
P17 80		48	142	80		48	148
P18 85		51	144	85		51	149
P19 90		54	148	90		54	150
P20 95		57	152	95		57	151
100		60	154	100		60	152

100

DST#4
13266
★

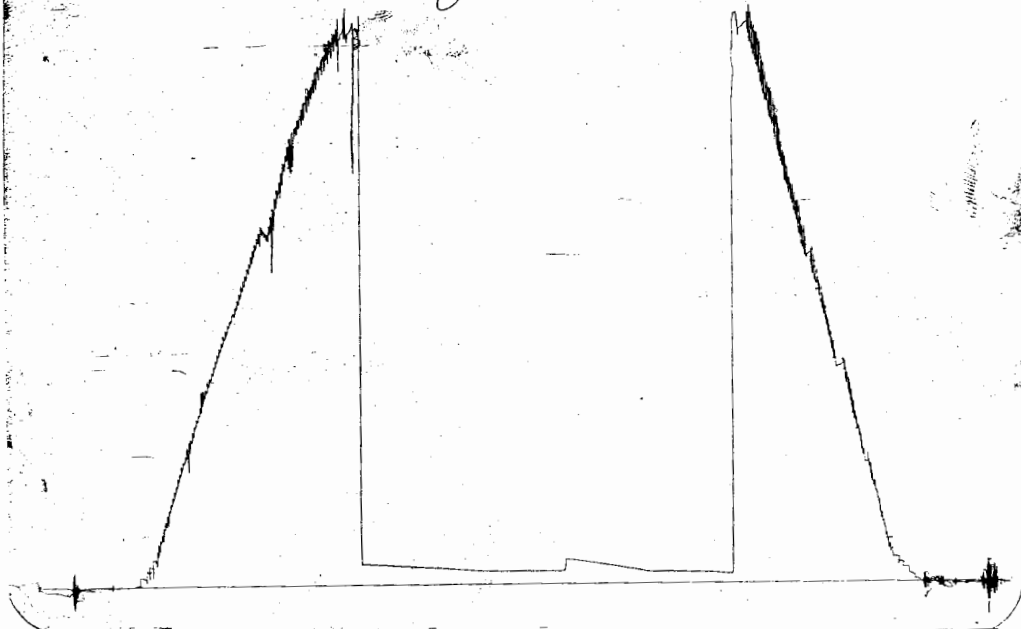
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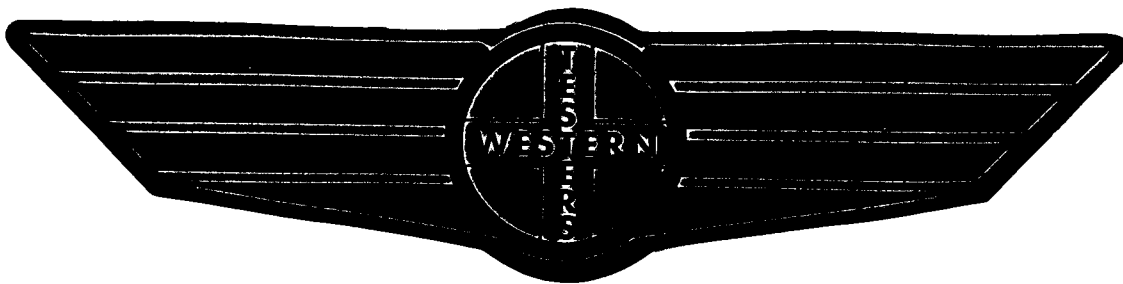
DST#4
10242

TK#20485

0.



FORMATION TEST REPORT



Home Office:

Wichita, Kansas 67201

P.O. Box 1599

Phone **1 - 800-688- 7021**

DST REPORT

GENERAL INFORMATION

DATE	: 8/17/93	TICKET	: 20485
CUSTOMER	: CHARTER PRODUCTION CO.	LEASE	: BOYD FOX A
WELL	: #1	TEST: 4	GEOLOGIST: ?
ELEVATION	: 2724	FORMATION	: CHESTER-ST LOUIS
SECTION	: 24	TOWNSHIP	: 32S
RANGE	: 30W	STATE	: KS
GAUGE SN#	: 13266	RANGE	: 4000
		CLOCK	: 12

WELL INFORMATION

PERFORATION INTERVAL FROM:	5856.00 ft	TO:	6073.00 ft	TVD:	6073.0 ft
DEPTH OF SELECTIVE ZONE:				TEST TYPE:	OIL
DEPTH OF RECORDERS:	5863.0 ft		5866.0 ft		
TEMPERATURE:	138.0				
DRILL COLLAR LENGTH:	520.0 ft	I.D.:		2.250 in	
WEIGHT PIPE LENGTH :	0.0 ft	I.D.:		0.000 in	
DRILL PIPE LENGTH :	5308.0 ft	I.D.:		3.800 in	
TEST TOOL LENGTH :	28.0 ft	TOOL SIZE :		5.500 in	
ANCHOR LENGTH :	217.0 ft	ANCHOR SIZE:		5.500 in	
SURFACE CHOKE SIZE :	0.750 in	BOTTOM CHOKE SIZE:		0.750 in	
MAIN HOLE SIZE :	7.875 in	TOOL JOINT SIZE :		4.5XH	
PACKER DEPTH:	5853.0 ft	SIZE:		6.630 in	
PACKER DEPTH:	5858.0 ft	SIZE:		6.630 in	
PACKER DEPTH:	0.0 ft	SIZE:		0.000 in	
PACKER DEPTH:	0.0 ft	SIZE:		0.000 in	

MUD INFORMATION

DRILLING CON. :	MURFIN DRLG RIG 21	VISCOSITY :	51.00 cp
MUD TYPE :	CHEMICAL	WATER LOSS:	10.400 cc
WEIGHT :	9.200 ppg		
CHLORIDES :	6000 ppm	SERIAL NUMBER:	415
JARS-MAKE :	WTC	REVERSED OUT?:	NO
DID WELL FLOW?:	NO		

COMMENTS

Comment

INITIAL FLOW PERIOD STRONG BLOW - BOTTOM OF BUCKET
IN 1 MINUTE. FINAL FLOW PERIOD WEAK BLOW - BUILT
TO 1.5 INCHES.

DST REPORT (CONTINUED)

FLUID RECOVERY

Feet of Fluid	% Oil	% Gas	% Water	% Mud	Comments
90.0	0.0	0.0	0.0	100.0	MUD
30.0	0.0	3.0	0.0	97.0	GAS CUT MUD

RATE INFORMATION

OIL VOLUME:	0.0000	STB		
GAS VOLUME:	0.0249	SCF		
MUD VOLUME:	0.5857	STB	TOTAL FLOW TIME:	120.0000 min.
WATER VOLUME:	0.0000	STB	AVERAGE OIL RATE:	0.0000 STB/D
TOTAL FLUID :	0.5857	STB	AVERAGE WATER RATE:	0.0000 STB/D

FIELD TIME & PRESSURE INFORMATION

INITIAL HYDROSTATIC PRESSURE: 2980.00

Description	Duration	p1	p End
INITIAL FLOW	60.00	71.00	65.00
INITIAL SHUT-IN	60.00		126.00
FINAL FLOW	60.00	73.00	93.00
FINAL SHUT-IN	90.00		113.00

FINAL HYDROSTATIC PRESSURE: 2968.00

OFFICE TIME & PRESSURE INFORMATION

INITIAL HYDROSTATIC PRESSURE: 2954.00

Description	Duration	p1	p End
INITIAL FLOW	60.00	89.00	68.00
INITIAL SHUT-IN	60.00		126.00
FINAL FLOW	60.00	91.00	80.00
FINAL SHUT-IN	90.00		107.00

FINAL HYDROSTATIC PRESSURE: 2928.00

PRESSURE TRANSIENT REPORT

GENERAL INFORMATION

DATE : 8/17/93	TICKET : 20485
CUSTOMER : CHARTER PRODUCTION CO.	LEASE : BOYD FOX A
WELL : #1	GEOLOGIST: ?
ELEVATION: 2724	FORMATION: CHESTER-ST LOUIS
SECTION : 24	TOWNSHIP : 32S
RANGE : 30W	STATE : KS
GAUGE SN#: 13266	CLOCK : 12
COUNTY: MEADE	
RANGE : 4000	

INITIAL FLOW

Time (min)	Pressure	Delta P
0.00	89.00	89.00
5.00	69.00	-20.00
10.00	65.00	-4.00
15.00	65.00	0.00
20.00	65.00	0.00
25.00	66.00	1.00
30.00	66.00	0.00
35.00	66.00	0.00
40.00	67.00	1.00
45.00	67.00	0.00
50.00	67.00	0.00
55.00	68.00	1.00
60.00	68.00	0.00

INITIAL SHUT IN

Time (min)	Pressure	Delta P	Horner T
3.00	69.00	69.00	0.00
6.00	70.00	1.00	0.00
9.00	72.00	2.00	0.00
12.00	76.00	4.00	0.00
15.00	80.00	4.00	0.00
18.00	84.00	4.00	0.00
21.00	88.00	4.00	0.00
24.00	92.00	4.00	0.00
27.00	96.00	4.00	0.00
30.00	100.00	4.00	0.00
33.00	104.00	4.00	0.00
36.00	108.00	4.00	0.00
39.00	112.00	4.00	0.00

PRESSURE TRANSIENT REPORT (CONTINUED)

INITIAL SHUT IN (CONTINUED)

Time (min)	Pressure	Delta P	Horner T
42.00	114.00	2.00	0.00
45.00	116.00	2.00	0.00
48.00	118.00	2.00	0.00
51.00	120.00	2.00	0.00
54.00	122.00	2.00	0.00
57.00	124.00	2.00	0.00
60.00	126.00	2.00	0.00

FINAL FLOW

Time (min)	Pressure	Delta P
0.00	91.00	91.00
5.00	81.00	-10.00
10.00	79.00	-2.00
15.00	79.00	0.00
20.00	79.00	0.00
25.00	79.00	0.00
30.00	79.00	0.00
35.00	80.00	1.00
40.00	80.00	0.00
45.00	80.00	0.00
50.00	80.00	0.00
55.00	80.00	0.00
60.00	80.00	0.00

FINAL SHUT IN

Time (min)	Pressure	Delta P	Horner T
3.00	80.00	80.00	0.00
6.00	81.00	1.00	0.00
9.00	81.00	0.00	0.00
12.00	82.00	1.00	0.00
15.00	82.00	0.00	0.00
18.00	83.00	1.00	0.00
21.00	84.00	1.00	0.00
24.00	85.00	1.00	0.00
27.00	86.00	1.00	0.00
30.00	87.00	1.00	0.00

PRESSURE TRANSIENT REPORT (CONTINUED)

FINAL SHUT IN (CONTINUED)

<u>Time (min)</u>	<u>Pressure</u>	<u>Delta P</u>	<u>Horner T</u>
33.00	88.00	1.00	0.00
36.00	89.00	1.00	0.00
39.00	90.00	1.00	0.00
42.00	91.00	1.00	0.00
45.00	92.00	1.00	0.00
48.00	93.00	1.00	0.00
51.00	94.00	1.00	0.00
54.00	95.00	1.00	0.00
57.00	96.00	1.00	0.00
60.00	97.00	1.00	0.00
63.00	98.00	1.00	0.00
66.00	99.00	1.00	0.00
69.00	100.00	1.00	0.00
72.00	101.00	1.00	0.00
75.00	102.00	1.00	0.00
78.00	103.00	1.00	0.00
81.00	104.00	1.00	0.00
84.00	105.00	1.00	0.00
87.00	106.00	1.00	0.00
90.00	107.00	1.00	0.00



WESTERN TESTING CO., INC.

FORMATION TESTING

TICKET No 20485

P. O. BOX 1599 PHONE (316) 262-5861
WICHITA, KANSAS 67201Elevation 2724 Formation Charter-St. Louis Eff. Pay _____ Ft.

District 6.1 Date 8-17-93 Customer Order No. _____
COMPANY NAME Charter Prod. Co.
ADDRESS 224 E. Douglas Wichita KS. 67202
LEASE AND WELL NO. Boyd Box A#1 COUNTY MCADIE STATE KS Sec. 24 Twp. 32 Rge. 30W
Mail Invoice To NAME No. Copies Requested Res
Co. Name 1 Address 1
Mail Charts To _____ No. Copies Requested Res
Address _____

Formation Test No. 4 Interval Tested From 5858 ft. to 6073 ft. Total Depth 6073 ft.
Packer Depth 5853 ft. Size 65/8 in. Packer Depth _____ ft. Size _____ in.
Packer Depth 5858 ft. Size 65/8 in. Packer Depth _____ ft. Size _____ in.
Depth of Selective Zone Set _____
Top Recorder Depth (Inside) 5863 ft. Recorder Number 13266 Cap. 4000
Bottom Recorder Depth (Outside) 5866 ft. Recorder Number 10242 Cap. 4100
Below Straddle Recorder Depth _____ ft. Recorder Number _____ Cap. _____
Drilling Contractor Muffm #21 Drill Collar Length 520 I. D. 2 1/4 in.
Mud Type Cham. Viscosity 51 Weight Pipe Length _____ I. D. _____ in.
Weight 9.2 Water Loss 10.4 cc. Drill Pipe Length 5571 5308 I. D. 3.8 in.
Chlorides 6000 P.P.M. Test Tool Length 28 ft. Tool Size 5 1/2 in.
Jars: Make WTC Serial Number 415 Anchor Length (201 + 16) 217 Size 6 1/4 + 5 1/2 in.
Did Well Flow? _____ Reversed Out _____ Surface Choke Size 3/4 in. Bottom Choke Size 3/4 in.
Main Hole Size 7 7/8 in. Tool Joint Size 4 1/2 KH in.

Blow: STRONG - B.O.B. in 1 min I.F.
WEAK - Built to 1 1/2 F.F.

Recovered 90 ft. of mud
Recovered 30 ft. of gas cut mud 3% gas 97% mud
Recovered _____ ft. of _____
Recovered _____ ft. of _____
Recovered _____ ft. of _____

Total F/Rec 130'

Chlorides _____ P.P.M. Sample Jars used _____ Remarks: _____

Time On Location 5:00 A.M. Time Pick Up Tool 6:30 A.M. Time Off Location _____ A.M.
Time Set Packer(s) 9:40 A.M. Time Started Off Bottom _____ A.M.
Maximum Temperature 138° F P.M.
Initial Hydrostatic Pressure _____ (A) 2980 P.S.I.
Initial Flow Period _____ Minutes 60 (B) 71 P.S.I. to (C) 65 P.S.I.
Initial Closed In Period _____ Minutes 60 (D) 126 P.S.I.
Final Flow Period _____ Minutes 60 (E) 73 P.S.I. to (F) 93 P.S.I.
Final Closed In Period _____ Minutes 90 (G) 113 P.S.I.
Final Hydrostatic Pressure _____ (H) 2968 P.S.I.

COMPANY TERMS

Western Testing Co., Inc. shall not be liable for damages of any kind to the property or personnel of the one for whom a test is made or for any loss suffered or sustained directly or indirectly through the use of its equipment, of its statements or opinion concerning the results of any test. Tools lost or damaged in the hole shall be paid at cost by the party for whom the test is made.

All charges subject to 12% interest after 60 days from date of invoice. Any expense incurred for collection will be added to the original amount.

Test Approved By W. H. Seiden
Signature of Customer or his authorized representative

Western Representative Walter L. Ryals

FIELD INVOICE

Open Hole Test ☒ \$ ☒
Misrun \$ _____
Straddle Test \$ _____
Jars ☒ \$ ☒
Selective Zone \$ _____
Safety Joint ☒ \$ ☒
Standby \$ _____
Evaluation \$ _____
Extra Packer \$ _____
Circ. Sub. ☒ \$ _____
Mileage \$ _____
Fluid Sampler \$ _____
Extra Charts \$ _____
Insurance \$ _____
Telecopier \$ _____
TOTAL \$ _____

WESTERN TESTING CO., INC.

Pressure Data

Date 8-17-93 Test Ticket No. 20485

Recorder No. _____ Capacity _____ Location _____ Fr. _____

Clock No. _____ Elevation _____ Well Temperature 138 °F

Point	Pressure	Open Tool	Time Given	Time Computed
A Initial Hydrostatic Mud	<u>2954</u> P.S.I.			
B First Initial Flow Pressure	<u>89</u> P.S.I.	First Flow Pressure	<u>60</u> Mins.	<u>60</u> Mins.
C First Final Flow Pressure	<u>68</u> P.S.I.	Initial Closed-in Pressure	<u>60</u> Mins.	<u>60</u> Mins.
D Initial Closed-in Pressure	<u>126</u> P.S.I.	Second Flow Pressure	<u>90</u> Mins.	<u>40</u> Mins.
E Second Initial Flow Pressure	<u>91</u> P.S.I.	Final Closed-in Pressure	<u>90</u> Mins.	<u>90</u> Mins.
F Second Final Flow Pressure	<u>80</u> P.S.I.			
G Final Closed-in Pressure	<u>97</u> P.S.I.			
H Final Hydrostatic Mud	<u>2928</u> P.S.I.			

PRESSURE BREAKDOWN

First Flow Pressure		Initial Shut-In		Second Flow Pressure		Final Shut-In	
Breakdown: _____ Inc.		Breakdown: _____ Inc.		Breakdown: _____ Inc.		Breakdown: _____ Inc.	
of <u>5</u> mins. and a		of <u>3</u> mins. and a		of <u>5</u> mins. and a		of <u>3</u> mins. and a	
final inc. of <u>0</u> Min.		final inc. of <u>0</u> Min.		final inc. of <u>0</u> Min.		final inc. of <u>0</u> Min.	
Point Mins.	Press.	Point Minutes	Press.	Point Minutes	Press.	Point Minutes	Press.
P 1 0	89	0	68	0	91	0	80
P 2 5	69	3	69	5	81	3	80
P 3 10	65	6	70	10	79	6	81
P 4 15	65	9	72	15	79	9	81
P 5 20	65	12	76	20	79	12	82
P 6 25	66	15	80	25	79	15	82
P 7 30	66	18	84	30	79	18	83
P 8 35	66	21	88	35	80	21	84
P 9 40	67	24	92	40	80	24	85
P10 45	67	27	96	45	80	27	86
P11 50	67	30	100	50	80	30	87
P12 55	68	33	104	55	80	33	88
P13 60	68	36	108	60	80	36	89
P14 65		39	112	65	80	39	90
P15 70		42	114	70	80	42	91
P16 75		45	116	75	80	45	92
P17 80		48	118	80	80	48	93
P18 85		51	120	85	80	51	94
P19 90		54	122	90	80	54	95
P20 95		57	124	95	80	57	96
100		60	126	100	80	60	97

WESTERN TESTING CO., INC.

Pressure Data

Date: _____

Test Ticket No. 20985

Recorder No. _____ Capacity _____ Location _____ Ft.

Clock No. _____ Elevation _____ Well Temperature _____ °F

Point	Pressure		Time Given	Time Computed
A Initial Hydrostatic Mud _____	P.S.I.	Open Tool _____	M _____	
B First Initial Flow Pressure _____	P.S.I.	First Flow Pressure _____	Mins. _____	Mins. _____
C First Final Flow Pressure _____	P.S.I.	Initial Closed-in Pressure _____	Mins. _____	Mins. _____
D Initial Closed-in Pressure _____	P.S.I.	Second Flow Pressure _____	Mins. _____	Mins. _____
E Second Initial Flow Pressure _____	P.S.I.	Final Closed-in Pressure _____	Mins. _____	Mins. _____
F Second Final Flow Pressure _____	P.S.I.			
G Final Closed-in Pressure _____	P.S.I.			
H Final Hydrostatic Mud _____	P.S.I.			

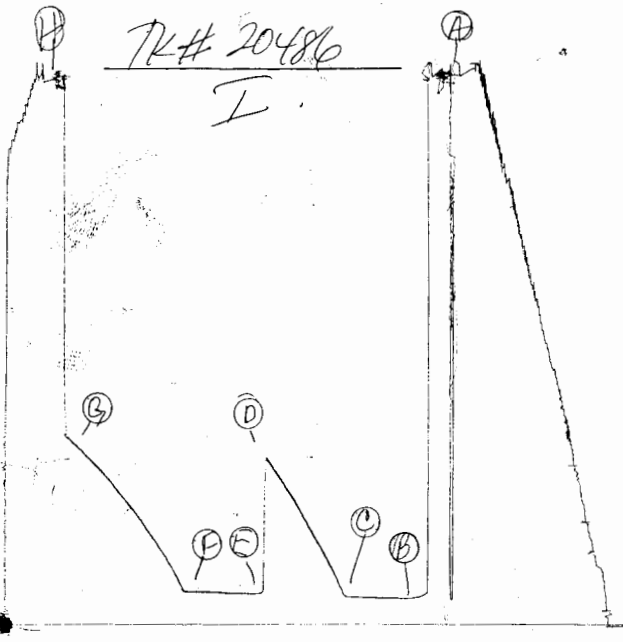
PRESSURE BREAKDOWN

First Flow Pressure		Initial Shut-In		Second Flow Pressure		Final Shut-In	
Breakdown: _____ Inc.		Breakdown: _____ Inc.		Breakdown: _____ Inc.		Breakdown: _____ Inc.	
of _____ mins. and a		of _____ mins. and a		of _____ mins. and a		of _____ mins. and a	
final inc. of _____ Min.		final inc. of _____ Min.		final inc. of _____ Min.		final inc. of _____ Min.	
Point Mins.	Press.	Point Minutes	Press.	Point Minutes	Press.	Point Minutes	Press.
P 1 105		63		105		63	98
P 2 110		66		110		66	99
P 3 115		69		115		69	100
P 4 120		72		120		72	101
P 5 125		75		125		75	102
P 6 130		78		130		78	103
P 7 135		81		135		81	104
P 8 140		84		140		84	105
P 9 145		87		145		87	106
P10 150		90		150		90	107 107
P11 155		93		155		93	
P12 160		96		160		96	
P13 165		99		165		99	
P14 170		102		170		102	
P15 175		105		175		105	
P16 180		108		180		108	
P17 185		111		185		111	
P18 190		114		190		114	
P19 195		117		195		117	
P20 200		120		200		120	

DST #5
13266

TK# 20486

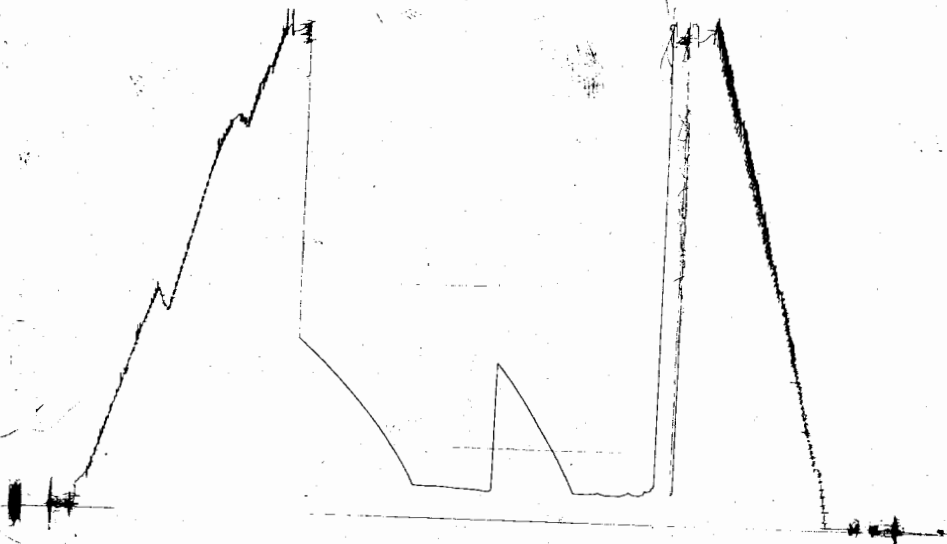
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DST #5
13630

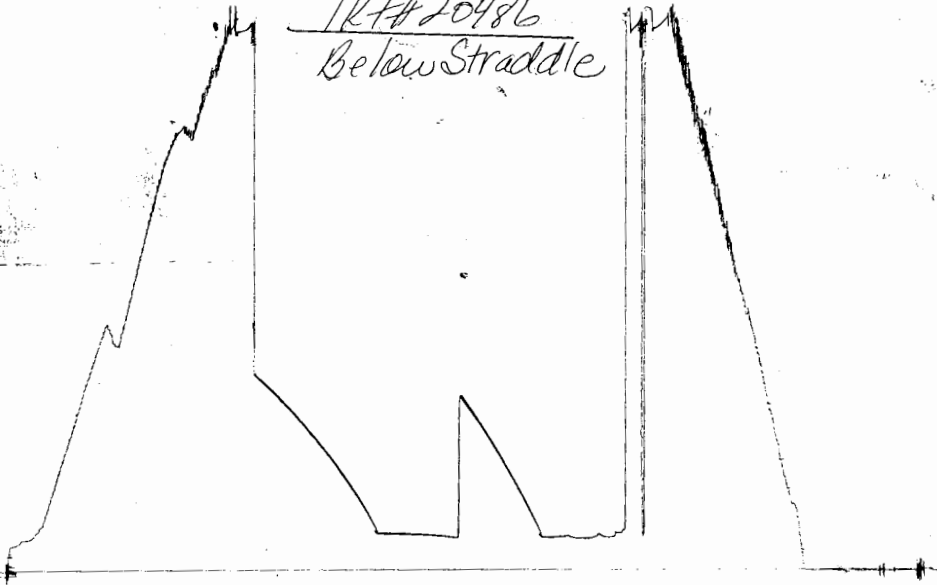
TK# 20486

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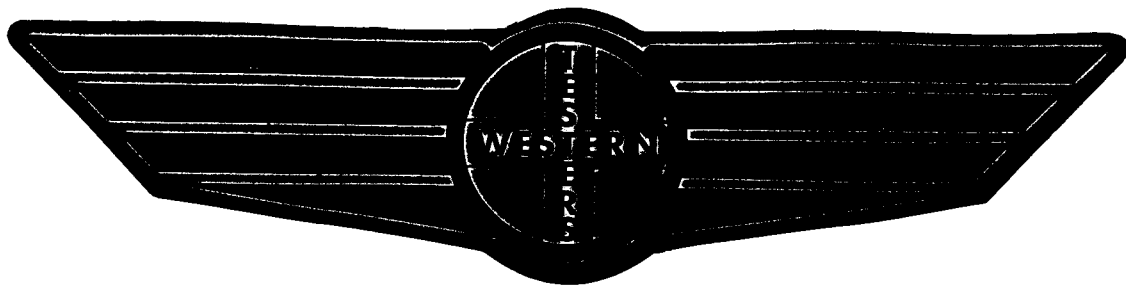


X
DST#5
10242 SFRA 02E

TK#20486
Below Straddle



FORMATION TEST REPORT



Home Office:

Wichita, Kansas 67201

P.O. Box 1599

Phone **1 - 800-688- 7021**

DST REPORT

GENERAL INFORMATION

DATE	: 8/18/93	TICKET	: 20486
CUSTOMER	: CHARTER PRODUCTION CO.	LEASE	: BOYD FOX A
WELL	: #1	TEST: 5	GEOLOGIST: ?
ELEVATION	: 2724	FORMATION:	
SECTION	: 24	TOWNSHIP	: 32S
RANGE	: 30W	STATE	: KS
GAUGE SN#	: 13266	RANGE	: 4000
		CLOCK	: 12

WELL INFORMATION

PERFORATION INTERVAL FROM:	5746.00 ft	TO:	5790.00 ft	TVD:	6075.0 ft
DEPTH OF SELECTIVE ZONE:				TEST TYPE:	OIL
DEPTH OF RECORDERS:	5750.0 ft		5753.0 ft		
TEMPERATURE:	139.0				
DRILL COLLAR LENGTH:	520.0 ft	I.D.:		2.250 in	
WEIGHT PIPE LENGTH :	0.0 ft	I.D.:		0.000 in	
DRILL PIPE LENGTH :	5201.0 ft	I.D.:		3.800 in	
TEST TOOL LENGTH :	28.0 ft	TOOL SIZE :		5.500 in	
ANCHOR LENGTH :	326.0 ft	ANCHOR SIZE:		5.500 in	
SURFACE CHOKE SIZE :	0.750 in	BOTTOM CHOKE SIZE:		0.750 in	
MAIN HOLE SIZE :	7.875 in	TOOL JOINT SIZE :		4.5XH	
PACKER DEPTH:	5743.0 ft	SIZE:		6.630 in	
PACKER DEPTH:	5748.0 ft	SIZE:		6.630 in	
PACKER DEPTH:	5792.0 ft	SIZE:		6.630 in	
PACKER DEPTH:	0.0 ft	SIZE:		0.000 in	

MUD INFORMATION

DRILLING CON. :	MURFIN DRLG RIG 21	VISCOSITY :	48.00 cp
MUD TYPE :	CHEMICAL	WATER LOSS:	10.400 cc
WEIGHT :	9.200 ppg		
CHLORIDES :	7000 ppm	SERIAL NUMBER:	415
JARS-MAKE :	WTC	REVERSED OUT?:	NO
DID WELL FLOW?:	NO		

COMMENTS

Comment

INITIAL FLOW PERIOD STRONG BLOW - BOTTOM OF BUCKET
IN 11 MINUTES. FINAL FLOW PERIOD STRONG BLOW -
BOTTOM OF BUCKET IN 1 MINUTE.

DST REPORT (CONTINUED)

FLUID RECOVERY

Feet of Fluid	% Oil	% Gas	% Water	% Mud	Comments
80.0	0.0	0.0	0.0	100.0	MUD
60.0	10.0	35.0	0.0	55.0	GAS CUT MUD
60.0	45.0	5.0	0.0	50.0	HVY MUD CUT GASSY OIL
60.0	44.0	18.0	0.0	38.0	SLIGHTLY MUD CUT OIL
60.0	68.0	18.0	0.0	14.0	VERY SL. MUD CUT OIL
60.0	44.0	6.0	0.0	50.0	VERY HVY OIL CUT MUD

RATE INFORMATION

OIL VOLUME: 0.6226 STB
 GAS VOLUME: 1.3585 SCF
 MUD VOLUME: 1.0041 STB
 WATER VOLUME: 0.0000 STB
 TOTAL FLUID : 1.6267 STB

TOTAL FLOW TIME: 120.0000 min.
 AVERAGE OIL RATE: 14.7997 STB/D
 AVERAGE WATER RATE: 0.0000 STB/D

FIELD TIME & PRESSURE INFORMATION

INITIAL HYDROSTATIC PRESSURE: 2897.00

Description	Duration	p1	p End
INITIAL FLOW	60.00	172.00	146.00
INITIAL SHUT-IN	60.00		872.00
FINAL FLOW	60.00	174.00	176.00
FINAL SHUT-IN	90.00		997.00

FINAL HYDROSTATIC PRESSURE: 2887.00

OFFICE TIME & PRESSURE INFORMATION

INITIAL HYDROSTATIC PRESSURE: 2868.00

Description	Duration	p1	p End
INITIAL FLOW	60.00	169.00	146.00
INITIAL SHUT-IN	60.00		866.00
FINAL FLOW	60.00	166.00	179.00
FINAL SHUT-IN	90.00		992.00

FINAL HYDROSTATIC PRESSURE: 2836.00

PRESSURE TRANSIENT REPORT

GENERAL INFORMATION

DATE : 8/18/93	TICKET : 20486
CUSTOMER : CHARTER PRODUCTION CO.	LEASE : BOYD FOX A
WELL : #1	GEOLOGIST: ?
ELEVATION: 2724	FORMATION:
SECTION : 24	TOWNSHIP : 32S
RANGE : 30W	STATE : KS
GAUGE SN#: 13266	CLOCK : 12
COUNTY: MEADE	
RANGE : 4000	

INITIAL FLOW

Time (min)	Pressure	Delta P
0.00	169.00	169.00
5.00	148.00	-21.00
10.00	143.00	-5.00
15.00	142.00	-1.00
20.00	142.00	0.00
25.00	143.00	1.00
30.00	143.00	0.00
35.00	144.00	1.00
40.00	144.00	0.00
45.00	145.00	1.00
50.00	145.00	0.00
55.00	146.00	1.00
60.00	146.00	0.00

INITIAL SHUT IN

Time (min)	Pressure	Delta P	Horner T
3.00	167.00	167.00	0.00
6.00	209.00	42.00	0.00
9.00	257.00	48.00	0.00
12.00	299.00	42.00	0.00
15.00	309.00	10.00	0.00
18.00	378.00	69.00	0.00
21.00	421.00	43.00	0.00
24.00	453.00	32.00	0.00
27.00	488.00	35.00	0.00
30.00	526.00	38.00	0.00
33.00	564.00	38.00	0.00
36.00	598.00	34.00	0.00
39.00	636.00	38.00	0.00

PRESSURE TRANSIENT REPORT (CONTINUED)

INITIAL SHUT IN (CONTINUED)

Time (min)	Pressure	Delta P	Horner T
42.00	672.00	36.00	0.00
45.00	702.00	30.00	0.00
48.00	734.00	32.00	0.00
51.00	765.00	31.00	0.00
54.00	796.00	31.00	0.00
57.00	824.00	28.00	0.00
60.00	866.00	42.00	0.00

FINAL FLOW

Time (min)	Pressure	Delta P
0.00	166.00	166.00
5.00	168.00	2.00
10.00	169.00	1.00
15.00	170.00	1.00
20.00	171.00	1.00
25.00	172.00	1.00
30.00	173.00	1.00
35.00	174.00	1.00
40.00	175.00	1.00
45.00	176.00	1.00
50.00	177.00	1.00
55.00	178.00	1.00
60.00	179.00	1.00

FINAL SHUT IN

Time (min)	Pressure	Delta P	Horner T
3.00	209.00	209.00	0.00
6.00	250.00	41.00	0.00
9.00	289.00	39.00	0.00
12.00	323.00	34.00	0.00
15.00	358.00	35.00	0.00
18.00	388.00	30.00	0.00
21.00	421.00	33.00	0.00
24.00	451.00	30.00	0.00
27.00	478.00	27.00	0.00
30.00	512.00	34.00	0.00

PRESSURE TRANSIENT REPORT (CONTINUED)

FINAL SHUT IN (CONTINUED)

<u>Time</u> <u>(min)</u>	<u>Pressure</u>	<u>Delta P</u>	<u>Horner T</u>
33.00	540.00	28.00	0.00
36.00	568.00	28.00	0.00
39.00	596.00	28.00	0.00
42.00	624.00	28.00	0.00
45.00	648.00	24.00	0.00
48.00	670.00	22.00	0.00
51.00	696.00	26.00	0.00
54.00	722.00	26.00	0.00
57.00	753.00	31.00	0.00
60.00	774.00	21.00	0.00
63.00	798.00	24.00	0.00
66.00	818.00	20.00	0.00
69.00	838.00	20.00	0.00
72.00	858.00	20.00	0.00
75.00	878.00	20.00	0.00
78.00	898.00	20.00	0.00
81.00	912.00	14.00	0.00
84.00	924.00	12.00	0.00
87.00	957.00	33.00	0.00
90.00	992.00	35.00	0.00



WESTERN TESTING CO., INC.

FORMATION TESTING

TICKET No 20486

P. O. BOX 1599 PHONE (316) 262-5861

WICHITA, KANSAS 67201

Elevation 2724

Formation

Eff. Pay Ft.

District G.C.

Date 8-18-93

Customer Order No.

COMPANY NAME

Chester Prod. Co.

ADDRESS

224 E. Douglas Wichita KS 67202

LEASE AND WELL NO.

Boyd Fox A1

COUNTY

McHale

STATE

KS

Sec.

24

Twp.

32

Rge.

30W

Mail Invoice To

Same

Co. Name

11

Address

11

No. Copies Requested

Res

Mail Charts To

11

Address

11

No. Copies Requested

Res

Formation Test No.

5

Interval Tested From

5748

ft. to

5790

ft. Total

Depth

605

ft.

Packer Depth

5743

ft.

Size

6 5/8

in.

Packer Depth

5792

ft.

Size

6 7/8

in.

Packer Depth

5748

ft.

Size

6 7/8

in.

Packer Depth

ft.

Size

in.

Depth of Selective Zone Set

Top Recorder Depth (Inside)

5750

ft.

Recorder Number

13266

Cap.

4000

Bottom Recorder Depth (Outside)

5753

ft.

Recorder Number

13630

Cap.

4625

Below Straddle Recorder Depth

5806

ft.

Recorder Number

10242

Cap.

4100

Drilling Contractor

Murfin 21

Drill Collar Length

520

I. D.

2 1/4

in.

Mud Type

Chem.

Viscosity

48

Weight Pipe Length

I. D.

in.

Weight

9.2

Water Loss

10.4

cc.

Drill Pipe Length

5491

I. D.

3.8

in.

Chlorides

7000

P.P.M.

Test Tool Length

28

ft.

Tool Size

5 1/2

in.

Jars: Make

WTC

Serial Number

415

Anchor Length

1290 + 367

Size

6 1/4 x 5 1/2

in.

Did Well Flow?

Reversed Out

Surface Choke Size

3/4

in.

Bottom Choke Size

3/4

in.

Main Hole Size

7 1/8

in.

Tool Joint Size

4 1/2 x 4

in.

Blow: 57406. 11 B.O.B. in 11 min IF.

Recovered 80

ft. of

mud

Recovered 60

ft. of

gas cut mud 58% mud 40% oil 35% gas

Recovered 60

ft. of

heavy cut mud cut heavy oil 50% mud 45% oil 5% gas

Recovered 60

ft. of

slightly mud cut heavy oil 38% mud 44% oil 18% gas

Recovered 60

ft. of

very slightly mud cut oil 68% oil 18% gas 14% mud

Chlorides

P.P.M. Sample Jars used

Remarks: Rec. 60' very heavy oil cut mud 44% 50% mud 6% gas

Total Fl Rec 380'

Time On Location 2:00

A.M.

Time Pick Up Tool 4:00

A.M.

Time Off Location

A.M.

Time Set Packer(s) 6:50

A.M.

Time Started Off Bottom 11:20

A.M.

Maximum Temperature

139°

Initial Hydrostatic Pressure (A) 2897 P.S.I.

Initial Flow Period Minutes 60 (B) 172 P.S.I. to (C) 146 P.S.I.

Initial Closed In Period Minutes 60 (D) 872 P.S.I.

Final Flow Period Minutes 60 (E) 174 P.S.I. to (F) 176 P.S.I.

Final Closed In Period Minutes 90 (G) 997 P.S.I.

Final Hydrostatic Pressure (H) 2887 P.S.I.

COMPANY TERMS

Western Testing Co., Inc. shall not be liable for damages of any kind to the property or personnel of the one for whom a test is made or for any loss suffered or sustained directly or indirectly through the use of its equipment, of its statements or opinion concerning the results of any test. Tools lost or damaged in the hole shall be paid at cost by the party for whom the test is made.

All charges subject to 12% interest after 60 days from date of invoice. Any expense incurred for collection will be added to the original amount.

Test Approved By

John H. Seulers

Signature of Customer or his authorized representative

Western Representative

Victor P. Cynalski

FIELD INVOICE

Open Hole Test	✓	\$	✓
Misrun		\$	
Straddle Test	✓	\$	✓
Jars	✓	\$	✓
Selective Zone		\$	
Safety Joint	✓	\$	✓
Standby		\$	
Evaluation		\$	
Extra Packer	✓	\$	✓
Circ. Sub.	✓	\$	
Mileage		\$	
Fluid Sampler		\$	
Extra Charts		\$	
Insurance		\$	
Telecopier		\$	
TOTAL		\$	

WESTERN TESTING CO., INC.

Pressure Data

Date 8-18-93Test Ticket No. 20486

Recorder No. _____ Capacity _____ Location _____ Ft. _____

Clock No. _____ Elevation _____ Well Temperature 139 °F

Point	Pressure		Time Given	Time Computed
A Initial Hydrostatic Mud	<u>2868</u>	P.S.I.	<u>6:50</u> P	M
B First Initial Flow Pressure	<u>169</u>	P.S.I.	<u>60</u>	Mins. <u>60</u> Mins.
C First Final Flow Pressure	<u>146</u>	P.S.I.	<u>60</u>	Mins. <u>60</u> Mins.
D Initial Closed-in Pressure	<u>866</u>	P.S.I.	<u>90</u>	Mins. <u>90</u> Mins.
E Second Initial Flow Pressure	<u>166</u>	P.S.I.	<u>90</u>	Mins. <u>90</u> Mins.
F Second Final Flow Pressure	<u>129</u>	P.S.I.		
G Final Closed-in Pressure	<u>942</u>	P.S.I.		
H Final Hydrostatic Mud	<u>2836</u>	P.S.I.		

PRESSURE BREAKDOWN

First Flow Pressure		Initial Shut-In		Second Flow Pressure		Final Shut-In	
Breakdown: _____ Inc.		Breakdown: _____ Inc.		Breakdown: _____ Inc.		Breakdown: _____ Inc.	
of <u>5</u> mins. and a		of <u>3</u> mins. and a		of <u>5</u> mins. and a		of <u>3</u> mins. and a	
final inc. of <u>0</u> Min.		final inc. of <u>0</u> Min.		final inc. of <u>0</u> Min.		final inc. of <u>0</u> Min.	
Point Mins.	Press.	Point Minutes	Press.	Point Minutes	Press.	Point Minutes	Press.
P 1 0	<u>169</u>	0	<u>146</u>	0	<u>166</u>	0	<u>149</u>
P 2 5	<u>148</u>	3	<u>167</u>	5	<u>168</u>	3	<u>209</u>
P 3 10	<u>143</u>	6	<u>209</u>	10	<u>169</u>	6	<u>250</u>
P 4 15	<u>142</u>	9	<u>257</u>	15	<u>170</u>	9	<u>289</u>
P 5 20	<u>142</u>	12	<u>299</u>	20	<u>171</u>	12	<u>323</u>
P 6 25	<u>143</u>	15	<u>309</u>	25	<u>172</u>	15	<u>358</u>
P 7 30	<u>143</u>	18	<u>378</u>	30	<u>173</u>	18	<u>388</u>
P 8 35	<u>144</u>	21	<u>421</u>	35	<u>174</u>	21	<u>421</u>
P 9 40	<u>144</u>	24	<u>453</u>	40	<u>175</u>	24	<u>451</u>
P10 45	<u>145</u>	27	<u>488</u>	45	<u>176</u>	27	<u>478</u>
P11 50	<u>145</u>	30	<u>526</u>	50	<u>177</u>	30	<u>512</u>
P12 55	<u>146</u>	33	<u>564</u>	55	<u>178</u>	33	<u>540</u>
P13 60	<u>146</u>	36	<u>598</u>	60	<u>179</u>	36	<u>568</u>
P14 65		39	<u>636</u>	65		39	<u>596</u>
P15 70		42	<u>672</u>	70		42	<u>624</u>
P16 75		45	<u>702</u>	75		45	<u>648</u>
P17 80		48	<u>734</u>	80		48	<u>670</u>
P18 85		51	<u>765</u>	85		51	<u>696</u>
P19 90		54	<u>796</u>	90		54	<u>722</u>
P20 95		57	<u>824</u>	95		57	<u>753</u>
100		60	<u>866</u>	100		60	<u>774</u>

WESTERN TESTING CO., INC.

Pressure Data

Date: _____ Test Ticket No. _____

Recorder No. _____ Capacity _____ Location _____ Ft.

Clock No. _____ Elevation _____ Well Temperature _____ °F

Point	Pressure	Time Given	Time Computed
A Initial Hydrostatic Mud _____ P.S.I.	Open Tool _____	M _____	
B First Initial Flow Pressure _____ P.S.I.	First Flow Pressure _____	Mins. _____	Mins. _____
C First Final Flow Pressure _____ P.S.I.	Initial Closed-in Pressure _____	Mins. _____	Mins. _____
D Initial Closed-in Pressure _____ P.S.I.	Second Flow Pressure _____	Mins. _____	Mins. _____
E Second Initial Flow Pressure _____ P.S.I.	Final Closed-in Pressure _____	Mins. _____	Mins. _____
F Second Final Flow Pressure _____ P.S.I.			
G Final Closed-in Pressure _____ P.S.I.			
H Final Hydrostatic Mud _____ P.S.I.			

PRESSURE BREAKDOWN

First Flow Pressure		Initial Shut-In		Second Flow Pressure		Final Shut-In	
Breakdown: _____ Inc.		Breakdown: _____ Inc.		Breakdown: _____ Inc.		Breakdown: _____ Inc.	
of _____ mins. and a		of _____ mins. and a		of _____ mins. and a		of _____ mins. and a	
final inc. of _____ Min.		final inc. of _____ Min.		final inc. of _____ Min.		final inc. of _____ Min.	
Point Mins.	Press.	Point Minutes	Press.	Point Minutes	Press.	Point Minutes	Press.
P 1 105		63		105		63	798
P 2 110		66		110		66	818
P 3 115		69		115		69	838
P 4 120		72		120		72	858
P 5 125		75		125		75	878
P 6 130		78		130		78	898
P 7 135		81		135		81	912
P 8 140		84		140		84	924
P 9 145		87		145		87	957
P10 150		90		150		90	992
P11 155		93		155		93	
P12 160		96		160		96	
P13 165		99		165		99	
P14 170		102		170		102	
P15 175		105		175		105	
P16 180		108		180		108	
P17 185		111		185		111	
P18 190		114		190		114	
P19 195		117		195		117	
P20 200		120		200		120	