

STATE CORPORATION COMMISSION OF KANSAS  
OIL & GAS CONSERVATION DIVISION  
WELL COMPLETION FORM  
ACO-1 WELL HISTORY  
DESCRIPTION OF WELL AND LEASE

ORIGINAL

API NO. 15- 109-20,500-000

County Logan

C - SW - SW - sec. 21 Twp. 12S Rge. 33 X W

660 Feet from (S) N (circle one) Line of Section

4620 Feet from (E) W (circle one) Line of Section

Footages Calculated from Nearest Outside Section Corner:  
NE, (SE) NW or SW (circle one)

Lease Name Ahrens "I" Well # 2

Field Name Unnamed

Producing Formation Johnson, Cherokee, Ft. Scott

Elevation: Ground 3139 KB 3144

Total Depth 4760 PBDT 4713

Amount of Surface Pipe Set and Cemented at: 412 Feet

Multiple Stage Cementing Collar Used? X Yes      No     

If yes, show depth set 2714 Feet

If Alternate II completion, cement circulated from 2714

feet depth to Surface w/ 650 sx cmt.

Drilling Fluid Management Plan 2-26-92  
(Data must be collected from the Reserve Pit)

Chloride content 6-11,000 ppm Fluid volume 250 bbls

Dewatering method used Evaporation & Backfill

Location of fluid disposal if hauled offsite:

Operator Name N/A

Lease Name \_\_\_\_\_ License No. \_\_\_\_\_

Quarter \_\_\_\_\_ Sec. \_\_\_\_\_ Twp. \_\_\_\_\_ S Rng. \_\_\_\_\_ E/W \_\_\_\_\_

County \_\_\_\_\_ Docket No. \_\_\_\_\_

Operator: License # 3122

Name: Vintage Petroleum, Inc.

Address 4200 One Williams Center

City/State/Zip Tulsa, Oklahoma 74172

Purchaser: Texaco

Operator Contact Person: Leann Ogee

Phone (918) 592-0101

Contractor: Name: VAL Energy, Inc.

License: 5822

Wellsite Geologist: Richard Robba

Designate Type of Completion  
 New Well  Re-Entry  Workover

Oil  SWD  SIOW  Temp. Abd.  ENHR  SIGW  
 Gas  ENHR  SIGW  
 Dry  Other (Core, WSW, Expl., Cathodic, etc)

If Workover/Re-Entry: old well info as follows:

Operator: N/A

Well Name: \_\_\_\_\_

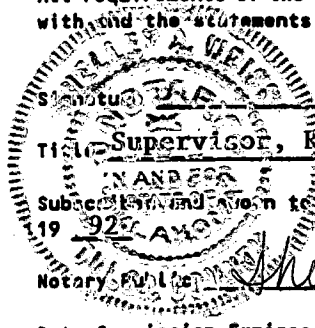
Comp. Date \_\_\_\_\_ Old Total Depth \_\_\_\_\_

Deepening  Re-perf.  Conv. to Inj/SWD  
 Plug Back  PBDT  
 Commingled  Docket No. \_\_\_\_\_  
 Dual Completion  Docket No. \_\_\_\_\_  
 Other (SWD or Inj?)  Docket No. \_\_\_\_\_

2-21-91 3-3-91 3-28-91  
Spud Date Date Reached TD Completion Date

INSTRUCTIONS: An original and two copies of this form shall be filed with the Kansas Corporation Commission, 200 Colorado Derby Building, Wichita, Kansas 67202, within 120 days of the spud date, recompletion, workover or conversion of a well. Rule 82-3-130, 82-3-106 and 82-3-107 apply. Information on side two of this form will be held confidential for a period of 12 months if requested in writing and submitted with the form (see rule 82-3-107 for confidentiality in excess of 12 months). One copy of all wireline logs and geologist well report shall be attached with this form. ALL CEMENTING TICKETS MUST BE ATTACHED. Submit CP-4 form with all plugged wells. Submit CP-111 form with all temporarily abandoned wells.

All requirements of the statutes, rules and regulations promulgated to regulate the oil and gas industry have been fully complied with and the statements herein are complete and correct to the best of my knowledge.



Leann Ogee  
Supervisor, Regulatory Affairs Date 2-21-92

Subscribed and sworn to before me this 21 day of February

Shelley A. Weiss  
Notary Public

Date Commission Expires April 9, 1995

K.C.C. OFFICE USE ONLY					
F	<input type="checkbox"/>	Letter of Confidentiality Attached			
C	<input checked="" type="checkbox"/>	Wireline Log Received			
C	<input checked="" type="checkbox"/>	Geologist Report Received			
Distribution					
<input type="checkbox"/>	KCC	<input type="checkbox"/>	SWD/Rep	<input type="checkbox"/>	NGPA
<input type="checkbox"/>	KGS	<input type="checkbox"/>	Plug	<input type="checkbox"/>	Other
(Specify)					

P1

Operator Name: Vintage Petroleum, Inc.

Lease Name: Ahrens "I"

Well #: 2

Sec. 21 Twp. 12 Rge. 33

East  
 West

County: Logan

INSTRUCTIONS: Show important tops and base of formations penetrated. Detail all cores. Report all drill stem tests giving interval tested, time tool open and closed, flowing and shut-in pressures, whether shut-in pressure reached static level, hydrostatic pressures, bottom hole temperature, fluid recovery, and flow rates if gas to surface during test. Attach extra sheet if more space is needed. Attach copy of log.

Drill Stem Tests Taken  Yes  No  
(Attach Additional Sheets.)

Samples Sent to Geological Survey  Yes  No

Cores Taken  Yes  No

Electric Log Run  Yes  No  
(Submit Copy.)

List All E.Logs Run: Comp. Nev. Gamma Ray  
Dual Ind. Gamma Ray  
Cement Bond Log  
Geologic Report Log

Log Formation (Top), Depth and Datum  Sample

Name Top Datum

See Attached Geologic Report Log.

CASING RECORD

New  Used

Report all strings set-conductor, surface, intermediate, production, etc.

Purpose of String	Size Hole Drilled	Size Casing Set (In O.D.)	Weight Lbs./Ft.	Setting Depth	Type of Cement	# Sacks Used	Type and Percent Additives
Surface	12 1/4	8 5/8	23	412	60-40 POZ	260	2%GEL/3%CC.
Production	7 7/8	4 1/2	10.5	4759	BJ Lite/ Class A	650	---

ADDITIONAL CEMENTING/SQUEEZE RECORD

Purpose:	Depth Top Bottom	Type of Cement	#Sacks Used	Type and Percent Additives
<input type="checkbox"/> Perforate <input type="checkbox"/> Protect Casing <input type="checkbox"/> Plug Back TD <input type="checkbox"/> Plug Off Zone		N/A		

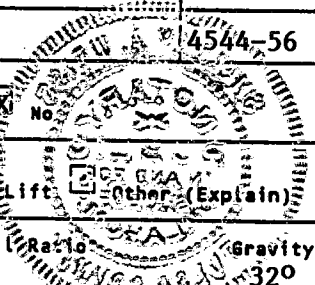
Shots Per Foot	PERFORATION RECORD - Bridge Plugs Set/Type Specify Footage of Each Interval Perforated	Acid, Fracture, Shot, Cement Squeeze Record (Amount and Kind of Material Used)	Depth
4	Johnson 4664-74, 4638-42	1500 GAL 20% MCA	4638-74
4	L. Cherokee 4602-05	500 GAL 20% MCA	4602-05
4	V. Cherokee 4571-73, 4566-69	750 GAL 20% MCA	4566-73
4	Fort Scott 4544-56	1500 GAL 20% MCA	4544-56

TUBING RECORD	Size	Set At	Packer At	Liner Run
149 jts	2 3/8	4660		<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Date of First, Resumed Production, SWD or Inj.	Producing Method <input type="checkbox"/> Flowing <input checked="" type="checkbox"/> Pumping <input type="checkbox"/> Gas Lift <input type="checkbox"/> Other (Explain)			
3-28-91				
Estimated Production Per 24 Hours	Oil Bbls.	Gas Mcf	Water Bbls.	Gas-Oil Ratio Gravity
	150	0	15	0 32.0

Disposition of Gas: N/A  
 Vented  Sold  Used on Lease  
(If vented, submit ACO-18.)

METHOD OF COMPLETION

Open Hole  Perf.  Dually Comp.  Commingled 4544-4674  
 Other (Specify) \_\_\_\_\_



230 N. MARKET  
WICHITA, KANSAS 67202

ORIGINAL

GEOLOGIC REPORT  
LOG

OFFICE 316-264-6653.

HOME 316-686-3005

COMPANY VINTAGE PETROLEUM INC.  
APZ 15-109-20500

WELL #2 AHEARNS "I"

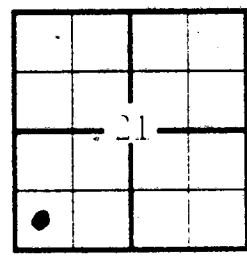
FIELD OWEN WEST

LOCATION C SW SW

SEC. 21 TWP. 12S RGE. 55W

COUNTY LOGAN

STATE KANSAS



PRODUCTION Oil

ELEVATION KB 5144  
DF 5142  
GL 5139

Drilling Measured From \_\_\_\_\_

Samples Saved From 5600 To: TD

Drilling Time From 5600 To: TD

Samples Examined From 5600 To: TD

Geological Supervision From 5585 To Total Depth

Well-site Geologist Richard A. Robba

Electrical Surveys Western Atlas  
DLL PCND, GR, cal.

OPERATOR Vintage Petroleum, Inc.

CONTRACTOR VAL/ENERGY

COMM: 21 Feb 91 COMP: 4 March 91

**CASING RECORD**

SURF: 8 5/8 @ 412 PROD: 4 1/2 @ 4759

TOTAL DEPTH DRILLERS: 4760

TOTAL DEPTH LOG 4756

**FORMATION TOPS AND STRUCTURAL POSITION**

FORMATION	SAMPLE TOP	ELECTRIC LOG TOP	SUB-SEA DATUM	STRUCTURAL POSITION
TOP ANHYDRITE	2627	2616	+528	flat
BASE ANHYDRITE	2654	2657	+507	+1
TOPEKA	5816	5812	-668	+4
HEBNER	4045	4040	-896	+2
LANSING	4082	4080	-956	+1
MURKIE CREEK	4251	4228	-1084	flat
STARK SHALE	4520	4516	-1172	-5
BASE KANSAS CITY	4578	4575	-1229	+5
PAWNEE	4509	4506	-1562	+4
AMRICK STATION	4555	4510	-1405	+3
FORT SCOTT	4560	4565	-1421	+5
LOWER CHEROKEE SHALE	4598	4594	-1450	+5
JOHNSON	4642	4655	-1491	+6
MISSISSIPPI	4708	4705	-1559	+25

REFERENCE WELL FOR STRUCTURE Vintage Petroleum  
#1 Ahearn "I"

ORIGINAL

### Drill-Stem Test Data

Well Name AHRENS I #2 Test No. 1 Date 2/27/91  
 Company VINTAGE PETROLEUM INC Zone Tested LANS-KS CITY  
 Address 4200 ONE WILLIAMS CNTR TULSA OK Elevation 3144 KB  
 Co. Rep./Geo. MR GREG DEEVERS Cont. VAL ENERGY #1 Est. Ft. of Pay \_\_\_\_\_  
 Location: Sec. 21 Twp. 12S Rge. 33W Co. LOGAN State KANSAS

Interval Tested 4097-4119 Drill Pipe Size 4 5 XH  
 Anchor Length 22 Wt. Pipe I.D. - 2.7 Ft. Run \_\_\_\_\_  
 Top Packer Depth 4092 Drill Collar - 2.25 Ft. Run \_\_\_\_\_  
 Bottom Packer Depth 4097  
 Total Depth 4119

Mud Wt. 9.1 lb / gal. Viscosity 42 Filtrate 10.4

Tool Open @ 12:56 PM Initial Blow WEAK SURFACE BLOW SLOWLY BUILT TO BOTTOM  
(15 MIN)-ISI: BLEW OFF BLOW-NO RETURN  
 Final Blow SURFACE RETURN SLOWLY BUILT TO BOTTOM IN 16 MINUTES

Recovery - Total Feet 645 Flush Tool? \_\_\_\_\_

Rec. 210 Feet of MUDDY WATER-80%WTR/20%MUD

Rec. 435 Feet of WATER

Rec. \_\_\_\_\_ Feet of \_\_\_\_\_

Rec. \_\_\_\_\_ Feet of \_\_\_\_\_

Rec. \_\_\_\_\_ Feet of \_\_\_\_\_

BHT 119 °F Gravity 0 °API @ \_\_\_\_\_ °F Corrected Gravity \_\_\_\_\_ °API

RW 0.2 @ 72 °F Chlorides 35000 ppm Recovery Chlorides 6500 ppm System

(A) Initial Hydrostatic Mud 2033 PSI AK1 Recorder No. 13309 Range 4700

(B) First Initial Flow Pressure 60.3 PSI @ (depth) 4100 w/Clock No. 27567

(C) First Final Flow Pressure 118.5 PSI AK1 Recorder No. 13339 Range 4025

(D) Initial Shut-In Pressure 1254 PSI @ (depth) 4114 w/Clock No. 30418

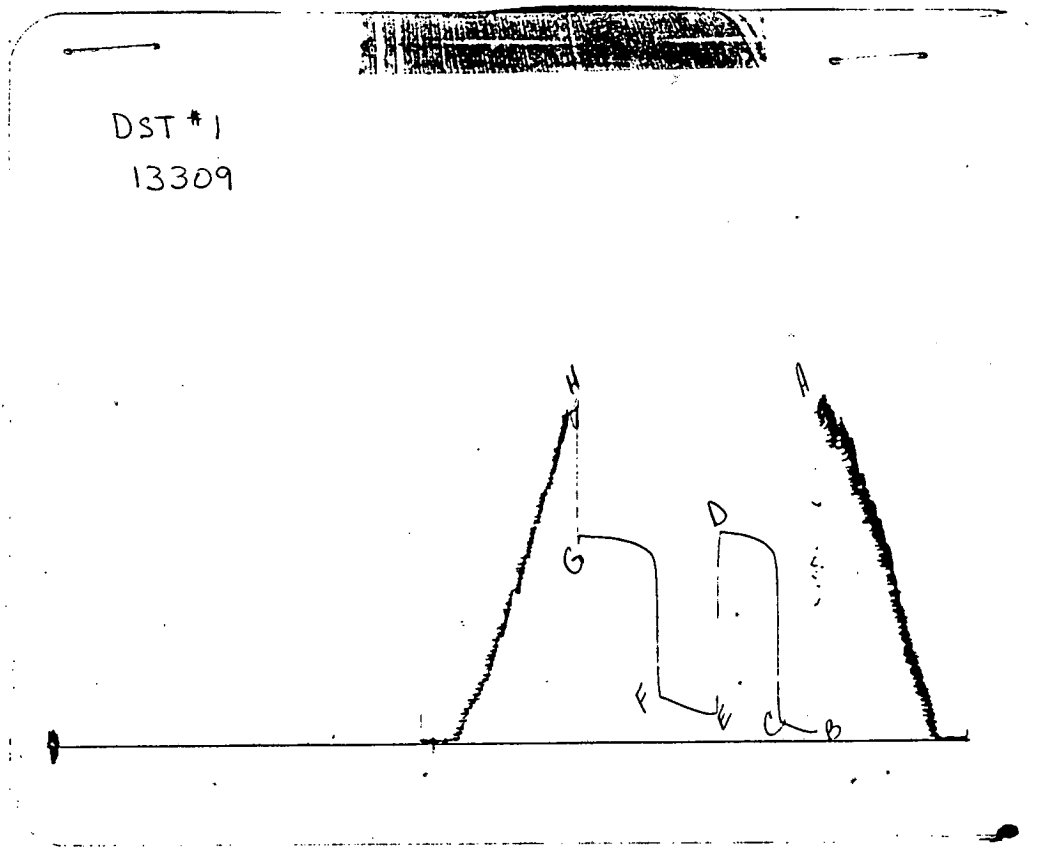
(E) Second Initial Flow Pressure 174.6 PSI AK1 Recorder No. \_\_\_\_\_ Range \_\_\_\_\_

(F) Second Final Flow Pressure 269.2 PSI @ (depth) \_\_\_\_\_ w/Clock No. \_\_\_\_\_

(G) Final Shut-In Pressure 1235.9 PSI Initial Opening 30 Final Flow 45

(H) Final Hydrostatic Mud 1990.9 PSI Initial Shut-In 45 Final Shut-In 60

Our Representative MR ROD STEINBRINK TOTAL PRICE \$ 600



POINT This is an actual photograph of recorder chart PRESSURE

	FIELD READING	OFFICE READING
(A) INITIAL HYDROSTATIC MUD	2023	2033
(B) FIRST INITIAL FLOW PRESSURE	41	60.3
(C) FIRST FINAL FLOW PRESSURE	104	118.5
(D) INITIAL CLOSED-IN PRESSURE	1240	1254
(E) SECOND INITIAL FLOW PRESSURE	145	174.6
(F) SECOND FINAL FLOW PRESSURE	259	269.2
(G) FINAL CLOSED-IN PRESSURE	1230	1235.9
(H) FINAL HYDROSTATIC MUD	2023	1990.9

INITIAL FLOW

ORIGINAL

RECORDER # 13339

DST #1

15-109-20500-00-00

DT(MIN)	PRESSURE	(>) PRESSURE
0	60.3	60.3
3	50.9	-9.399998
6	53	2.099999
9	58.2	5.200001
12	65.4	7.200001
15	73.8	8.400001
18	82.1	8.299996
21	90.4	8.300003
24	99.8	9.400001
27	109.1	9.299996
30	118.5	9.400001

FINAL FLOW

RECORDER # 13339

DST #1

DT(MIN)	PRESSURE	(>) PRESSURE
0	174.6	174.6
3	162.2	-12.40001
6	162.2	0
9	167.3	5.100006
12	173.6	6.300003
15	181.9	8.299988
18	191.3	9.400009
21	200.6	9.300003
24	210	9.399994
27	220.4	10.39999
30	228.7	8.300003
33	235.9	7.199997
36	244.2	8.300003
39	252.6	8.400009
42	260.9	8.299988
45	269.2	8.300018

AHRENS #2  
INITIAL

DST #1  
SHUTIN  
30 INITIAL FLOW TIME

-----  
Slope -202.19 psi/cycle  
P \* 1,299 psi  
-----

	TIME(MIN)	Pws (psi)	Horn T	Log Horn T	( ) PRESSURE
X	3	1088.3	11	1.041	1088.3
	6	1150.6	6	0.778	62.3
	9	1177.7	4	0.637	27.1
	12	1195.7	4	0.544	18.0
	15	1208.8	3	0.477	13.1
	18	1218.8	3	0.426	10.0
	21	1226.9	2	0.385	8.1
	24	1231.9	2	0.352	5.0
	27	1236.9	2	0.325	5.0
	30	1240.9	2	0.301	4.0
	33	1241.9	2	0.281	1.0
	36	1248	2	0.263	6.1
	39	1250	2	0.248	2.0
	42	1252	2	0.234	2.0
X	45	1254	2	0.222	2.0

AHRENS #2  
FINAL

DST #1  
SHUTIN  
75 TOTAL FLOW TIME

-----  
Slope -88.52 psi/cycle  
P \* 1,267 psi  
-----

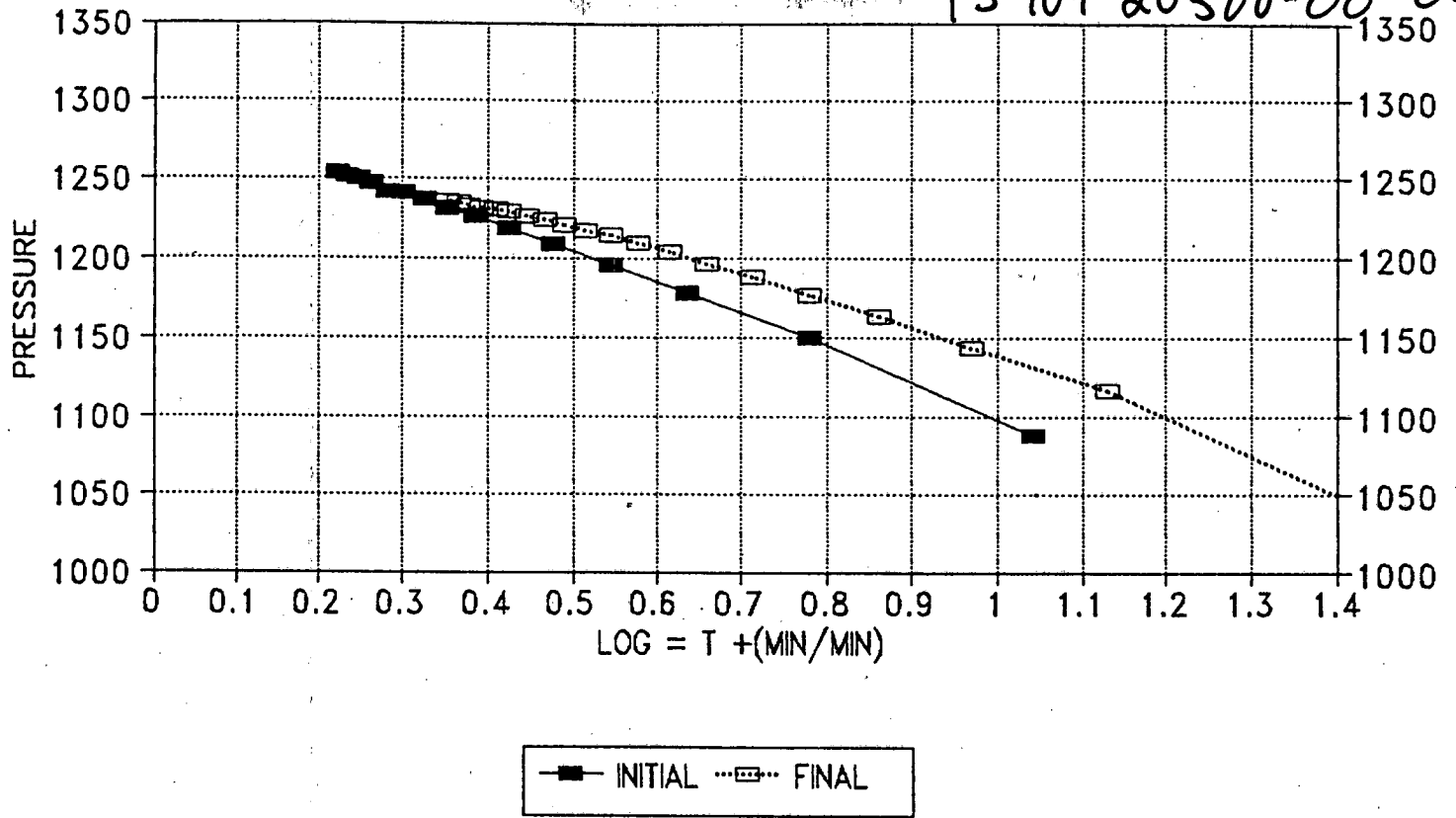
	TIME(MIN)	Pws (psi)	Horn T	Log Horn T	( ) PRESSURE
	3	1046.1	26	1.415	1046.1
	6	1116.4	14	1.130	70.3
	9	1144.5	9	0.970	28.1
	12	1163.6	7	0.860	19.1
	15	1176.7	6	0.778	13.1
	18	1187.7	5	0.713	11.0
	21	1196.7	5	0.660	9.0
	24	1203.8	4	0.615	7.1
	27	1209.8	4	0.577	6.0
	30	1214.8	4	0.544	5.0
	33	1217.8	3	0.515	3.0
	36	1220.8	3	0.489	3.0
	39	1223.9	3	0.466	3.1
	42	1226.9	3	0.445	3.0
	45	1228.9	3	0.426	2.0
X	48	1230.9	3	0.409	2.0
	51	1231.9	2	0.393	1.0
	54	1232.9	2	0.378	1.0
	57	1234.9	2	0.365	2.0
X	60	1235.9	2	0.352	1.0

# HORNER PLOT

ORIGINAL

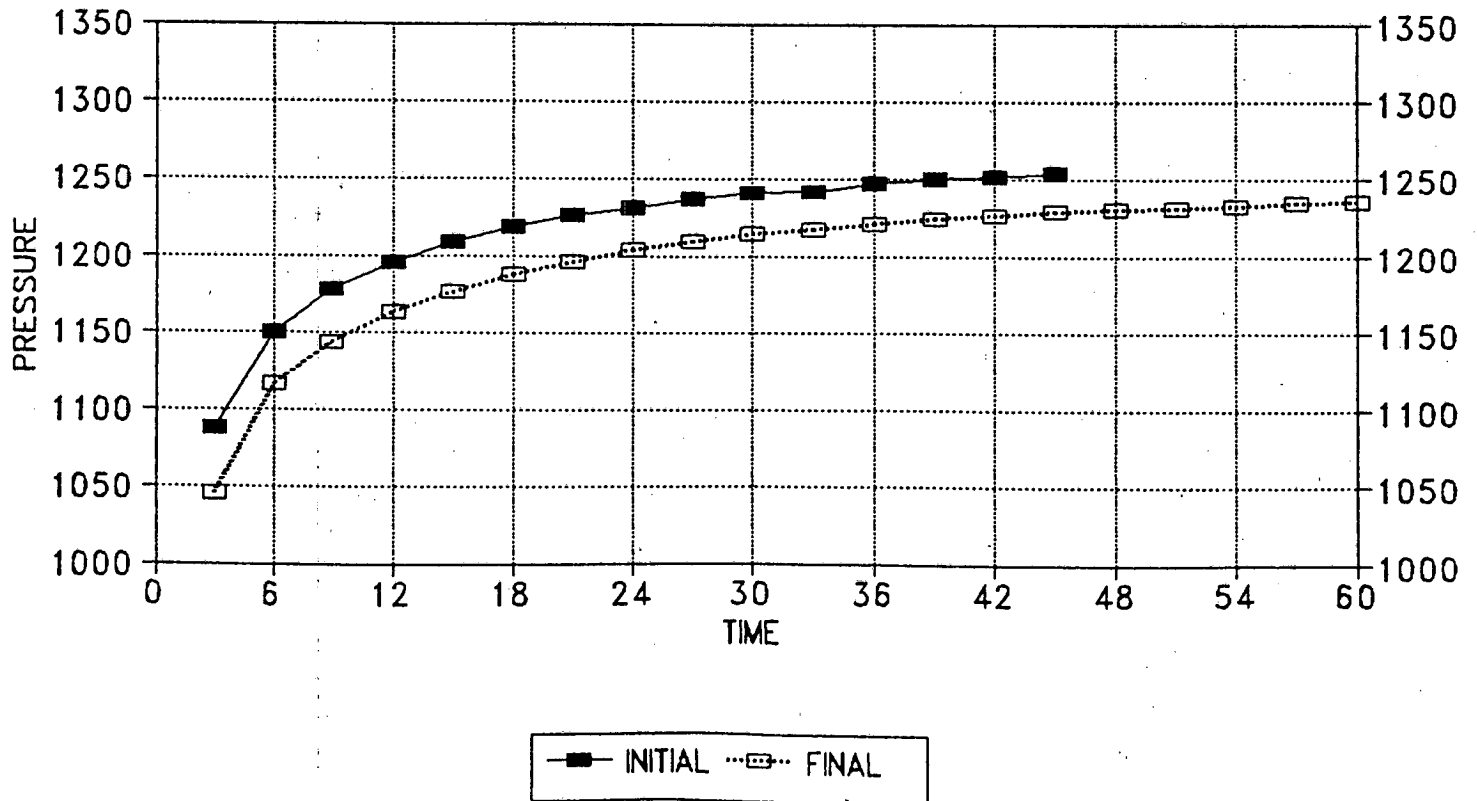
DST #1-AHRENS #2

15-109-20500-00-00



# DELTA T DELTA P

DST #1-AHRENS #2





# TRILOBITE TESTING COMPANY

P.O. Box 362 • Hays, Kansas 67601

## Test Ticket

N<sup>o</sup> 3408

Well Name & No. Ahrens #2 Test No. 1 Date 2-26-91  
Company Vintage Petroleum Inc. Zone Tested L (KC) 35'  
Address 4200 One Williams Center Tulsa, OK 74172 Elevation 3144 (KB)  
Co. Rep./Geo. Greg Deevers cont. VAL Energy #1 Est. Ft. of Pay \_\_\_\_\_  
Location: Sec. 21 Twp. 12 S Rge. 33 W Co. Logan State KS.  
No. of Copies 5 Distribution Sheet \_\_\_\_\_ Yes X No Turnkey \_\_\_\_\_ Yes X No No Evaluation

Interval Tested 4097 - 4119 Drill Pipe Size 4 1/2" XH  
Anchor Length 22' Top Choke — 1" \_\_\_\_\_ Bottom Choke — 3/4" \_\_\_\_\_  
Top Packer Depth 4092 Hole Size — 7 7/8" \_\_\_\_\_ Rubber Size — 6 3/4" \_\_\_\_\_  
Bottom Packer Depth 4097 Wt. Pipe I.D. — 2.7 Ft. Run \_\_\_\_\_  
Total Depth 4119 Drill Collar — 2.25 Ft. Run \_\_\_\_\_  
Mud Wt. 9.1 lb/gal. Viscosity 42 Filtrate 10.4  
Tool Open @ 12:56 pm Initial Blow Weak surface blow slowly built to bottom (15 mins)  
ISI: Bled off blow - No return.  
Final Blow Surface return slowly built to bottom in 16 mins.

Recovery — Total Feet	Feet of Gas in Pipe	Flush Tool?
<u>645</u>	_____	<u>No.</u>
Rec. _____ Feet Of _____	%gas _____ %oil _____ %water _____ %mud _____	
Rec. <u>210'</u> Feet Of <u>MW</u>	%gas _____ %oil <u>80</u> %water <u>20</u> %mud _____	
Rec. _____ Feet Of _____	%gas _____ %oil _____ %water _____ %mud _____	
Rec. <u>435'</u> Feet Of <u>Water</u>	%gas _____ %oil <u>100</u> %water _____ %mud _____	
Rec. _____ Feet Of _____	%gas _____ %oil _____ %water _____ %mud _____	

BHT 119° °F Gravity \_\_\_\_\_ °API @ \_\_\_\_\_ °F Corrected Gravity \_\_\_\_\_ °API  
RW .20 @ 72° °F Chlorides 35,000 ppm Recovery Chlorides 6,500 ppm System

(A) Initial Hydrostatic Mud 2023 PSI Ak1 Recorder No. 13309 Range 4700  
(B) First Initial Flow Pressure 41 PSI @ (depth) 4100 w/Clock No. 27567  
(C) First Final Flow Pressure 104 PSI AK1 Recorder No. 13339 Range 4025  
(D) Initial Shut-In Pressure 1240 PSI @ (depth) 4114 w/Clock No. 30418  
(E) Second Initial Flow Pressure 145 PSI AK1 Recorder No. \_\_\_\_\_ Range \_\_\_\_\_  
(F) Second Final Flow Pressure 259 PSI @ (depth) \_\_\_\_\_ w/Clock No. \_\_\_\_\_  
(G) Final Shut-In Pressure 1230 PSI Initial Opening 30 Test 550.00  
(H) Final Hydrostatic Mud 2023 PSI Initial Shut-In 45 Jars \_\_\_\_\_

TRILOBITE TESTING COMPANY 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 SUBSTAINED, 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 45 Safety Joint X 50.00  
Final Shut-In 60 Straddle \_\_\_\_\_  
Circ. Sub X WC  
Sampler \_\_\_\_\_  
Extra Packer \_\_\_\_\_  
Other \_\_\_\_\_

Approved By Richard A. Stebbins  
Our Representative Rod Steinbrink

TOTAL PRICE \$ 600.00

# TRILOBITE TESTING COMPANY

P.O. Box 362 • Hays, Kansas 67601

# ORIGINAL

## Drill-Stem Test Data 15-109-20500-00-00

Well Name AHRENS I #2 Test No. 2 Date 2/27/91  
Company VINTAGE PETROLEUM INC Zone Tested LANS-KS CITY  
Address 4200 ONE WILLIAMS CNTR TULSA OK Elevation 3144 KB  
Co. Rep./Geo. MR GREG DEEVERS Cont. VAL ENERGY #1 Est. Ft. of Pay 5  
Location: Sec. 21 Twp. 12S Rge. 33W Co. LOGAN State KANSAS

Interval Tested 4230-4264 Drill Pipe Size 4.5 XH  
Anchor Length 34 Wt. Pipe I.D. - 2.7 Ft. Run \_\_\_\_\_  
Top Packer Depth 4225 Drill Collar - 2.25 Ft. Run \_\_\_\_\_  
Bottom Packer Depth 4230  
Total Depth 4264

Mud Wt. 9 lb / gal. Viscosity 47 Filtrate 11

Tool Open @ 9:56 AM Initial Blow VERY WEAK SURFACE BLOW DIED IN 7 MINUTES

Final Blow NO BLOW-FLUSHED TOOL/GOOD SURGE-NO HELP

Recovery - Total Feet 20 Flush Tool? YES

Rec. 20 Feet of DRLG MUD W/ SHOW OF OIL @ TOP

Rec. \_\_\_\_\_ Feet of \_\_\_\_\_

Rec. \_\_\_\_\_ Feet of \_\_\_\_\_

Rec. \_\_\_\_\_ Feet of \_\_\_\_\_

Rec. \_\_\_\_\_ Feet of \_\_\_\_\_

BHT 114 °F Gravity 0 °API @ \_\_\_\_\_ °F Corrected Gravity \_\_\_\_\_ °API

RW \_\_\_\_\_ @ \_\_\_\_\_ °F Chlorides \_\_\_\_\_ ppm Recovery Chlorides 6500 ppm System

(A) Initial Hydrostatic Mud 2126.2 PSI Ak1 Recorder No. 13309 Range 4700

(B) First Initial Flow Pressure 54.1 PSI @ (depth) \_\_\_\_\_ w/Clock No. 27567

(C) First Final Flow Pressure 43.7 PSI Ak1 Recorder No. 13339 Range 4025

(D) Initial Shut-In Pressure 442.8 PSI @ (depth) 4259 w/Clock No. 30418

(E) Second Initial Flow Pressure 53 PSI Ak1 Recorder No. \_\_\_\_\_ Range \_\_\_\_\_

(F) Second Final Flow Pressure 47.8 PSI @ (depth) \_\_\_\_\_ w/Clock No. \_\_\_\_\_

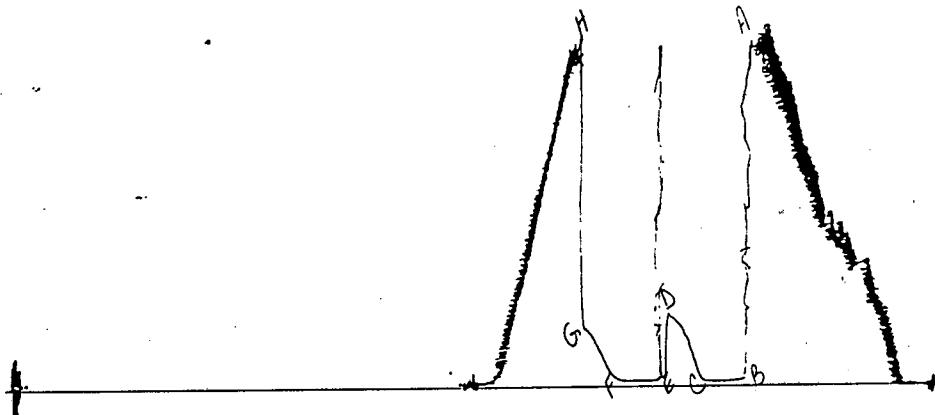
(G) Final Shut-In Pressure 368 PSI Initial Opening 30 Final Flow 30

(H) Final Hydrostatic Mud 2105.2 PSI Initial Shut-In 30 Final Shut-In 30

Our Representative MR ROD STEINBRINK TOTAL PRICE \$ 600

13309

13309.



POINT This is an actual photograph of recorder chart  
PRESSURE

POINT	FIELD READING	OFFICE READING
(A) INITIAL HYDROSTATIC MUD	2123	2126.2
(B) FIRST INITIAL FLOW PRESSURE	31	54.1
(C) FIRST FINAL FLOW PRESSURE	31	43.7
(D) INITIAL CLOSED-IN PRESSURE	467	442.8
(E) SECOND INITIAL FLOW PRESSURE	31	53
(F) SECOND FINAL FLOW PRESSURE	31	47.8
(G) FINAL CLOSED-IN PRESSURE	353	368
(H) FINAL HYDROSTATIC MUD	2053	2105.2

INITIAL FLOW

15-109-20500-00-00  
ORIGINAL

RECORDER # 13339  
DST #2

DT(MIN)	PRESSURE	<> PRESSURE
0	54.1	54.1
3	46.7	-7.399998
6	44.7	-2
9	43.7	-1
12	43.7	0
15	43.7	0
18	43.7	0
21	43.7	0
24	43.7	0
27	43.7	0
30	43.7	0

FINAL FLOW

RECORDER # 13339  
DST #2

DT(MIN)	PRESSURE	<> PRESSURE
0	53	53
3	53	0
6	47.8	-5.200001
9	45.7	-2.099999
12	45.7	0
15	45.7	0
18	46.7	1
21	46.7	0
24	47.8	1.099999
27	47.8	0
30	47.8	0

AHRENS #2  
INITIAL

DST #2  
SHUTIN  
30 INITIAL FLOW TIME

-----  
Slope -738.84 psi/cycle  
P \* 665 psi  
-----

TIME(MIN)	Pws (psi)	Horn T	Log Horn T	<> PRESSURE
3	45.7	11	1.041	45.7
6	61.3	6	0.778	15.6
9	117.4	4	0.637	56.1
12	193.3	4	0.544	75.9
15	259.9	3	0.477	66.6
18	324.3	3	0.426	64.4
X 21	380.5	2	0.385	56.2
24	403.3	2	0.352	22.8
27	428.3	2	0.325	25.0
X 30	442.8	2	0.301	14.5

AHRENS #2  
FINAL

DST #2  
SHUTIN  
60 TOTAL FLOW TIME

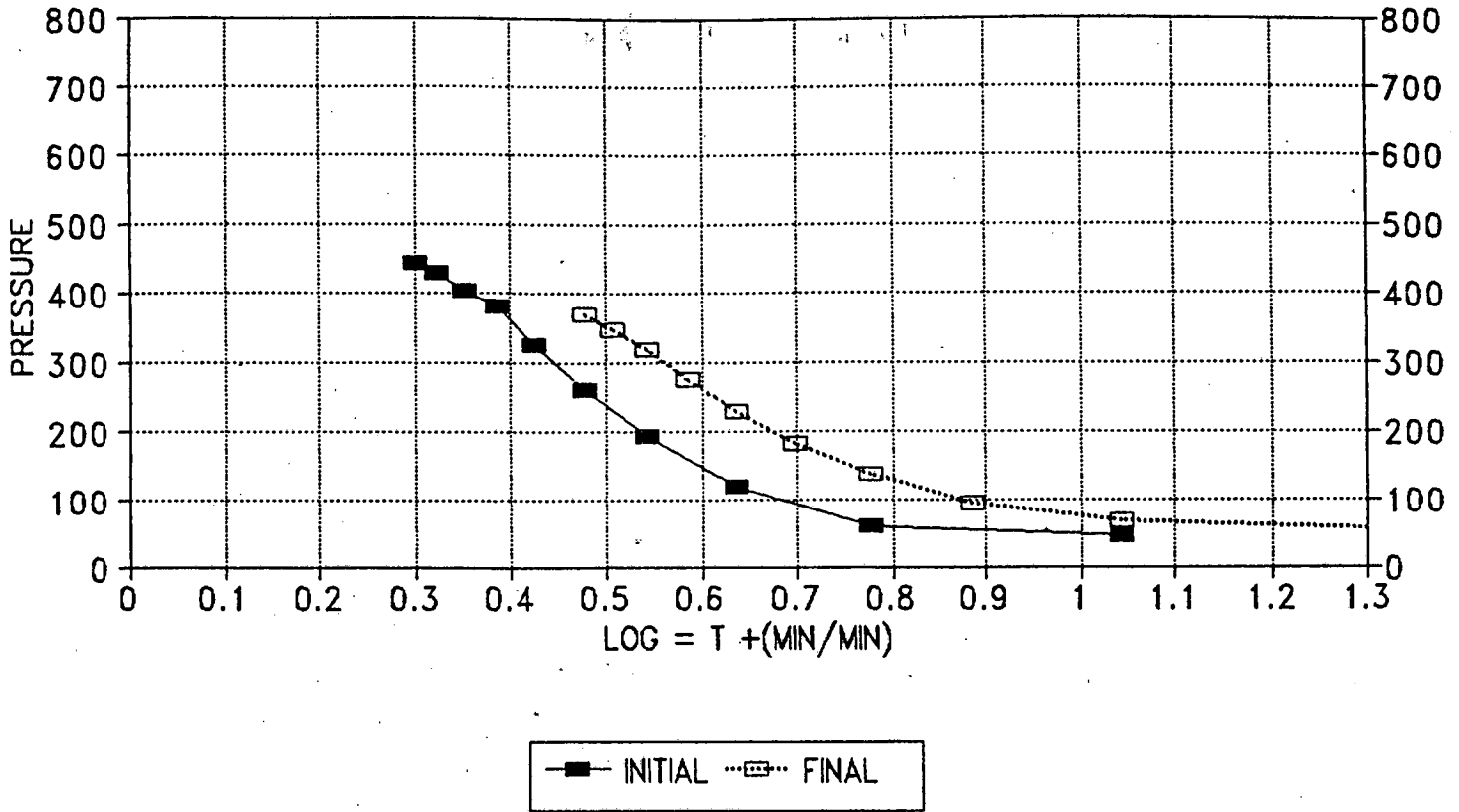
-----  
Slope -745.37 psi/cycle  
P \* 724 psi  
-----

TIME(MIN)	Pws (psi)	Horn T	Log Horn T	<> PRESSURE
3	57.1	21	1.322	57.1
6	68.6	11	1.041	11.5
9	93.6	8	0.885	25.0
12	137.2	6	0.778	43.6
15	180.9	5	0.699	43.7
18	227.6	4	0.637	46.7
21	274.4	4	0.586	46.8
X 24	318.1	4	0.544	43.7
27	347.2	3	0.508	29.1
X 30	368.0	3	0.477	20.8

# HORNER PLOT

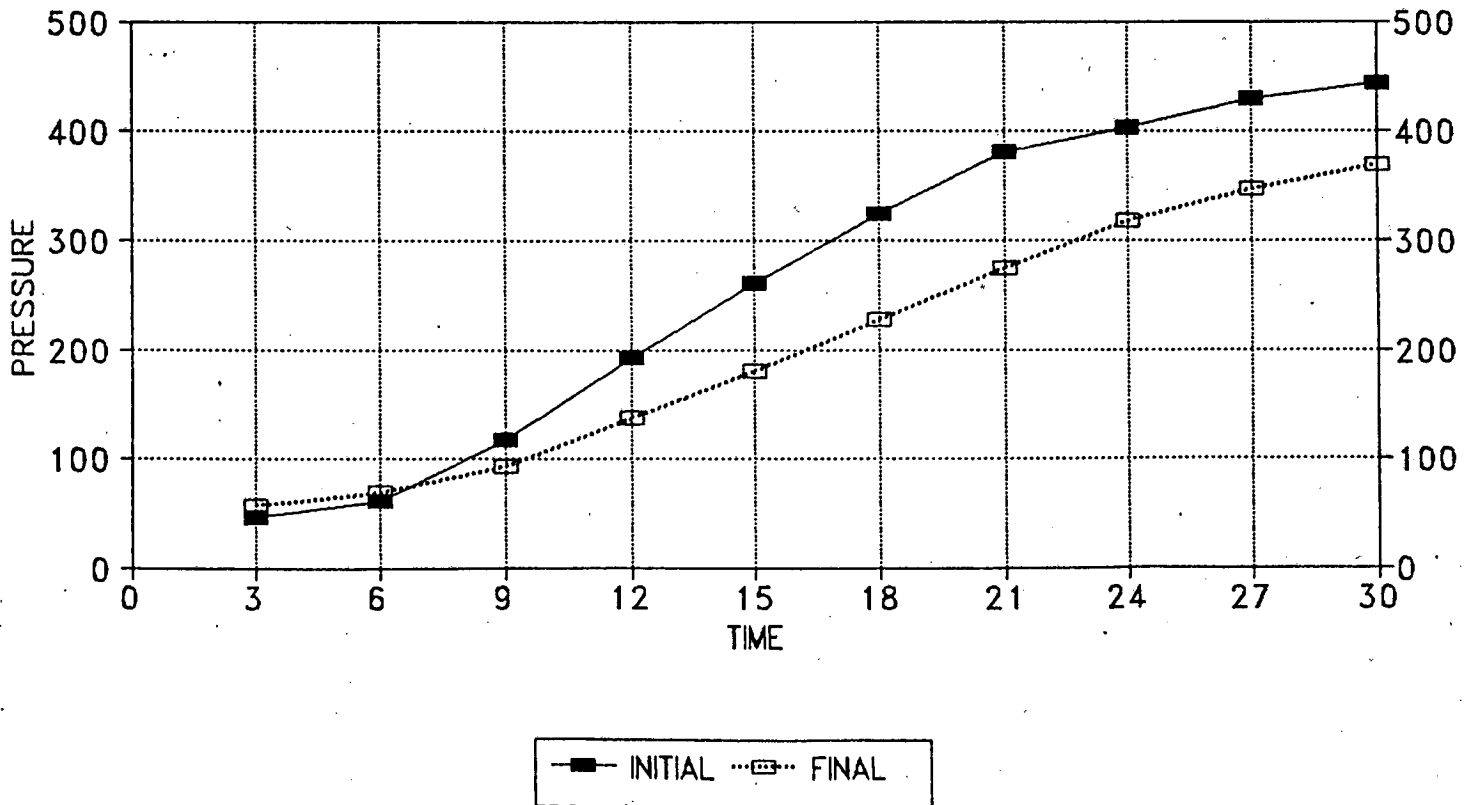
ORIGINAL

DST #2-AHRENS #2



# DELTA T DELTA P

DST #2-AHRENS #2



# TRILOBITE TESTING COMPANY

P.O. Box 362 • Hays, Kansas 67601

N<sup>o</sup> 3409

## Test Ticket

Well Name & No. Ahrens #2 Test No. 2 Date 2-27-91  
 Company Vintage Petroleum, Inc. Zone Tested Lans-KC 140'  
 Address 4200 One Williams Center Tulsa, OK. 74172 Elevation 3144 (KB)  
 Co. Rep./Geo. Greg/Richard Robba cont. VAL Energy #1 Est. Ft. of Pay 5'  
 Location: Sec. 21 Twp. 12 S Rge. 33 W Co. Logan State KS.  
 No. of Copies 5 Distribution Sheet Yes X No Turnkey Yes X No \_\_\_\_\_ Evaluation \_\_\_\_\_

Interval Tested 4230 - 4264 Drill Pipe Size 4 1/2" XH  
 Anchor Length 34' Top Choke — 1" \_\_\_\_\_ Bottom Choke — 3/4" \_\_\_\_\_  
 Top Packer Depth 4225 Hole Size — 7 7/8" \_\_\_\_\_ Rubber Size — 6 3/4" \_\_\_\_\_  
 Bottom Packer Depth 4230 Wt. Pipe I.D. — 2.7 Ft. Run \_\_\_\_\_  
 Total Depth 4264 Drill Collar — 2.25 Ft. Run \_\_\_\_\_  
 Mud Wt. 9.0 lb/gal. Viscosity 47 Filtrate 11.0  
 Tool Open @ 9:56 am Initial Blow Very weak surface blow died in 7 mins.

Final Blow No blow - flushed tool/good surge - no help.

Recovery — Total Feet	Feet of Gas In Pipe	Flush Tool?	%gas	%oil	%water	%mud
<u>20'</u>	<u>_____</u>	<u>Yes</u>	<u>_____</u>	<u>_____</u>	<u>_____</u>	<u>_____</u>
Rec. <u>20'</u> Feet Of <u>Drlg. Mud</u>	<u>_____</u>	<u>_____</u>	<u>_____</u>	<u>_____</u>	<u>_____</u>	<u>_____</u>
Rec. <u>_____</u> Feet Of <u>w/show of oil @ top</u>	<u>_____</u>	<u>_____</u>	<u>_____</u>	<u>_____</u>	<u>_____</u>	<u>_____</u>
Rec. <u>_____</u> Feet Of <u>_____</u>	<u>_____</u>	<u>_____</u>	<u>_____</u>	<u>_____</u>	<u>_____</u>	<u>_____</u>
Rec. <u>_____</u> Feet Of <u>_____</u>	<u>_____</u>	<u>_____</u>	<u>_____</u>	<u>_____</u>	<u>_____</u>	<u>_____</u>

BHT 114° °F Gravity \_\_\_\_\_ °API @ \_\_\_\_\_ °F Corrected Gravity \_\_\_\_\_ °API  
 RW \_\_\_\_\_ @ \_\_\_\_\_ °F Chlorides \_\_\_\_\_ ppm Recovery Chlorides 6,500 ppm System  
 (A) Initial Hydrostatic Mud 2123 PSI Ak1 Recorder No. 13309 Range 4700  
 (B) First Initial Flow Pressure 31 PSI @ (depth) \_\_\_\_\_ w/Clock No. 27567  
 (C) First Final Flow Pressure 31 PSI Ak1 Recorder No. 13339 Range 4025  
 (D) Initial Shut-in Pressure 467 PSI @ (depth) 4259 w/Clock No. 30418  
 (E) Second Initial Flow Pressure 31 PSI Ak1 Recorder No. \_\_\_\_\_ Range \_\_\_\_\_  
 (F) Second Final Flow Pressure 31 PSI @ (depth) \_\_\_\_\_ w/Clock No. \_\_\_\_\_  
 (G) Final Shut-in Pressure 353 PSI Initial Opening 30 Test 550.00  
 (H) Final Hydrostatic Mud 2053 PSI Initial Shut-in 30 Jars \_\_\_\_\_

TRILOBITE TESTING COMPANY 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 SUBSTAINED, 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 30 Safety Joint X 50.00  
 Final Shut-in 30 Straddle \_\_\_\_\_  
 Circ. Sub X n/c  
 Sampler \_\_\_\_\_  
 Extra Packer \_\_\_\_\_  
 Other \_\_\_\_\_  
 TOTAL PRICE \$ 600.00

Approved By Gary Rowe  
 Our Representative Rod Steinbrink

# TRILOBITE TESTING COMPANY

# ORIGINAL

P.O. Box 362 • Hays, Kansas 67601

15-109-20500-00-00

## Drill-Stem Test Data

Well Name AHRENS I #2 Test No. 3 Date 2/27/91  
 Company VINTAGE PETROLEUM INC Zone Tested LANS-KS CITY  
 Address 4200 ONE WILLIAMS CNTR TULSA OK Elevation 3144 KB  
 Co. Rep./Geo. MR GREG DEEVERS Cont. VAL ENERGY #1 Est. Ft. of Pay 8  
 Location: Sec. 21 Twp. 12S Rge. 33W Co. LOGAN State KANSAS

Interval Tested 4262-4294  
 Anchor Length 32  
 Top Packer Depth 4257  
 Bottom Packer Depth 4262  
 Total Depth 4294

Drill Pipe Size 4.5 XH  
 Wt. Pipe I.D. - 2.7 Ft. Run \_\_\_\_\_  
 Drill Collar - 2.25 Ft. Run \_\_\_\_\_

Mud Wt. 9 lb / gal. Viscosity 44 Filtrate 10.8

Tool Open @ 8:40 PM Initial Blow WEAK SURFACE BLOW SLOWLY BUILT TO 2"  
ISI: BLED OFF BLOW-NO RETURN  
 Final Blow SURFACE RETURN AFTER 1 MINUTE-INCREASED TO 1"  
THROUGHOUT

Recovery - Total Feet 150 Flush Tool? NO

Rec. 30 Feet of DRLG MUD W/ SPOTS OF OIL

Rec. 120 Feet of DRLG MUD

Rec. \_\_\_\_\_ Feet of \_\_\_\_\_

Rec. \_\_\_\_\_ Feet of \_\_\_\_\_

Rec. 11 Feet of \_\_\_\_\_  
 BHT \_\_\_\_\_ °F Gravity \_\_\_\_\_ °API @ \_\_\_\_\_ °F Corrected Gravity \_\_\_\_\_ °API

RW \_\_\_\_\_ @ \_\_\_\_\_ °F Chlorides \_\_\_\_\_ ppm Recovery Chlorides 7200 ppm System

(A) Initial Hydrostatic Mud 2133.2 PSI Ak1 Recorder No. 13309 Range 4700

(B) First Initial Flow Pressure 47.8 PSI @ (depth) \_\_\_\_\_ w/Clock No. 27567

(C) First Final Flow Pressure 61.3 PSI Ak1 Recorder No. 13339 Range 4025

(D) Initial Shut-in Pressure 280.7 PSI @ (depth) \_\_\_\_\_ w/Clock No. 30418

(E) Second Initial Flow Pressure 97.7 PSI Ak1 Recorder No. \_\_\_\_\_ Range \_\_\_\_\_

(F) Second Final Flow Pressure 99.8 PSI @ (depth) \_\_\_\_\_ w/Clock No. \_\_\_\_\_

(G) Final Shut-in Pressure 234.9 PSI Initial Opening 30 Final Flow 45

(H) Final Hydrostatic Mud 2072.1 PSI Initial Shut-in 45 Final Shut-in 60

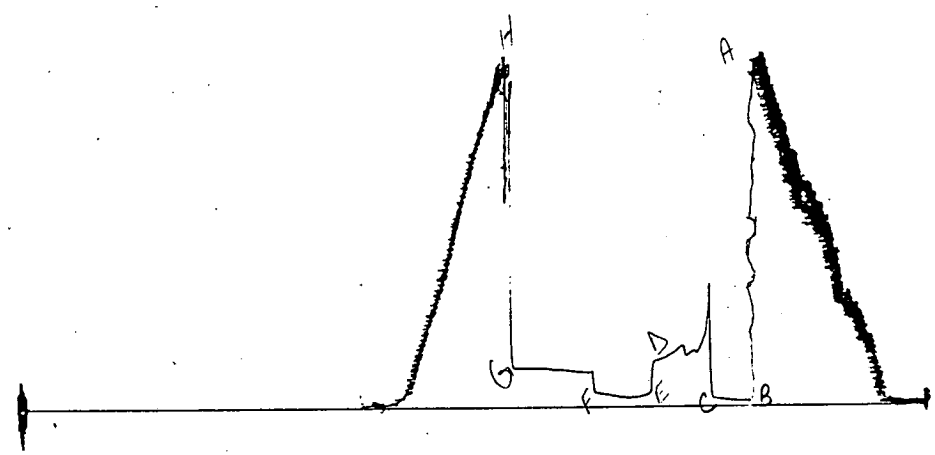
Our Representative MR ROD STEINBRINK

TOTAL PRICE \$ 600



10-0-13309-10101

DST #3  
13309



POINT

This is an actual photograph of recorder chart  
PRESSURE

	FIELD READING	OFFICE READING
(A) INITIAL HYDROSTATIC MUD	2103	2133.2
(B) FIRST INITIAL FLOW PRESSURE	20	47.8
(C) FIRST FINAL FLOW PRESSURE	41	61.3
(D) INITIAL CLOSED-IN PRESSURE	259	280.7
(E) SECOND INITIAL FLOW PRESSURE	41	97.7
(F) SECOND FINAL FLOW PRESSURE	72	99.8
(G) FINAL CLOSED-IN PRESSURE	218	234.9
(H) FINAL HYDROSTATIC MUD	2063	2072.1

15-109-20500-00-00

ORIGINAL

-----  
INITIAL FLOW  
-----

RECORDER # 13339  
DST #3

DT(MIN)	PRESSURE	<> PRESSURE
0	47.8	47.8
3	45.7	-2.099999
6	45.7	0
9	45.7	0
12	47.8	2.099999
15	49.9	2.100002
18	52	2.099999
21	54.1	2.099999
24	57.1	3
27	59.2	2.100002
30	61.3	2.099999

-----  
FINAL FLOW  
-----

RECORDER # 13339  
DST #3

DT(MIN)	PRESSURE	<> PRESSURE
0	97.7	97.7
3	85.2	-12.5
6	76.9	-8.299996
9	72.8	-4.099999
12	70.7	-2.100006
15	70.7	0
18	70.7	0
21	71.7	1
24	74.8	3.100006
27	76.9	2.099999
30	81.1	4.199997
33	84.2	3.099999
36	87.3	3.100006
39	91.5	4.199997
42	95.6	4.099999
45	99.8	4.200005

AHRENS #2  
INITIAL

DST #3  
SHUTIN  
30 INITIAL FLOW TIME

-----  
Slope                   psi/cycle  
P \*  
-----

TIME(MIN)	Pws (psi)	Log		(<) PRESSURE
		Horn T	Horn T	
3	576.1	11	1.041	576.1
6	433.4	6	0.778	-142.7
9	392.9	4	0.637	-40.5
12	348.2	4	0.544	-44.7
15	334.7	3	0.477	-13.5
18	347.2	3	0.426	12.5
21	324.3	2	0.385	-22.9
24	324.3	2	0.352	0.0
27	364.8	2	0.325	40.5
X 30	339.9	2	0.301	-24.9
33	326.4	2	0.281	-13.5
36	311.9	2	0.263	-14.5
39	298.3	2	0.248	-13.6
42	291.1	2	0.234	-7.2
X 45	280.7	2	0.222	-10.4

Tool was picked up to high causing a partial hydrostatic

trap. That is why the pressure is decreasing during this shutin

AHRENS #2  
FINAL

DST #3  
SHUTIN  
75 TOTAL FLOW

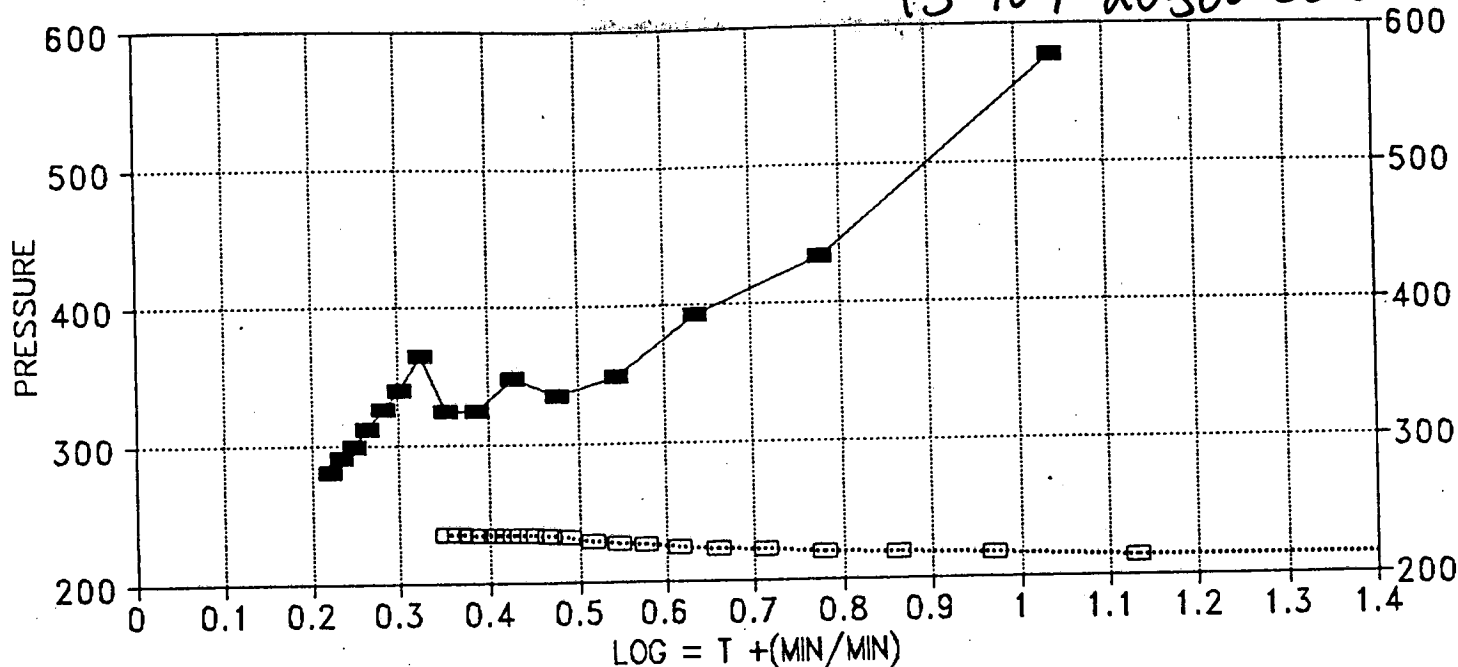
-----  
TIME                   Slope                   -38.04 psi/cycle  
                         P \*                       248 psi  
-----

TIME(MIN)	Pws (psi)	Log		(<) PRESSURE
		Horn T	Horn T	
3	214.1	26	1.415	214.1
6	214.1	14	1.130	0.0
9	217.1	9	0.970	3.0
12	218.3	7	0.860	1.2
15	219.3	6	0.778	1.0
18	221.4	5	0.713	2.1
21	222.5	5	0.660	1.1
24	224.5	4	0.615	2.0
27	226.6	4	0.577	2.1
X 30	227.6	4	0.544	1.0
33	229.7	3	0.515	2.1
36	231.8	3	0.489	2.1
39	232.8	3	0.466	1.0
42	233.8	3	0.445	1.0
45	233.8	3	0.426	0.0
48	233.8	3	0.409	0.0
51	233.8	2	0.393	0.0
54	233.8	2	0.378	0.0
X 57	234.9	2	0.365	1.1
60	234.9	2	0.352	0.0

# HORNER PLOT

ORIGINAL

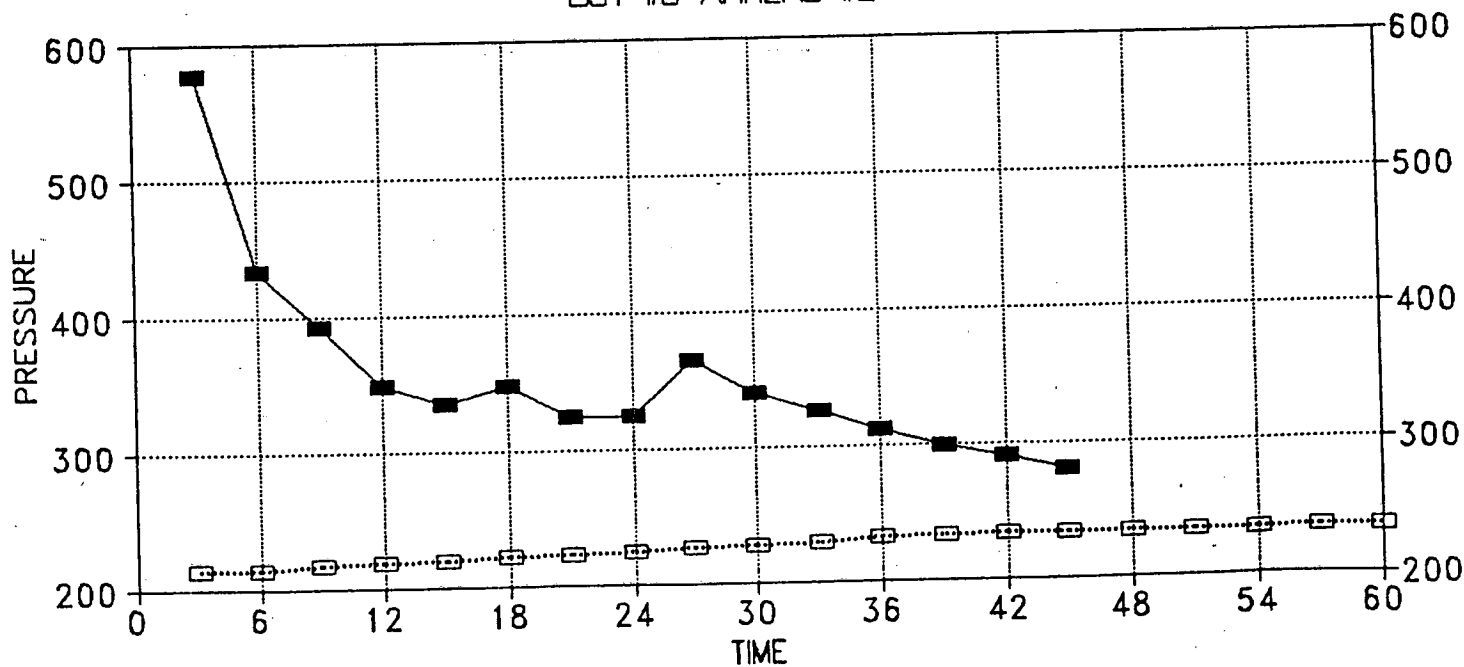
DST #3-AHRENS #2 15-109-20500-00-00



—■— INITIAL ...□... FINAL

# DELTA T DELTA P

DST #3-AHRENS #2



—■— INITIAL ...□... FINAL

# TRILOBITE TESTING COMPANY

P.O. Box 362 • Hays, Kansas 67601

No 3410

## Test Ticket

Well Name & No. Ahrens #2 Test No. 3 Date 2-27-91  
Company Vintage Petroleum, Inc. Zone Tested Lans - KC "160"  
Address 4200 One Williams Center Tulsa, OK. 74172 Elevation 3144 (KB)  
Co. Rep./Geo. Gregg/Richard Robba cont. VAL Energy #1 Est. Ft. of Pay 8'  
Location: Sec. 21 Twp. 12S Rge. 33 W Co. Logan State KS.  
No. of Copies 5 Distribution Sheet Yes X No Turnkey Yes X No Evaluation

Interval Tested 4262 - 4294 Drill Pipe Size 4 1/2" XH  
Anchor Length 32' Top Choke - 1" Bottom Choke - 3/4"  
Top Packer Depth 4257 Hole Size - 7 7/8" Rubber Size - 6 3/4"  
Bottom Packer Depth 4262 Wt. Pipe I.D. - 2.7 Ft. Run ---  
Total Depth 4294 Drill Collar - 2.25 Ft. Run ---  
Mud Wt. 9.0 lb/gal. Viscosity 44 Filtrate 10.8  
Tool Open @ 8:40 pm Initial Blow Weak surface blow slowly built to 2"  
ISI: Bled off blow - No return.  
Final Blow Surface return after 1 min. increased to 1" throughout.

Recovery - Total Feet 150' Feet of Gas In Pipe --- Flush Tool? No

Rec.	Feet Of	%gas	%oil	%water	%mud
<u>30'</u>	<u>Drlg Mud</u>				
	<u>w/spots of oil</u>				
<u>120'</u>	<u>Drlg. Mud</u>				

BHT 114° °F Gravity --- °API @ --- °F Corrected Gravity --- °API

RW --- @ --- °F Chlorides --- ppm Recovery Chlorides 7,200 ppm System

- (A) Initial Hydrostatic Mud 2103 PSI Ak1 Recorder No. 13309 Range 4700  
(B) First Initial Flow Pressure 20 PSI @ (depth) 4264 w/Clock No. 27567  
(C) First Final Flow Pressure 41 PSI AK1 Recorder No. 13339 Range 4025  
(D) Initial Shut-In Pressure 259 PSI @ (depth) 4289 w/Clock No. 30418  
(E) Second Initial Flow Pressure 41 PSI AK1 Recorder No. --- Range ---  
(F) Second Final Flow Pressure 72 PSI @ (depth) --- w/Clock No. ---  
(G) Final Shut-In Pressure 218 PSI Initial Opening 30 Test 550.00  
(H) Final Hydrostatic Mud 2063 PSI Initial Shut-In 45 Jars ---

TRILOBITE TESTING COMPANY 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 SUBSTAINED, 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 45 Safety Joint X 50.00  
Final Shut-In 60 Straddle ---  
Circ. Sub X n/c  
Sampler ---  
Extra Packer ---  
Other ---

Approved By Richard A. Robba

Our Representative Rod Steinbrink

TOTAL PRICE \$ 600.00

# TRILOBITE TESTING COMPANY

P.O. Box 362 • Hays, Kansas 67601

ORIGINAL

15-109-20500-00-00

## Drill-Stem Test Data

Well Name AHRENS I #2 Test No. 4 Date 2/28/91  
Company VINTAGE PETROLEUM INC Zone Tested LANS-KS CITY  
Address 4200 ONE WILLIAMS CNTR TULSA OK Elevation 3144 KB  
Co. Rep./Geo. MR GREG DEEVERS Cont. VAL ENERGY #1 Est. Ft. of Pay 8  
Location: Sec. 21 Twp. 12S Rge. 33W Co. LOGAN State KANSAS

Interval Tested 4294-4342 Drill Pipe Size 4.5 XH  
Anchor Length 48 Wt. Pipe I.D. - 2.7 Ft. Run \_\_\_\_\_  
Top Packer Depth 4289 Drill Collar - 2.25 Ft. Run \_\_\_\_\_  
Bottom Packer Depth 4294  
Total Depth 4342

Mud Wt. 9.1 lb / gal. Viscosity 48 Filtrate 10.6

Tool Open @ 11:41 AM Initial Blow WEAK SURFACE BLOW DIED IN 25 MINUTES

Final Blow NO RETURN BLOW

Recovery - Total Feet 30 Flush Tool? NO

Rec. 30 Feet of DRLG MUD W/ GOOD SHOW OF OIL @ TOP

Rec. \_\_\_\_\_ Feet of \_\_\_\_\_

Rec. \_\_\_\_\_ Feet of \_\_\_\_\_

Rec. \_\_\_\_\_ Feet of \_\_\_\_\_

Rec. \_\_\_\_\_ Feet of \_\_\_\_\_

BHT 102 °F Gravity 0 °API @ \_\_\_\_\_ °F Corrected Gravity \_\_\_\_\_ °API

RW \_\_\_\_\_ @ \_\_\_\_\_ °F Chlorides \_\_\_\_\_ ppm Recovery Chlorides 7200 ppm System

(A) Initial Hydrostatic Mud 2145.3 PSI Ak1 Recorder No. 13309 Range 4700

(B) First Initial Flow Pressure 65.4 PSI @ (depth) 4296 w/Clock No. 27567

(C) First Final Flow Pressure 46.7 PSI Ak1 Recorder No. 13339 Range 4025

(D) Initial Shut-In Pressure 348.2 PSI @ (depth) 4337 w/Clock No. 30418

(E) Second Initial Flow Pressure 84.2 PSI Ak1 Recorder No. \_\_\_\_\_ Range \_\_\_\_\_

(F) Second Final Flow Pressure 54.1 PSI @ (depth) \_\_\_\_\_ w/Clock No. \_\_\_\_\_

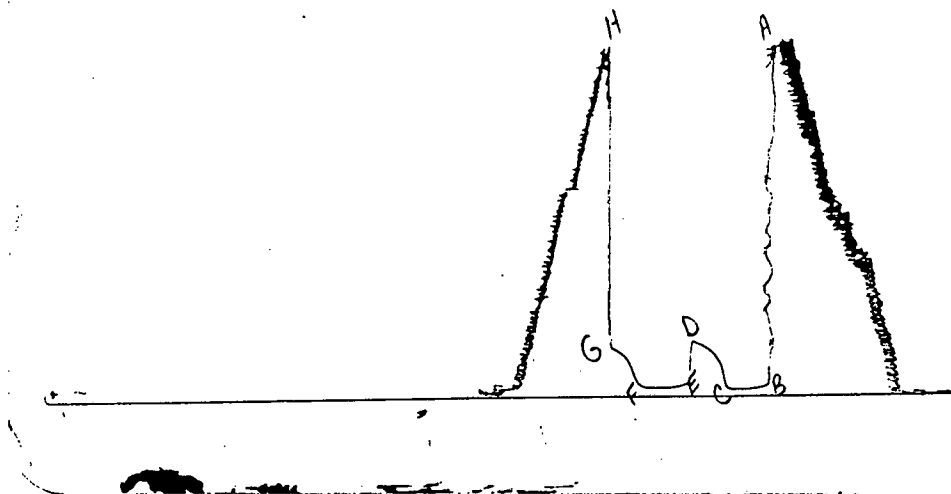
(G) Final Shut-In Pressure 309.8 PSI Initial Opening 30 Final Flow 30

(H) Final Hydrostatic Mud 2116.2 PSI Initial Shut-in 30 Final Shut-in 30

Our Representative MR ROD STEINBRINK TOTAL PRICE \$ 600

DST #4

13309



POINT This is an actual photograph of recorder chart PRESSURE

	FIELD READING	OFFICE READING
(A) INITIAL HYDROSTATIC MUD	2103	2145.3
(B) FIRST INITIAL FLOW PRESSURE	20	65.4
(C) FIRST FINAL FLOW PRESSURE	20	46.7
(D) INITIAL CLOSED-IN PRESSURE	322	348.2
(E) SECOND INITIAL FLOW PRESSURE	31	84.2
(F) SECOND FINAL FLOW PRESSURE	31	54.1
(G) FINAL CLOSED-IN PRESSURE	280	309.8
(H) FINAL HYDROSTATIC MUD	2073	2116.2

ORIGINAL

INITIAL FLOW

RECORDER # 13339  
DST #4

15-109-20500-00-00

DT(MIN)	PRESSURE	( ) PRESSURE
0	65.4	65.4
3	54.1	-11.3
6	49.9	-4.199997
9	46.7	-3.200001
12	46.7	0
15	46.7	0
18	46.7	0
21	46.7	0
24	46.7	0
27	46.7	0
30	46.7	0

FINAL FLOW

RECORDER # 13339  
DST #4

DT(MIN)	PRESSURE	( ) PRESSURE
0	84.2	84.2
3	63.4	-20.8
6	57.1	-6.300003
9	54.1	-3
12	54.1	0
15	54.1	0
18	54.1	0
21	54.1	0
24	54.1	0
27	54.1	0
30	54.1	0



AHRENS #2  
INITIAL

DST #4  
SHUTIN  
30 INITIAL FLOW TIME

-----  
Slope -289.05 psi/cycle  
P \* 435 psi  
-----

	TIME(MIN)	Pws (psi)	Horn T	Log Horn T	(<) PRESSURE
	3	77.9	11	1.041	77.9
	6	178.8	6	0.778	100.9
	9	241.2	4	0.637	62.4
	12	276.5	4	0.544	35.3
X	15	297.3	3	0.477	20.8
	18	311.9	3	0.426	14.6
	21	324.3	2	0.385	12.4
	24	332.6	2	0.352	8.3
	27	342.0	2	0.325	9.4
X	30	348.2	2	0.301	6.2

AHRENS #2  
FINAL

DST #4  
SHUTIN  
60 TOTAL FLOW TIME

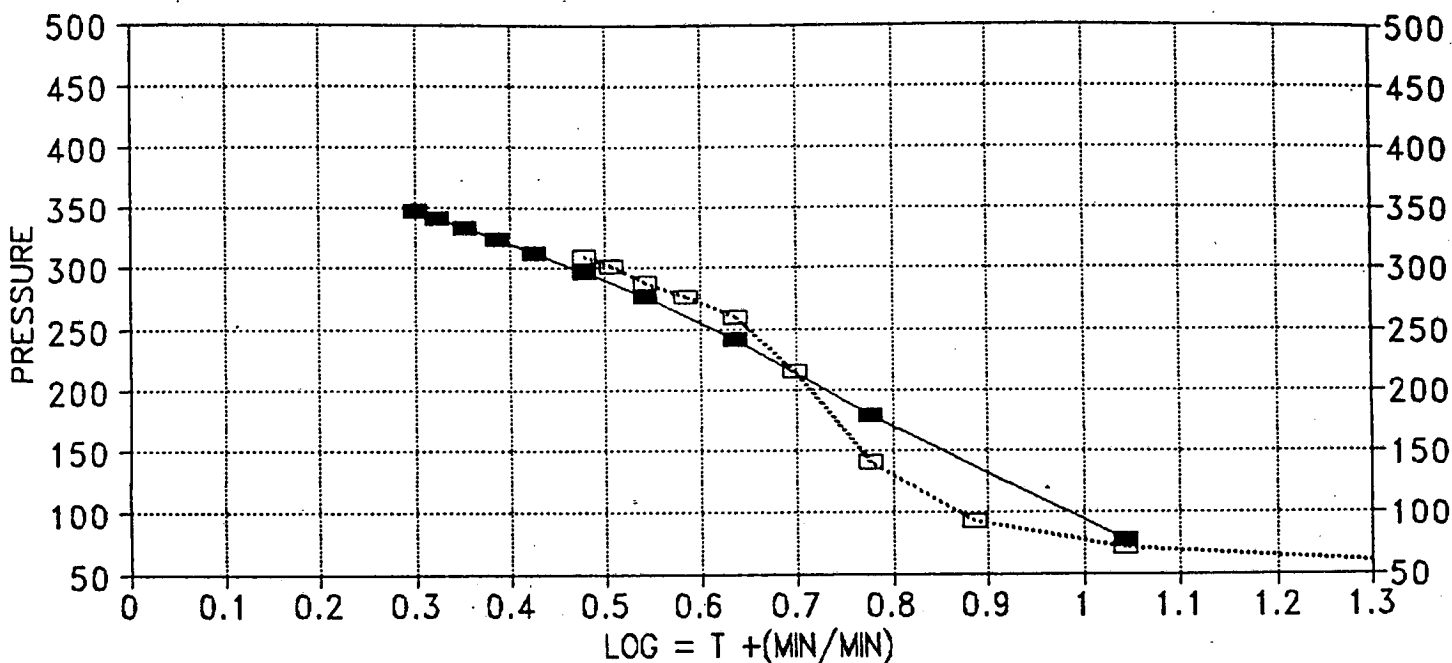
-----  
Slope -305.10 psi/cycle  
P \* 455 psi  
-----

	TIME(MIN)	Pws (psi)	Horn T	Log Horn T	(<) PRESSURE
	3	60.3	21	1.322	60.3
	6	70.7	11	1.041	10.4
	9	92.5	8	0.885	21.8
	12	141.4	6	0.778	48.9
	15	215.1	5	0.699	73.7
	18	258.8	4	0.637	43.7
X	21	276.5	4	0.586	17.7
	24	289.0	4	0.544	12.5
	27	301.5	3	0.508	12.5
X	30	309.8	3	0.477	8.3

# HORNER PLOT

DST #4-AHRENS #2

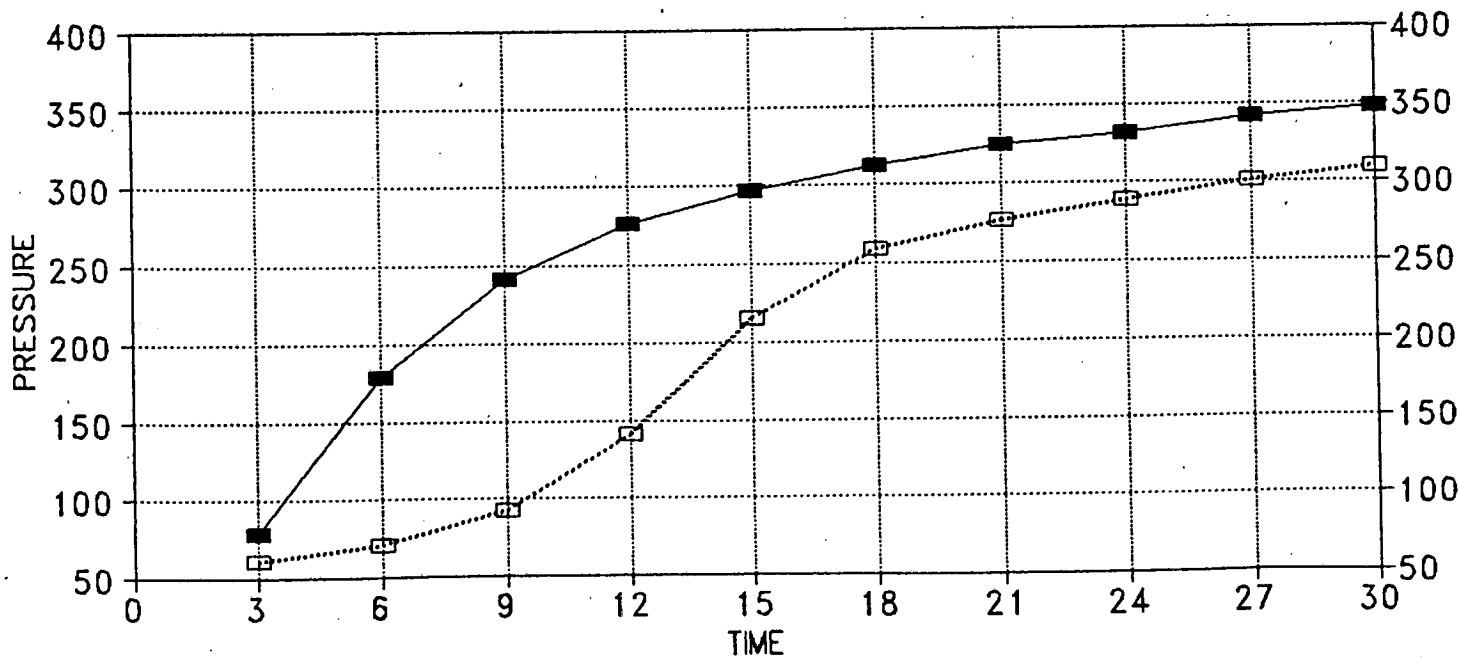
ORIGINAL  
15-109-20500-00-00



—■— INITIAL    ···□··· FINAL

# DELTA T DELTA P

DST #4-AHRENS #2



—■— INITIAL    ···□··· FINAL

# TRILOBITE TESTING COMPANY

P.O. Box 362 • Hays, Kansas 67601

05-28-1991-10-81

No 3411

## Test Ticket

Well Name & No. Ahrens #2 Test No. 4 Date 2-28-91  
Company Vintage Petroleum, Inc. Zone Tested Lans. - KC 180 ± 200  
Address 4200 One Williams Center Tulsa, OK. 74172 Elevation 3144 (KB)  
Co. Rep./Geo. Gregg/Richard Robba cont. VAL Energy #1 Est. Ft. of Pay 8'  
Location: Sec. 21 Twp. 12 S Rge. 33 W Co. Logan State KS.  
No. of Copies 5 Distribution Sheet Yes X No Turnkey Yes X No Evaluation

Interval Tested 4294 - 4342 Drill Pipe Size 4 1/2" XH  
Anchor Length 48' Top Choke - 1" Bottom Choke - 3/4"  
Top Packer Depth 4289 Hole Size - 7 7/8" Rubber Size - 6 3/4"  
Bottom Packer Depth 4294 Wt. Pipe I.D. - 2.7 Ft. Run  
Total Depth 4342 Drill Collar - 2.25 Ft. Run  
Mud Wt. 9.1 lb/gal. Viscosity 48 Filtrate 10.6  
Tool Open @ 11:41 am Initial Blow Weak surface blow died in 25 mins

Final Blow No return blow.

Recovery - Total Feet 30' Feet of Gas in Pipe \_\_\_\_\_ Flush Tool? No.

Rec.	Feet Of	% gas	% oil	% water	% mud
Rec.	Feet Of	% gas	% oil	% water	% mud
Rec.	<u>30'</u> Feet Of <u>Drlg. Mud</u>	% gas	% oil	% water	% mud
Rec.	Feet Of <u>w/good show of oil @ top</u>	% gas	% oil	% water	% mud
Rec.	Feet Of	% gas	% oil	% water	% mud

BHT 102° °F Gravity \_\_\_\_\_ °API @ \_\_\_\_\_ °F Corrected Gravity \_\_\_\_\_ °API

RW \_\_\_\_\_ @ \_\_\_\_\_ °F Chlorides \_\_\_\_\_ ppm Recovery Chlorides 7,200 ppm System

- (A) Initial Hydrostatic Mud 2103 PSI Ak1 Recorder No. 13309 Range 4700
- (B) First Initial Flow Pressure 20 PSI @ (depth) 4296 w/Clock No. 27567
- (C) First Final Flow Pressure 20 PSI Ak1 Recorder No. 13339 Range 4025
- (D) Initial Shut-In Pressure 322 PSI @ (depth) 4337 w/Clock No. 30418
- (E) Second Initial Flow Pressure 31 PSI Ak1 Recorder No. \_\_\_\_\_ Range \_\_\_\_\_
- (F) Second Final Flow Pressure 31 PSI @ (depth) \_\_\_\_\_ w/Clock No. \_\_\_\_\_
- (G) Final Shut-In Pressure 280 PSI Initial Opening 30 Test 550.00
- (H) Final Hydrostatic Mud 2073 PSI Initial Shut-in 30 Jars \_\_\_\_\_

TRILOBITE TESTING COMPANY 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 SUBSTAINED, 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 30 Safety Joint X 50.00  
Final Shut-in 30 Straddle \_\_\_\_\_  
Circ. Sub X WC  
Sampler \_\_\_\_\_  
Extra Packer \_\_\_\_\_  
Other \_\_\_\_\_

Approved By [Signature]  
Our Representative Rod Steinbrink

TOTAL PRICE \$ 600.00

# TRILOBITE TESTING COMPANY

# ORIGINAL

P.O. Box 362 • Hays, Kansas 67601

15-109-20500-00-00

## Drill-Stem Test Data

Well Name AHRENS I #2 Test No. 5 Date 3/1/91  
 Company VINTAGE PETROLEUM INC Zone Tested MYRIK STATION  
 Address 4200 ONE WILLIAMS CNTR TULSA OK Elevation 3144 KB  
 Co. Rep./Geo. MR GREG DEEVERS Cont. VAL ENERGY #1 Est. Ft. of Pay 8  
 Location: Sec. 21 Twp. 12S Rge. 33W Co. LOGAN State KANSAS

Interval Tested 4535-4563 Drill Pipe Size 4.5 XH  
 Anchor Length 28 Wt. Pipe I.D. - 2.7 Ft. Run \_\_\_\_\_  
 Top Packer Depth 4530 Drill Collar - 2.25 Ft. Run \_\_\_\_\_  
 Bottom Packer Depth 4535  
 Total Depth 4563

Mud Wt. 9.3 lb / gal. Viscosity 42 Filtrate 11.2

Tool Open @ 5:50 PM Initial Blow WEAK TO FAIR BLOW BUILT TO BOTTOM IN 17 MINS-  
ISI: BLEED OFF BLOW - NO RETURN  
 Final Blow FAIR RETURN BUILT TO BOTTOM IN 14 MINUTES

Recovery - Total Feet 110 Flush Tool? NO

Rec. 180 Feet of GAS IN PIPE  
 Rec. 60 Feet of VERY GSY MUD CUT OIL-40%GAS/30%OIL/30%MUD  
 Rec. ERR Feet of ERR  
 Rec. 50 Feet of SLTLY GSY HVY OIL CUT MUD-5%GAS/40%OIL/55%MUD

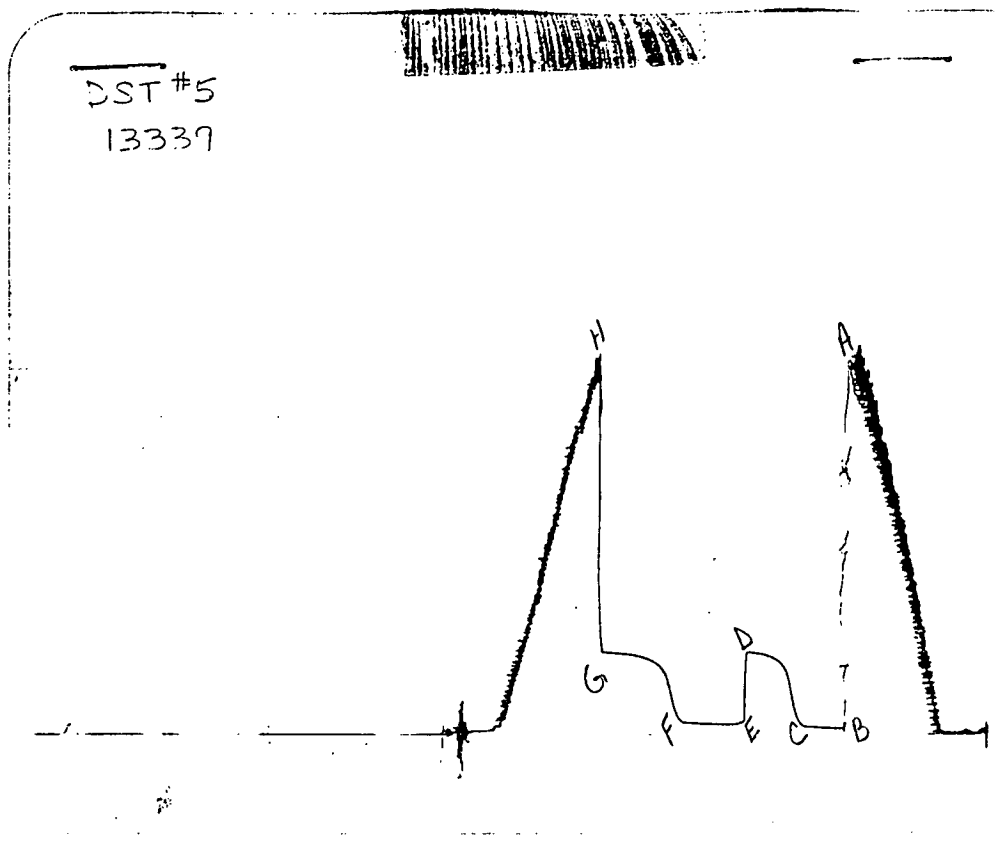
Rec. 1 Feet of 0  
 BHT \_\_\_\_\_ °F Gravity \_\_\_\_\_ °API @ \_\_\_\_\_ °F Corrected Gravity \_\_\_\_\_ °API

RW \_\_\_\_\_ @ \_\_\_\_\_ °F Chlorides \_\_\_\_\_ ppm Recovery Chlorides 7300 ppm System

(A) Initial Hydrostatic Mud 2294.6 PSI AK1 Recorder No. 13309 Range 4700  
 (B) First Initial Flow Pressure 45.7 PSI @ (depth) \_\_\_\_\_ w/Clock No. 27567  
 (C) First Final Flow Pressure 58.2 PSI AK1 Recorder No. 13339 Range 4025  
 (D) Initial Shut-In Pressure 518.2 PSI @ (depth) \_\_\_\_\_ w/Clock No. 30418  
 (E) Second Initial Flow Pressure 106 PSI AK1 Recorder No. \_\_\_\_\_ Range \_\_\_\_\_  
 (F) Second Final Flow Pressure 80 PSI @ (depth) \_\_\_\_\_ w/Clock No. \_\_\_\_\_  
 (G) Final Shut-In Pressure 510 PSI Initial Opening 30 Final Flow 45  
 (H) Final Hydrostatic Mud 2240.4 PSI Initial Shut-In 45 Final Shut-In 60

Our Representative MR ROD STEINBRINK TOTAL PRICE \$ 600

11-10-66 68-PC-81



POINT This is an actual photograph of recorder chart PRESSURE

POINT	FIELD READING	OFFICE READING
(A) INITIAL HYDROSTATIC MUD	2243	2294.6
(B) FIRST INITIAL FLOW PRESSURE	31	45.7
(C) FIRST FINAL FLOW PRESSURE	41	58.2
(D) INITIAL CLOSED-IN PRESSURE	499	518.2
(E) SECOND INITIAL FLOW PRESSURE	62	106
(F) SECOND FINAL FLOW PRESSURE	72	80
(G) FINAL CLOSED-IN PRESSURE	499	510
(H) FINAL HYDROSTATIC MUD	2223	2240.4



INITIAL FLOW

RECORDER # 13339  
DST #5

DT(MIN)	PRESSURE	<> PRESSURE
0	45.7	45.7
3	47.8	2.099999
6	48.8	1
9	49.9	1.100002
12	52	2.099999
15	53	1
18	54.1	1.099999
21	55.1	1
24	56.1	1
27	57.1	1
30	58.2	1.100002

FINAL FLOW

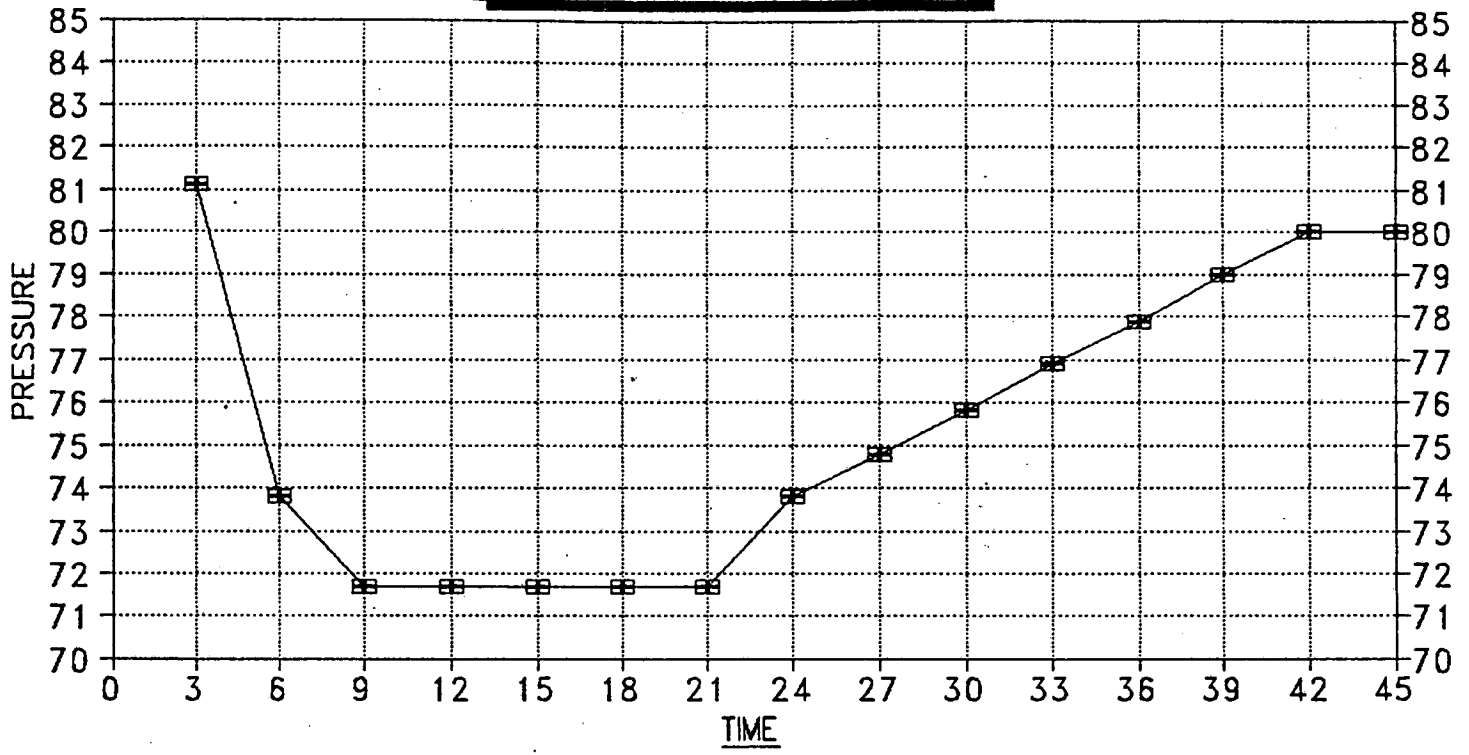
RECORDER # 13339  
DST #5

DT(MIN)	PRESSURE	<> PRESSURE
0	106	106
3	81.1	-24.9
6	73.8	-7.299996
9	71.7	-2.100006
12	71.7	0
15	71.7	0
18	71.7	0
21	71.7	0
24	73.8	2.100006
27	74.8	1
30	75.8	1
33	76.9	1.099999
36	77.9	1
39	79	1.099999
42	80	1
45	80	0

ORIGINAL

15-109-20500-00-00

**DELTA T DELTA P**  
DST #5-FINAL FLOW





AHRENS #2  
INITIAL

DST #5  
SHUTIN  
30 INITIAL FLOW TIME

-----  
Slope -289.91 psi/cycle  
P \* 582 psi  
-----

TIME(MIN)	Pws (psi)	Log		(>) PRESSURE
		Horn T	Horn T	
3	61.3	11	1.041	61.3
6	80.0	6	0.778	18.7
9	126.8	4	0.637	46.8
12	206.8	4	0.544	80.0
15	316.0	3	0.477	109.2
18	398.1	3	0.426	82.1
21	440.7	2	0.385	42.6
24	463.6	2	0.352	22.9
27	481.3	2	0.325	17.7
30	492.7	2	0.301	11.4
33	501.0	2	0.281	8.3
X 36	506	2	0.263	5.0
39	511	2	0.248	5.0
42	515	2	0.234	4.0
X 45	518	2	0.222	3.0

AHRENS #2  
FINAL

DST #5  
SHUTIN  
75 TOTAL FLOW TIME

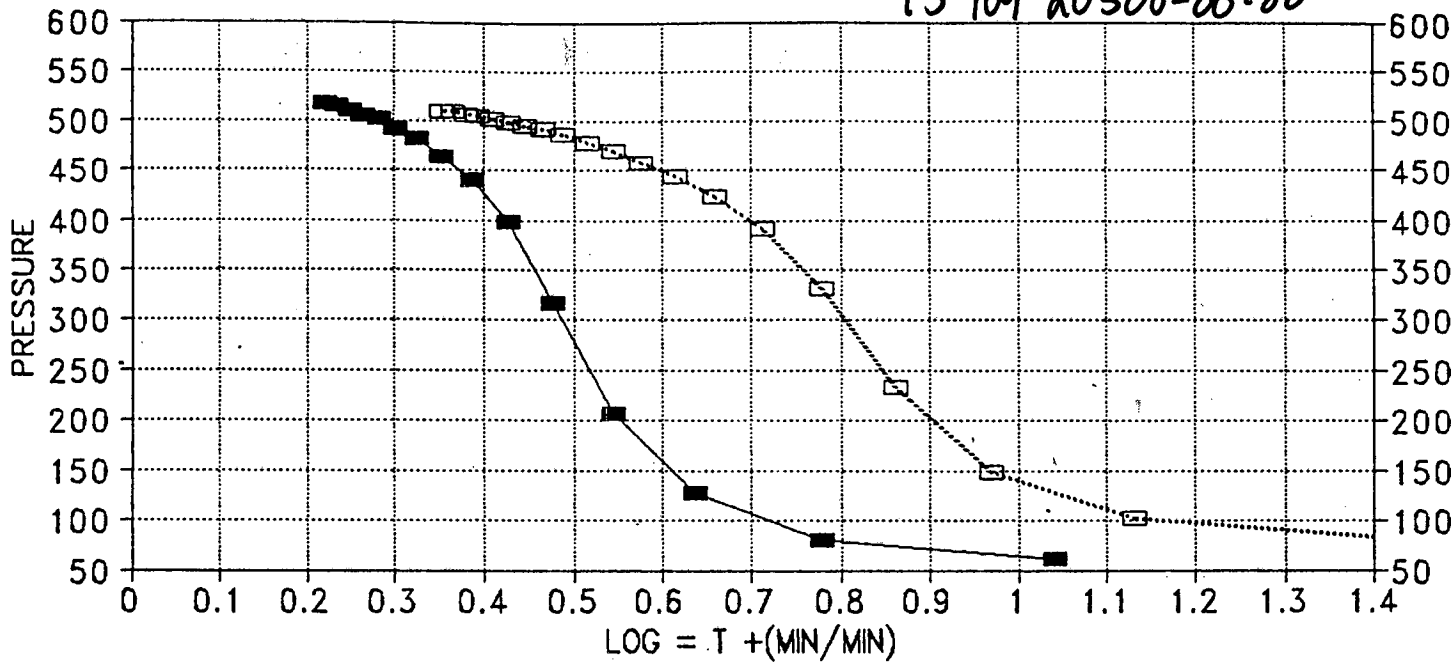
-----  
Slope -163.87 psi/cycle  
P \* 568 psi  
-----

TIME(MIN)	Pws (psi)	Log		(>) PRESSURE
		Horn T	Horn T	
3	83.2	26	1.415	83.2
6	101.9	14	1.130	18.7
9	148.6	9	0.970	46.7
12	232.8	7	0.860	84.2
15	330.6	6	0.778	97.8
18	391.9	5	0.713	61.3
21	423.0	5	0.660	31.1
24	442.8	4	0.615	19.8
27	458.4	4	0.577	15.6
30	469.9	4	0.544	11.5
33	478.2	3	0.515	8.3
36	486.5	3	0.489	8.3
39	491.6	3	0.466	5.1
X 42	494.8	3	0.445	3.2
45	499	3	0.426	4.2
48	502	3	0.409	3.0
51	505	2	0.393	3.0
54	507	2	0.378	2.0
57	509	2	0.365	2.0
X 60	510.0	2	0.352	1.0

# HORNER PLOT

# ORIGINAL

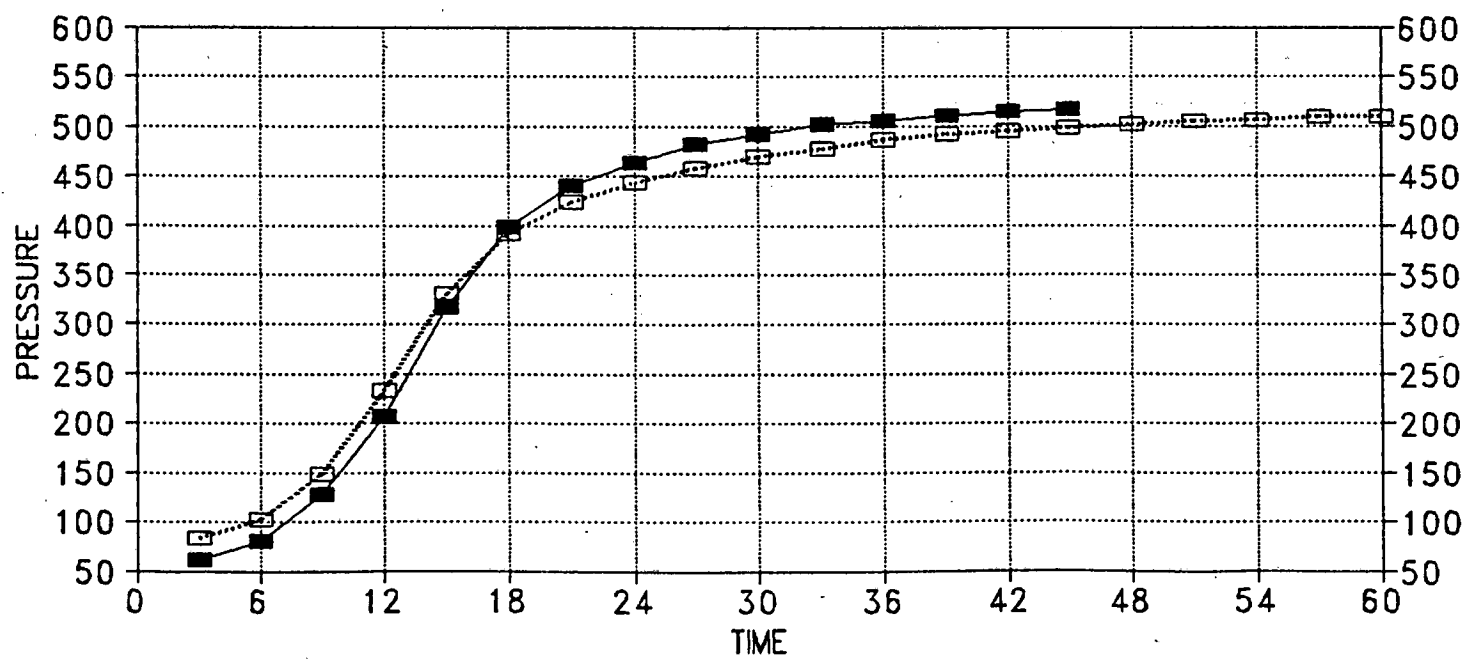
DST #5-AHRENS #2 15-109-20500-00-00



—■— INITIAL    ···□··· FINAL

# DELTA T DELTA P

DST #5-AHRENS #2



—■— INITIAL    ···□··· FINAL

# TRILOBITE TESTING COMPANY

P.O. Box 362 • Hays, Kansas 67601

No 3412

## Test Ticket

Well Name & No. Ahrens #2 Test No. 5 Date 3-1-91  
Company Vintage Petroleum Inc. Zone Tested Myrik Station  
Address 4200 One Williams Center Tulsa, OK 74172 Elevation 3144 (KB)  
Co. Rep./Geo. Greg/ Richard Robba cont. VAL Energy #1 Est. Ft. of Pay 8'  
Location: Sec. 21 Twp. 12 S Rge. 33 W Co. Logan State KS.  
No. of Copies 5 Distribution Sheet Yes  No Turnkey Yes  No Evaluation

Interval Tested 4535 - 4563 Drill Pipe Size 4 1/2" XH  
Anchor Length 28' Top Choke - 1" Bottom Choke - 3/4"  
Top Packer Depth 4530 Hole Size - 7 7/8" Rubber Size - 6 3/4"  
Bottom Packer Depth 4535 Wt. Pipe I.D. - 2.7 Ft. Run  
Total Depth 4563 Drill Collar - 2.25 Ft. Run  
Mud Wt. 9.3 lb/gal. Viscosity 42 Filtrate 11.2

Tool Open @ 5:50 pm Initial Blow Weak to Fair blow built to bottom in 17 mins.  
ISI: Bled off blow - No return  
Final Blow Fair return built to bottom in 14 mins.

Recovery - Total Feet	Feet of Gas in Pipe	Flush Tool?
Rec. <u>50'</u> Feet Of <u>SGHOCM</u> <u>5</u> %gas <u>40</u> %oil %water <u>55</u> %mud		<u>No</u>
Rec. _____ Feet Of _____ %gas %oil %water %mud		
Rec. <u>60'</u> Feet Of <u>VGMCO</u> <u>40</u> %gas <u>30</u> %oil %water <u>30</u> %mud		
Rec. _____ Feet Of _____ %gas %oil %water %mud		
Rec. _____ Feet Of _____ %gas %oil %water %mud		

BHT 114° °F Gravity \_\_\_\_\_ °API @ \_\_\_\_\_ °F Corrected Gravity \_\_\_\_\_ °API  
RW \_\_\_\_\_ @ \_\_\_\_\_ °F Chlorides \_\_\_\_\_ ppm Recovery Chlorides 7,300 ppm System  
(A) Initial Hydrostatic Mud 2243 PSI AK1 Recorder No. 13309 Range 4700  
(B) First Initial Flow Pressure 31 PSI @ (depth) 4537 w/Clock No. 27567  
(C) First Final Flow Pressure 41 PSI AK1 Recorder No. 13339 Range 4025  
(D) Initial Shut-In Pressure 499 PSI @ (depth) 4558 w/Clock No. 30418  
(E) Second Initial Flow Pressure 62 PSI AK1 Recorder No. \_\_\_\_\_ Range \_\_\_\_\_  
(F) Second Final Flow Pressure 72 PSI @ (depth) \_\_\_\_\_ w/Clock No. \_\_\_\_\_  
(G) Final Shut-In Pressure 499 PSI Initial Opening 30 Test 550.00  
(H) Final Hydrostatic Mud 2223 PSI Initial Shut-In 45 Jars \_\_\_\_\_

TRILOBITE TESTING COMPANY 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 SUBSTAINED, 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 45 Safety Joint  50.00  
Final Shut-in 60 Straddle \_\_\_\_\_  
Circ. Sub  n/c  
Sampler \_\_\_\_\_  
Extra Packer \_\_\_\_\_  
Other \_\_\_\_\_

Approved By Richard A. Robba  
Our Representative Rod Steinbrink

# TRILOBITE TESTING COMPANY

# ORIGINAL

P.O. Box 362 • Hays, Kansas 67601

15-109-20500-00-00

## Drill-Stem Test Data

Well Name AHRENS I #2 Test No. 6 Date 3/2/91  
 Company VINTAGE PETROLEUM INC Zone Tested FT SCOTT/CHER  
 Address 4200 ONE WILLIAMS CNTR TULSA OK Elevation 3144 KB  
 Co. Rep./Geo. MR GREG DEEVERS cont. VAL ENERGY #1 Est. Ft. of Pay 10  
 Location: Sec. 21 Twp. 12S Rge. 33W Co. LOGAN State KANSAS

Interval Tested 4563-4621  
 Anchor Length 58  
 Top Packer Depth 4558  
 Bottom Packer Depth 4563  
 Total Depth 4621

Drill Pipe Size 4.5 XH  
 Wt. Pipe I.D. - 2.7 Ft. Run \_\_\_\_\_  
 Drill Collar - 2.25 Ft. Run \_\_\_\_\_

Mud Wt. 9.2 lb / gal. Viscosity 48 Filtrate 11.2

Tool Open @ 11:22 PM Initial Blow FAIR TO STRONG BLOW OFF BOTTOM IN 7 MINUTES  
ISI: BLED OFF BLOW-SURFACE RETURN BUILT TO 8" THROUGHOUT  
 Final Blow FAIR RETURN BUILT TO BOTTOM IN 6 MINUTES

Recovery - Total Feet 200 Flush Tool? NO

Rec. 1590 Feet of GAS IN PIPE

Rec. 50 Feet of CLEAN GSY OIL-10%GAS/90%OIL

Rec. 30 Feet of GSY MUD CUT OIL-40%GAS/35%OIL/25%MUD

Rec. 60 Feet of GSY MUD CUT OIL-50%GAS/30%OIL/20%MUD

Rec. 60 Feet of VERY GSY MUD CUT OIL-60%GAS/20%OIL/20%MUD

BHT 116 °F Gravity 35 °API @ 58 °F Corrected Gravity 35.2 °API

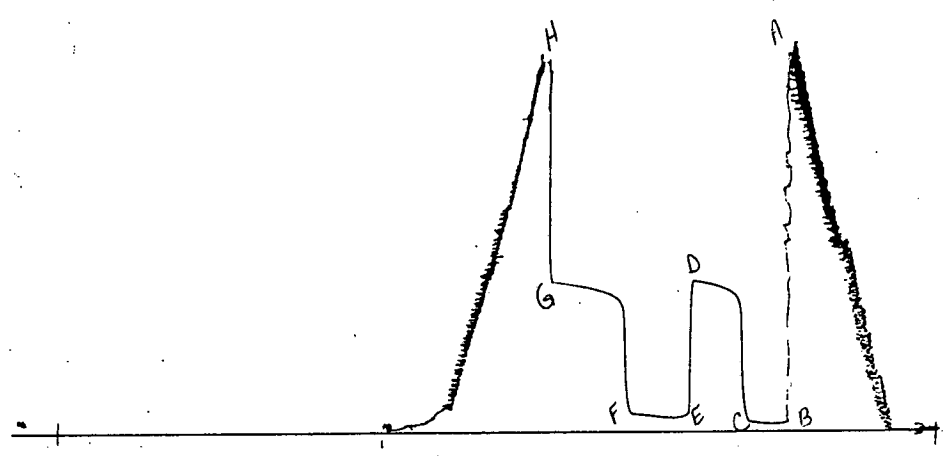
RW \_\_\_\_\_ @ \_\_\_\_\_ °F Chlorides \_\_\_\_\_ ppm Recovery Chlorides \_\_\_\_\_ ppm System

- (A) Initial Hydrostatic Mud 2283.5 PSI Ak1 Recorder No. 13309 Range 4700
- (B) First Initial Flow Pressure 59.2 PSI @ (depth) 4565 w/Clock No. 27567
- (C) First Final Flow Pressure 74.8 PSI Ak1 Recorder No. 13339 Range 4025
- (D) Initial Shut-in Pressure 918.8 PSI @ (depth) 4616 w/Clock No. 30418
- (E) Second Initial Flow Pressure 118.5 PSI Ak1 Recorder No. \_\_\_\_\_ Range \_\_\_\_\_
- (F) Second Final Flow Pressure 114.3 PSI @ (depth) \_\_\_\_\_ w/Clock No. \_\_\_\_\_
- (G) Final Shut-in Pressure 892.7 PSI Initial Opening 30 Final Flow 45
- (H) Final Hydrostatic Mud 2240.4 PSI Initial Shut-in 45 Final Shut-in 60

Our Representative MR ROD STEINBRINK TOTAL PRICE \$ 600

01-11-205-107-21

DST #6  
13309



POINT This is an actual photograph of recorder chart PRESSURE

POINT	FIELD READING	OFFICE READING
(A) INITIAL HYDROSTATIC MUD	2243	2283.5
(B) FIRST INITIAL FLOW PRESSURE	41	59.2
(C) FIRST FINAL FLOW PRESSURE	62	74.8
(D) INITIAL CLOSED-IN PRESSURE	909	918.8
(E) SECOND INITIAL FLOW PRESSURE	83	118.5
(F) SECOND FINAL FLOW PRESSURE	93	114.3
(G) FINAL CLOSED-IN PRESSURE	879	892.7
(H) FINAL HYDROSTATIC MUD	2213	2240.4

ORIGINAL

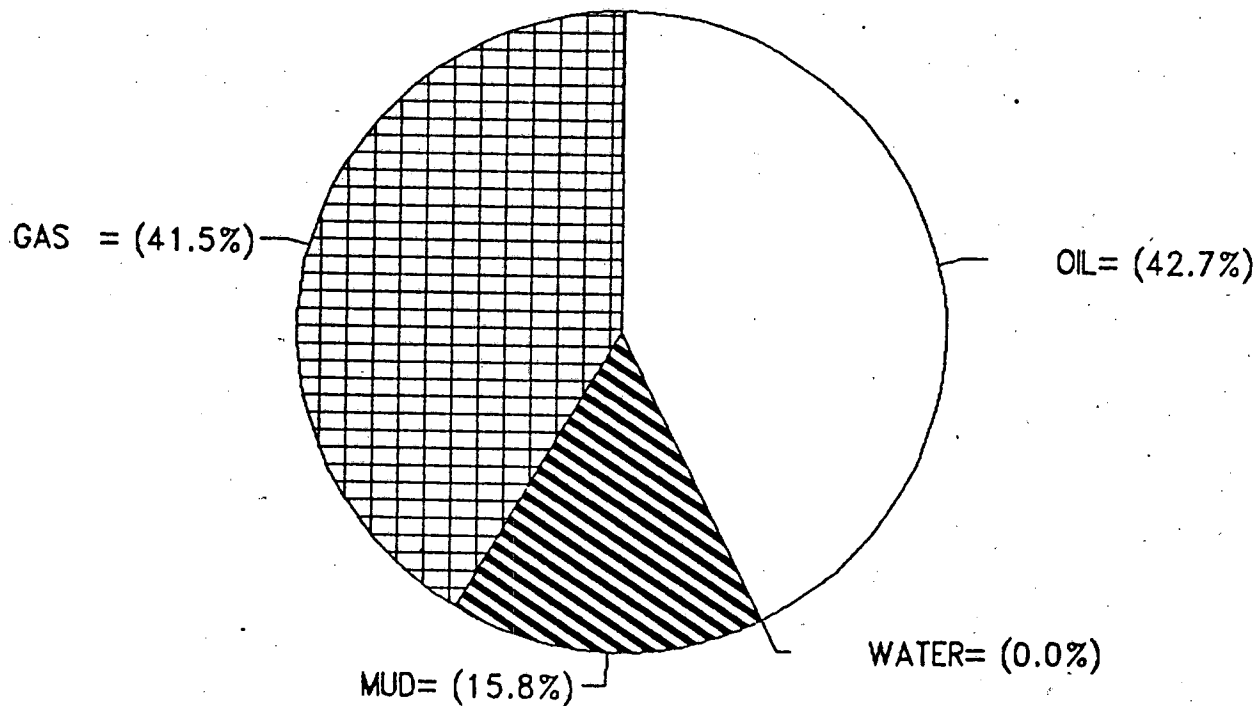
CALCULATED RECOVERY ANALYSIS

DST # 6 3412 TICKET # 3413

15-109-20500-00-00

SAMPLE #	TOTAL		GAS		OIL		WATER		MUD	
	FEET	%	FEET	%	FEET	%	FEET	%	FEET	%
DRILL 1	50	10	5	90	45	0	0	0	0	0
PIPE 2	30	40	12	35	10.5	0	0	25	7.5	0
3	60	50	30	30	18	0	0	20	12	0
4	60	60	36	20	12	0	0	20	12	0
5			0		0		0		0	
WEIGHT 1			0		0		0		0	
PIPE 2			0		0		0		0	
3			0		0		0		0	
4			0		0		0		0	
DRILL 1			0		0		0		0	
COLLAR 2			0		0		0		0	
3			0		0		0		0	
4			0		0		0		0	
TOTAL			83		85.5		0		31.5	

BBL OIL= 1.21581 \* HRS OPEN BBL/DAY 1.25 23.3436  
BBL WATER 0 \* 0  
BBL MUD= 0.44793



COMPUTER EVALUATION BY TRILOBITE TESTING  
VINTAGE PETROLEUM INC.

REPORT FOR DST#6 FOR THE AHRENS I #2

21-12S-33W

LOGAN KS

\*\*\*\*\*

TEST PARAMETERS

ELEVATION: 3144 KB EST. PAY: 10 FT  
DATUM: -1473 ZONE TESTED: FT SCOTT-CHEROKEE  
TEST INTERVAL: 4563-4621  
RECORDER DEPTH: 4616 TIME INTERVALS: 30-45-45-60  
BOTTOM HOLE TEMP: 116 VISCOSITY: 4.715216 CP  
HOLE SIZE: 7.875 IN

\*\*\*\*\*

CALCULATIONS

CUBIC FEET OF GAS IN PIPE: 126.9446  
TOTAL FEET OF RECOVERY: 200  
BARRELS IN DRILL PIPE: 2.844  
GAS OIL RATIO: 44.63594 CU.FT./BBL  
BUBBLE POINT PRESSURE: ; 2.396238  
TOTAL BARRELS OF RECOVERY: 2.844  
API GRAVITY: 35 UNCORR. INIT. PROD.: 54.6048 BBL/DAY  
CORRECTED PIPE FILLUP: 310.5979 FLUID GRADIENT: .368  
CORR. BARRELS OF RECOVERY: 4.408201 BBL  
INITIAL PRODUCTION CORRECTED TO FINAL FLOW PRESSURE: 84.63745 BBL/DAY  
INITIAL PRODUCTION CORRECTED TO PSEUDO STEADY FLOW STATE  
35.17227

\*\*\*\*\*

INITIAL SLOPE 251.1 PSI/CYCLE  
INITIAL P\* 975 PSI

FINAL SLOPE 179.28 PSI/CYCLE  
FINAL P\* 956 PSI

\*\*\*\*\*

TRANSMISSIBILITY 76.76289 (MD.-FT./CP.)  
PERMEABILITY 36.19536 (MD.)  
INDICATED FLOW CAPACITY 361.9536 (MD.FT)  
PRODUCTIVITY INDEX 8.674206E-02 (BARRELS/DAY/PSI)  
DAMAGE RATIO .859165  
RADIUS OF INVESTIGATION 52.10232 (FT.)  
POTENTIOMETRIC SURFACE 744.9639 (FT.)  
DRAWDOWN FACTOR 1.94872 (%)

INITIAL FLOW

ORIGINAL

RECORDER # 13339

DST #6

15-109-20500-00-00

DT(MIN)	PRESSURE	( ) PRESSURE
0	59.2	59.2
3	59.2	0
6	59.2	0
9	60.3	1.099999
12	62.4	2.100002
15	64.4	2
18	66.5	2.099999
21	68.6	2.099999
24	70.7	2.099999
27	72.8	2.100006
30	74.8	2

FINAL FLOW

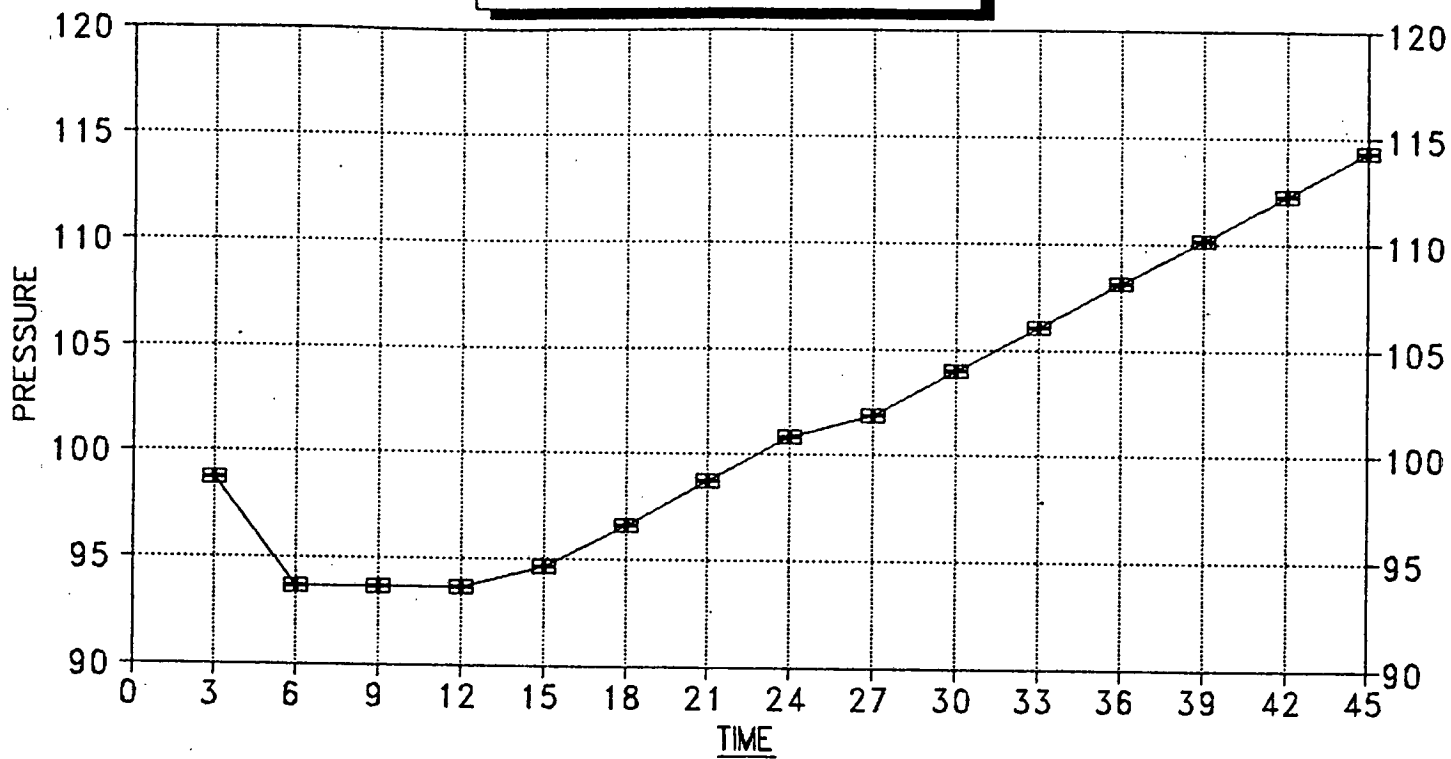
RECORDER # 13339

DST #6

DT(MIN)	PRESSURE	( ) PRESSURE
0	118.5	118.5
3	98.7	-19.8
6	93.6	-5.099999
9	93.6	0
12	93.6	0
15	94.6	1
18	96.6	2
21	98.7	2.099999
24	100.8	2.100006
27	101.9	1.099999
30	104	2.099999
33	106	2
36	108.1	2.099999
39	110.2	2.099999
42	112.3	2.100006
45	114.3	2



DELTA T DELTA P  
FINAL FLOW-DST #6



INITIAL PRODUCTION CORRECTED TO PSEUDO STEADY FLOW STATE 35.17227 BBL/DAY

15-109-20500-00-00

AHRENS #2  
INITIAL

DST #6  
SHUTIN  
30 INITIAL FLOW TIME

Slope -251.10 psi/cycle  
P \* 975 psi

Log

TIME(MIN)	Pws (psi)	Horn T	Horn T	<> PRESSURE
3	91.5	11	1.041	91.5
6	242.2	6	0.778	150.7
9	771.5	4	0.637	529.3
12	834.6	4	0.544	63.1
X 15	854.7	3	0.477	20.1
18	868.7	3	0.426	14.0
21	877.7	2	0.385	9.0
24	884.7	2	0.352	7.0
27	891.7	2	0.325	7.0
30	896.8	2	0.301	5.1
33	901.8	2	0.281	5.0
36	905.8	2	0.263	4.0
39	910.8	2	0.248	5.0
42	915.8	2	0.234	5.0
X 45	918.8	2	0.222	3.0

AHRENS #2  
FINAL

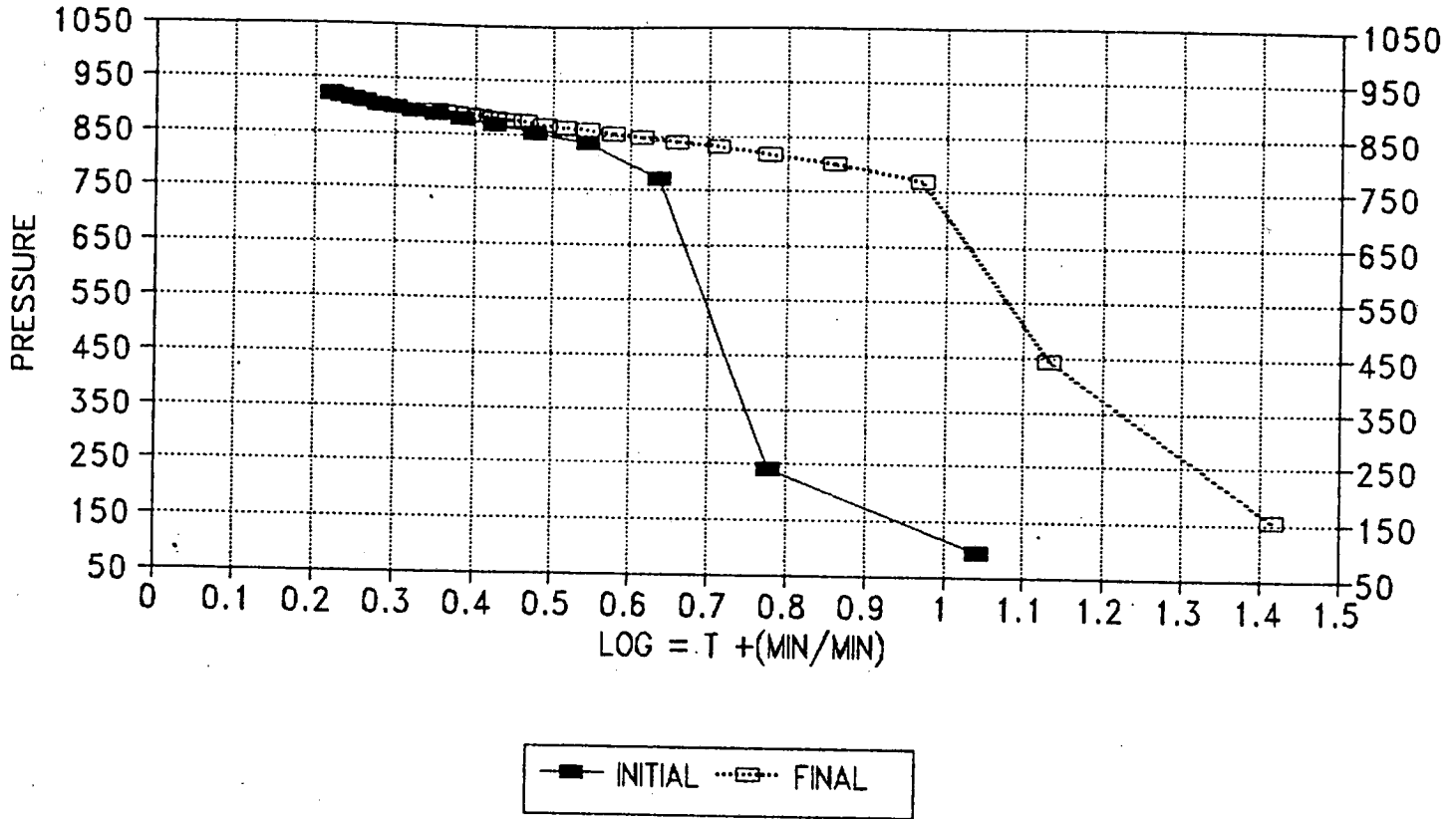
DST #6  
SHUTIN  
75 TOTAL FLOW TIME

Slope -179.28 psi/cycle  
P \* 956 psi

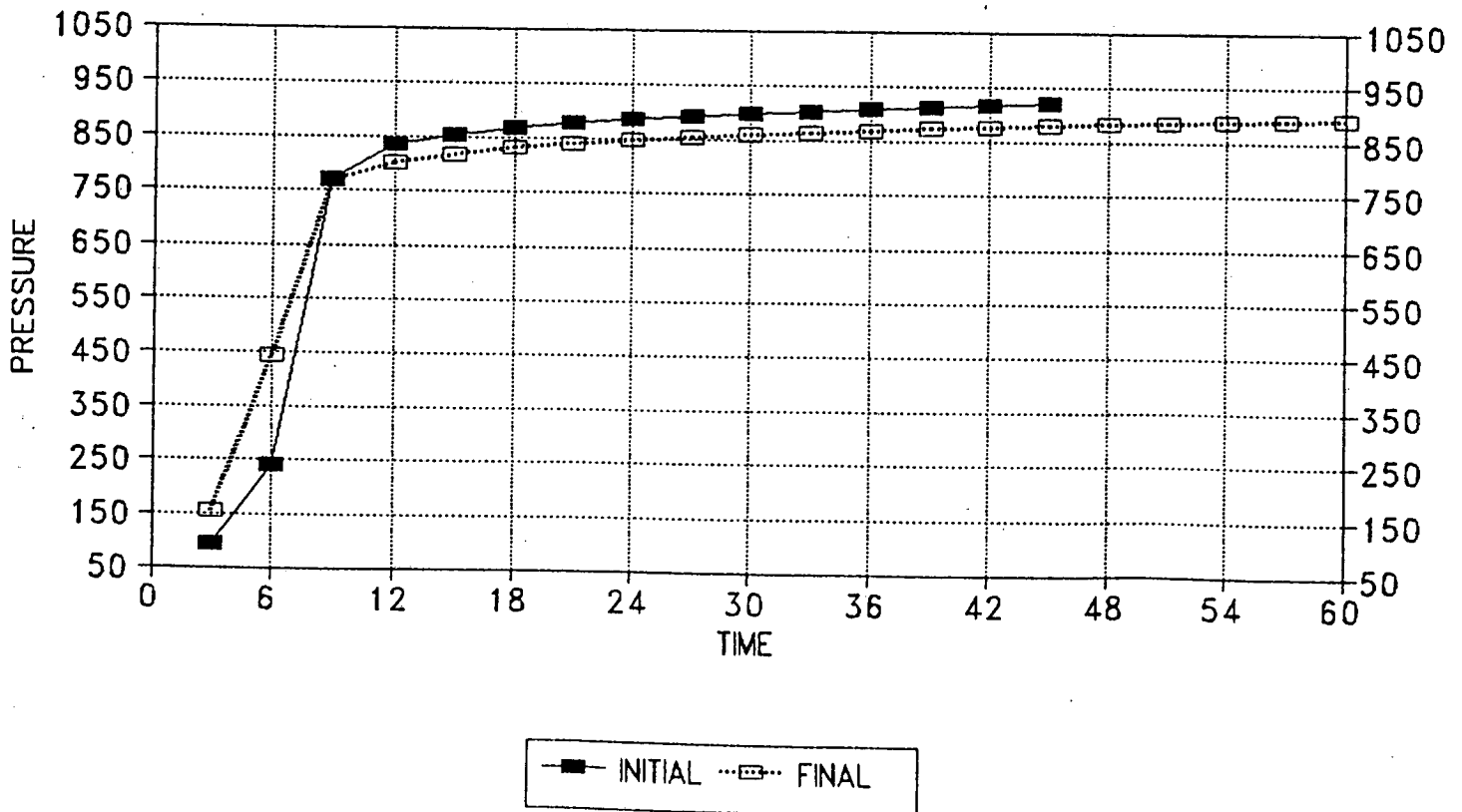
Log

TIME(MIN)	Pws (psi)	Horn T	Horn T	<> PRESSURE
3	154.8	26	1.415	154.8
6	442.8	14	1.130	288.0
9	770.5	9	0.970	327.7
X 12	801.6	7	0.860	31.1
15	817.6	6	0.778	16.0
18	831.6	5	0.713	14.0
21	839.6	5	0.660	8.0
24	847.7	4	0.615	8.1
27	853.7	4	0.577	6.0
30	859.7	4	0.544	6.0
33	864.7	3	0.515	5.0
36	868.7	3	0.489	4.0
39	872.7	3	0.466	4.0
42	875.7	3	0.445	3.0
45	879.7	3	0.426	4.0
48	882.7	3	0.409	3.0
51	885.7	2	0.393	3.0
54	888.7	2	0.378	3.0
57	890.7	2	0.365	2.0
X 60	892.7	2	0.352	2.0

057-3-0008-1000/HORNER PLOT  
DST #6-AHRENS #2



DELTA T DELTA P  
DST #6-AHRENS #2



15-109-20500-00-00

# TRILOBITE TESTING COMPANY ORIGINAL

P.O. Box 362 • Hays, Kansas 67601

N<sup>o</sup> 3413

## Test Ticket

Well Name & No. Ahrens I #2 Test No. 6 Date 3-2-91  
 Company Vintage Petroleum, Inc. Zone Tested Ft. Scott/Cherokee  
 Address 4200 One Williams Center Tulsa, OK 74172 Elevation 3144 (KB)  
 Co. Rep./Geo. Greg/Richard Robba cont. VAL Energy #1 Est. Ft. of Pay 10'  
 Location: Sec. 21 Twp. 12 S Rge. 33 W Co. Logan State KS.  
 No. of Copies 5 Distribution Sheet Yes  No Turnkey Yes  No Evaluation

Interval Tested 4563 - 4621 Drill Pipe Size 4 1/2" x H  
 Anchor Length 58' Top Choke - 1" \_\_\_\_\_ Bottom Choke - 3/4" \_\_\_\_\_  
 Top Packer Depth 4558 Hole Size - 77/8" \_\_\_\_\_ Rubber Size - 6 3/4" \_\_\_\_\_  
 Bottom Packer Depth 4563 Wt. Pipe I.D. - 2.7 Ft. Run \_\_\_\_\_  
 Total Depth 4621 Drill Collar - 2.25 Ft. Run \_\_\_\_\_  
 Mud Wt. 9.2 lb/gal. Viscosity 48 Filtrate 11.2  
 Tool Open @ 11:22 pm Initial Blow Fair to strong blow off bottom in 7 mins.  
ISI: Bled off blow - surface return built to .8" throughout.  
 Final Blow Fair return built to bottom in 6 mins.

Recovery - Total Feet	Feet of Gas in Pipe	Flush Tool?
<u>200'</u>	<u>1590'</u>	<u>No</u>
Rec. <u>50'</u> Feet Of <u>CGO</u>	<u>10</u> %gas <u>90</u> %oil	%water _____ %mud _____
Rec. <u>30'</u> Feet Of <u>VGMCO</u>	<u>40</u> %gas <u>35</u> %oil	%water <u>25</u> %mud _____
Rec. <u>60'</u> Feet Of <u>VGMCO</u>	<u>50</u> %gas <u>30</u> %oil	%water <u>20</u> %mud _____
Rec. <u>60'</u> Feet Of <u>VGMCO</u>	<u>60</u> %gas <u>20</u> %oil	%water <u>20</u> %mud _____
Rec. _____ Feet Of _____	%gas _____ %oil _____	%water _____ %mud _____

BHT 116° °F Gravity 35 °API @ 58° °F Corrected Gravity 35.2 °API  
 RW \_\_\_\_\_ @ \_\_\_\_\_ °F Chlorides \_\_\_\_\_ ppm Recovery Chlorides \_\_\_\_\_ ppm System

(A) Initial Hydrostatic Mud 2243 PSI AK1 Recorder No. 13309 Range 4700  
 (B) First Initial Flow Pressure 41 PSI @ (depth) 4565 w/Clock No. 27567  
 (C) First Final Flow Pressure 62 PSI AK1 Recorder No. 13339 Range 4025  
 (D) Initial Shut-In Pressure 909 PSI @ (depth) 4616 w/Clock No. 30418  
 (E) Second Initial Flow Pressure 83 PSI AK1 Recorder No. \_\_\_\_\_ Range \_\_\_\_\_  
 (F) Second Final Flow Pressure 93 PSI @ (depth) \_\_\_\_\_ w/Clock No. \_\_\_\_\_  
 (G) Final Shut-In Pressure 879 PSI Initial Opening 30 Test 550.00  
 (H) Final Hydrostatic Mud 2213 PSI Initial Shut-In 45 Jars \_\_\_\_\_

Final Flow 45 Safety Joint  50.00  
 Final Shut-In 60 Straddle \_\_\_\_\_  
 Circ. Sub  n/c  
 Sampler \_\_\_\_\_  
 Extra Packer \_\_\_\_\_  
 Other \_\_\_\_\_

TRILOBITE TESTING COMPANY 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 SUBSTAINED, 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 Richard A. Robba  
 Our Representative Rod Steinbrink

TOTAL PRICE \$ 600.00

# TRILOBITE TESTING COMPANY

P.O. Box 362 • Hays, Kansas 67601

## Drill-Stem Test Data

Well Name AHRENS I #2 Test No. 7 Date 3/3/91  
Company VINTAGE PETROLEUM INC Zone Tested JOHNSON  
Address 4200 ONE WILLIAMS CNTR TULSA OK Elevation 3144 KB  
Co. Rep./Geo. MR GREG DEEVERS cont. VAL ENERGY #1 Est. Ft. of Pay 8  
Location: Sec. 21 Twp. 12S Rge. 33W Co. LOGAN State KANSAS

Interval Tested 4620-4680  
Anchor Length 60  
Top Packer Depth 4615  
Bottom Packer Depth 4620  
Total Depth 4680

Drill Pipe Size 4.5 XH  
Wt. Pipe I.D. - 2.7 Ft. Run \_\_\_\_\_  
Drill Collar - 2.25 Ft. Run \_\_\_\_\_

Mud Wt. 9.3 lb / gal. Viscosity 47 Filtrate 10

Tool Open @ 3:03 AM Initial Blow SURFACE BLOW BUILT TO BOTTOM IN 9 MINUTES-  
ISI: BLEED OFF BLOW-SURFACE RETURN BUILT TO 1" THROUGHOUT  
Final Blow FAIR RETURN BUILT TO BOTTOM IN 6 MINUTES

Recovery - Total Feet 280 Flush Tool? NO

Rec. 40 Feet of GSY OIL CUT MUD-10%GAS/5%OIL/85%MUD

Rec. 60 Feet of GSY OIL CUT MUD-25%GAS/10%OIL/65%MUD

Rec. 180 Feet of VERY GSY OIL CUT MUD-45%GAS/10%OIL/45%MUD

Rec. \_\_\_\_\_ Feet of \_\_\_\_\_

Rec. \_\_\_\_\_ Feet of \_\_\_\_\_

BHT 104 °F Gravity \_\_\_\_\_ °API @ \_\_\_\_\_ °F Corrected Gravity \_\_\_\_\_ °API

RW \_\_\_\_\_ @ \_\_\_\_\_ °F Chlorides \_\_\_\_\_ ppm Recovery Chlorides 8100 ppm System

(A) Initial Hydrostatic Mud 2287.5 PSI AK1 Recorder No. 13309 Range 4700

(B) First Initial Flow Pressure 75.8 PSI @ (depth) 4623 w/Clock No. 27567

(C) First Final Flow Pressure 113.3 PSI AK1 Recorder No. 13339 Range 4025

(D) Initial Shut-in Pressure 821.6 PSI @ (depth) 4675 w/Clock No. 30418

(E) Second Initial Flow Pressure 149.7 PSI AK1 Recorder No. \_\_\_\_\_ Range \_\_\_\_\_

(F) Second Final Flow Pressure 168.4 PSI @ (depth) \_\_\_\_\_ w/Clock No. \_\_\_\_\_

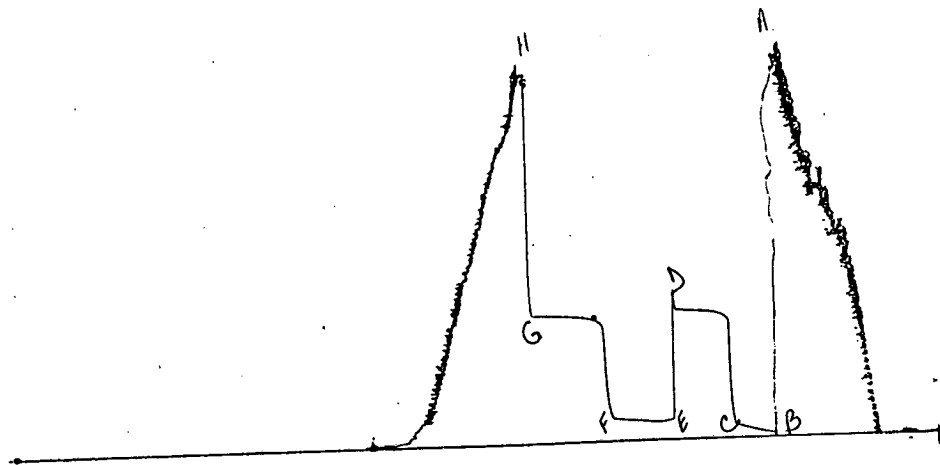
(G) Final Shut-in Pressure 808.6 PSI Initial Opening 30 Final Flow 45

(H) Final Hydrostatic Mud 2237.4 PSI Initial Shut-in 45 Final Shut-in 60

Our Representative MR ROD STEINBRINK TOTAL PRICE \$ 600

DST #7

13309



This is an actual photograph of recorder chart  
PRESSURE

POINT

FIELD  
READING

OFFICE  
READING

POINT	FIELD READING	OFFICE READING
(A) INITIAL HYDROSTATIC MUD	2323	2287.5
(B) FIRST INITIAL FLOW PRESSURE	52	75.8
(C) FIRST FINAL FLOW PRESSURE	83	113.3
(D) INITIAL CLOSED-IN PRESSURE	799	821.6
(E) SECOND INITIAL FLOW PRESSURE	124	149.7
(F) SECOND FINAL FLOW PRESSURE	145	168.4
(G) FINAL CLOSED-IN PRESSURE	789	808.6
(H) FINAL HYDROSTATIC MUD	2243	2237.4

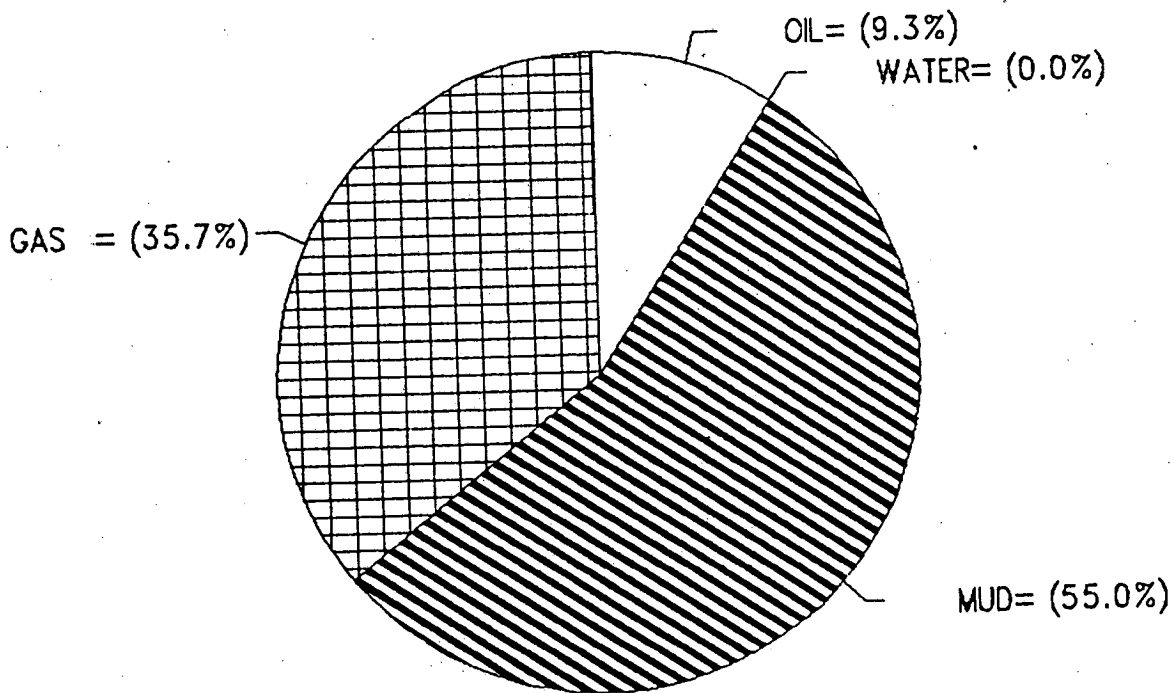
CALCULATED RECOVERY ANALYSIS

DST # 7 3412 TICKET # 3414

SAMPLE #	TOTAL FEET	GAS		OIL		WATER		MUD	
		%	FEET	%	FEET	%	FEET	%	FEET
DRILL 1	40	10	4	5	2	0	0	85	34
PIPE 2	60	25	15	10	6	0	0	65	39
3	180	45	81	10	18	0	0	45	81
4			0		0		0		0
5			0		0		0		0
WEIGHT 1			0		0		0		0
PIPE 2			0		0		0		0
3			0		0		0		0
4			0		0		0		0
DRILL 1			0		0		0		0
COLLAR 2			0		0		0		0
3			0		0		0		0
4			0		0		0		0
TOTAL			100		26		0		154

HRS OPEN BBL/DAY

BBL OIL= 0.36972 \* 1.25 7.09862  
 BBL WATER 0 \* 0  
 BBL MUD= 2.18988



INITIAL FLOW

15-109-20500-00-00

ORIGINAL

RECORDER # 13339  
DST #7

DT(MIN)	PRESSURE	<> PRESSURE
0	75.8	75.8
3	70.7	-5.100006
6	70.7	0
9	73.8	3.100006
12	79	5.199997
15	83.2	4.199997
18	88.3	5.100006
21	94.6	6.299996
24	101.9	7.300003
27	107	5.099999
30	113.3	6.300003

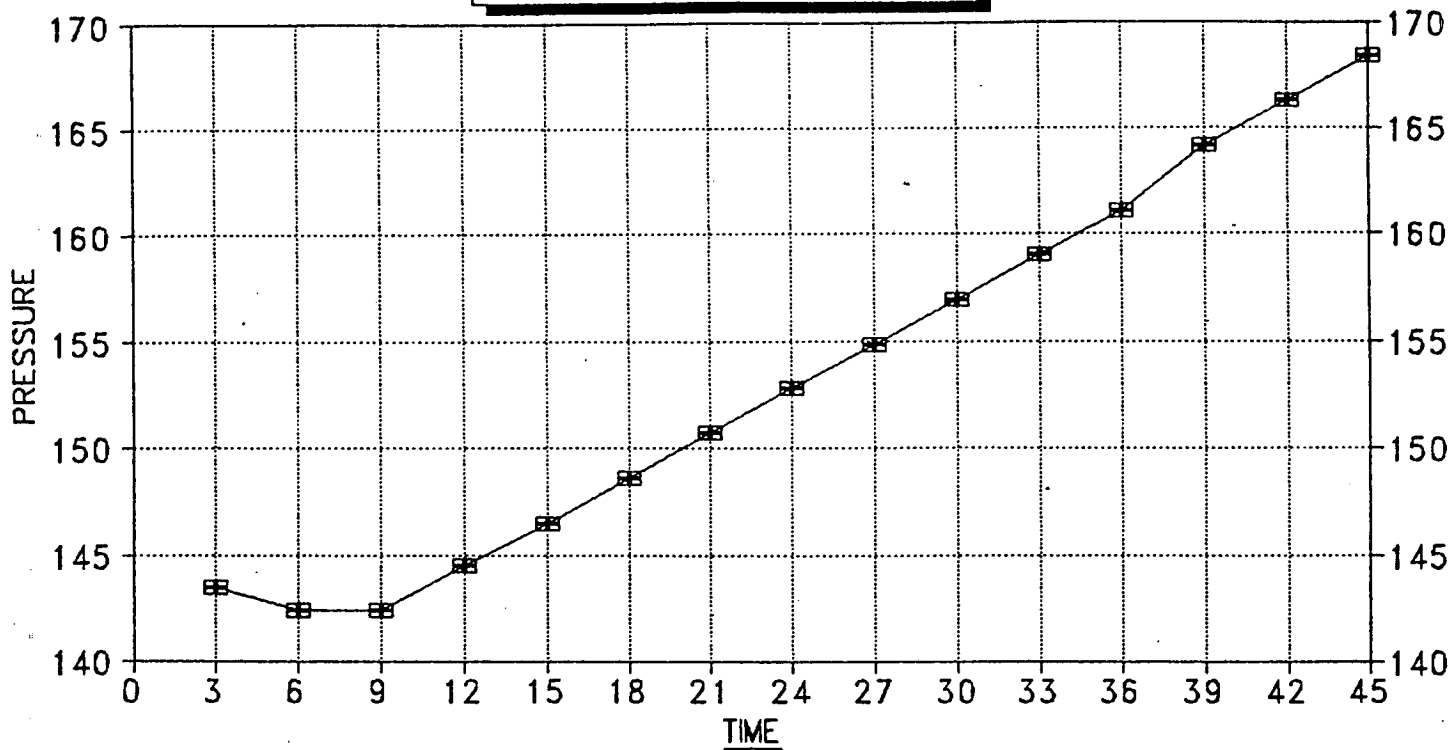
FINAL FLOW

RECORDER # 13339  
DST #7

DT(MIN)	PRESSURE	<> PRESSURE
0	149.7	149.7
3	143.5	-6.199997
6	142.4	-1.100006
9	142.4	0
12	144.5	2.100006
15	146.5	2
18	148.6	2.100006
21	150.7	2.099991
24	152.8	2.100006
27	154.8	2
30	156.9	2.099991
33	159	2.100006
36	161.1	2.100006
39	164.2	3.099991
42	166.3	2.100006
45	168.4	2.099991



DELTA T DELTA P  
FINAL FLOW-DST #7



AHRENS #2  
INITIAL

DST #7  
SHUTIN  
30 INITIAL FLOW TIME

Slope -90.06 psi/cycle  
P \* 842 psi

X

TIME(MIN)	Pws (psi)	Horn T	Log Horn T	( ) PRESSURE
3	249.5	11	1.041	249.5
6	771.5	6	0.778	522.0
9	787.5	4	0.637	16.0
12	796.6	4	0.544	9.1
15	801.6	3	0.477	5.0
18	806.6	3	0.426	5.0
21	808.6	2	0.385	2.0
24	810.6	2	0.352	2.0
27	812.6	2	0.325	2.0
30	814.6	2	0.301	2.0
33	815.6	2	0.281	1.0
36	816.6	2	0.263	1.0
39	817.6	2	0.248	1.0
42	819.6	2	0.234	2.0
45	821.6	2	0.222	2.0

X

AHRENS #2  
FINAL

DST #7  
SHUTIN  
75 TOTAL FLOW TIME

Slope -85.94 psi/cycle  
P \* 839 psi

X

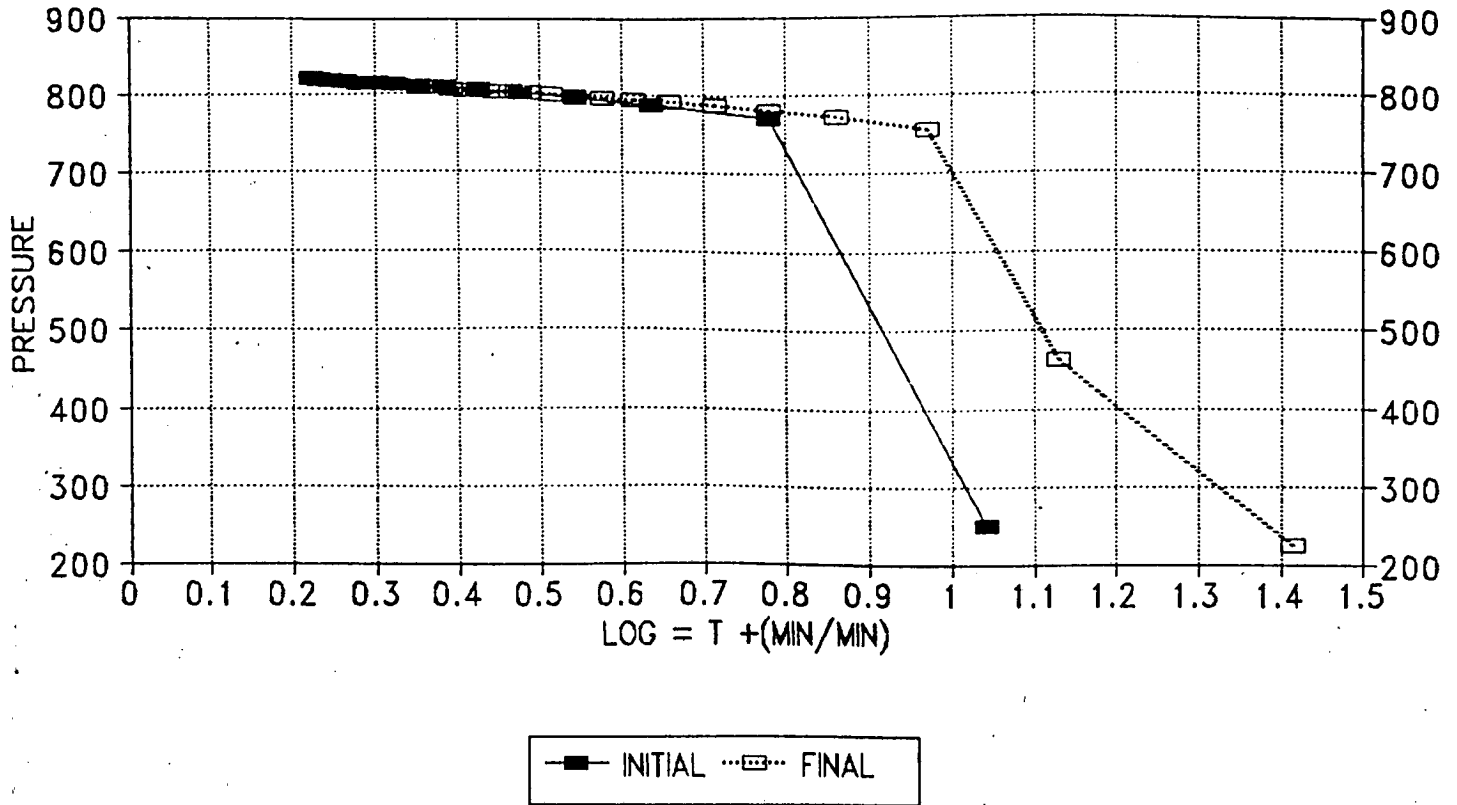
TIME(MIN)	Pws (psi)	Horn T	Log Horn T	( ) PRESSURE
3	224.5	26	1.415	224.5
6	463.6	14	1.130	239.1
9	755.5	9	0.970	291.9
12	772.5	7	0.860	17.0
15	781.5	6	0.778	9.0
18	787.5	5	0.713	6.0
21	791.5	5	0.660	4.0
24	794.5	4	0.615	3.0
27	796.6	4	0.577	2.1
30	798.6	4	0.544	2.0
33	800.6	3	0.515	2.0
36	801.6	3	0.489	1.0
39	802.6	3	0.466	1.0
42	803.6	3	0.445	1.0
45	804.6	3	0.426	1.0
48	805.6	3	0.409	1.0
51	806.6	2	0.393	1.0
54	807.6	2	0.378	1.0
57	808.6	2	0.365	1.0
60	808.6	2	0.352	0.0

X

CO-10-10205-101-11

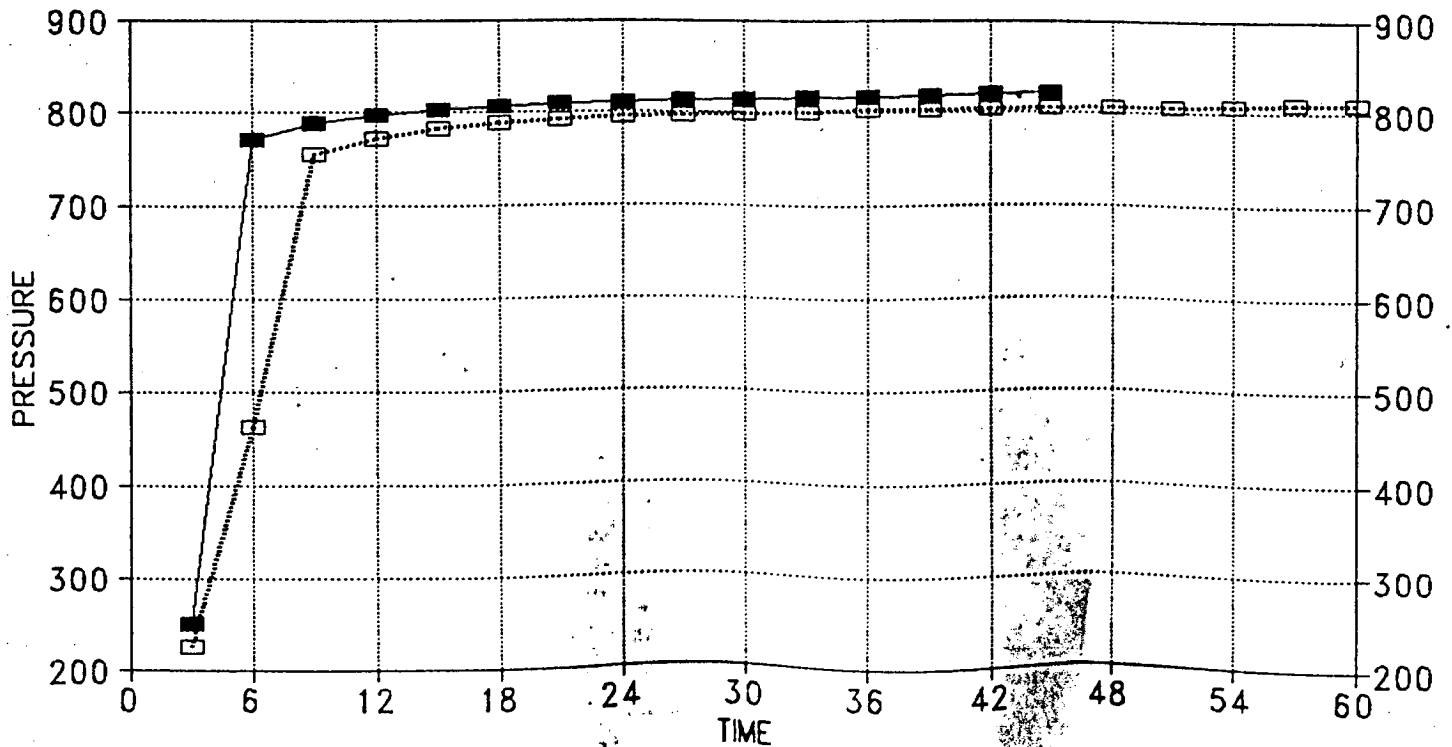
# HORNER PLOT

DST #7-AHRENS I #2



# DELTA T DELTA P

DST #7-AHRENS I #2



# TRILOBITE TESTING COMPANY

P.O. Box 362 • Hays, Kansas 67601

# ORIGINAL

N<sup>o</sup> 3414

## Test Ticket

15-109-20500-00-00

Well Name & No.	Ahrens I #2	Test No.	7	Date	3.3.91
Company	Vintage Petroleum Inc.	Zone Tested	Johnson		
Address	4200 One Williams Center Tulsa, Ok. 74172	Elevation	3144 (KB)		
Co. Rep./Geo.	Greg/Richard Robba cont.	VAL Energy #1	Est. Ft. of Pay 8'		
Location: Sec.	21	Twp.	12 S	Rge.	33 W
		co.	Logan	State	KS
No. of Copies	5	Distribution Sheet	Yes <input checked="" type="checkbox"/>	No <input checked="" type="checkbox"/>	Turnkey Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Evaluation

Interval Tested	4620 - 4680	Drill Pipe Size	4 1/2" xH
Anchor Length	60'	Top Choke - 1"	Bottom Choke - 3/4"
Top Packer Depth	4615	Hole Size - 7 7/8"	Rubber Size - 6 3/4"
Bottom Packer Depth	4620	Wt. Pipe I.D. - 2.7 Ft. Run	
Total Depth	4680	Drill Collar - 2.25 Ft. Run	
Mud Wt.	9.3 lb/gal.	Viscosity	47
		Filtrate	10.0
Tool Open @	3:03 am	Initial Blow	Surface blow built to bottom in 9 mins
		ISI:	Bled off blow - Surface return. built to 1" throughout.
Final Blow	Strong return off bottom in 10 mins.		

Recovery - Total Feet	Feet of Gas in Pipe	Flush Tool?
280'		No
Rec. 40'	Feet Of GSOCDM	10 %gas 5 %oil %water 85 %mud
Rec. 60'	Feet Of GOCM	25 %gas 10 %oil %water 65 %mud
Rec. 180'	Feet Of VGDCM	45 %gas 10 %oil %water 45 %mud

BHT 104° °F Gravity \_\_\_\_\_ °API @ \_\_\_\_\_ °F Corrected Gravity \_\_\_\_\_ °API

RW \_\_\_\_\_ @ \_\_\_\_\_ °F Chlorides \_\_\_\_\_ ppm Recovery Chlorides 8,100 ppm System

(A) Initial Hydrostatic Mud	2323	PSI	AK1 Recorder No.	13309	Range	4700
(B) First Initial Flow Pressure	52	PSI	@(depth)	4623	w/Clock No.	27567
(C) First Final Flow Pressure	83	PSI	AK1 Recorder No.	13339	Range	4025
(D) Initial Shut-In Pressure	799	PSI	@(depth)	4675	w/Clock No.	30418
(E) Second Initial Flow Pressure	124	PSI	AK1 Recorder No.		Range	
(F) Second Final Flow Pressure	145	PSI	@(depth)		w/Clock No.	
(G) Final Shut-In Pressure	789	PSI	Initial Opening	30	Test	550.00
(H) Final Hydrostatic Mud	2243	PSI	Initial Shut-In	45	Jars	

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Final Flow	45	Safety Joint	<input checked="" type="checkbox"/> 50.00
Final Shut-In	60	Straddle	
		Circ. Sub	<input checked="" type="checkbox"/> w/c
		Sampler	
		Extra Packer	
		Other	
		TOTAL PRICE \$	600.00

Approved By Gary Rowe

Our Representative Rod Steinbrink



P.O. Box 4442  
Houston, Tx. 77210

# ORIGINAL SERVICE OPERATIONS CONTRACT

TERMS NET 30 DAYS FROM DATE OF CONTRACT

REMIT TO: P.O. Box 100806, Houston, Tx. 77212

DATE	2-21-91		SERVICE CONTRACT NO.	610091	
NEW WELL	Y	WELL TYPE	0	JOB NUMBER	
WELL NO.	2		LEASE NAME & FEDERAL OFFSHORE LEASE NO.	Alicrens I	
COUNTY/PARISH	Logan		STATE	LA	
FIELD NAME			CITY CODE	14	
WELL OWNLR			MTA CODE		

CUSTOMER ACCOUNT NO.	9777 (2)		DIST. NAME	Oakley	
CUSTOMER	Vintage Petroleum		DIST. NUMBER	585	
ADDRESS	Box K				
CITY	Ness City		STATE	La.	
AUTHORIZED BY:	GARY ROWE		ZIP	67560	
			ORDER NO.		

STAGE NO.	JOB CODE	WORKING DEPTH	FT	PUMPING EQUIPMENT	TIME (A OR P)	DATE
TOTAL PREV. GALS.	0100	412		TRUCK CALLED	3:00 P	2/21/91
TOTAL MEAS. DEPTH	12 1/4	415		ARRIVED AT JOB	5:00 P	22/19
	8 5/8	412		START OPERATION	8:00 P	22/19
	23"			FINISH OPERATION	8:30 P	22/19
				TIME RELEASED	8:45 PM	2-21-91
				MILES FROM STATION TO WELL	17	
				SUPERVISOR NUMBER		

REVENUE EQUIPMENT (UNIT NUMBERS)				EMPLOYEES ON JOB (EMPLOYEE NUMBER)			
10457				Ron	58-2278		
8546459				Ferry	58-4621		
8542750	8546455			David			

PRICE BOOK REF.	PART NO.	U/M	QTY.	RECEIVED	STATE	CORPORATION	COMMISSION	CEMENT	THAC	ACID	SAND CONTROL
				FEB 26 1991	La.	CONCRETE	Wichita, Kansas				
				MAR 01 1991							

**CONTRACT CONDITIONS:** (This contract must be signed before the job is commenced or merchandise is delivered)  
 The undersigned is authorized to execute this contract as an agent of the customer. As such, the undersigned agrees and acknowledges that this contract for services, materials, products, and/or supplies includes all of and only those terms and conditions appearing on the front and back of this document. No additional or substitute terms and/or conditions shall become a part of this contract without the written consent of an officer of BJ SERVICES.

PRICE BOOK 01  
 SIGNED: Dale Smith  
 (WELL OWNLR, OPERATOR, CONTRACTOR OR AGENT)

	PRICE BOOK REF. NO.	QUANTITY	DESCRIPTION	UNIT PRICE	U/M	PRICE EXTENSION
1	10100304	1	Price of Job	480.00	eq	480.00
2	10109005	17	PTM	2.35	eq	39.95
3	10410504	156	Class A	6.75	sk	1053.00
4	10415018	164	6oz mix	3.62	sk	376.48
5	10420145	400	Gel	.14	lb	56.00
6	10415049	640	CaCl2	.46	lb	294.40
7	10431036	1	8 5/8 Wood Cup	60.00	eq	60.00
8	10880001	260	Dryase	1.10	sk	286.00
9	10940101	198.9	Per Ton mile 11.7 Tons	.75	Tm	149.18
10	10409600	1	8 7/8 TX Pattern Guide Shoe (B)	222.00	eq	222.00

SERVICE REPRESENTATIVE: Wm Fitzgerald  
 THE ABOVE MATERIAL AND SERVICE ORDERED BY CUSTOMER AND RECEIVED BY: Dale Smith



ORIGINAL

CONTRACT NO. 610091

DATE OF JOB	MM DD YY 2 21 91	DISTRICT	Oakley Vintage	DIST. NO.	585	AUTHORIZED BY	Gary Rowe
CUSTOMER							

PRICE BOOK	PRICE BOOK REF. NO.	QUANTITY	DESCRIPTION	UNIT PRICE	U/M	PRICE EXTENSION
	10.40.96.00	1	8 7/8 Inset (B)	256.00	ea	256 00
	10.40.96.00	1	Baker Log	22.80	ea	22 80
			20% Disc			3295 81
						659 16
	10.10.78.91		Fuel Surcharge			2636 65
						65 92
						2702 57

RECEIVED  
STATE COMMISSION  
FEB 26 1992  
COMMISSION DIVISION  
Wichita, Kansas

SERVICE REPRESENTATIVE: *Fin* THE ABOVE MATERIAL AND SERVICE ORDERED BY CUSTOMER AND RECEIVED BY: *Dale Smith*



P.O. Box 4442  
Houston, Tx. 77210

ORIGINAL

15-109-20500-08-00  
SERVICE OPERATIONS CONTRACT  
TERMS NET 30 DAYS FROM DATE OF CONTRACT

REMIT TO: P.O. Box 100806, Houston, Tx. 77212

DATE <b>3-4-91</b>	SERVICE CONTRACT NO. <b>610095</b>
NEW WELL <input type="checkbox"/> OLD WELL <input type="checkbox"/>	WELL TYP <b>0</b>
WELL NO. <b>2</b>	JOB NUMBER
COUNTY/PARISH <b>Logan</b>	LEASE NAME & FEDERAL OFFSHORE LEASE NO. <b>Akron 2</b>
FIELD NAME	STATE <b>Ks</b>
WELL OWNER	MTA CODE

CUSTOMER ACCOUNT NO.	DIST NAME <b>Oakley</b>
CUSTOMER <b>Vintage Petroleum</b>	DIST NUMBER <b>585</b>
ADDRESS <b>Box K</b>	
CITY <b>Nass City</b>	STATE <b>Ks</b>
AUTHORIZED BY <b>Gregg Devers</b>	ZIP <b>67560</b>
	ORDER NO.

STAGE NO.	JOB CODE <b>0106</b>	WORKING DEPTH <b>4760</b>	PUMPING EQUIPMENT	TIME (A OR P)	DATE
TOTAL PRV. GALS.	1 SURFACE   2 INTERMEDIATE   3 PRODUCTION   4 REMEDIAL	DEPTH <b>4760</b>	TRUCK CALLED	<b>10:00 A</b>	<b>3/4/91</b>
TOTAL MEAS. DEPTH	SIZE HOLE <b>7 7/8</b>	DEPTH <b>4760</b>	ARRIVED AT JOB	<b>1:45 P</b>	<b>3/4/91</b>
	SIZE & WT. CASING <b>4 1/2</b>	DEPTH <b>4763</b>	START OPERATION	<b>2:00 P</b>	<b>3/4/91</b>
	SIZE & WT. DRILL PIPE OR TUBING	DEPTH	FINISH OPERATION	<b>6:30 P</b>	<b>3/4/91</b>
	PACKER DEPTH	FLUID PUMPED	TIME RELEASED	<b>7:00 PM</b>	<b>3-4-91</b>
			MILES FROM STATION TO WELL	<b>17</b>	

REVENUE EQUIPMENT (UNIT NUMBERS)	EMPLOYEES ON JOB (EMPLOYEE NUMBER)
10109 BS46463	Lee 62-6435
BS272 BS513	Terry 58-4621
BS46458 BS4011	David 58-2278
60-9262 BS42752 BS46457	Ron

PRICE BOOK REF.	PART NO.	U/M	QTY.	PART NO.	U/M	QTY.	PART NO.	U/M	QTY.
<p>RECEIVED DATE: 3/15/91 STATE: CO FEB 26 1992 CO. ... Kansas</p>									

CONTRACT CONDITIONS: (This contract must be signed before the job is commenced or merchandise is delivered)  
The undersigned is authorized to execute this contract as an agent of the customer. As such, the undersigned agrees and acknowledges that this contract for services, materials, products, and/or supplies includes all of and only those terms and conditions appearing on the front and back of this document. No additional or substitute terms and/or conditions shall become a part of this contract without the written consent of an officer of BJ SERVICES.

PRICE BOOK: **01**      SIGNATURE: *Gregg Devers*  
(WELL OWNER, OPERATOR, CONTRACTOR OR AGENT)

PRICE BOOK REF. NO.	QUANTITY	DESCRIPTION	UNIT PRICE	U/M	TOTAL EXTENSION
1 101100326	1	Price of Job	1260.00	ea	1260.00
2 101101501	1	2nd Stage	950.00	ea	950.00
3 101109005	17	RTM Oakley	2.35	ea	39.95
4 104110504	755	Class A	6.75	sk	5096.25
5 104115018	210	Per-mix	3.62	sk	760.20
6 10420145	3800	Gel	.14	lb	532.00
7 104115049	240	CaCl2	.46	lb	110.40
8 10428020	1600	A-10	.22	lb	352.00
9 10425010	500	Mud Sweep	1.64	gal	820.00
10 10880001	965	Dryage	1.10	sk	1061.50

SERVICE REPRESENTATIVE: *Wm Fitzgerald*      THE ABOVE MATERIAL AND SERVICE ORDERED BY CUSTOMER AND RECEIVED BY: *Gregg Devers*  
CHECK IF CONTINUATION IS USED      (WELL OWNER, OPERATOR, CONTRACTOR OR AGENT)



A Baker Hughes company

ORIGINAL

15-109-20560-00-00  
SERVICE OPERATIONS CONTRACT  
CONTINUATION

CONTRACT NO. 610095

DATE OF JOB	MM 03	DD 4	YY 91	DISTRICT	Oakley	DIST. NO.	585	AUTHORIZED BY	GREG PERVIS
CUSTOMER				Vintage Petroleum					

PRICE BOOK	PRICE BOOK REF. NO.	QUANTITY	DESCRIPTION	UNIT PRICE	U/M	PRICE EXTENSION
	D.I	783.7	Per Ton Miles 46.1 Tons	.75	Ton	587 75
	10409600	1	4 1/2 Guide Shoe	109.00	ea	109 00
	110409600	1	4 1/2 Flexible Float Collar	248.00	ea	248 00
	10409600	14	4 1/2 Centralizers	43.55	ea	609 70
	10409600	2	4 1/2 Baskets	125.00	ea	250 00
	10409600	1	4 1/2 DV	2676.00	ea	2676 00
	10409600	1	4 1/2 Locking	16.65	ea	16 65
	10409600	1	Baker Loc	22.80	ea	22 80
						15502 20
			20% Disc			3100 44
						12401 76
	101107891		Fuel Surcharge			310 04
						12711 80

RECEIVED  
STATE CORPORATION COMMISSION  
FEB 26 1992  
CONSERVATION DIVISION  
Wichita, Kansas

SERVICE REPRESENTATIVE Wm Fitzgerald

THE ABOVE MATERIAL AND SERVICE ORDERED BY CUSTOMER AND RECEIVED BY: [Signature]

CHECK IF CONTINUATION IS USED

(WELL OWNER, OPERATOR, CONTRACTOR OR AGENT)