

# TRILOBITE TESTING COMPANY

P.O. Box 362 • Hays, Kansas 67601

9nd

15-055-20879

## Drill-Stem Test Data

Well Name & No.	WYLIE 5-1	Test No.	1	Date	10/3/89
Company	NORTH AMERICAN RESOURCES CO		Zone Tested		
Address	16 E GRANITE BUTTE MT 59701		Elevation 2853 GL		
Co. Rep./Geo.	MR ED GRIEVES	Cont.	BEREDCO #4	Est. Ft. of Pay 8	
Location: Sec.	5	Twp.	23S	Rge.	30W
			Co.	FINNEY	State KANSAS

Interval Tested	4746' -4759'	Drill Pipe Size	4.5" XH
Anchor Length	13	Top Choke - 1"	
Top Packer Depth	4736	Bottom Choke - 3/4"	
Bottom Packer Depth	4759	Hole Size - 7 7/8"	
Total Depth	4943	Rubber Size - 6 3/4"	
Wt. Pipe I.D. - 2.7		Ft. Run	0
Drill Collar - 2.25		Ft. Run	489
Mud Wt.	9.2 lb./gal.	Viscosity	34
Tool Open @	11:10 AM	Filtrate	8.0
Initial Blow	PACKER FAILURE		
TRIED TO SEAT PACKERS TWICE-NO HELP			
Final Blow			

Recovery - Total Feet	0	Flush Tool?	
Rec.	0	Feet of	
Rec.	0	Feet of	
Rec.	0	Feet of	
Rec.	0	Feet of	
Rec.	0	Feet of	
BHT	115 °F	Gravity	°API @ 0 °F
Corrected Gravity	0	°API	
RW	@ °F	Chlorides	ppm Recovery Chlorides 2000 ppm System
(A) Initial Hydrostatic Mud	2230.1	PSI	AK1 Recorder No. 7437 Range 4200
(B) First Initial Flow Pressure	0	PSI	@ (depth) 4749 w/Clock No. 25814
(C) First Final Flow Pressure	0	PSI	AK1 Recorder No. 13337 Range 3975
(D) Initial Shut-In Pressure	0	PSI	@ (depth) 4752 w/Clock No. 14389
(E) Second Initial Flow Pressure	0	PSI	Initial Opening 0
(F) Second Final Flow Pressure	0	PSI	Initial Shut-In 0
(G) Final Shut-In Pressure	0	PSI	Final Flow 0
(H) Final Hydrostatic Mud	2220.1	PSI	Final Shut-In 0

KANSAS BUREAU OF SURVEY  
 WICHITA BRANCH  
 APR 07 1990

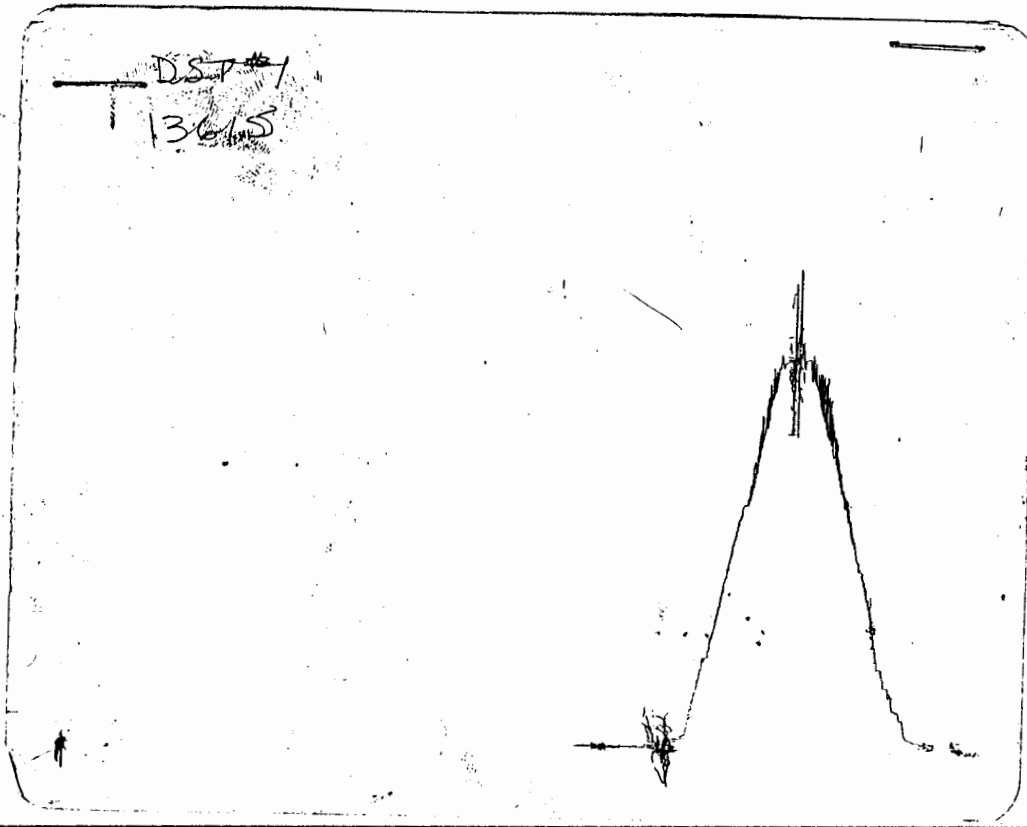
Our Representative MR TOM HORACEK

TOTAL PRICE ..... \$ 650.00

Printcraft Printers - Hays, KS

P

DST #1 - Straddle Test -  
Recorder # 13615

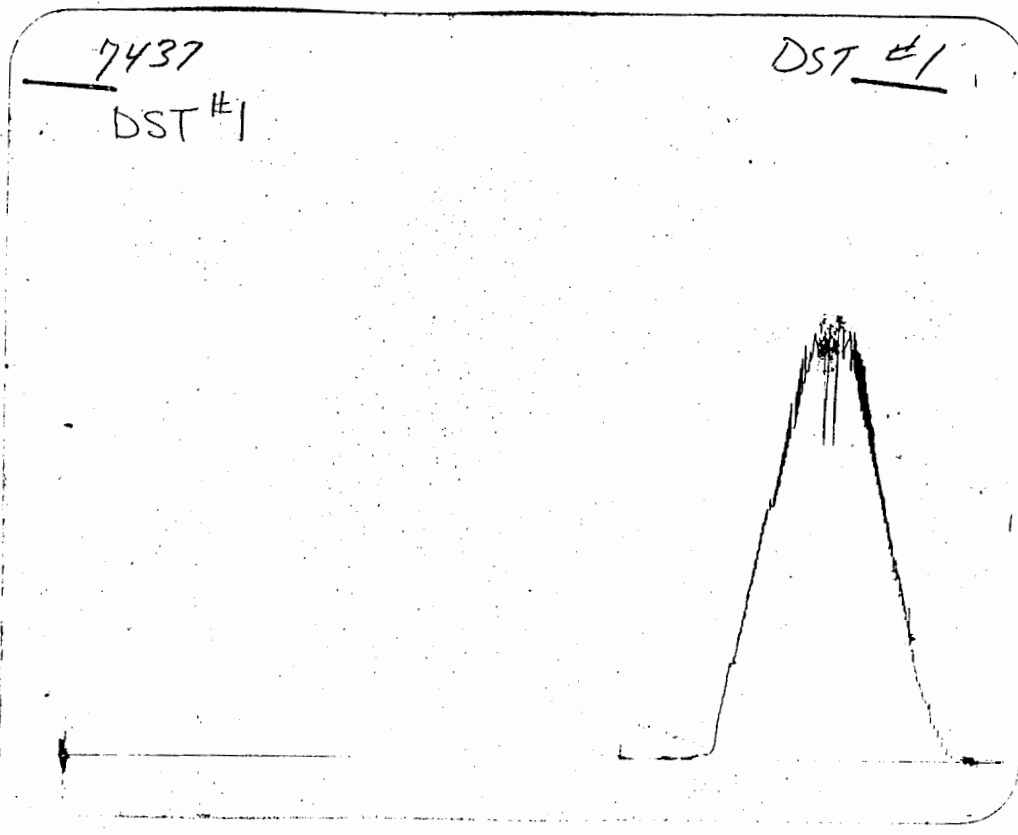


This is an actual photograph of recorder chart.

**PRESSURE**

POINT	Field Reading	Office Reading
(A) Initial Hydrostatic Mud.....		PSI
(B) First Initial Flow Pressure.....		PSI
(C) First Final Flow Pressure.....		PSI
(D) Initial Closed-in Pressure.....		PSI
(E) Second Initial Flow Pressure.....		PSI
(F) Second Final Flow Pressure.....		PSI
(G) Final Closed-in Pressure.....		PSI
(H) Final Hydrostatic Mud.....		PSI

DST #1 - RECORDER 7437



This is an actual photograph of recorder chart.

**PRESSURE**

POINT	Field Reading	Office Reading	
(A) Initial Hydrostatic Mud.....	2229	2230.1	PSI
(B) First Initial Flow Pressure.....	0	0	PSI
(C) First Final Flow Pressure.....	0	0	PSI
(D) Initial Closed-In Pressure.....	0	0	PSI
(E) Second Initial Flow Pressure.....	0	0	PSI
(F) Second Final Flow Pressure.....	0	0	PSI
(G) Final Closed-In Pressure.....	0	0	PSI
(H) Final Hydrostatic Mud.....	2219	2220.1	PSI

# TRILOBITE TESTING COMPANY

P.O. Box 362 • Hays, Kansas 67601

## TEST TICKET

No 1911

Well Name & No. <u>Wylie 5-1</u>	Test No. <u>#1</u>	Date <u>10-3-89</u>
Company <u>North American Resources CO.</u>	Zone Tested _____	
Address <u>16 E. Granite, Butte MT-59701</u>	Elevation <u>2853(6L)</u>	
Co. Rep./Geo. <u>Ed. Griever</u>	Cont. <u>Beredon 24</u>	Est. Ft. of Pay <u>8</u>
Location: Sec. <u>05</u>	TWP. <u>23</u>	Rge. <u>30</u> Co. <u>Finney</u> State <u>Ks</u>

Interval Tested <u>4746 - 4759</u>	Drill Pipe Size <u>4 1/2 x H</u>
Anchor Length <u>13</u>	Top Choke — 1" _____
Top Packer Depth <u>4736</u>	Bottom Choke — 3/4" _____
Bottom Packer Depth <u>4759 - 4746</u>	Hole Size — 7 1/8" _____
Total Depth <u>4943</u>	Rubber Size — 6 1/4" _____
Wt. Pipe I.D. — 2.7 _____	Ft. Run _____
Drill Collar — 2.25 _____	Ft. Run <u>489'</u>
Mud Wt. <u>9.2</u> lb./gal.	Viscosity <u>34</u> Filtrate <u>8.0</u>
Tool Open @ <u>11:10 AM</u>	Initial Blow <u>Packer Failure - tried to seat packers twice - no help.</u>
Final Blow _____	

Recovery — Total Feet _____	Flush Tool? _____
Rec. _____ Feet of _____	
Rec. _____ Feet of _____	
Rec. _____ Feet of _____	
Rec. _____ Feet of _____	
Rec. _____ Feet of _____	

BHT 115° °F Gravity \_\_\_\_\_ °API @ \_\_\_\_\_ °F Corrected Gravity \_\_\_\_\_ °API  
RW \_\_\_\_\_ @ \_\_\_\_\_ °F Chlorides \_\_\_\_\_ ppm Recovery Chlorides 2000 ppm System

(A) Initial Hydrostatic Mud <u>2229</u>	PSI AK1 Recorder No. <u>7437</u>	Range <u>4200</u>
(B) First Initial Flow Pressure _____	PSI @ (depth) <u>4749</u>	w/Clock No. <u>25814</u>
(C) First Final Flow Pressure _____	PSI AK1 Recorder No. <u>13337</u>	Range <u>3975</u>
(D) Initial Shut-In Pressure _____	PSI @ (depth) <u>4752</u>	w/Clock No. <u>14389</u>
(E) Second Initial Flow Pressure _____	PSI Initial Opening _____	Test <u>400.00 misrun 35</u>
(F) Second Final Flow Pressure _____	PSI Initial Shut-In _____	Jars <u>x 200.00</u>
(G) Final Shut-In Pressure _____	PSI Final Flow _____	Safety Joint <u>x 50.00</u>
(H) Final Hydrostatic Mud <u>2219</u>	PSI Final Shut-In _____	Straddle <u>x 250.00 250</u>

Approved By [Signature]  
REC-13615 Range 4575 Packer 22267 Depth 4940  
Sampler x n/c 100.00  
Extra Packer x 100.00 50.

Our Representative Tom Horacek

Printcraft Printers - Hays, KS  
TOTAL PRICE \$ 700.00 ~~650.~~



# TRILOBITE TESTING COMPANY

P.O. Box 362 • Hays, Kansas 67601

## Drill-Stem Test Data

Well Name & No.	WYLIE 5-1	Test No.	2	Date	10-3-89				
Company	NORTH AMERICAN RESOURCES CO	Zone Tested	MORROW						
Address	16 E GRANITE BUTTE MT 59701	Elevation	2853						
Co. Rep./Geo.	ED GRIEVES	Cont.	BEREDCO #4	Est. Ft. of Pay	10				
Location: Sec.	05	Twp.	23S	Rge.	30W	Co.	FINNEY	State	KS

Interval Tested	4745-4758	Drill Pipe Size	4.5 XH		
Anchor Length	13	Top Choke - 1"			
Top Packer Depth	4735	Bottom Choke - 1/4"			
Bottom Packer Depth	4758	Hole Size - 7 7/8"			
Total Depth	4943	Rubber Size - 6 3/4"			
Wt. Pipe I.D. - 2.7		Ft. Run	0		
Drill Collar - 2.25		Ft. Run	489		
Mud Wt.	9.2	Viscosity	34	Filtrate	8.0
Tool Open @	5:26PM	Initial Blow	STRONG 2" BLOW BUILT TO BOTTOM OF BUCKET IN 2 MINUTES		

Final Blow OFF BOTTOM OF BUCKET SOON AS TOOL OPENED

Recovery - Total Feet	1200	Flush Tool?	N
Rec.	1200	Feet of	GASSY OIL 30% GAS 70% OIL
Rec.	0	Feet of	
Rec.	0	Feet of	
Rec.	0	Feet of	
Rec.	0	Feet of	

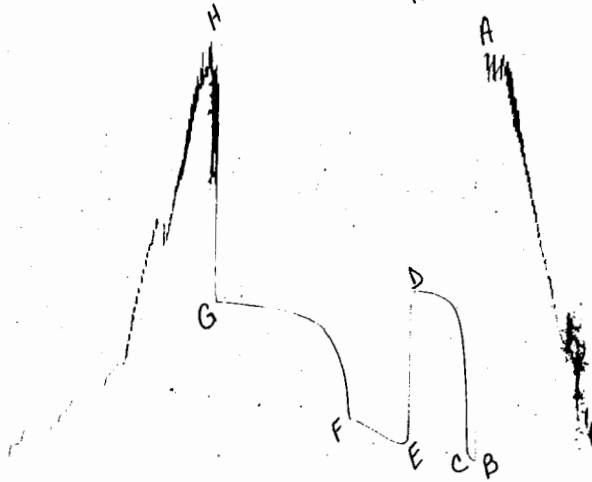
KANSAS GEOLOGICAL SURVEY  
WICHITA BRANCH

BHT	115	°F	Gravity	39	°API @	70	°F	Corrected Gravity	38	°API	
RW		@	°F	Chlorides		ppm	Recovery	Chlorides	2000	ppm	System
(A) Initial Hydrostatic Mud	2324.1	PSI	AK1 Recorder No.	7437	Range	4200					
(B) First Initial Flow Pressure	114.6	PSI	@ (depth)	4748	w/Clock No.	25814					
(C) First Final Flow Pressure	146.2	PSI	AK1 Recorder No.	13337	Range	3975					
(D) Initial Shut-In Pressure	1040.9	PSI	@ (depth)	4751	w/Clock No.	14389					
(E) Second Initial Flow Pressure	198.6	PSI	Initial Opening	7							
(F) Second Final Flow Pressure	322.1	PSI	Initial Shut-in	45							
(G) Final Shut-In Pressure	953.8	PSI	Final Flow	45							
(H) Final Hydrostatic Mud	2215.4	PSI	Final Shut-in	90							

Our Representative TOM HORACEK

TOTAL PRICE ..... \$ 1100

DST #2  
1437

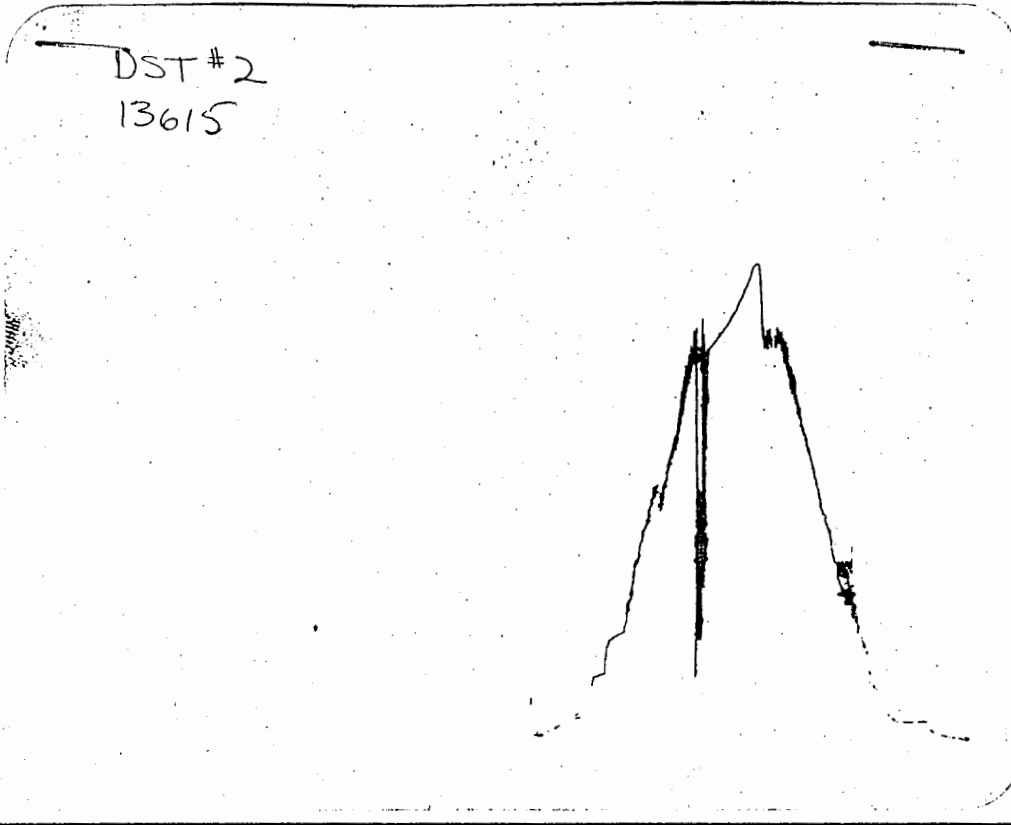


This is an actual photograph of recorder chart.

**PRESSURE**

POINT	Field Reading	Office Reading	
(A) Initial Hydrostatic Mud.....	2268	2324.1	PSI
(B) First Initial Flow Pressure.....	59	114.6	PSI
(C) First Final Flow Pressure.....	79	146.2	PSI
(D) Initial Closed-In Pressure.....	1005	1040.9	PSI
(E) Second Initial Flow Pressure.....	158	198.6	PSI
(F) Second Final Flow Pressure.....	276	322.1	PSI
(G) Final Closed-In Pressure.....	936	953.8	PSI
(H) Final Hydrostatic Mud.....	2229	2215.4	PSI

DST#2 - Straddle



This is an actual photograph of recorder chart.

POINT	PRESSURE	
	Field Reading	Office Reading
(A) Initial Hydrostatic Mud.....		PSI
(B) First Initial Flow Pressure.....		PSI
(C) First Final Flow Pressure.....		PSI
(D) Initial Closed-in Pressure.....		PSI
(E) Second Initial Flow Pressure.....		PSI
(F) Second Final Flow Pressure.....		PSI
(G) Final Closed-in Pressure.....		PSI
(H) Final Hydrostatic Mud.....		PSI

COMPUTER EVALUATION BY TRILOBITE TESTING  
 NORTH AMERICAN RESOURCES CO  
 REPORT FOR DST#2 FOR THE WYLIE 5-1  
 05 23S 30W FINNEY KS

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 TEST PARAMETERS

ELEVATION: 2853 KB EST. PAY: 10 FT  
 DATUM: -1899 ZONE TESTED: MORROW  
 TEST INTERVAL: 4745-4758  
 TIME INTERVALS: 7-45-45-90  
 RECORDER DEPTH: 4751 VISCOSITY: 7.121243 CP  
 BOTTOM HOLE TEMP: 115 HOLE SIZE: 7.875 IN  
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CALCULATIONS

CUBIC FEET OF GAS IN PIPE: .65  
 TOTAL FEET OF RECOVERY: 1200  
 BARRELS IN DRILL PIPE: 10.11042  
 BARRELS IN DRILL COLLARS: 2.39121  
 GAS OIL RATIO: 2.5 CU.FT./BBL  
 BUBBLE POINT PRESSURE: ; .1184681  
 TOTAL BARRELS OF RECOVERY: 12.50163  
 UNCORR. INIT. PROD.: 346.199 BBL/DAY  
 API GRAVITY: 38  
 FLUID GRADIENT: .362  
 CORRECTED PIPE FILLUP: 889.7791  
 CORR. BARRELS OF RECOVERY: 8.07921 BBL  
 INITIAL PRODUCTION CORRECTED TO FINAL FLOW PRESSURE: 223.732 BBL/DAY  
 INITIAL PRODUCTION CORRECTED TO PSEUDO STEADY FLOW STATE  
 177.9794  
 \*\*\*\*\*

INITIAL SHUT-IN VALUES:  
 THEORETICAL STATIC PRESSURE 1086.151  
 SLOPE 720.7885

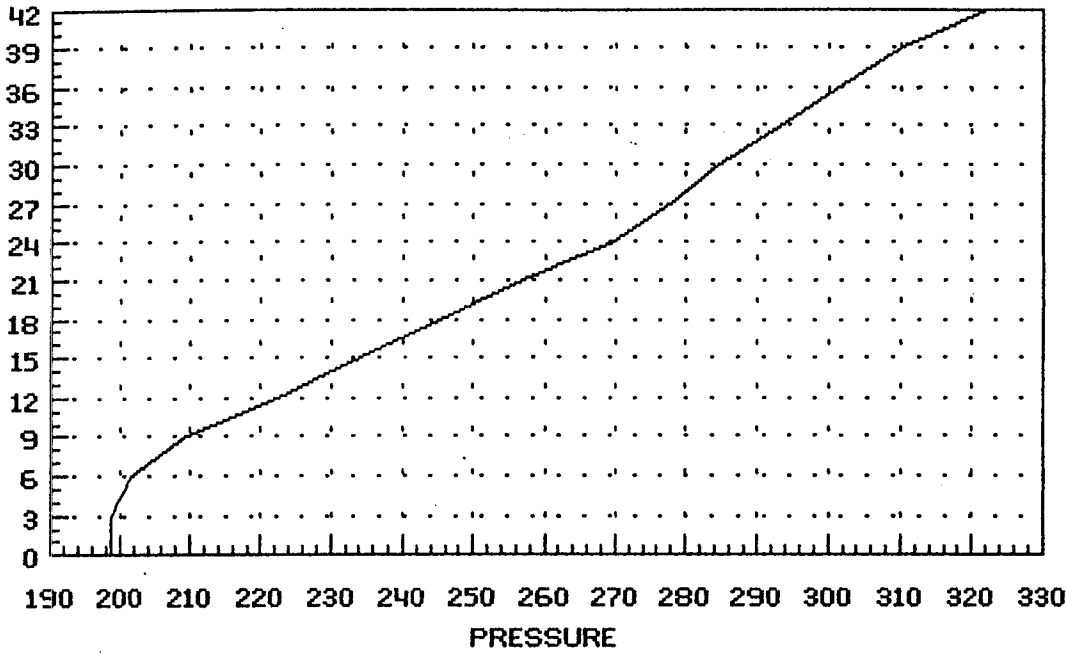
FINAL SHUT-IN VALUES  
 THEORETICAL STATIC PRESSURE 1041.442  
 SLOPE 442.6135

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 TRANSMISSIBILITY 82.19095 (MD.-FT./CP.)  
 PERMEABILITY 58.53017 (MD.)  
 INDICATED FLOW CAPACITY 585.3016 (MD.FT)  
 PRODUCTIVITY INDEX 9.287576E-02 (BARRELS/DAY/PSI)  
 DAMAGE RATIO .2974143  
 RADIUS OF INVESTIGATION 55.16855 (FT.)  
 POTENTIOMETRIC SURFACE 517.104 (FT.)  
 DRAWDOWN FACTOR 4.116279 (%)

# DELTA T DELTA P

DST #2 FINAL FLOW  
RECORDER # 13337

TIME



INITIAL PRODUCTION CORRECTED TO PSEUDO STEADY FLOW STATE 177.9794 BBL/DAY

INITIAL SHUT-IN BUILDUP  
DST #2

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RECORDER # 13337  
INITIAL FLOW TIME (MIN.): 7

MIN	LOG(T+MIN/MIN)	PRESSURE	<> PRESSURE
0	0	146.2	146.2
3	.5227846	288.5	142.3
6	.3357316	766.2	477.7
9	.2498325	869.4	103.2
12	.1995364	936.1	66.69995
15	.1663015	963.7	27.60004
18	.1426418	982.3	18.59998
21	.1249162	998.1	15.79999
24	.1111304	1005	6.900025
27	.1000971	1014	9
30	9.106403E-02	1022.9	8.900024
33	8.353098E-02	1029.9	7
36	7.715203E-02	1032.9	3
39	7.168031E-02	1034.9	2
42	.0669347	1037.9	3
45	6.277954E-02	1040.9	3

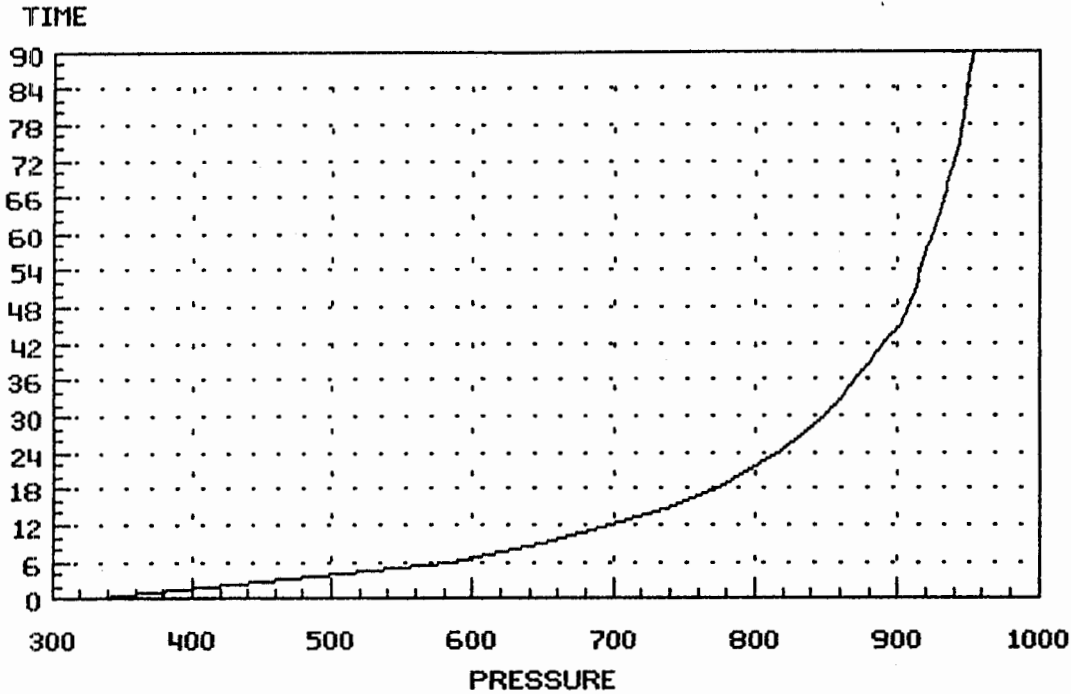
FINAL SHUT-IN BUILDUP  
DST #2

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RECORDER # 13337  
TOTAL FLOW TIME (MIN.): 52

MIN	LOG(T+MIN/MIN)	PRESSURE	<> PRESSURE
0	0	332.1	332.1
3	1.263014	449.6	117.5
6	.9850992	584.5	134.9
9	.8309376	649.3	64.79999
12	.7268678	698.4	49.10004
15	.6498664	741.7	43.29999
18	.5897193	774.1	32.39996
21	.5410061	793.7	19.60004
24	.5005122	816.3	22.59998
27	.4661794	834	17.70001
30	.4366139	848.7	14.70001
33	.4108309	861.5	12.79999
36	.3881102	870.3	8.799988
39	.3679105	880.2	9.900024
42	.3498155	889	8.799988
45	.3334991	901.8	12.79999
48	.3187012	907.7	5.900025
51	.305212	913.6	5.899964
54	.2928594	915.5	1.900024
57	.2815009	919.5	4
60	.2710179	924.4	4.900025
63	.2613102	929.3	4.899964
66	.2522926	933.2	3.900025
69	.2438924	936.1	2.899964
72	.2360467	940.1	4
75	.2287012	944	3.900025
78	.2218087	946	2
81	.2153278	947.9	1.900024
84	.2092219	949.9	2
87	.2034589	951.9	2
90	.1980101	953.8	1.899963

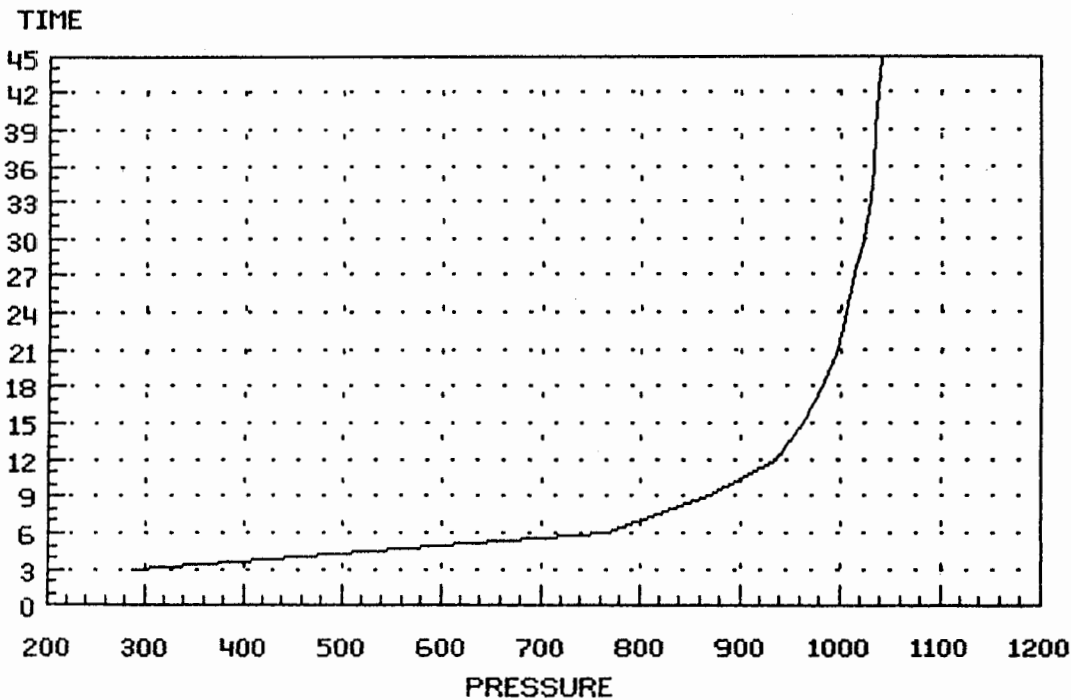
# DELTA T DELTA P

DST #2 FINAL SHUTIN  
RECORDER # 13337



# DELTA T DELTA P

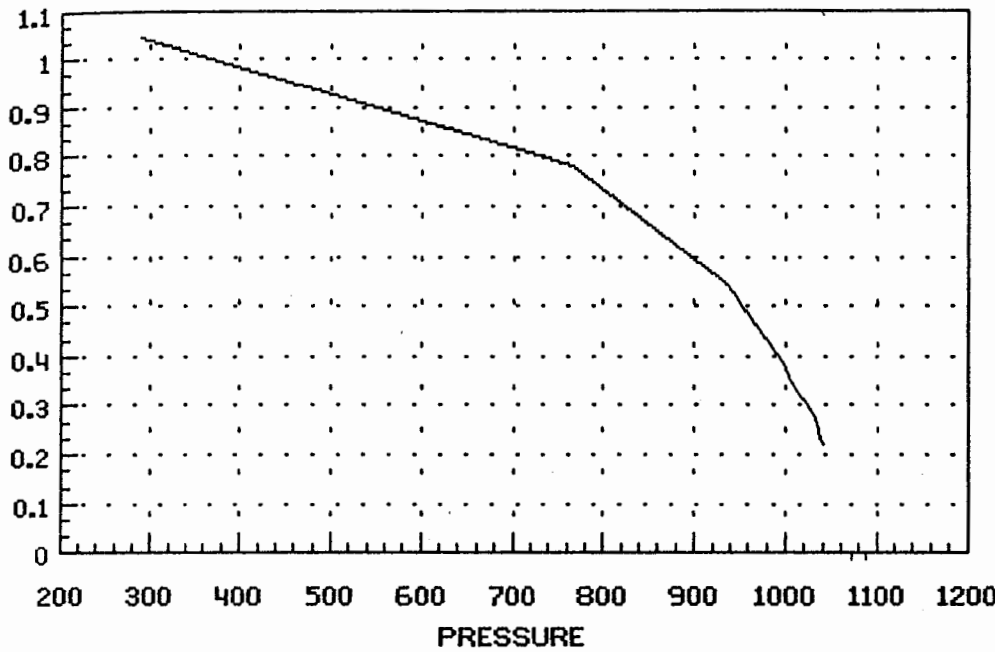
DST #2 INITIAL SHUTIN  
RECORDER # 13337



# HORNER PLOT

DST #2 INITIAL SHUTIN  
RECORDER # 13337

LOG(T+MIN/MIN)

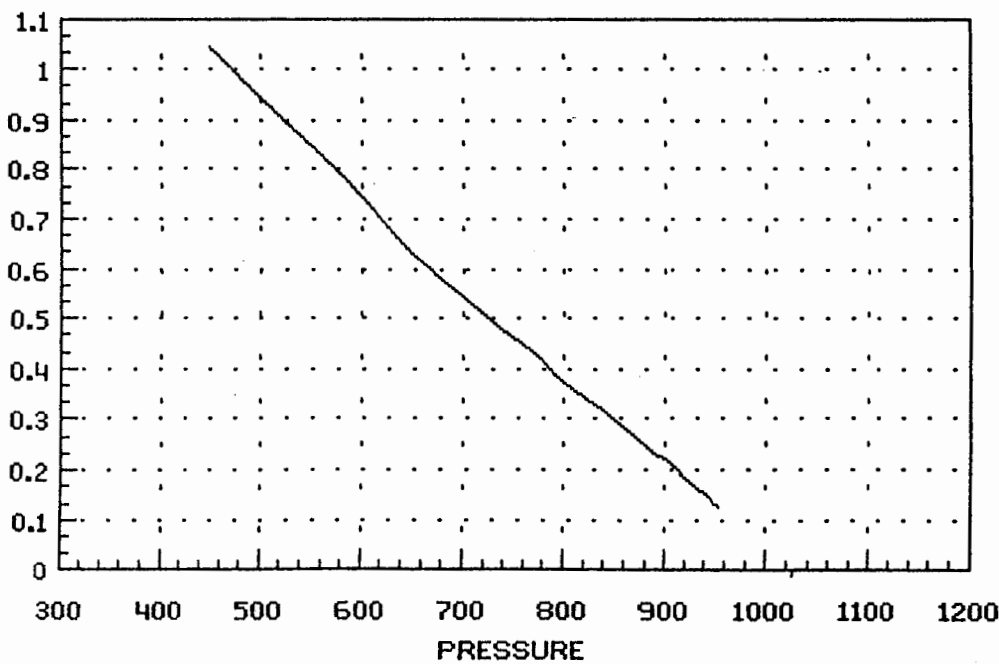


STATIC PRESSURE 1086.151  
SLOPE 720.7885  
POINTS USED 12

# HORNER PLOT

DST #2 FINAL SHUTIN  
RECORDER # 13337

LOG(T+MIN/MIN)



STATIC PRESSURE 1041.442  
SLOPE 442.6135  
POINTS USED 30

# TRILOBITE TESTING COMPANY

P.O. Box 362 - Hays, Kansas 67601

## FLUID SAMPLER DATA

Ticket No. 1911 Date 10-3-89  
Company Name NORTH AMERICAN RESOURCES CO  
Lease WYLIE 5-1 Test No. 2  
County FINNEY Sec. 05 Twp. 23S Rng. 30W

### SAMPLER RECOVERY

Gas 300 ML  
Oil 1700 ML  
Mud 0 ML  
Water 0 ML  
Other 0 ML  
Pressure 950 PSI  
Total 2000 ML

### PIT MUD ANALYSIS

Chlorides 2000 ppm.  
Resistivity 0 ohms @ 0 F  
Viscosity 34  
Mud Weight 9.2  
Filtrate 8.0  
Other \_\_\_\_\_

### SAMPLER ANALYSIS

Resistivity 0 ohms @ 0 F  
Chlorides 0 ppm.  
Gravty 38 corrected @ 60 F

### PIPE RECOVERY

TOP  
Resistivity 0 ohms @ 0 F  
Chlorides 0 ppm.  
MIDDLE  
Resistivity 0 ohms @ 0 F  
Chlorides 0 ppm.  
BOTTOM  
Resistivity \_\_\_\_\_ ohms @ \_\_\_\_\_ F  
Chlorides \_\_\_\_\_ ppm.

# TRILOBITE TESTING COMPANY

P.O. Box 362 • Hays, Kansas 67601

## TEST TICKET

No 1912

Well Name & No. <u>Wylie 5-1</u>	Test No. <u># 2</u>	Date <u>10-3-89</u>
Company <u>North American Resources CO.</u>	Zone Tested <u>Morrow</u>	
Address <u>16 E. Granite, Butte MT - 59701</u>	Elevation <u>2853 (GLL)</u>	
Co. Rep./Geo. <u>Ed Griebes</u>	Cont. <u>Beredeo #4</u>	Est. Ft. of Pay <u>8-10</u>
Location: Sec. <u>05</u>	Twp. <u>23</u>	Rge. <u>30</u> Co. <u>Finney</u> State <u>KS</u>

Interval Tested <u>4745-4758</u>	Drill Pipe Size <u>4 1/2 x H</u>
Anchor Length <u>13</u>	Top Choke — 1" _____
Top Packer Depth <u>4735</u>	Bottom Choke — 3/4" _____
Bottom Packer Depth <u>4758 - 4745</u>	Hole Size — 7 1/8" _____
Total Depth <u>4943'' (LTD)</u>	Rubber Size — 6 3/4" _____

Wt. Pipe I.D. — 2.7 _____	Ft. Run _____
Drill Collar — 2.25 _____	Ft. Run <u>489'</u>
Mud Wt. <u>9.2</u> lb./gal.	Viscosity <u>34</u> Filtrate <u>8.0</u>

Tool Open @ 5:26 pm Initial Blow strong 2 inch blow built to bottom of bucket in 2 min.  
ISI - bleed off 2 inch f/10 min, strong 1 inch blow built to bottom of bucket in 32 min.  
Final Blow off bottom of bucket soon as tool open  
FSS - off bottom

Recovery — Total Feet 1200' Flush Tool? no

Rec. _____ Feet of _____
Rec. <u>1200'</u> Feet of <u>Gassy Oil (30% gas 70% oil)</u>
Rec. _____ Feet of _____
Rec. _____ Feet of _____
Rec. _____ Feet of _____

BHT 115° °F Gravity 39 °API @ 70° °F Corrected Gravity 38 °API

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

(A) Initial Hydrostatic Mud <u>2268</u>	PSI AK1 Recorder No. <u>7437</u>	Range <u>4200</u>
(B) First Initial Flow Pressure <u>59</u>	PSI @ (depth) <u>4748</u>	w/Clock No. <u>25814</u>
(C) First Final Flow Pressure <u>79</u>	PSI AK1 Recorder No. <u>13337</u>	Range <u>3925</u>
(D) Initial Shut-In Pressure <u>1005</u>	PSI @ (depth) <u>4751</u>	w/Clock No. <u>14389</u>
(E) Second Initial Flow Pressure <u>158</u>	PSI Initial Opening <u>7</u>	Test <u>400.00</u>
(F) Second Final Flow Pressure <u>276</u>	PSI Initial Shut-In <u>45</u>	Jars <u>x 200.00</u>
(G) Final Shut-In Pressure <u>936</u>	PSI Final Flow <u>45</u>	Safety Joint <u>x 50.00</u>
(H) Final Hydrostatic Mud <u>5029</u>	PSI Final Shut-In <u>90</u>	Straddle <u>x 250.00</u>

Rec 13615 Range - 4925 - clock - 27567 Depth - 4940

Approved By [Signature] Sampler x 100.00

Our Representative Tom Horacek Extra Packer 100.00

Other \_\_\_\_\_

TOTAL PRICE \$ 1100.00