

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

SIDE ONE

15-153-20683-00-00

API NO. 15-153-20683  
County, Pawnee  
NW NW Sec. 13 Twp. 15 Rge. 35 East  
4620 Ft North from Southeast Corner of Section  
4620 Ft West from Southeast Corner of Section  
(Note: Locate well in section plat below)

Operator: License # 7448  
Name Burch, J. EXP. EXPIRATION F.V.C.  
Address 1225 E. 10th St. W.B.Y.  
City/State/Zip Parkersburg, W.V. 26104

Lease Name Chadderton Well # 3  
Field Name West C.H.H. J.  
Producing Formation Lansing - Kansas City  
Elevation: Ground 3130' KB 3135'

Purchaser K.C.K. Oil Co.  
Wichita, Kansas 67201

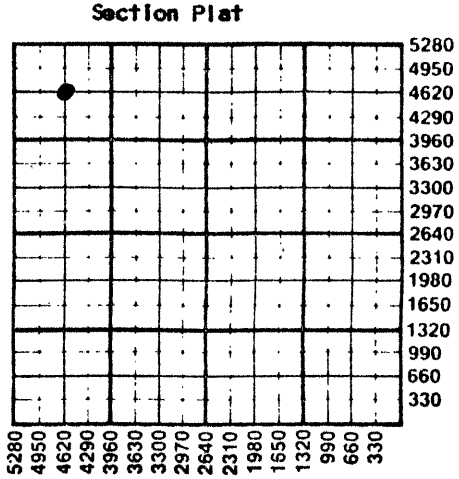
Operator Contact Person Mr. Taylor  
Phone 308-345-2214

Contractor: License # 8682  
Name Golden Eagle Drilling

Wellsite Geologist Paul Priddy  
Phone 303-544-2111

Designate Type of Completion  
 New Well  Re-Entry  Workover  
 Oil  SWD  Temp Abd  
 Gas  Inj  Delayed Comp  
 Dry  Other (Core, Water Supply etc.)  
If OWNO: old well info as follows:  
Operator  
Well Name  
Comp. Date  
Old Total Depth

RECEIVED  
STATE CORPORATION COMMISSION  
OIL & GAS CONSERVATION DIVISION  
Wichita, Kansas  
JAN 15 1988



WATER SUPPLY INFORMATION  
Disposition of Produced Water:  Disposal  
Docket #  Repressuring

WELL HISTORY  
Drilling Method:  Mud Rotary  Air Rotary  Cable  
Spud Date 1-30-87 Date Reached TD 2-2-87 Completion Date 2-23-87  
Total Depth 4325' PBTD 4300'  
Amount of Surface Pipe Set and Cemented at 300' feet  
Multiple Stage Cementing Collar Used? Yes No  
If yes, show depth set  
If alternate 2 completion, cement circulated from 300' feet depth to surface  
Cement Company Name B.T. Hughes L.L.P.  
Invoice #

Questions on this portion of the ACO-1 call:  
Water Resources Board (913) 296-3717  
Source of Water:  
Division of Water Resources Permit #  
Groundwater (Well) Ft North from Southeast Corner  
Ft West from Southeast Corner  
Sec Twp Rge East West  
Surface Water (Stream, pond etc) Ft North from Southeast Corner  
Ft West from Southeast Corner  
Sec Twp Rge East West  
Other (explain)  
(purchased from city, R.W.D. #)

INSTRUCTIONS: This form shall be completed in triplicate and filed with the Kansas Corporation Commission, 200 Colorado Derby Building, Wichita, Kansas 67202, within 120 days of the spud date of any well. Rule 82-3-130, 82-3-107 and 82-3-106 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 drillers time log shall be attached with this form. 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.

Signature J. David Burch  
Title Gen Mgr Date 1/12/88  
Subscribed and sworn to before me this 12th day of January 1988  
Notary Public Linda Carson  
Date Commission Expires 6-1-90

K.C.C. OFFICE USE ONLY  
F Letter of Confidentiality Attached  
C Wireline Log Received  
C Drillers Time Log Received  
Distribution  
KCC SWD/Rep NGPA  
KGS Plug Other  
(Specify)

Sec. 13 Twp. 1 Rge. 35

Operator Name Burch Exploration Inc. Lease Name Chad Gordon Well # 3

Sec. 13 Twp. 1-S Rge. 34  East  West County Rawlins

WELL LOG

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  
 Samples Sent to Geological Survey  Yes  No  
 Cores Taken  Yes  No

Formation Description  
 Log  Sample

Name	Top	Bottom
STONE CORRAL	2994	
CHASE	3220	
NEVA	3502	
RED EAGLE	3564	
FIRAKER	3615	
TOPEKA	3828	
DEER CREEK	3874	
OREAD	3922	
LEAVENWORTH	3999	
LAUSING KANS CITY	4047	4300

CASING RECORD <input checked="" type="checkbox"/> New <input type="checkbox"/> 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"	24.4	300'	100% OPC	300	3% PVC 7% SFR-2
Production	7 1/8"	5 1/2"	14"	1324'	100% OPC	4.5	3% PVC 7% SFR-2

PERFORATION RECORD		Acid, Fracture, Shot, Cement Squeeze Record (Amount and Kind of Material Used)	
Shots Per Foot	Specify Footage of Each Interval Perforated		Depth
4	42.57 To 42.72	42.57 To 42.72	42.57 To 42.72
4	42.95 To 43.10	42.95 To 43.10	42.95 To 43.10
		1000 GAL. 15% GEL. ACID	42.00 To 42.00

TUBING RECORD			
Size	Set At	Packer at	Liner Run <input type="checkbox"/> Yes <input type="checkbox"/> No
2 7/8"	42 98		

Date of First Production	Producing Method <input type="checkbox"/> Flowing <input checked="" type="checkbox"/> Pumping <input type="checkbox"/> Gas Lift <input type="checkbox"/> Other (explain)				
3-14-1987					

Estimated Production Per 24 Hours	Oil	Gas	Water	Gas-Oil Ratio	Gravity
	100 Bbls	MCF	300 Bbls	CFPB	35.5

METHOD OF COMPLETION

Production Interval

Disposition of gas:  Vented  Open Hole  Perforation  
 Sold  Other (Specify) .....  
 Used on Lease  Dually Completed  
 Commingled

# CHENEY TESTING COMPANY, INC.

P. O. Box 367

HILL CITY, KANSAS 67642

## DRILL-STEM TEST DATA *15-153-20683-00-00*

Company <u>Burch Exploration</u>	Test No. <u>1</u>
Well Name & Number <u>Chadderdon #3</u>	Zone Tested <u>K.C. "C"</u>
Company Address <u>11225 Edinborough Way, Parker, Colo.</u>	Date <u>2-6-87</u>
Company Rep. <u>Paul Prijatel</u>	Tester <u>Gary Hartwell</u>
Contractor <u>Golden Eagle Drlg. Co.</u>	Elevation <u>2942 G.L.</u>
Location: Sec. <u>13</u> Twp. <u>1</u> Rge. <u>35</u> Co. <u>Rawlins</u> State <u>Kan.</u>	Est. Feet of Pay _____

Recorder No. 13363 Type AK-1 Range 3800 PSI

Recorder Depth 4164 Clock # 23859

(A) Initial Hydrostatic Mud 2110 PSI

(B) First Initial Flow Pressure 76 PSI

(C) First Final Flow Pressure 130 PSI

(D) Initial Shut-in Pressure 1384 PSI

(E) Second Initial Flow Pressure 184 PSI

(F) Second Final Flow Pressure 293 PSI

(G) Final Shut-in Pressure 1330 PSI

(H) Final Hydrostatic Mud 2100 PSI

Temperature 124

Mud Weight 9.1 Viscosity 43

Fluid Loss 6.8

Interval Tested 4128-4170

Anchor Length 42'

Top Packer Depth 4123

Bottom Packer Depth 4128

Total Depth 4170

Drill Pipe Size 4½ EX.H.

Wt. Pipe I. D. Collars 2.25 Ft. Run 360

Recovery-Total Feet 590

Recovered 240 Feet Of Gas in pipe

Recovered 80 Feet Of Oil Gr. 34 Corr @ 60°

Recovered 30 Feet Of Oil Cut mud 25% Oil 75% Mud

Recovered 60 Feet Of Oil Cut Wtr. Mud 10% Oil 35% Wtr. 55% Mud

Recovered 60 Feet Of Muddy Wtr.

Recovered 360 Feet Of Water

Extra Equipment Bowen Jars, Safety joint & Downhole Ins.

Recorder No. 10290 Type AK-1 Range 4250 PSI

Recorder Depth 4167 Clock # 25561

Tool Open Before I.S.I. 15 Mins.

Initial Shut-in 30 Mins.

Flow Period 90 Mins.

Final Shut-in 90 Mins.

Top Choke Size 1" Hole Size 7 7/8"

Bottom Choke Size 3/4" Rubber Size 6 3/4"

Tool Open @ 1:26 A.M.

Blow Remarks Fair building, blew bottom of bucket (5 gal.) 12 min. 1st open.

Bottom of bucket 20 min. 2nd open.

Price of Job \$476.00

# CHENEY TESTING COMPANY INC.

P. O. BOX 367

HILL CITY, KANSAS 67442

Dist. McCook

## TEST TICKET 15-153-20683-00-00

Company <u>Burch Exp Golden Eagle Dly</u>	Test No. # <u>1</u>
Well Name & Number <u>Claddan #3</u>	Zone Tested <u>K.C. 'C'</u>
Company Address <u>11225 Elmbergh way Parker, CO</u>	Date <u>2-1-47</u>
Company Rep. <u>Paul Prigat</u>	Tester <u>Gary Hunt</u>
Contractor <u>Golden Eagle</u>	Elevation <u>2942 ft</u>
Location: Sec. <u>13</u> Twp. <u>1</u> Rge. <u>75</u> Co. <u>R</u> State <u>KS</u>	

Recorder No. 10290 Type AK-1 Range 3300 PSI  
 Recorder Depth 4164 Clock # 22259  
 (A) Initial Hydrostatic Mud 2110 PSI  
 (B) First Initial Flow Pressure 76 PSI  
 (C) First Final Flow Pressure 130 PSI  
 (D) Initial Shut-in Pressure 1394 PSI  
 (E) Second Initial Flow Pressure 184 PSI  
 (F) Second Final Flow Pressure 293 PSI  
 (G) Final Shut-in Pressure 1230 PSI  
 (H) Final Hydrostatic Mud 2100 PSI  
 Temperature 124°  
 Mud Weight 9.1 Viscosity 43  
 Fluid Loss L.C.  
 Interval Tested 4125 - 4190  
 Anchor Length 42'  
 Top Packer Depth 4123  
 Bottom Packer Depth 4128  
 Total Depth 4170  
 Drill Pipe Size 4 1/2 x 11  
 Wt. Pipe I. D. 2.25 Ft. Run 360  
 Recovery—Total Feet 590  
 Rec. 5240' LIP  
 Rec. 30' CIL Gr 34 C 252 W  
 Rec. 30' C 252 W 252 W  
 Rec. 10' C 252 W 1020 352 W 552 W  
 Rec. 10' MW  
 Rec. 360' W

Recorder No. 10290 Type AK-1 Range 4250 PSI  
 Recorder Depth 4167 Clock # 25561  
 Tool Open Before I. S. I. 15 Mins.  
 Initial Shut-in 310 Mins.  
 Flow Period 90 Mins.  
 Final Shut-in 90 Mins.  
 T Choke Size 1 Hole Size 2 3/8  
 B Choke Size 3/4 Rubber Size 1 3/4  
 Tool Open @ 11:21 AM  
 Blow Four Buell in Bl. 3-37' at  
 Remarks Reel T (5 gal) 12 min. with  
Bottom of Buell 20 min. open  
Thurs 2/1/47

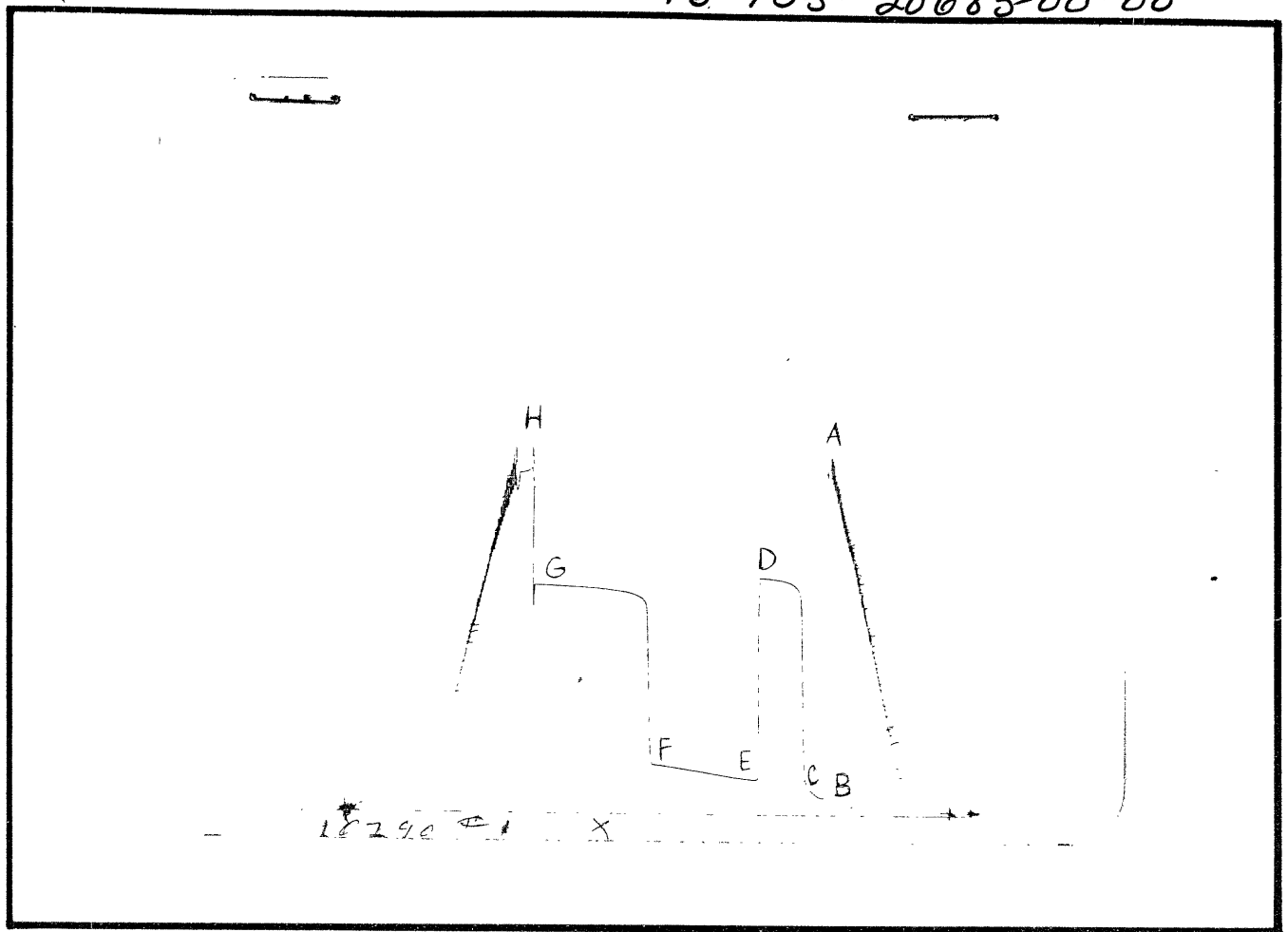
Test ..... \$ 4.75  
 Straddle .....  
 Bowen Jars .....  
 Safety Joint .....  
 Selective Zone Tool .....  
 Sampler .....  
 Extra Packer .....  
 Circulating Sub .....  
 Down Hole Insurance  51  
 Others .....  
 Price of Job ..... \$

### CHENEY TESTING COMPANY, INC.

Approved By Paul Prigat  
 Our Representative Gary Hunt

**TICKET N<sup>o</sup> 10628**

15-153-20683-00-00



This is an actual photograph of recorder chart.

POINT	PRESSURE		
	Field Reading	Office Reading	
(A) Initial Hydrostatic Mud .....	2110	2097	PSI
(B) First Initial Flow Pressure .....	76	100.6	PSI
(C) First Final Flow Pressure .....	130	158.9	PSI
(D) Initial Closed-in Pressure .....	1384	1373.9	PSI
(E) Second Initial Flow Pressure .....	184	201.3	PSI
(F) Second Final Flow Pressure .....	293	286.0	PSI
(G) Final Closed-in Pressure .....	1330	1318.9	PSI
(H) Final Hydrostatic Mud .....	2100	2140	PSI

# CHENEY TESTING CO., INC.

P. O. BOX 367

HILL CITY, KANSAS 67642

15-153-20683

## FLUID SAMPLER DATA

00-00

Ticket No.	10628	Date	2-6-87		
Company Name	Burch Exploration				
Lease	Chadderton #3	Test No.	1		
County	Rawlins	Sec. 13	Twp. 1	Rge. 35	

### SAMPLER RECOVERY

Gas \_\_\_\_\_ ML  
Oil \_\_\_\_\_ ML  
Mud \_\_\_\_\_ ML  
Water \_\_\_\_\_ ML  
Other \_\_\_\_\_ ML  
Pressure \_\_\_\_\_ P.S.I.  
Total \_\_\_\_\_ ML

### PIT MUD ANALYSIS

Chlorides 2,000 \_\_\_\_\_ ppm  
Resistivity 3.10 \_\_\_\_\_ ohms @ 55 \_\_\_\_\_ °F  
Viscosity 43 \_\_\_\_\_  
Wt. 9.1 \_\_\_\_\_  
Filtrate 6.8 \_\_\_\_\_ cc  
Other 2# L C M \_\_\_\_\_

### SAMPLER ANALYSIS

Resistivity \_\_\_\_\_ ohms @ \_\_\_\_\_ °F  
Chlorides \_\_\_\_\_ ppm  
Gravity \_\_\_\_\_ Corrected @60°F

### PIPE RECOVERY

#### TOP:

Resistivity 0.27 \_\_\_\_\_ ohms @ 65 \_\_\_\_\_ °F  
Chlorides 28,000 \_\_\_\_\_ ppm

#### MIDDLE:

Resistivity 0.24 \_\_\_\_\_ ohms @ 65 \_\_\_\_\_ °F  
Chlorides 32,000 \_\_\_\_\_ ppm

#### BOTTOM:

Resistivity 0.22 \_\_\_\_\_ ohms @ 65 \_\_\_\_\_ °F  
Chlorides 35,000 \_\_\_\_\_ ppm

15-153-20683-00-00

CHENEY TESTING CO, INC.  
CALCULATION OF FORMATION CHARACTERISTICS  
FROM DST DATA

\*\*\*\*\*

FOR: BURCH EXPLORATION  
CHADDERDON #3  
13-1S-35W  
RAWLINS CO., KANSAS  
DST # 1  
FORMATION: KANSAS CITY  
ELEVATION: 2942 KB

\*\*\*\*\*

TEST PARAMETERS

TEST INTERVAL: 4128 - 4170  
TIME INTERVAL: 15 - 30 - 90 - 90  
INITIAL FLOW PRESS: 100.6- 158.9  
FINAL FLOW PRESS: 201.3- 286.0  
SHUT-IN PRESS(I-F):1373.9-1318.9  
BOTTOM HOLE TEMPERATURE: 124  
TOTAL FEET OF RECOVERY: 590  
EST PAY: 5  
VISCOSITY OF FLUID: 4  
HOLE SIZE: 7.875  
D.C. CAPACITY:0.00492  
W.P. CAPACITY:0.00000  
D.P. CAPACITY:0.01402  
TOTAL BARRELS RECOVERY: 4.9942

\*\*\*\*\*

EXTRAPOLATED INITIAL SHUT-IN PRESSURE (PSI): 1390  
SLOPE (PSI-CYCLE): 95                      POINTS USED: 3

EXTRAPOLATED FINAL SHUT-IN PRESSURE (PSI): 1348  
SLOPE (PSI-CYCLE): 83                      POINTS USED: 6

\*\*\*\*\*

CALCULATIONS

PRODUCTION POTENTIAL (B/D) : 68.49  
TRANSMISSIBILITY (MD-FT/CP) : 134.18  
EFFECTIVE PERMEABILITY (MD) : 107.34  
PRODUCTIVITY INDEX (B/D/PSI) : 0.1516  
DAMAGE RATIO : 2.341  
APPROXIMATE RADIUS OF INVESTIGATION (FT) : 106.2  
DRAWDOWN FACTOR (%) : 3.022  
POTENTIOMETRIC SURFACE (FT) :1898.01

15-153-20683-00-00

INITIAL SHUT-IN

=====

RECORDER NO: 10290 DEPTH: 4170 FT.  
INITIAL FLOW TIME (T): 15 MIN.

DT(MIN)	LOG((T+DT)/DT)	PRESSURE(P SIG)
0	0.000	158.9
5	0.602	1228.8
10	0.398	1334.7
15	0.301	1355.9
20	0.243	1366.5
25	0.204	1369.7
30	0.176	1373.9

FINAL SHUT-IN

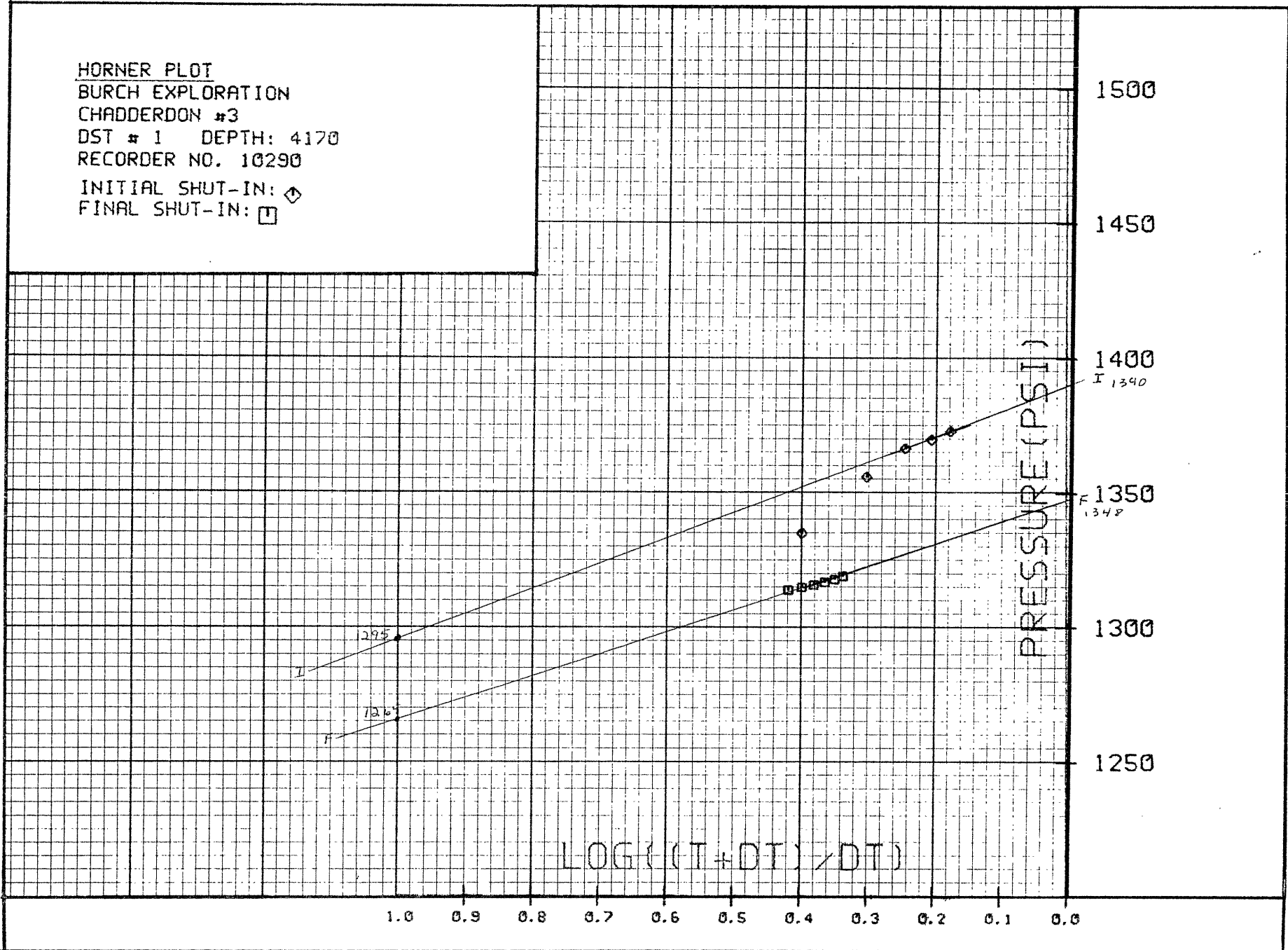
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RECORDER NO: 10290 DEPTH: 4170 FT.  
TOTAL FLOW TIME: 105 MIN.

DT(MIN)	LOG((T+DT)/DT)	PRESSURE(P SIG)
0	0.000	286.0
5	1.342	1181.1
10	1.061	1260.6
15	0.903	1271.2
20	0.796	1283.9
25	0.716	1288.1
30	0.653	1292.4
35	0.602	1296.6
40	0.559	1300.8
45	0.523	1305.1
50	0.491	1309.3
55	0.464	1311.4
60	0.439	1312.5
65	0.418	1313.6
70	0.398	1314.6
75	0.380	1315.7
80	0.364	1316.7
85	0.349	1317.8
90	0.336	1318.9



HORNER PLOT  
 BURCH EXPLORATION  
 CHADDERDON #3  
 DST # 1 DEPTH: 4170  
 RECORDER NO. 10290  
 INITIAL SHUT-IN:  $\diamond$   
 FINAL SHUT-IN:  $\square$



15-153-20683-00-00

15-153-20683-00-00  
**CHENEY TESTING COMPANY, INC.**  
 P. O. Box 367 HILL CITY, KANSAS 67642

**DRILL-STEM TEST DATA**

Company Burch Exploration	Test No. 2
Well Name & Number Chadderdon #3	Zone Tested K.C. "D"
Company Address Parker, Colo.	Date 2-6-87
Company Rep. Paul Prijatel	Tester Gary Hartwell
Contractor Golden Eagle Drlg. Co.	Elevation 3130 G.L.
Location: Sec. 13 Twp. 1 Rge. 35 Co. Rawlins State Kan	Est. Feet of Pay

Recorder No. 13363 Type AK-1 Range 3800 PSI  
 Recorder Depth 4214 Clock # 23859  
 (A) Initial Hydrostatic Mud 2131 PSI  
 (B) First Initial Flow Pressure 86 PSI  
 (C) First Final Flow Pressure 163 PSI  
 (D) Initial Shut-in Pressure 932 PSI  
 (E) Second Initial Flow Pressure 195 PSI  
 (F) Second Final Flow Pressure 369 PSI  
 (G) Final Shut-in Pressure 932 PSI  
 (H) Final Hydrostatic Mud 2110 PSI  
 Temperature 136  
 Mud Weight 9.1 Viscosity 59  
 Fluid Loss 6.4  
 Interval Tested 4190-4220  
 Anchor Length 30  
 Top Packer Depth 4185  
 Bottom Packer Depth 4190  
 Total Depth 4220  
 Drill Pipe Size 4½ EX.H.  
 Wt. Pipe I. D. Collars 2.25 Ft. Run 360  
 Recovery-Total Feet 905

Recorder No. 10290 Type AK-1 Range 4250 PSI  
 Recorder Depth 4217 Clock # 25561  
 Tool Open Before I.S.I. 15 Mins.  
 Initial Shut-in 30 Mins.  
 Flow Period 90 Mins.  
 Final Shut-in 90 Mins.  
 Top Choke Size 1" Hole Size 7 7/8"  
 Bottom Choke Size 3/4" Rubber Size 6 3/4"  
 Tool Open @ 5:32 P.M.  
 Blow Remarks Good bldg. blow bottom of  
bucket 6 min. 1st open.  
Bottom of bucket 2nd open.

Recovered 1365 Feet Of G.I.P.  
 Recovered 505 Feet Of Oil Gr. 35 Corr @ 60°  
 Recovered 100 Feet Of M C Gsy 0 25% Mud 20% Gas 55% Oil  
 Recovered 60 Feet Of WM C O 30% Mud 20% Wtr. 50% Oil  
 Recovered 120 Feet Of M W C O 20% Mud 30% Wtr. 50% Oil  
 Recovered 60 Feet Of Oil  
 Extra Equipment 60 Feet OF OCMW 80% W 10% Oil 10% Mud Price of Job \$601.00

Bowen Jars, Safety Joint, Sampler, & Downhole insurance

# CHENEY TESTING COMPANY INC.

P. O. BOX 367

HILL CITY, KANSAS 67642

Dist: M<sup>c</sup>COOK

## TEST TICKET 16-153-20683-00-00

Company <u>Burch Exp Inc Golden Eagle Dr</u>	Test No. # <u>2</u>
Well Name & Number <u>Chadderton # 3</u>	Zone Tested <u>K.C. "D"</u>
Company Address <u>Parker, c o M<sup>c</sup>Cook, NE</u>	Date <u>2-6-47</u>
Company Rep. <u>Paul Prijatel</u>	Tester <u>Gary Hartwell</u>
Contractor <u>Golden Eagle</u>	Elevation <u>3130</u> <del>2942</del> <u>GL</u>
Location: Sec. <u>13</u> Twp. <u>1</u> Rge. <u>35</u> Co. <u>Rawlins</u> State <u>Ks</u>	

Recorder No. 13363 Type AK-1 Range 3800 PSI  
 Recorder Depth 4214 Clock # 23859  
 (A) Initial Hydrostatic Mud 2131 PSI  
 (B) First Initial Flow Pressure 86 PSI  
 (C) First Final Flow Pressure 163 PSI  
 (D) Initial Shut-in Pressure 932 PSI  
 (E) Second Initial Flow Pressure 195 PSI  
 (F) Second Final Flow Pressure 367 PSI  
 (G) Final Shut-in Pressure 932 PSI  
 (H) Final Hydrostatic Mud 2110 PSI  
 Temperature 136°  
 Mud Weight 9.1 Viscosity 59  
 Fluid Loss 6.4  
 Interval Tested 4190-4220  
 Anchor Length 30'  
 Top Packer Depth 4185  
 Bottom Packer Depth 4190  
 Total Depth 4220  
 Drill Pipe Size 4 1/2 XH  
 Wt. Pipe I. D. 2.25 Ft. Run 360  
 Recovery—Total Feet 905

Recorder No. 1029 Type AK-1 Range 4250 PSI  
 Recorder Depth 4217 Clock # 25561  
 Tool Open Before I. S. I. 15 Mins.  
 Initial Shut-in 30 Mins.  
 Flow Period 90 Mins.  
 Final Shut-in 90 Mins.  
 T Choke Size 1 Hole Size 7 2/8  
 B Choke Size 3/4 Rubber Size 6 3/4  
 Tool Open @ 5:32

Blow Good Building Blue Bottom  
 Remarks at Bucket 6 min 12 1/2 min  
Bottom of Bucket 12 1/2 min

*Thank you*

- Rec. 1365' GIP
- Rec. 505' oil G 35 corr. 60'
- Rec. 100' m.w.c 25% m 20% w 50% o
- Rec. 60' m.w.c 30% m 20% w 50% o
- Rec. 120' m.w.c 25% m 30% w 50% o
- Rec. 60' oil
- Rec. 60' m.w.c 80% w 10% o 10% m

Test ..... \$ 550  
 Straddle .....  
 Bowen Jars .....  
 Safety Joint .....  
 Selective Zone Tool .....  
 Sampler .....  
 Extra Packer .....  
 Circulating Sub .....  
 Down Hole Insurance 51  
 Others .....  
 Price of Job ..... \$

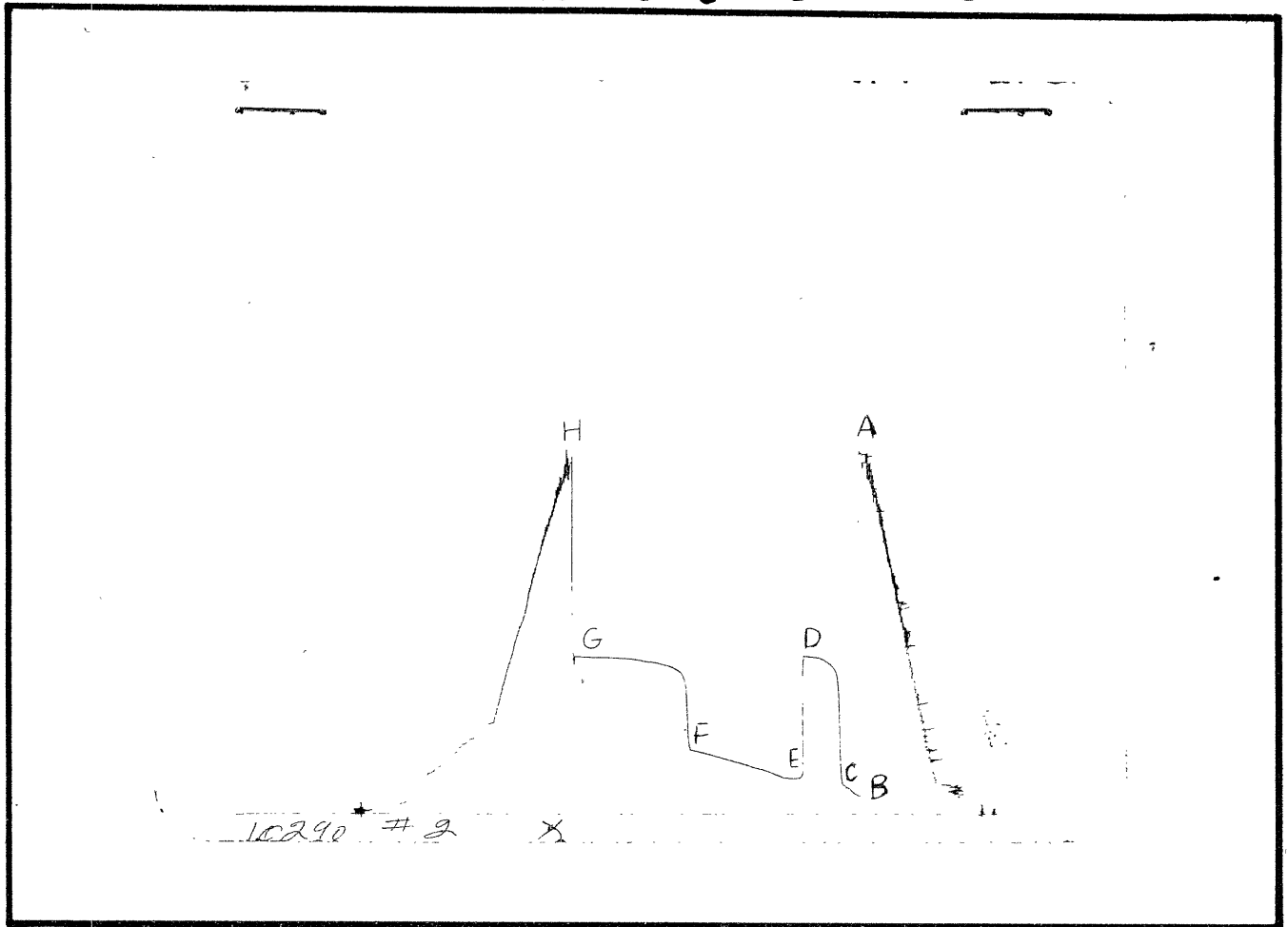
### CHENEY TESTING COMPANY, INC.

Approved By Paul Prijatel

Our Representative Gary Hartwell

**TICKET N<sup>o</sup> 10629**

15-153-20683-00-00



This is an actual photograph of recorder chart.

POINT	PRESSURE		
	Field Reading	Office Reading	
(A) Initial Hydrostatic Mud .....	2131	2152	PSI
(B) First Initial Flow Pressure .....	86	100.6	PSI
(C) First Final Flow Pressure .....	163	171.6	PSI
(D) Initial Closed-in Pressure .....	932	922.7	PSI
(E) Second Initial Flow Pressure .....	195	207.6	PSI
(F) Second Final Flow Pressure .....	369	362.3	PSI
(G) Final Closed-in Pressure .....	932	904.7	PSI
(H) Final Hydrostatic Mud .....	2110	2219	PSI

15-153-20683-00-00

# CHENEY TESTING CO., INC.

P. O. BOX 367

HILL CITY, KANSAS 67642

## FLUID SAMPLER DATA

Ticket No.	10629	Date	2-6-87		
Company Name	Burch Exploration				
Lease	Chadderton #3	Test No.	2	"D"	
County	Rawlins	Sec. 13	Twp. 1	Rge. 35	

### SAMPLER RECOVERY

Gas \_\_\_\_\_ 200 \_\_\_\_\_ ML  
Oil \_\_\_\_\_ 2000 \_\_\_\_\_ ML  
Mud \_\_\_\_\_ - \_\_\_\_\_ ML  
Water \_\_\_\_\_ - \_\_\_\_\_ ML  
Other \_\_\_\_\_ - \_\_\_\_\_ ML  
Pressure \_\_\_\_\_ 275 \_\_\_\_\_ P.S.I.  
Total \_\_\_\_\_ 2000 \_\_\_\_\_ ML

### PIT MUD ANALYSIS

Chlorides \_\_\_\_\_ 3100 \_\_\_\_\_ ppm  
Resistivity \_\_\_\_\_ 1.68 \_\_\_\_\_ ohms @ \_\_\_\_\_ 67 \_\_\_\_\_ °F  
Viscosity \_\_\_\_\_ 59 \_\_\_\_\_  
Wt. \_\_\_\_\_ 9.1 \_\_\_\_\_  
Filtrate \_\_\_\_\_ 6.4 \_\_\_\_\_ cc  
Other \_\_\_\_\_ 2# L C M \_\_\_\_\_

### SAMPLER ANALYSIS

Resistivity \_\_\_\_\_ ohms @ \_\_\_\_\_ °F  
Chlorides \_\_\_\_\_ ppm  
Gravity \_\_\_\_\_ 35 \_\_\_\_\_ Corrected @ 60°F

### PIPE RECOVERY

TOP:

Resistivity \_\_\_\_\_ ohms @ \_\_\_\_\_ °F  
Chlorides \_\_\_\_\_ ppm

MIDDLE:

Resistivity \_\_\_\_\_ ohms @ \_\_\_\_\_ °F  
Chlorides \_\_\_\_\_ ppm

BOTTOM:

Resistivity \_\_\_\_\_ 0.30 \_\_\_\_\_ ohms @ \_\_\_\_\_ 60 \_\_\_\_\_ °F  
Chlorides \_\_\_\_\_ 28,000 \_\_\_\_\_ ppm

CHENEY TESTING CO, INC.  
CALCULATION OF FORMATION CHARACTERISTICS  
FROM DST DATA

15-153-20683-00-00

\*\*\*\*\*

FOR: BURCH EXPLORATION  
CHADDERDON #3 DST # 2  
13-1S-35W FORMATION: KANSAS CITY  
RAWLINS CO., KANSAS ELEVATION: 3130 KB

\*\*\*\*\*

TEST PARAMETERS

TEST INTERVAL: 4190 - 4220 EST PAY: 5  
TIME INTERVAL: 15 - 30 - 90 - 90 VISCOSITY OF FLUID: 3  
INITIAL FLOW PRESS: 100.6- 171.6 HOLE SIZE: 7.875  
FINAL FLOW PRESS: 207.6- 362.3 D.C. CAPACITY:0.00492  
SHUT-IN PRESS(I-F): 922.7- 904.7 W.P. CAPACITY:0.00000  
BOTTOM HOLE TEMPERATURE: 136 D.P. CAPACITY:0.01402  
TOTAL FEET OF RECOVERY: 905 TOTAL BARRELS RECOVERY: 9.4106

\*\*\*\*\*

EXTRAPOLATED INITIAL SHUT-IN PRESSURE (PSI): 944  
SLOPE (PSI-CYCLE): 124 POINTS USED: 3

EXTRAPOLATED FINAL SHUT-IN PRESSURE (PSI): 926  
SLOPE (PSI-CYCLE): 65 POINTS USED: 6

\*\*\*\*\*

CALCULATIONS

PRODUCTION POTENTIAL (B/D) : 129.06  
TRANSMISSIBILITY (MD-FT/CP) : 322.85  
EFFECTIVE PERMEABILITY (MD) : 193.71  
PRODUCTIVITY INDEX (B/D/PSI) : 0.3648  
DAMAGE RATIO : 1.587  
APPROXIMATE RADIUS OF INVESTIGATION (FT) : 142.6  
DRAWDOWN FACTOR (%) : 1.907  
POTENTIOMETRIC SURFACE (FT) :1057.39

INITIAL SHUT-IN

15-153-20683-00-00

RECORDER NO: 10290 DEPTH: 4220 FT.  
INITIAL FLOW TIME (T): 15 MIN.

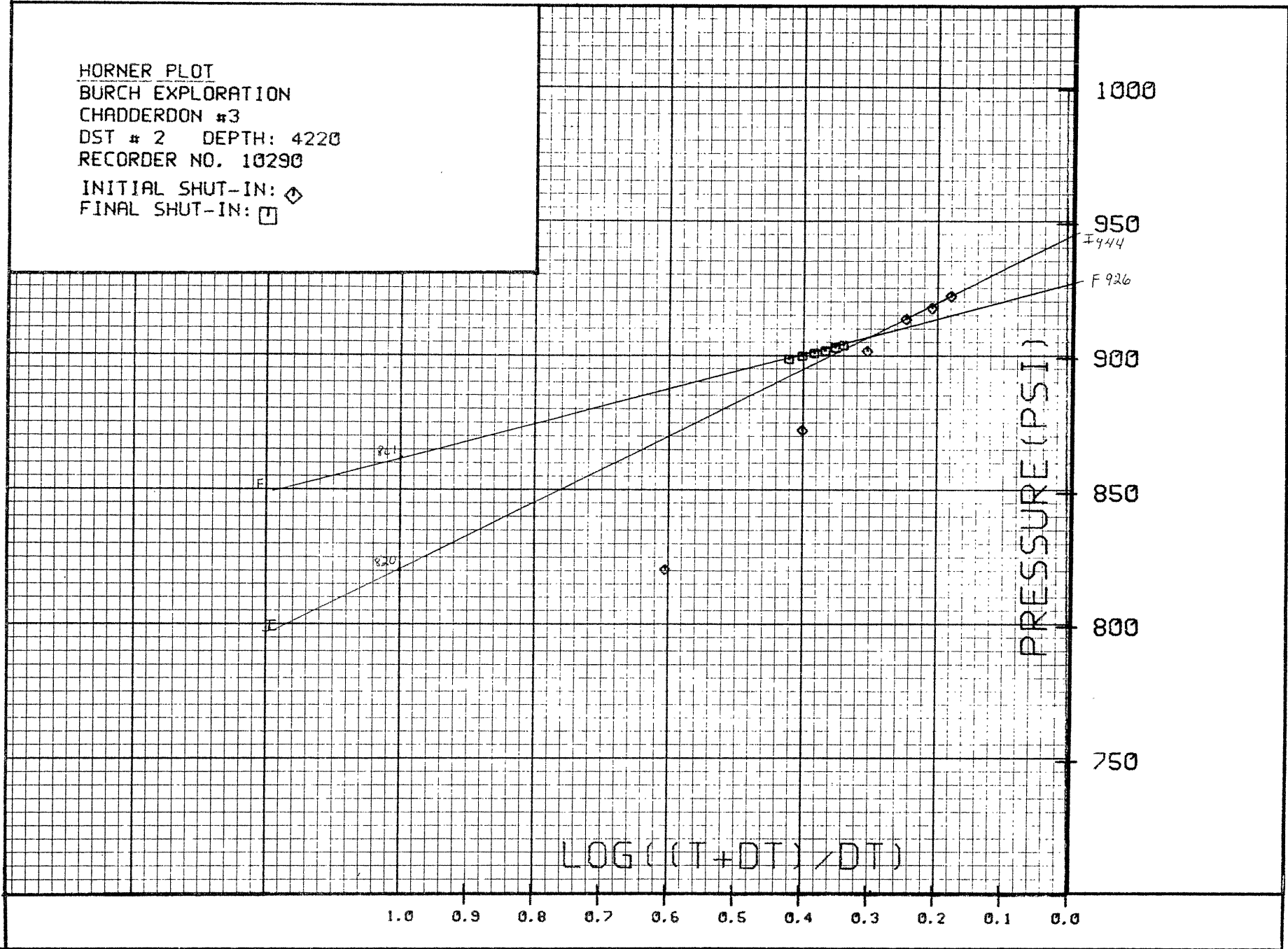
DT(MIN)	LOG((T+DT)/DT)	PRESSURE(P SIG)
0	0.000	171.6
5	0.602	821.0
10	0.398	872.9
15	0.301	902.5
20	0.243	914.2
25	0.204	918.4
30	0.176	922.7

FINAL SHUT-IN

RECORDER NO: 10290 DEPTH: 4220 FT.  
TOTAL FLOW TIME: 105 MIN.

DT(MIN)	LOG((T+DT)/DT)	PRESSURE(P SIG)
0	0.000	362.3
5	1.342	764.8
10	1.061	818.9
15	0.903	840.0
20	0.796	857.0
25	0.716	865.5
30	0.653	872.9
35	0.602	876.1
40	0.559	882.4
45	0.523	888.8
50	0.491	893.0
55	0.464	895.1
60	0.439	897.2
65	0.418	899.4
70	0.398	900.4
75	0.380	901.5
80	0.364	902.5
85	0.349	903.6
90	0.336	904.7

HORNER PLOT  
 BURCH EXPLORATION  
 CHADDERDON #3  
 DST # 2 DEPTH: 4220  
 RECORDER NO. 10290  
 INITIAL SHUT-IN:  $\diamond$   
 FINAL SHUT-IN:  $\square$



15-153-20683-00-00



15-153-20683-00-00

# CHENEY TESTING COMPANY, INC.

P. O. Box 367

HILL CITY, KANSAS 67642

## DRILL-STEM TEST DATA

Company	Burch Exploration	Test No.	3
Well Name & Number	Chadderdon #3	Zone Tested	K.C. "E"
Company Address	Parker, Colo.	Date	2-7-87
Company Rep.	Paul Prijatel	Tester	Gary Hartwell
Contractor	Golden Eagle Drlg. Co.	Elevation	3130 G.L.
Location: Sec. 13 Twp. 1 Rge. 35 Co. Rawlins State Kan		Est. Feet of Pay	

Recorder No. 13363 Type AK-1 Range 3800 PSI  
 Recorder Depth 4254 Clock # 23859  
 (A) Initial Hydrostatic Mud 2153 PSI  
 (B) First Initial Flow Pressure 478 PSI  
 (C) First Final Flow Pressure 640 PSI  
 (D) Initial Shut-in Pressure 781 PSI  
 (E) Second Initial Flow Pressure 705 PSI  
 (F) Second Final Flow Pressure 781 PSI  
 (G) Final Shut-in Pressure 781 PSI  
 (H) Final Hydrostatic Mud 2142 PSI  
 Temperature 136  
 Mud Weight 9.0 Viscosity 46  
 Fluid Loss 6.4  
 Interval Tested 4228-4260  
 Anchor Length 32  
 Top Packer Depth 4223  
 Bottom Packer Depth 4228  
 Total Depth 4260  
 Drill Pipe Size 4½ EX.H.  
 Wt. Pipe I. D. Collara 2.25 Ft. Run 360  
 Recovery-Total Feet 1710

Recorder No. 10290 Type AK-1 Range 4250 PSI  
 Recorder Depth 4257 Clock # 25561  
 Tool Open Before I.S.I. 15 Mins.  
 Initial Shut-in 30 Mins.  
 Flow Period 90 Mins.  
 Final Shut-in 90 Mins.  
 Top Choke Size 1" Hole Size 7 7/8"  
 Bottom Choke Size 3/4" Rubber Size 6 3/4"  
 Tool Open @ 9:12 A.M.  
 Blow Remarks Strong blow bottom of bucket  
2 min. 1st open.  
Bottom of bucket 1 min 2nd open.

Recovered 540 Feet Of G.I.P.  
 Recovered 150 Feet Of W.O. 20% WTR. 80% Oil  
 Recovered 360 Feet Of W GSY O 40% WTR. 40% Oil 20% Gas  
 Recovered 300 Feet Of GSY O W 55% WTR. 25% Oil 20% GAS  
 Recovered 900 Feet Of Water  
 Recovered \_\_\_\_\_ Feet Of \_\_\_\_\_

Extra Equipment Bowen Jars, Safety Joint, Sampler & Ins. Price of Job \$601.00

15-153-20683-00-00

# CHENEY TESTING COMPANY, INC.

P. O. BOX 367

HILL CITY, KANSAS 67642

Dist. McCook

## TEST TICKET

Company <u>Burch Exp</u> <sup>Invoice</sup> <u>Golden Eagle</u>	Test No. <u>#3</u>
Well Name & Number <u>Chadderton #3</u>	Zone Tested <u>K.C. "E"</u>
Company Address <u>Parker, Co. McCook, NE</u>	Date <u>2-7-87</u>
Company Rep. <u>Paul Prijatel</u>	Tester <u>Gary Hartwell</u>
Contractor <u>Golden Eagle</u>	Elevation <u>3130 GL</u>
Location: Sec. <u>13</u> Twp. <u>1</u> Rge. <u>35</u> Co. <u>Pawnee</u> State <u>Ks</u>	

Recorder No. 13313 Type AK-1 Range 3400 PSI

Recorder No. 10290 Type AK-1 Range 4250 PSI

Recorder Depth 4254 Clock # 23859

Recorder Depth 4257 Clock # 25561

(A) Initial Hydrostatic Mud 2153 PSI

Tool Open Before I. S. I. 15 Mins.

(B) First Initial Flow Pressure 478 PSI

Initial Shut-in 30 Mins.

(C) First Final Flow Pressure 640 PSI

Flow Period 90 Mins.

(D) Initial Shut-in Pressure 781 PSI

Final Shut-in 90 Mins.

(E) Second Initial Flow Pressure 705 PSI

T Choke Size 1 Hole Size 728

(F) Second Final Flow Pressure 781 PSI

B Choke Size 3/4 Rubber Size 634

(G) Final Shut-in Pressure 781 PSI

Tool Open @ 9:12 AM

(H) Final Hydrostatic Mud 2142 PSI

Blow Strong Blow Bottom at Bucket 2m.

Temperature 136

Remarks Bottom at Bucket 1 min

Mud Weight 9.6 Viscosity 46

Fluid Loss 6.4

Interval Tested 4228 - 4260

Anchor Length 32'

Top Packer Depth 4223'

Bottom Packer Depth 4228'

Total Depth 4260'

Drill Pipe Size 14 1/2" XH

Wt. Pipe I. D. 2.25 Ft. Run 360

Recovery—Total Feet 1710'

Rec. 540' 61P

Rec. 150' W.O. 20% W 40% D

Rec. 360' W.O. 40% W 40% D 20% G

Rec. 300' Gey 55% W 25% D 20% G

Rec. 900' W

Rec. \_\_\_\_\_

- Test ..... \$ 550
- Straddle .....
- Bowen Jars .....
- Safety Joint .....
- Selective Zone Tool .....
- Sampler .....
- Extra Packer .....
- Circulating Sub .....
- Down Hole Insurance  51
- Others .....
- Price of Job .....

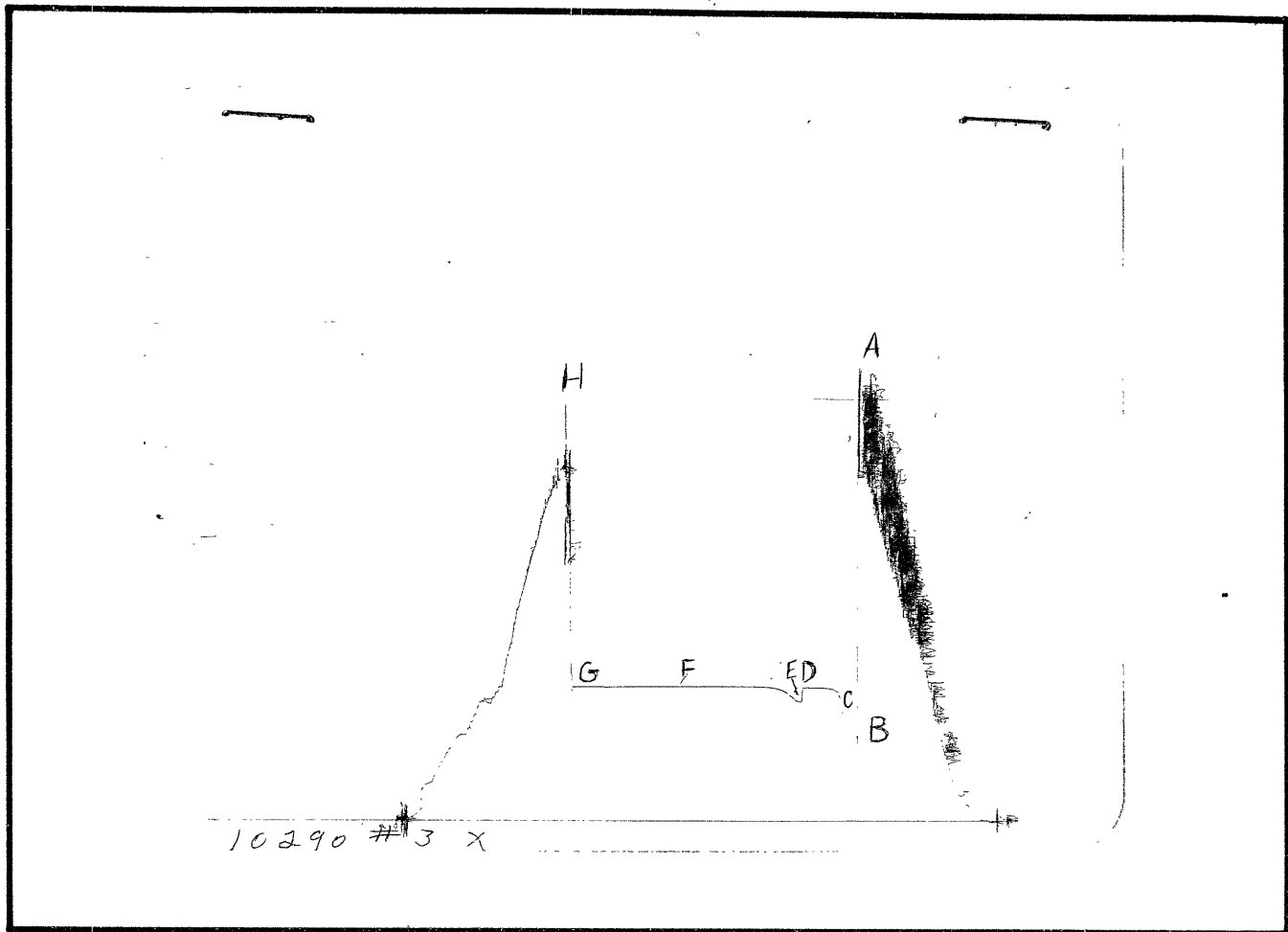
### CHENEY TESTING COMPANY, INC.

Approved By Paul Prijatel

Our Representative Gary H. Tull

TICKET No 10630

15-153-20683-00-00



This is an actual photograph of recorder chart.

POINT	PRESSURE		
	Field Reading	Office Reading	
(A) Initial Hydrostatic Mud .....	2153 .....	2627.6 .....	PSI
(B) First Initial Flow Pressure .....	478 .....	450.2 .....	PSI
(C) First Final Flow Pressure .....	640 .....	638.8 .....	PSI
(D) Initial Closed-in Pressure .....	781 .....	768 .....	PSI
(E) Second Initial Flow Pressure .....	705 .....	688.6 .....	PSI
(F) Second Final Flow Pressure .....	781 .....	776.5 .....	PSI
(G) Final Closed-in Pressure .....	781 .....	776.5 .....	PSI
(H) Final Hydrostatic Mud .....	2142 .....	2415.2 .....	PSI

15-153-20683-00-00

# CHENEY TESTING CO., INC.

P. O. BOX 367

HILL CITY, KANSAS 67642

## FLUID SAMPLER DATA

Ticket No.	10630	Date	2-7-87		
Company Name	Burch Exploration				
Lease	Chadderdon #3	Test No.	3		
County	Rawlins	Sec.13	Twp. 1	Rge. 35	

### SAMPLER RECOVERY

Gas \_\_\_\_\_ ML  
Oil \_\_\_\_\_ ML  
Mud Trace 5 ML  
Water 2000 ML  
Other - ML  
Pressure 200 P.S.I.  
Total 2000 ML

### PIT MUD ANALYSIS

Chlorides 3,000 ppm  
Resistivity 1.65 ohms @ 80 °F  
Viscosity 46  
Wt. 9.0  
Filtrate 6.4 cc  
Other 2# L C M

### SAMPLER ANALYSIS

Resistivity 0.16 ohms @ 72 °F  
Chlorides 45,000 ppm  
Gravity \_\_\_\_\_ Corrected @ 60°F

### PIPE RECOVERY

#### TOP:

Resistivity 0.19 ohms @ 69 °F  
Chlorides 38,000 ppm

#### MIDDLE:

Resistivity 0.16 ohms @ 71 °F  
Chlorides 45,000 ppm

#### BOTTOM:

Resistivity 0.16 ohms @ 72 °F  
Chlorides 45,000 ppm

15-153-20683-0000

CHENEY TESTING CO, INC.  
CALCULATION OF FORMATION CHARACTERISTICS  
FROM DST DATA

\*\*\*\*\*

FOR: BURCH EXPLORATION  
CHADDERDON #3 DST # 3  
13-1S-35W FORMATION: KANSAS CITY  
RAWLINS CO., KANSAS ELEVATION: 3130 KB

\*\*\*\*\*

TEST PARAMETERS

TEST INTERVAL: 4228 - 4260	EST PAY: 5
TIME INTERVAL: 15 - 30 - 90 - 90	VISCOSITY OF FLUID: 3
INITIAL FLOW PRESS: 450.2- 638.8	HOLE SIZE: 7.875
FINAL FLOW PRESS: 688.6- 776.5	D.C. CAPACITY: 0.00492
SHUT-IN PRESS(I-F): 768.0- 776.5	W.P. CAPACITY: 0.00000
BOTTOM HOLE TEMPERATURE: 136	D.P. CAPACITY: 0.01402
TOTAL FEET OF RECOVERY: 1710	TOTAL BARRELS RECOVERY: 20.6968

\*\*\*\*\*

EXTRAPOLATED INITIAL SHUT-IN PRESSURE (PSI): 768  
SLOPE (PSI-CYCLE): 10 POINTS USED: 4

EXTRAPOLATED FINAL SHUT-IN PRESSURE (PSI): 778  
SLOPE (PSI-CYCLE): 10 POINTS USED: 5

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CALCULATIONS

PRODUCTION POTENTIAL (B/D)	: 283.84
TRANSMISSIBILITY (MD-FT/CP)	: 4615.28
EFFECTIVE PERMEABILITY (MD)	: 2769.17
PRODUCTIVITY INDEX (B/D/PSI)	: 5.2153
DAMAGE RATIO	: 0.028
APPROXIMATE RADIUS OF INVESTIGATION (FT)	: 539.2
DRAWDOWN FACTOR (%)	: -1.302
POTENTIOMETRIC SURFACE (FT)	: 674.18

15-153-20683-00-00

INITIAL SHUT-IN

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RECORDER NO: 10290 DEPTH: 4260 FT.  
INITIAL FLOW TIME (T): 15 MIN.

DT(MIN)	LOG((T+DT)/DT)	PRESSURE(P SIG)
0	0.000	638.8
5	0.602	754.2
10	0.398	766.9
15	0.301	768.0
20	0.243	768.0
25	0.204	768.0
30	0.176	768.0

FINAL SHUT-IN

=====

RECORDER NO: 10290 DEPTH: 4260 FT.  
TOTAL FLOW TIME: 105 MIN.

DT(MIN)	LOG((T+DT)/DT)	PRESSURE(P SIG)
0	0.000	776.5
5	1.342	776.5
10	1.061	776.5
15	0.903	776.5
20	0.796	776.5
25	0.716	776.5
30	0.653	776.5
35	0.602	776.5
40	0.559	776.5
45	0.523	776.5
50	0.491	776.5
55	0.464	776.5
60	0.439	776.5
65	0.418	776.5
70	0.398	776.5
75	0.380	776.5
80	0.364	776.5
85	0.349	776.5
90	0.336	776.5

HORNER PLOT  
BURCH EXPLORATION  
CHADDERDON #3  
DST # 3 DEPTH: 4260  
RECORDER NO. 10290  
INITIAL SHUT-IN:  $\diamond$   
FINAL SHUT-IN:  $\square$

15-153-20683-00-00

