

WELL NAME:	O. Deewall #1
COMPANY:	Crawford Oil & Gas
LOCATION:	30-33s-18w Comanche co Kansas
DATE:	3/15/00

TRILOBITE TESTING L.L.C.

OPERATOR : Crawford Oil & Gas Inc.
WELL NAME: O. Deewall #1
LOCATION : 30-33s-18w Comanche co KS
INTERVAL : 5284.00 To 5312.00 ft

DATE 3-3-2000
KB 1956.00 ft TICKET NO: 12499 DST # 1
GR 1948.00 ft FORMATION: Mississippi
TD 5312.00 ft TEST TYPE: CONVENTIONAL

RECORDER DATA

Mins		Field	1	2	3	4	TIME DATA-----
PF 30	Rec.	13278	13278	ALPINE			PF Fr. 1440 to 1510 hr
SI 45	Range (Psi)	4400.0	4400.0	5000.0	0.0	0.0	IS Fr. 1510 to 1555 hr
SF 30	Clock (hrs)	12HR	12HR	ELECT			SF Fr. 1555 to 1625 hr
FS 90	Depth (ft)	5309.0	5309.0	5285.0	0.0	0.0	FS Fr. 1625 to 1755 hr

	Field	1	2	3	4	
A. Init Hydro	2526.0	2478.0	2506.0	0.0	0.0	T STARTED 1220 hr
B. First Flow	716.0	753.0	710.0	0.0	0.0	T ON BOTM 1438 hr
B1. Final Flow	539.0	522.0	434.0	0.0	0.0	T OPEN 1440 hr
C. In Shut-in	1369.0	1350.0	1412.0	0.0	0.0	T PULLED 1755 hr
D. Init Flow	528.0	547.0	559.0	0.0	0.0	T OUT 2045 hr
E. Final Flow	407.0	382.0	307.0	0.0	0.0	
F. Fl Shut-in	1115.0	1084.0	1141.0	0.0	0.0	TOOL DATA-----
G. Final Hydro	2460.0	2438.0	2477.0	0.0	0.0	Tool Wt. 1800.00 lbs
Inside/Outside	I	I	I			Wt Set On Packer 25000.00 lbs
						Wt Pulled Loose 4000.00 lbs
						Initial Str Wt 54000.00 lbs
						Unseated Str Wt 57000.00 lbs
						Bot Choke 0.75 in
						Hole Size 7.78 in
						D Col. ID 2.25 in
						D. Pipe ID 3.80 in
						D.C. Length 0.00 ft
						D.P. Length 5266.00 ft

RECOVERY

Tot Fluid 100.00 ft of 0.00 ft in DC and 100.00 ft in DP
5166.00 ft of Gas in pipe.
100.00 ft of Drilling mud
0.00 ft of 100% mud
0.00 ft of
0.00 ft of
0.00 ft of
0.00 ft of
0.00 ft of

SALINITY 0.00 P.P.M. A.P.I. Gravity 0.00

BLOW DESCRIPTION

Initial Flow:
Strong blow bottom of bucket
immediately. Gas to surface in 2
minutes.

Initial Shut-In:
Blow back.

Final Flow:
Strong blow. Bottom of bucket
immediately. (See gas flow chart).

Final Shut-In:
Blow back.

Gas will burn.

SAMPLES: Caught one sample
SENT TO: Carraway

MUD DATA-----

Mud Type	Chemical
Weight	9.00 lb/c
Vis.	50.00 S/L
W.L.	8.40 in3
F.C.	0.00 in
Mud Drop Y	30.0 ft

Amt. of fill	0.00 ft
Btm. H. Temp.	118.00 F
Hole Condition	Good
% Porosity	14.00
Packer Size	6.75 in
No. of Packers	2
Cushion Amt.	0.00
Cushion Type	
Reversed Out N	
Tool Chased N	
Tester	Brad Bortz
Co. Rep.	Jon Christensen
Contr.	Duke
Rig #	1
Unit #	
Pump T.	

Test Successful: Y

GAS RECOVERY

COMPANY: Crawford Oil & Gas Inc.

DATE: 3-3-2000

WELL NAME: O. Deewall #1

KB Elev: 1956.00 ft TICKET #12499 DST # 1

WELL LOCATION: 30-33s-18w Comanche co KS

GR Elev: 1948.00 ft FORMATION: Mississippi

INTERVAL Fr.: 5284.00 To 5312.00 T.D.: 5312.00 ft TEST TYPE: CONVENTIONAL

GAS RECOVERY MEASURED WITH 2" MERLA ORFICE

***** GAS RATES FOR FLOW #1

Time (min)	Orifice (in)	Pressure (Psi)	H2O (in)	Rate (cf/d)
5	1.50	40	0	3155000.0
10	1.50	49	0	3692000.0
15	1.50	49	0	3692000.0
20	1.50	44	0	3394000.0
25	1.50	40	0	3155000.0
30	1.50	37	0	2976000.0

***** GAS RATES FOR FLOW #2

Time (min)	Orifice (in)	Pressure (Psi)	H2O (in)	Rate (cf/d)
5	1.50	21	0	2012000.0
10	1.50	30	0	2619000.0
15	1.50	30	0	2619000.0
20	1.50	27	0	2380000.0
25	1.50	25	0	2258000.0
30	1.50	23	0	2140000.0

NATURAL GAS ANALYSIS REPORT

Sampled by:
Trilobite Testing, L. L. C.
Hays, Kansas
Scott City, Kansas
Phone: 800-728-5369
Fax: 913-625-5620

Analyzed by:
Caraway Analytical, Inc
P. O. Box 2137
Liberal, Kansas 67905
Phone: 316-624-5389
Fax: 316-626-7108

Lab Number: 20001286
Sample From: O. Deewell #1 DST 1
Producer: Crawford Oil & Gas
Date:
Time:
Sampler:
Source:

Analyzed: 03/04/00
Pressure:
Temperature:
Location: 30-33-18
County: Comanche
State: Kansas
Formation: Miss

	Mole %	GPM
Helium	He: 0.144	0.000
Hydrogen	H2: 0.012	0.000
Oxygen	O2: 0.000	0.000
Nitrogen	N2: 2.597	0.000
Carbon Dioxide	CO2: 0.003	0.000
Methane	C1: 92.615	0.000
Ethane	C2: 2.994	0.801
Propane	C3: 0.965	0.266
Iso Butane	iC4: 0.105	0.034
Normal Butane	nC4: 0.264	0.083
Iso Pentane	iC5: 0.058	0.021
Normal Pentane	nC5: 0.066	0.024
Hexanes Plus	C6+: 0.177	0.077
TOTAL:		100.000 1.307
Z Fact:		0.9979
SP.GR.:		0.6019
BTU (SAT):		1025.2 @ 14.73 psia
BTU (DRY):		1043.4 @ 14.73 psia
OCTANE RATING:		124.9

COMMENTS:

0.000

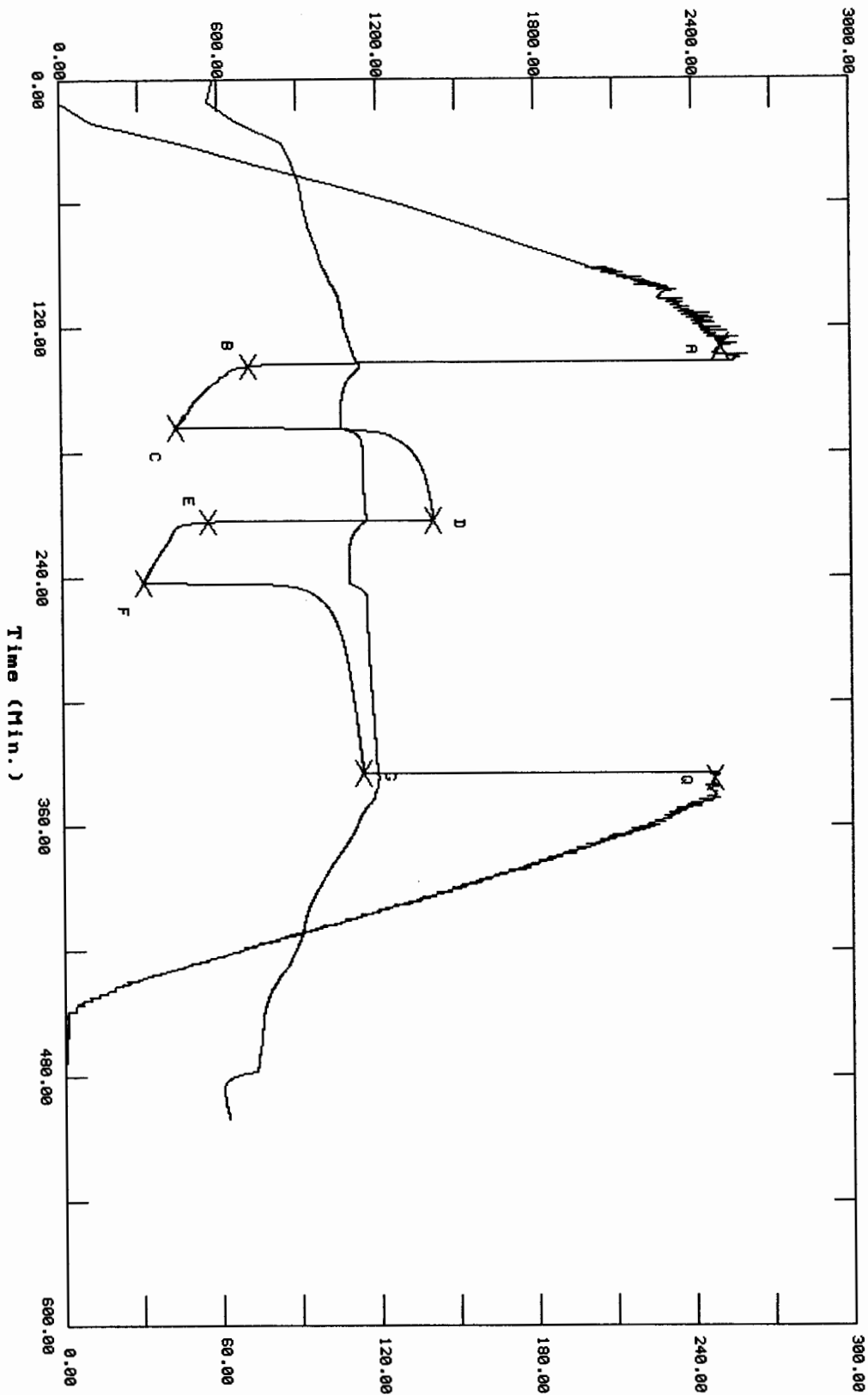
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12499 DST #1 O. Deewall #1 Crawford Oil & Gas

TEST HISTORY

Flag Points
t(Min.) P(PSig)

A: 0.00 2506.67
B: 0.00 710.87
C: 29.25 434.90
D: 45.00 1412.36
E: 0.00 559.30
F: 29.50 307.34
G: 91.75 1141.00
H: 0.00 2477.49

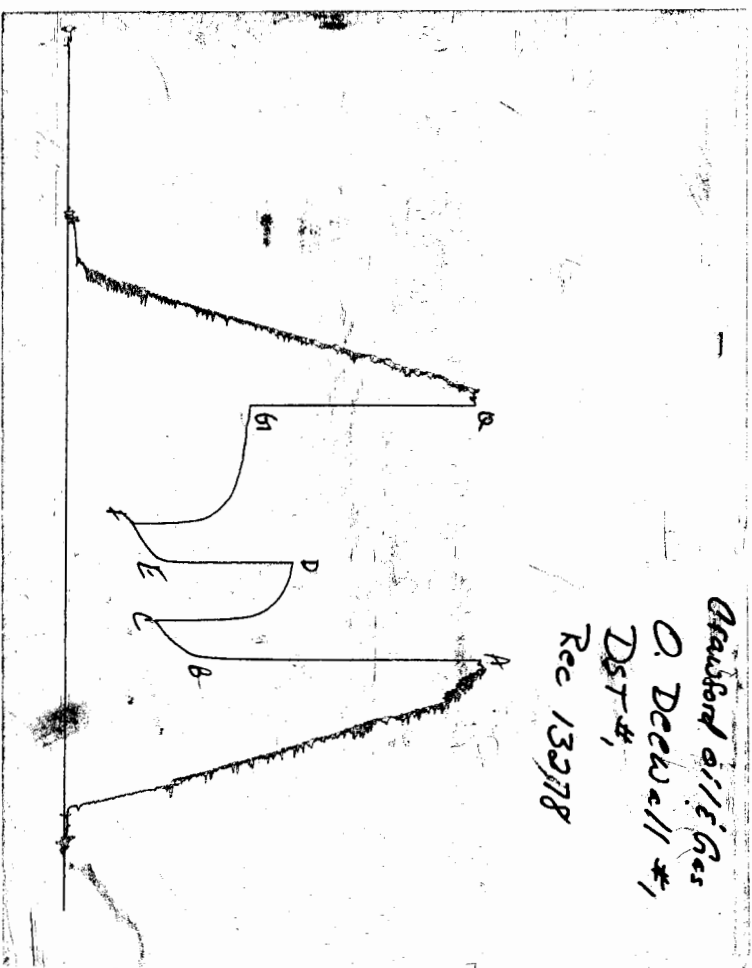


Pressure (PSig)

Temperature (DEG F)

Time (Min.)

CHART PAGE



This is a photocopy of the actual AK-1 recorder chart



GAS VOLUME REPORT

O. Deewell #1
WELL NAME AND NO.

DST NO

1st Flow

2nd Flow

Remarks: Caught Gas Smpl. sent to Carraway
GAS will burn

TRILOBITE TESTING L.L.C.

P.O. Box 362 • Hays, Kansas 67601

Test Ticket

Nº 12499

Well Name & No.	O. Deewall #1	Test No.	1	Date	3-3-2000
Company	Crawford oil & Gas Inc	Zone Tested	Mississippi		
Address	P.O. Box 454 Mooreland OK 73843-0454	Elevation	1956	KB	1948 GL
Co. Rep / Geo.	Jon Christenson	Cont.	Duke #1	Est. Ft. of Pay	18 Por. 14 %
Location: Sec.	30	Twp.	33S	Rge.	18W Co. Comanche State KS
No. of Copies	5	Distribution Sheet (Y, N)	Y	Turnkey (Y, N)	— Evaluation (Y, N) —

Interval Tested	5284 - 5312	Initial Str Wt./Lbs.	54,000	Unseated Str Wt./Lbs.	57,000
Anchor Length	28' tool / 27'	Wt. Set Lbs.	25,000	Wt. Pulled Loose/Lbs.	4,000
Top Packer Depth	5279	Tool Weight	1,800		
Bottom Packer Depth	5284	Hole Size — 7 7/8" —		Rubber Size — 6 3/4" —	
Total Depth	5312	Wt. Pipe Run	—	Drill Collar Run	—
Mud Wt.	9.0 LCM 4# Vis. 50 WL 8.4	Drill Pipe Size	85 studs 4 1/2 x H	Ft. Run	5264 9' up
Blow Description	Strong Blow O.B.B. Immediately G.T.S. in 2 min I.F.P.				

Blow Back on I.S.I.P.

Strong Blow O.B.B. Immediately F.F.P. "See gas Flow Chart"

Blow Back on F.S.I.P.

Recovery — Total Feet	100'	GIP	5164	Ft. in DC	—	Ft. in DP	100'
Rec.	100	Feet Of	Drilg mud	%gas	%oil	%water	100% mud
Rec.		Feet Of		%gas	%oil	%water	%mud
Rec.		Feet Of		%gas	%oil	%water	%mud
Rec.		Feet Of		%gas	%oil	%water	%mud
Rec.		Feet Of		%gas	%oil	%water	%mud
BHT	118°	°F Gravity	—	°API D@	—	°F Corrected Gravity	— °API
RW	—	@	—	°F Chlorides	—	ppm Recovery	Chlorides 5,800 ppm System

	AK-1	Alpine				
(A) Initial Hydrostatic Mud	2526	2506	PSI Recorder No.	2357	T-On Location	11:30 Am
(B) First Initial Flow Pressure	716	710	PSI (depth)	5285	T-Started	12:20
(C) First Final Flow Pressure	539	434	PSI Recorder No.	13278	T-Open	14:40 pm
(D) Initial Shut-In Pressure	1369	1412	PSI (depth)	5309	T-Pulled	15:55 pm
(E) Second Initial Flow Pressure	528	559	PSI Recorder No.	—	T-Out	20:45 pm
(F) Second Final Flow Pressure	407	307	PSI (depth)	—	T-Off Location	
(G) Final Shut-in Pressure	1115	1141	PSI Initial Opening	30	Test	✓ 800
(Q) Final Hydrostatic Mud	2440	2477	PSI Initial Shut-in	45	Jars	✓ 800
			Final Flow	30	Safety Joint	✓ 50
			Final Shut-in	90	Straddle	

TRILOBITE TESTING L.L.C. SHALL NOT BE LIABLE FOR DAMAGE OF ANY KIND OF 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, OR ITS STATEMENTS OR OPINION CONCERNING THE RESULTS OF ANY TEST. TOOLS LOST OR DAMAGED IN THE HOLE SHALL BE PAID FOR AT COST BY THE PARTY FOR WHOM THE TEST IS MADE.

Approved By Jon Christenson
Our Representative Brad Bortz

Extra Packer ✓
Elec. Rec. ✓ 150
Mileage —
Other —
TOTAL PRICE \$ 1200

TRILOBITE TESTING L.L.C.

OPERATOR : Crawford Oil & Gas, Inc.
WELL NAME: #1 O.Deewall
LOCATION : 30-33s-18w Comanche co KS
INTERVAL : 5340.00 To 5406.00 ft

DATE 03/04/200
KB 1956.00 ft TICKET NO: 12088 DST #2
GR 1948.00 ft FORMATION: Mississippi
TD 5406.00 ft TEST TYPE: CONVENTIONAL

RECORDER DATA

Mins	Field	1	2	3	4	TIME DATA-----
PF 30 Rec.	10991	10991	2350			PF Fr. 1300 to 1330 hr
SI 45 Range(Psi)	4200.0	4200.0	4995.0	0.0	0.0	IS Fr. 1330 to 1415 hr
SF 45 Clock(hrs)	12hr.	12hr.	elec.			SF Fr. 1415 to 1500 hr
FS 90 Depth(ft)	5403.0	5403.0	5346.0	0.0	0.0	FS Fr. 1500 to 1630 hr

	Field	1	2	3	4	
A. Init Hydro	2659.0	2662.0	2645.0	0.0	0.0	T STARTED 1026 hr
B. First Flow	75.0	90.0	58.0	0.0	0.0	T ON BOTM 1257 hr
B1. Final Flow	128.0	138.0	125.0	0.0	0.0	T OPEN 1300 hr
C. In Shut-in	1629.0	1634.0	1622.0	0.0	0.0	T PULLED 1630 hr
D. Init Flow	149.0	159.0	131.0	0.0	0.0	T OUT 1900 hr
E. Final Flow	213.0	221.0	212.0	0.0	0.0	
F. Fl Shut-in	1608.0	1613.0	1572.0	0.0	0.0	TOOL DATA-----
G. Final Hydro	2680.0	2631.0	2594.0	0.0	0.0	Tool Wt. 2100.00 lbs
Inside/Outside	0	0	I			Wt Set On Packer 20000.00 lbs
						Wt Pulled Loose 65000.00 lbs
						Initial Str Wt 54000.00 lbs
						Unseated Str Wt 54000.00 lbs
						Bot Choke 0.75 in
						Hole Size 7.88 in
						D Col. ID 0.00 in
						D. Pipe ID 3.80 in
						D.C. Length 0.00 ft
						D.P. Length 5357.00 ft

RECOVERY

Tot Fluid 454.00 ft of 0.00 ft in DC and 454.00 ft in DP
4842.00 ft of Gas in pipe.
120.00 ft of Gas & oil cut muddy water
0.00 ft of 8% gas 12% oil 10% water 70% mud
120.00 ft of Gas & oil cut watery mud
0.00 ft of 20% gas 10% oil 40% water 30% mud
214.00 ft of Oil & gas cut muddy water
0.00 ft of 10% gas 5% oil 75% water 10% mud
0.00 ft of
SALINITY 130000.00 P.P.M. A.P.I. Gravity 0.00

BLOW DESCRIPTION

Initial Flow:
Strong blow. Bottom of bucket in 20 seconds.
Initial Shut-In:
Bled down for 4 minutes. Built back to 1 1/2" in water bucket.
Final Flow:
Strong blow bottom of bucket in 10 seconds. Gas to surface in 5 minutes. Gauged gas.
Final Shut-In:
Bled down for 10 minutes. Built back to 1 1/2" in water bucket.

SAMPLES: Caraway Analytical,728.N Roosevelt
SENT TO:Liberal,Ks.67901

MUD DATA-----
Mud Type Chemical
Weight 8.90 lb/c
Vis. 52.00 S/L
W.L. 10.80 in3
F.C. 0.32 in
Mud Drop N
Amt. of fill 0.00 ft
Btm. H. Temp. 130.00 F
Hole Condition good
% Porosity 0.00
Packer Size 6.75 in
No. of Packers 2
Cushion Amt. 0.00 n
Cushion Type none
Reversed Out N
Tool Chased N
Tester Darren L.Amerine
Co. Rep. Jon Christensen
Contr. Duke
Rig # 1
Unit # none
Pump T. none

Test Successful: Y

GAS RECOVERY

COMPANY: Crawford Oil & Gas, Inc. DATE: 03/04/200
WELL NAME: #1 O.Deewall KB Elev: 1956.00 ft TICKET #12088 DST #2
WELL LOCATION: 30-33s-18w Comanche co KS GR Elev: 1948.00 ft FORMATION: Mississippi
INTERVAL Fr.: 5340.00 To 5406.00 T.D.: 5406.00 ft TEST TYPE: CONVENTIONAL

GAS RECOVERY MEASURED WITH Merla gauge

***** GAS RATES FOR FLOW #2

Time (min)	Orifice (in)	Pressure (Psi)	H2O (in)	Rate (cf/d)
10	0.25	0	13	6100.0
15	0.25	0	12	5860.0
20	0.25	0	12	5860.0
25	0.25	0	12	5860.0
30	0.25	0	12	5860.0
35	0.25	0	12	5860.0
40	0.25	0	12	5860.0
45	0.25	0	12	5860.0

*** TOOL DIAGRAM *** CONVENTIONAL

WELL NAME: #1 O.Deewall

LOCATION : 30-33s-18w Comanche co KS

TICKET No. 12088 D.S.T. No. 2 DATE 03/04/200

TOTAL TOOL TO BOTTOM OF TOP PACKERS 28

INTERVAL TOOL

BOTTOM PACKERS AND ANCHOR 36

TOTAL TOOL 64

DRILL COLLAR ANCHOR IN INTERVAL

D.C. ANCHOR STND.Stands Single Total

D.P. ANCHOR STND.Stands Single 1 Total 30

TOTAL ASSEMBLY 94

D.C. ABOVE TOOLS.Stands Single Total

D.P. ABOVE TOOLS.Stands Single 85 Total 5327

TOTAL DRILL COLLARS DRILL PIPE & TOOLS .. 5421

TOTAL DEPTH 5406

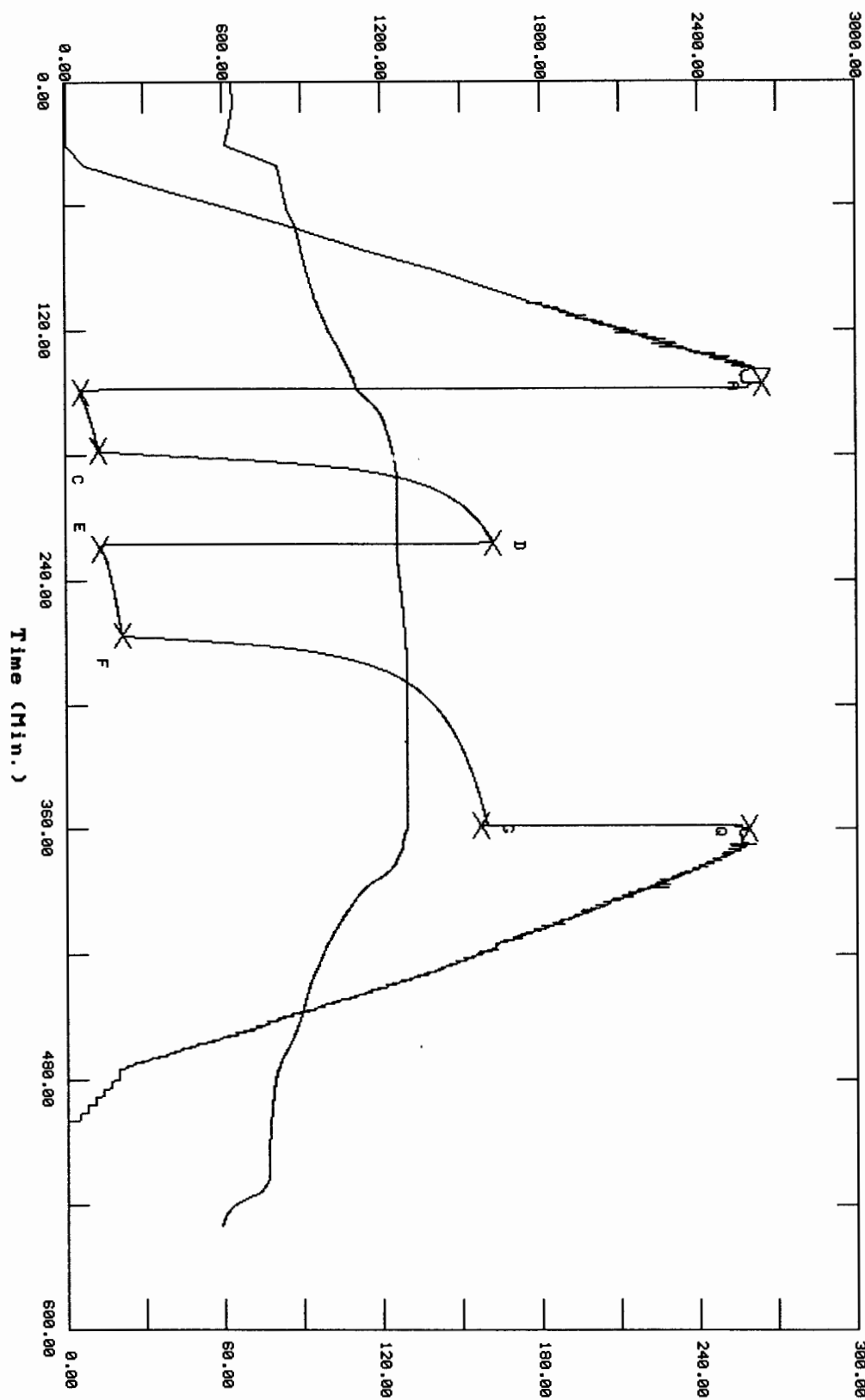
TOTAL DRILL PIPE ABOVE K.B. 15

REMARKS:

P.O. SUB Top of tool @	5313
C.O. SUB	5314
S.I. TOOL	5319
HMV	5324
JARS	5329
SAFETY JOINT	5331
PACKER	5335
PACKER	5340
DEPTH 5340	
1'to	5341
ANCHOR 30'of perfs.to	5371
Alpine rec.@ 5346	
30'of drillpipe to	5401
Ak-1 rec. @ 5403	
BULLNOSE 5' bullnose to	5406
T.D.	

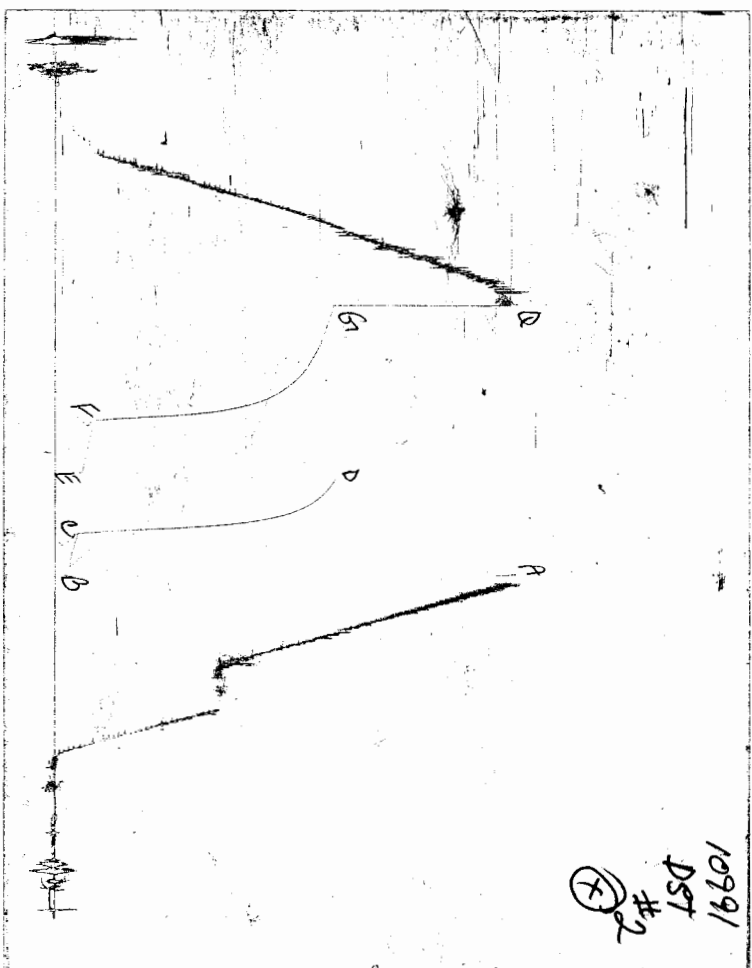
TEST HISTORY

TK#12088 DST#2 #1 O.Deewall Crawford Oil&Gas.



Temperature (DEG F)

CHART PAGE



This is a photocopy of the actual AK-1 recorder chart



GAS VOLUME REPORT

Crawford Oil & Gas, Inc
OPERATOR

#1 O. Deewall

#2
DST

6TS 5mins. on Final Flow.

(Miss)

[illegible]

Remarks:

TRILOBITE TESTING L.L.C.

P.O. Box 362 • Hays, Kansas 67601

Nº 12088

Test Ticket

Well Name & No.	#1 O. Deewall	Test No.	#2	Date	03/04/2000
Company	Crawford Oil & Gas P.O. box 454	Zone Tested	(MISS)		
Address	Mooreland, Okla. 73852-0454	Elevation	1956	KB	1918 GL
Co. Rep / Geo.	Jon Christensen	Cont.	Duke #1	Est. Ft. of Pay	Por. %
Location: Sec.	30	Twp.	33S	Rge.	18W
			Co.	Comanche Co	State KS
No. of Copies	5	Distribution Sheet (Y, N)	-	Turnkey (Y, N)	-
				Evaluation (Y, N)	-

Interval Tested	5340' - 5406'	Initial Str Wt./Lbs.	54,000	Unseated Str Wt./Lbs.	54,000
Anchor Length	66'	Wt. Set Lbs.	20,000	Wt. Pulled Loose/Lbs.	65,000
Top Packer Depth	5335'	Tool Weight	2/00		
Bottom Packer Depth	5340'	Hole Size — 7 7/8"	✓	Rubber Size — 6 3/4"	✓
Total Depth	5406'	Wt. Pipe Run	N/A	Drill Collar Run	N/A
Mud Wt.	8.9 LCM 3# Vis. 52 WL 10.8	Drill Pipe Size	4 1/2 X H	Ft. Run	5327'

Blow Description TF: Strong blow b.o.b in 20 sec.
IST: Bled down for 4 mins. Built back to 1 1/2" in H2O bucket.
FF: Strong blow b.o.b in 10 sec. GTS in 5 mins. Gauge Gas.
FST: Bled down for 10 mins. Built back to 1 1/2" in H2O bucket.

Recovery — Total Feet	454'	GIP	4842'	Ft. in DC	N/A	Ft. in DP	454'
Rec.	120'	Feet Of	6' GOC MW	8 %gas	12 %oil	10 %water	70 %mud
Rec.	120'	Feet Of	6' GOC MW	20 %gas	10 %oil	40 %water	30 %mud
Rec.	214'	Feet Of	6' GOC MW	10 %gas	5 %oil	75 %water	10 %mud
Rec.	4842'	Feet Of	Gas In pipe	%gas	%oil	%water	%mud
Rec.		Feet Of		%gas	%oil	%water	%mud

BHT 130° °F Gravity _____ °API D@ _____ °F Corrected Gravity _____ °API
RW .05 @ 86° °F Chlorides 130,000 ppm Recovery Chlorides 6,800 ppm System

	AK-1	Alpine			
(A) Initial Hydrostatic Mud	2659	2645	PSI Recorder No.	2350	T-On Location 0900
(B) First Initial Flow Pressure	75	58	PSI (depth)	5346'	T-Started 1026
(C) First Final Flow Pressure	128	125	PSI Recorder No.	10991	T-Open 1300
(D) Initial Shut-In Pressure	1629	1622	PSI (depth)	5403'	T-Pulled 1630
(E) Second Initial Flow Pressure	149	131	PSI Recorder No.		T-Out 1900
(F) Second Final Flow Pressure	213	212	PSI (depth)		T-Off Location 2030
(G) Final Shut-in Pressure	1608	1572	PSI Initial Opening	30	Test 800 ✓
(Q) Final Hydrostatic Mud	2680	2094	PSI Initial Shut-in	45	Jars 200 ✓
			Final Flow	45	Safety Joint 50 ✓
			Final Shut-in	90	Straddle _____
					Circ. Sub _____
					Sampler _____
					Extra Packer _____
					Elec. Rec. 150 ✓
					Mileage _____
					Other _____
					TOTAL PRICE \$ 1200

TRILOBITE TESTING L.L.C. SHALL NOT BE LIABLE FOR DAMAGE OF ANY KIND OF 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, OR ITS STATEMENTS OR OPINION CONCERNING THE RESULTS OF ANY TEST. TOOLS LOST OR DAMAGED IN THE HOLE SHALL BE PAID FOR AT COST BY THE PARTY FOR WHOM THE TEST IS MADE.

Approved By Jon Christensen

Our Representative Darwin Schreiner

Well Name Deewall
DST Number 1
Recorder Number 13278

A: 2.247 2478
B: .683 753
C: .474 522
D: 1.223 1350
E: .497 547
F: .347 382
G: .982 1024
Q: 2.210 2438

Well Name Deewall
DST Number 2
Recorder Number 10991

A: 2.515 2642
B: .085 90
C: .130 138
D: 1.535 1634
E: .150 159
F: .208 221
G: 1.516 1613
Q: 2.484 2631