

# TRILOBITE TESTING, L.L.C.

P.O. Box 362 • Hays, Kansas 67601

## Drill-Stem Test Data

Well Name KANCO #1 Test No. 1 Date 12/1/93  
Company CHARTER PRODUCTION COMPANY Zone MORROW  
Address 224 E DOUGLAS WICHITA KS 67202 Elevation 3182  
Co. Rep./Geo. ROBERT SMITH Cont. ZENITH DRLG #7 Est. Ft. of Pay 12  
Location: Sec. 18 Twp. 31S Rge. 38W Co. STEVENS State KS

Interval Tested 5629-5690 Drill Pipe Size 4.5" XH  
Anchor Length 61 Wt. Pipe I.D. - 2.7 Ft. Run \_\_\_\_\_  
Top Packer Depth 5624 Drill Collar - 2.25 Ft. Run 490  
Bottom Packer Depth 5629 Mud Wt. 8.9 lb/Gal.  
Total Depth 5690 Viscosity 42 Filtrate 10.4

Tool Open @ 5:50 AM Initial Blow STRONG BLOW-BOTTOM OF BUCKET IN 30 SECONDS  
GAS TO SURFACE IN 4 MINUTES  
Final Blow BOTTOM OF BUCKET AS TOOL OPENED

Recovery - Total Feet 204 Flush Tool? NO

Rec. 204 Feet of GAS CUT DRILLING MUD-1% GAS/ 99% MUD  
Rec. \_\_\_\_\_ Feet of \_\_\_\_\_  
Rec. \_\_\_\_\_ Feet of \_\_\_\_\_  
Rec. \_\_\_\_\_ Feet of \_\_\_\_\_  
Rec. \_\_\_\_\_ Feet of \_\_\_\_\_

BHT 126 °F Gravity \_\_\_\_\_ °API @ \_\_\_\_\_ °F Corrected Gravity \_\_\_\_\_ °API  
RW \_\_\_\_\_ @ \_\_\_\_\_ °F Chlorides \_\_\_\_\_ ppm Recovery Chlorides 2000 ppm System

(A) Initial Hydrostatic Mud 2719.8 PSI AK1 Recorder No. 5495 Range 4200

(B) First Initial Flow Pressure 216.2 PSI @ (depth) 5633 w / Clock No. 25813

(C) First Final Flow Pressure 221.6 PSI AK1 Recorder No. 11038 Range 5075

(D) Initial Shut-in Pressure 1376.0 PSI @ (depth) 5687 w / Clock No. 25814

(E) Second Initial Flow Pressure 206.3 PSI AK1 Recorder No. \_\_\_\_\_ Range \_\_\_\_\_

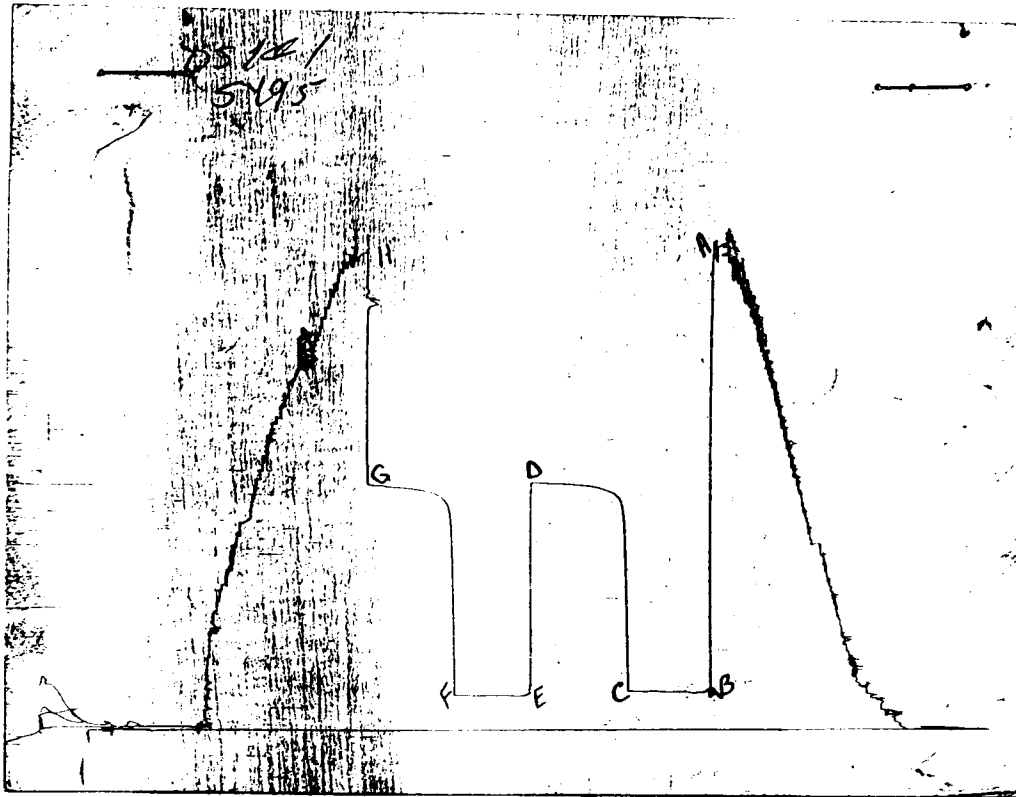
(F) Second Final Flow Pressure 200.8 PSI @ (depth) \_\_\_\_\_ w / Clock No. \_\_\_\_\_

(G) Final Shut-in Pressure 1364.4 PSI Initial Opening 60 Final Flow 60

(H) Final Hydrostatic Mud 2660.9 PSI Initial Shut-in 70 Final Shut-in 60

Our Representative TOM HORACEK

CHART PAGE



This is an actual photograph of recorder chart

	FIELD READING	OFFICE READING
(A) INITIAL HYDROSTATIC MUD	2709	2719.8
(B) FIRST INITIAL FLOW PRESSURE	230	216.2
(C) FIRST FINAL FLOW PRESSURE	230	221.6
(D) INITIAL CLOSED-IN PRESSURE	1385	1376
(E) SECOND INITIAL FLOW PRESSURE	230	206.3
(F) SECOND FINAL FLOW PRESSURE	217	200.8
(G) FINAL CLOSED-IN PRESSURE	1373	1364.4
(H) FINAL HYDROSTATIC MUD	2657	2660.9



KANCO #1  
INITIAL

DST #1  
SHUTIN  
60 TOTAL FLOW TIME

Slope 94927.67 psi/cycle  
P \* 1410 psi

TIME(MIN)	Pws (psi)	Log Horn T	<> PRESSURE	Horn T
3	1238.7	1.322	1238.7	21
6	1294.6	1.041	55.9	11
9	1314.7	0.885	20.1	8
12	1325.3	0.778	10.6	6
15	1332.7	0.699	7.4	5
18	1341.2	0.637	8.5	4
21	1348.6	0.586	7.4	4
24	1352.8	0.544	4.2	4
27	1357.1	0.508	4.3	3
30	1360.2	0.477	3.1	3
33	1362.3	0.450	2.1	3
36	1363.4	0.426	1.1	3
39	1364.4	0.405	1.0	3
42	1365.5	0.385	1.1	2
45	1366.5	0.368	1.0	2
48	1367.6	0.352	1.1	2
51	1368.6	0.338	1.0	2
54	1369.7	0.325	1.1	2
57	1370.8	0.312	1.1	2
60	1371.8	0.301	1.0	2
63	1372.9	0.291	1.1	2
66	1373.9	0.281	1.0	2
X 69	1375.0	0.272	1.1	2
X 72	1376.1	0.263	1.1	2

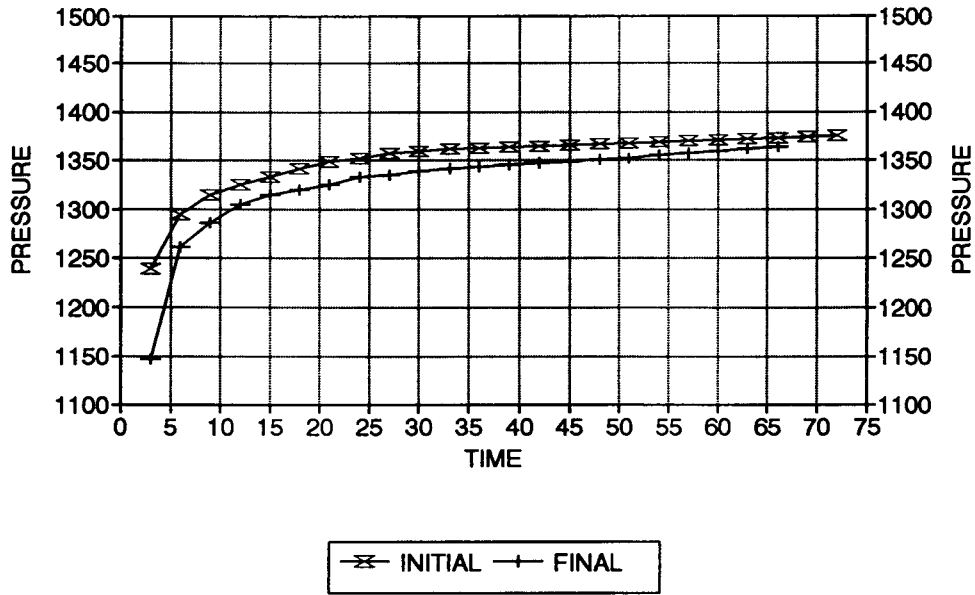
KANCO #1  
FINAL

DST #1  
SHUTIN  
120 TOTAL FLOW TIME

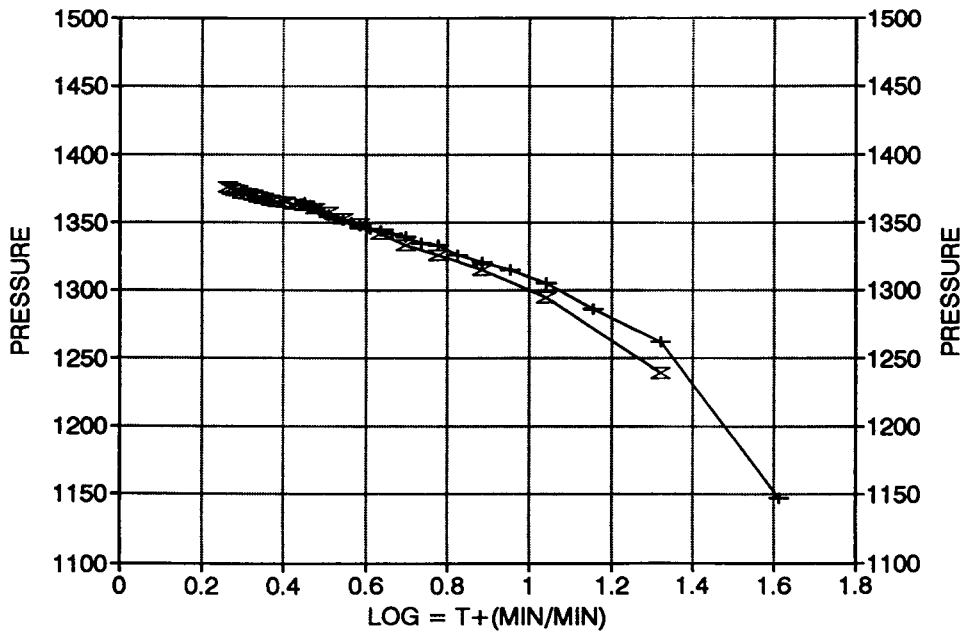
Slope 181479.99 psi/cycle  
P \* 1429 psi

TIME(MIN)	Pws (psi)	Log Horn T	<> PRESSURE	Horn T
3	1146.8	1.613	1146.8	41
6	1261.9	1.322	115.1	21
9	1286.2	1.156	24.3	14
12	1305.2	1.041	19.0	11
15	1314.7	0.954	9.5	9
18	1320.0	0.885	5.3	8
21	1325.3	0.827	5.3	7
24	1332.7	0.778	7.4	6
27	1334.8	0.736	2.1	5
30	1339.1	0.699	4.3	5
33	1341.2	0.666	2.1	5
36	1343.3	0.637	2.1	4
39	1345.4	0.610	2.1	4
42	1347.5	0.586	2.1	4
45	1349.6	0.564	2.1	4
48	1351.7	0.544	2.1	4
51	1352.8	0.525	1.1	3
X 54	1356.0	0.508	3.2	3
57	1358.1	0.492	2.1	3
60	1360.2	0.477	2.1	3
63	1362.3	0.463	2.1	3

# KANCO #1 / DST #1 DELTA T DELTA P



# HORNER PLOT



# GAS VOLUME REPORT

CHARTER PRODUCTION COMPANY

KANCO #1

DST # 1

MIN	PSIG	ORIFICE	MCF/D	MIN	PSIG	ORIFICE	MCF/D
10		1.5	482	10	8	1.25	1123
20	7.5	1.25	1080	20	10	1.25	1274
30	8	1.25	1123	30	11	1.25	1348
40	9	1.25	1198	40	11	1.25	1348
50	10	1.25	1274	50	11	1.25	1348
60	10	1.25	1274	60	11	1.25	1348

Remarks: GAS TO SURFACE IN 4 MINUTES / GAS WILL BURN

NATURAL GAS ANALYSIS REPORT

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

Analyzed by:  
 Caraway Analytical  
 728 North Roosevelt  
 Liberal, Kansas 67901  
 Phone: 316-324-5389  
 Fax: 316-626-7108

Lab Number: 93316  
 Sample From: Kanco #1 DST #1  
 Producer: Charter Production  
 Date:  
 Time:  
 Sampler:  
 Source:

Analyzed: 12/01/93  
 Pressure:  
 Temperature:  
 Location: 18-31-38  
 County: Stevens  
 State: Kansas  
 Formation: Morrow

		Mole %	GPM
Helium	He:	0.206	0.000
Oxygen	O2:	0.000	0.000
Nitrogen	N2:	4.105	0.000
Carbon Dioxide	CO2:	0.337	0.000
Methane	C1:	86.028	0.000
Ethane	C2:	4.726	1.264
Propane	C3:	2.460	0.678
Iso Butane	iC4:	0.357	0.117
Normal Butane	nC4:	0.776	0.245
Iso Pentane	iC5:	0.210	0.077
Normal Pentane	nC5:	0.269	0.097
Hexanes Plus	C6+:	0.526	0.229

TOTAL: 100.000 2.707  
 Z Fact: 0.9974  
 SP.GR.: 0.6600  
 BTU (SAT): 1083.7 @ 14.73 psia  
 BTU (DRY): 1102.8 @ 14.73 psia

COMMENTS:

CAHKE - KAWCO

1	1.153	1238.718
2	1.206	1294.689
3	1.225	1314.787
4	1.235	1325.361
5	1.242	1332.761
6	1.25	1341.217
7	1.257	1348.615
8	1.261	1352.841
9	1.265	1357.068
10	1.268	1360.237
11	1.27	1362.35
12	1.271	1363.406
13	1.272	1364.463
14	1.273	1365.519
15	1.274	1366.575
16	1.275	1367.632
17	1.276	1368.688
18	1.277	1369.744
19	1.278	1370.8
20	1.279	1371.856
21	1.28	1372.913
22	1.281	1373.969
23	1.282	1375.025
24	1.283	1376.081

959-1406

FS9-1434

C-

A25... A46

D1... D46

1	1.066	1146.808
2	1.175	1261.954
3	1.198	1286.23
4	1.216	1305.268
5	1.225	1314.787
6	1.23	1320.074
7	1.235	1325.361
8	1.242	1332.761
9	1.244	1334.875
10	1.248	1339.103
11	1.25	1341.217
12	1.252	1343.331
13	1.254	1345.445
14	1.256	1347.558
15	1.258	1349.672
16	1.26	1351.785
17	1.261	1352.841
18	1.264	1356.011
19	1.266	1358.124
20	1.268	1360.237
21	1.27	1362.35
22	1.272	1364.463

B1... B24





# TRILOBITE TESTING L.L.C.

P.O. Box 362 • Hays, Kansas 67601

## Test Ticket

No 6675

Well Name & No. <u>Kanco #1</u>	Test No. <u>#1</u>	Date <u>12-1-93</u>
Company <u>Charter Production Com.</u>	Zone Tested <u>Morrow</u>	
Address <u>224 E. Douglas Wichita Ks. 67202</u>	Elevation <u>3182 (KB)</u>	
Co. Rep./Geo. <u>Robert Smith</u> cont. <u>Zenith Drlls #7</u>	Est. Ft. of Pay <u>12'</u>	
Location: Sec. <u>18</u> Twp. <u>31</u> Rge. <u>38</u> Co. <u>Stevens</u> State <u>Ks.</u>		
No. of Copies <u>10</u> Distribution Sheet <u>Yes</u> <input checked="" type="checkbox"/> <u>No</u> <input checked="" type="checkbox"/> Turnkey <u>Yes</u> <input checked="" type="checkbox"/> <u>No</u> <input type="checkbox"/> Evaluation <u>_____</u>		

Interval Tested <u>5629-5690</u>	Drill Pipe Size <u>4.5 x-Hole</u>
Anchor Length <u>61'</u>	Top Choke — 1" _____ Bottom Choke — 1/4" _____
Top Packer Depth <u>5624</u>	Hole Size — 7 7/8" _____ Rubber Size — 6 3/4" _____
Bottom Packer Depth <u>5629</u>	Wt. Pipe I.D. — 2.7 Ft. Run _____
Total Depth <u>5690</u>	Drill Collar — 2.25 Ft. Run <u>490'</u>
Mud Wt. <u>8.9</u> lb/gal.	Viscosity <u>42</u> Filtrate <u>10.4</u>
Tool Open @ <u>5:50 AM</u> Initial Blow <u>strong blow - BOB in 30 sec.</u>	<u>6TS in 4 min.</u>
Final Blow <u>Bottom of bucket as tool opened.</u>	

Recovery — Total Feet	Feet of Gas In Pipe	Flush Tool?
<u>204'</u>		<u>NO</u>
Rec. _____ Feet Of _____	%gas _____ %oil _____ %water _____ %mud _____	
Rec. _____ Feet Of _____	%gas _____ %oil _____ %water _____ %mud _____	
Rec. <u>204</u> Feet Of <u>GCDM</u>	1 %gas _____ %oil _____ %water <u>99</u> %mud _____	
Rec. _____ Feet Of _____	%gas _____ %oil _____ %water _____ %mud _____	
Rec. _____ Feet Of _____	%gas _____ %oil _____ %water _____ %mud _____	

BHT 126 °F Gravity \_\_\_\_\_ °API @ \_\_\_\_\_ °F Corrected Gravity \_\_\_\_\_ °API

RW \_\_\_\_\_ @ \_\_\_\_\_ °F Chlorides \_\_\_\_\_ ppm Recovery Chlorides 2000 ppm System

(A) Initial Hydrostatic Mud 2709 PSI Ak1 Recorder No. 5495 Range 4200

(B) First Initial Flow Pressure 230 PSI @ (depth) 5633 w/Clock No. 25813

(C) First Final Flow Pressure 230 PSI AK1 Recorder No. 11038 Range 5075

(D) Initial Shut-in Pressure 1385 PSI @ (depth) 5687 w/Clock No. 25814

(E) Second Initial Flow Pressure 230 PSI AK1 Recorder No. \_\_\_\_\_ Range \_\_\_\_\_

(F) Second Final Flow Pressure 217 PSI @ (depth) \_\_\_\_\_ w/Clock No. \_\_\_\_\_

(G) Final Shut-in Pressure 1373 PSI Initial Opening 60 Test  700.00

(H) Final Hydrostatic Mud 2657 PSI Initial Shut-in 70 Jars  200.00

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.

Final Flow 60 Safety Joint  50.00

Final Shut-in 60 Straddle \_\_\_\_\_

Circ. Sub \_\_\_\_\_

Sampler \_\_\_\_\_

Approved By [Signature]

Our Representative Tom Horacek

Extra Packer \_\_\_\_\_

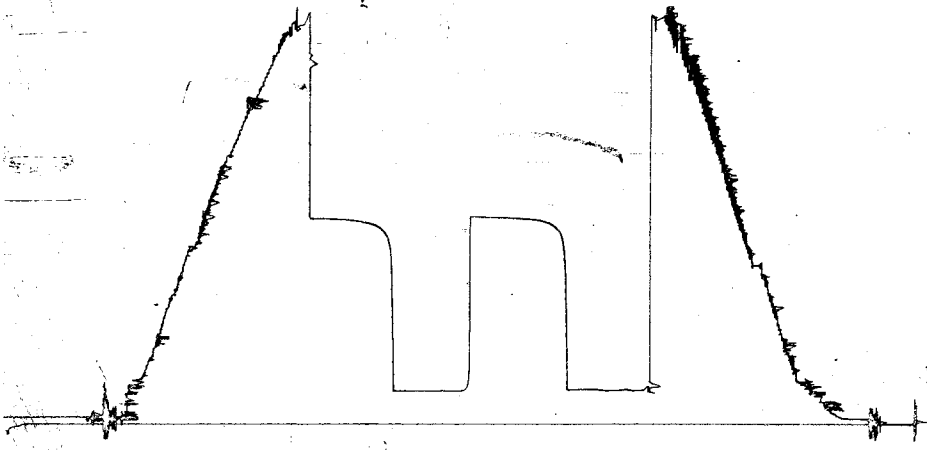
Other gas eval

TOTAL PRICE \$ \_\_\_\_\_

# 11038

D>121

C172



# TRILOBITE TESTING, L.L.C.

P.O. Box 362 • Hays, Kansas 67601

## Drill-Stem Test Data

Well Name KANCO #1 Test No. 2 Date 12/2/93  
Company CHARTER PRODUCTION COMPANY Zone KEYS  
Address 224 E DOUGLAS WICHITA KS 67202 Elevation 3182  
Co. Rep./Geo. ROBERT SMITH Cont. ZENITH DRLG #7 Est. Ft. of Pay \_\_\_\_\_  
Location: Sec. 18 Twp. 31S Rge. 38W Co. STEVENS State KS

Interval Tested 5707-5715 Drill Pipe Size 4.5" XH  
Anchor Length 8 Wt. Pipe I.D. - 2.7 Ft. Run \_\_\_\_\_  
Top Packer Depth 5702 Drill Collar - 2.25 Ft. Run 520  
Bottom Packer Depth 5707 Mud Wt. \_\_\_\_\_ 8.8 lb/Gal.  
Total Depth 5715 Viscosity 56 Filtrate 11.2

Tool Open @ 8:00 AM Initial Blow SURFACE BLOW - BUILT TO 1/2" DECREASED TO 1/4"

Final Blow SURFACE BLOW THROUGHOUT

Recovery - Total Feet 15 Flush Tool? NO

Rec. 60 Feet of GAS IN PIPE  
Rec. 15 Feet of DRILLING MUD  
Rec. \_\_\_\_\_ Feet of \_\_\_\_\_  
Rec. \_\_\_\_\_ Feet of \_\_\_\_\_  
Rec. \_\_\_\_\_ Feet of \_\_\_\_\_

BHT 126 °F Gravity \_\_\_\_\_ °API @ \_\_\_\_\_ °F Corrected Gravity \_\_\_\_\_ °API  
RW \_\_\_\_\_ @ \_\_\_\_\_ °F Chlorides \_\_\_\_\_ ppm Recovery Chlorides 1500 ppm System

(A) Initial Hydrostatic Mud 2766.5 PSI AK1 Recorder No. 5495 Range 4200

(B) First Initial Flow Pressure 34.3 PSI @ (depth) 5709 w / Clock No. 25813

(C) First Final Flow Pressure 34.3 PSI AK1 Recorder No. 11038 Range 5075

(D) Initial Shut-in Pressure 34.3 PSI @ (depth) 5713 w / Clock No. 25814

(E) Second Initial Flow Pressure 34.3 PSI AK1 Recorder No. \_\_\_\_\_ Range \_\_\_\_\_

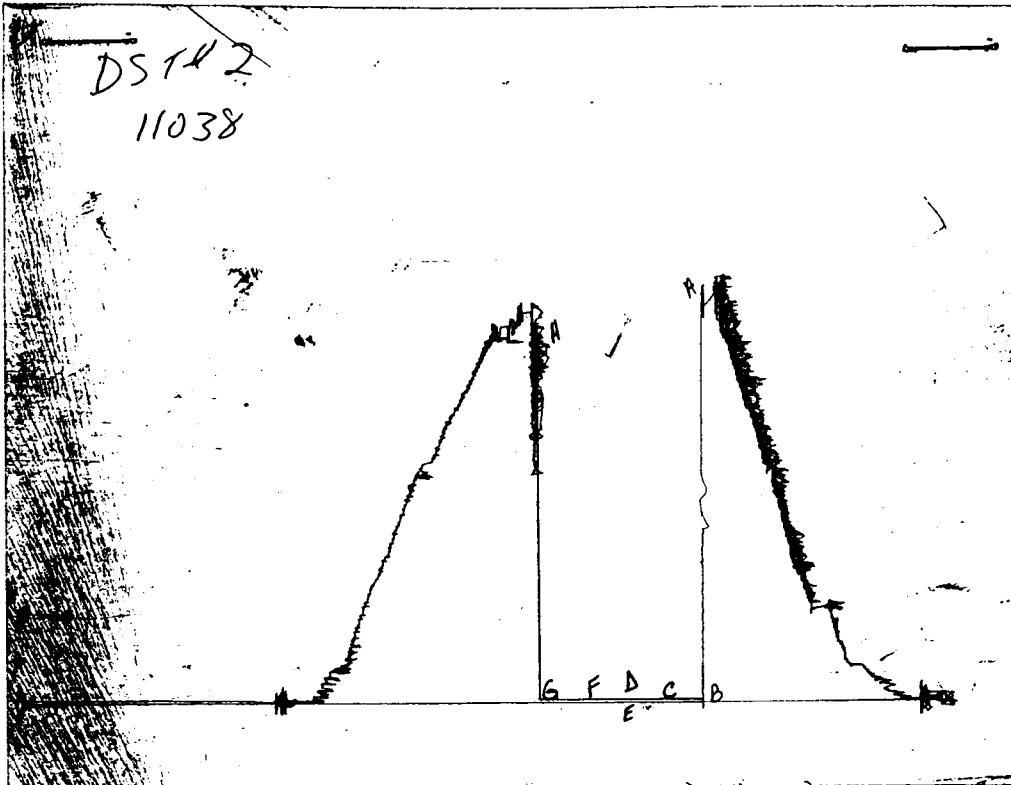
(F) Second Final Flow Pressure 34.3 PSI @ (depth) \_\_\_\_\_ w / Clock No. \_\_\_\_\_

(G) Final Shut-in Pressure 34.3 PSI Initial Opening 30 Final Flow 30

(H) Final Hydrostatic Mud 2622.1 PSI Initial Shut-in 30 Final Shut-in 30

Our Representative TOM HORACEK

CHART PAGE



This is an actual photograph of recorder chart

	FIELD READING	OFFICE READING
(A) INITIAL HYDROSTATIC MUD	2760	2766.5
(B) FIRST INITIAL FLOW PRESSURE	27	34.3
(C) FIRST FINAL FLOW PRESSURE	27	34.3
(D) INITIAL CLOSED-IN PRESSURE	27	34.3
(E) SECOND INITIAL FLOW PRESSURE	27	34.3
(F) SECOND FINAL FLOW PRESSURE	27	34.3
(G) FINAL CLOSED-IN PRESSURE	27	34.3
(H) FINAL HYDROSTATIC MUD	2619	2622.1

# TRILOBITE TESTING L.L.C.

P.O. Box 362 • Hays, Kansas 67601

## Test Ticket

No 6626

W. Kanco #1 Test No. 42 Date 12-2-93  
Charter Production Com. Zone Tested Keys  
224 E. Douglas Wichita Ks 67202 Elevation 3182 (KB)  
J. Rep./Geo. Robert Smith Cont. Zenith Drils #7 Est. Ft. of Pay  
Location: Sec. 18 Twp. 31 Rge. 38 Co. Stevens State Ks  
No. of Copies 10 Distribution Sheet Yes X No Turnkey Yes X No Evaluation

Interval Tested 5707-5715 Drill Pipe Size 4.5 x-Hole  
Anchor Length 8' Top Choke - 1" Bottom Choke - 3/4"  
Top Packer Depth 5702 Hole Size - 7 7/8" Rubber Size - 6 3/4"  
Bottom Packer Depth 5707 Wt. Pipe I.D. - 2.7 Ft. Run -  
Total Depth 5715 Drill Collar - 2.25 Ft. Run 520'  
Mud Wt. 8.8 lb/gal. Viscosity 56 Filtrate 11.2  
Tool Open @ 8:00 AM Initial Blow surface blow - built to 1/2 in. decreased to 1/4 in.

Final Blow surface blow through out.

Recovery - Total Feet 15' Feet of Gas In Pipe 60' Flush Tool? NO

Rec.	Feet Of	% gas	% oil	% water	% mud
Rec.	Feet Of	% gas	% oil	% water	% mud
Rec.	15' Feet Of	Drill mud			
Rec.	Feet Of	% gas	% oil	% water	% mud
Rec.	Feet Of	% gas	% oil	% water	% mud

BHT 126 °F Gravity °API @ °F Corrected Gravity °API

RW @ °F Chlorides ppm Recovery Chlorides 1500 ppm System

(A) Initial Hydrostatic Mud 2760 PSI Ak1 Recorder No. 5495 Range 4200

(B) First Initial Flow Pressure 27 PSI @ (depth) 5709 w/Clock No.: 25813

(C) First Final Flow Pressure 27 PSI AK1 Recorder No. 11038 Range 5075

(D) Initial Shut-In Pressure 27 PSI @ (depth) 5713 w/Clock No. 25814

(E) Second Initial Flow Pressure 27 PSI AK1 Recorder No. Range

(F) Second Final Flow Pressure 27 PSI @ (depth) w/Clock No.

(G) Final Shut-In Pressure 27 PSI Initial Opening 30 Test X 700.00

(H) Final Hydrostatic Mud 2619 PSI Initial Shut-In 30 Jars X 200.00

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Final Flow 30 Safety Joint X 50.00

Final Shut-In 30 Straddle

Circ. Sub

Sampler

Approved By 

Extra Packer

Our Representative Tom Horack

Other

DS 7-10-11  
5-19-5

Character / Ratio

