FORM MUST BE TYPED

SIDE ONE

ORIGINAL

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

API NO. 15- 063-21500 0000

County Gove

-S/2-NW-SE Sec. 7 Twp. 15s Rge. 27w X

1650 Feet from (S)/N (circle one) Line of Section

1980 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 Jim Coberly Well # 1

Field Name Leighton South

Producing Formation None

Elevation: Ground 2505 KB 2513

Total Depth 4330 PBTD

Amount of Surface Pipe Set and Cemented at 202.55 Feet

Multiple Stage Cementing Collar Used? ____ Yes X No

If yes, show depth set ____ Feet

If Alternate II completion, cement circulated from ____

feet depth to ____ w/ ____ sx cmt.

Drilling Fluid Management Plan D+A U.C. 12-24-97
(Data must be collected from the Reserve Pit)

Chloride content 14,000 ppm Fluid volume 2700 bbls

Dewatering method used Evaporation

Location of fluid disposal if hauled offsite: 4-30-97

Operator Name ____

Lease Name ____ License No. ____

____ Quarter Sec. ____ Twp. ____ S Rng. ____ E/W

County ____ Docket No. ____

Operator: License # 9860

Name: Castle Resources, Inc.

Address 1200 East 27th, Suite C

City/State/Zip Hays, Kansas 67601

Purchaser: ____

Operator Contact Person: Jerry Green

Phone (913) 625-5155

Contractor: Name: Discovery Drilling, Inc.

License: 31548

Wellsite Geologist: Jerry Green

Designate Type of Completion
X New Well ____ Re-Entry ____ Workover

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

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

Operator: ____

Well Name: ____

Comp. Date ____ Old Total Depth ____

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

4/1/97 Spud Date | 4/6/97 Date Reached TD | 4/7/97 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.

Signature ____

Title President Date 4-24-97

Subscribed and sworn to before me this 24th day of April, 19 97.

Notary Public Katherine Bray

Date Commission Expires 6-19-2000

KATHERINE BRAY
NOTARY PUBLIC
STATE OF KANSAS
MY APPT. EXPIRES 6-19-2000

K.C.C. OFFICE USE ONLY
F ____ Letter of Confidentiality Attached
C ✓ Wireline Log Received
C ✓ Geologist Report Received

Distribution
✓ KCC ____ SWD/Rep ____ NGPA
____ KGS ____ Plug ____ Other (Specify)

Form ACO-1 (7-91)

SIDE TWO

Operator Name Castle Resources, Inc. Lease Name Jim Eberly Well # 1

Sec. 7 Twp. 15s Rge. 27w ☐ East ☒ West County Gove

**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 (Attach Additional Sheets.) ☒ Yes ☐ No

Samples Sent to Geological Survey ☐ Yes ☒ No

Cores Taken ☐ Yes ☒ No

Electric Log Run (Submit Copy.) ☒ Yes ☐ No

List All E.Logs Run:

☒ Log Formation (Top), Depth and Datums ☐ Sample

| Name | Top | Datum |
|---|---|---|
| Heebner | 3695 | -1182 |
| Lansing-KC | 3735 | -1222 |
| Stark Shale | 3982 | -1469 |
| Fort Scott | 4234 | -1721 |
| Mississippi | 4322 | -1809 |

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 Pipe | 12¼ | 8 5/8 | 20 | 202.55 | 60/40Poz | 140 | 2%Gel&3%CC |
| | | | | | | | |
| | | | | | | | |

ADDITIONAL CEMENTING/SQUEEZE RECORD

| Purpose: | Depth Top | Depth Bottom | Type of Cement | #Sacks Used | Type and Percent Additives |
|---|---|---|---|---|---|
| ___ Perforate | | | | | |
| ___ Protect Casing | | | | | |
| ___ Plug Back TD | | | | | |
| ___ Plug Off Zone | | | | | |

| 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 |
|---|---|---|---|
| | | | |
| | | | |
| | | | |
| | | | |

TUBING RECORD Size Set At Packer At Liner Run ☐ Yes ☐ No

Date of First, Resumed Production, SWD or Inj. D+A Producing Method ☐ Flowing ☐ Pumping ☐ Gas Lift ☐ Other (Explain)

| Estimated Production Per 24 Hours | Oil Bbls. | Gas Mcf | Water Bbls. | Gas-Oil Ratio | Gravity |
|---|---|---|---|---|---|
| | N-A | N-A | | | |

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

METHOD OF COMPLETION ☐ Open Hole ☐ Perf. ☐ Dually Comp. ☐ Commingled ☐ Other (Specify)

Production Interval

Discovery Drilling
P.O. Box 763 • Hays, KS 67601 • OFFICE (913) 623-2920 • CELLULAR (913) 635-1511

ORIGINAL

15-063-21500

# DRILLER'S LOG

Operator: **CASTLE RESOURCES, INC.**
1200 East 27th, Suite C
Hays, KS 67601

Contractor: **DISCOVERY DRILLING, INC.**
P.O. Box 763
Hays, KS 67601

Lease: Jim Coberly #1

Location: S/2 NW/SE
Sec. 7/15S/27W
Gove Co., KS

Loggers Total Depth: 4330'
Rotary Total Depth: 4330'
Commenced: 04/01/97
Casing: 8 5/8" @ 202.55 w/140sks

Elevation: 2505' Gr/2513' KB
Completed: 04/07/97
Status: D&A

## DEPTHS & FORMATIONS

(All measurements from K.B.)

| | | | |
|---|---|---|---|
| Surface, Sand & Shale | 0' | Shales | 1997' |
| Dakota Sand | 765' | Shales & Lime | 2210' |
| Shales | 956' | Shales | 2328' |
| Cedar Hill Sand | 1501' | Shales & Lime | 2471' |
| Red Bed Shale | 1749' | Lime & Shales | 3862' |
| Anhydrite | 1962' | RTD | 4330' |
| Base Anhydrite | 1997' | | |

STATE OF KANSAS )
) ss
COUNTY OF ELLIS )

Thomas H. Alm of Discovery Drilling, Inc. states that to the best of his knowledge the above and foregoing is a true and correct log of the above captioned well.

Thomas H. Alm

Subscribed and sworn to before me on 4-14-97.

My Commission Expires: 9-20-2000.

Notary Public

(Place stamp or seal above.)

ARDITH R. HURST
NOTARY PUBLIC
STATE OF KANSAS
My Appt. Exp. 9-20-2000

RECEIVED
KANSAS CORP COMM
1997 APR 30 A 10:49

# ALLIED CEMENTING CO., INC. 8467

Federal Tax I.D.# 48-0727860

REMIT TO P.O. BOX 31
RUSSELL, KANSAS 67665

ORIGINAL

SERVICE POINT: R

| DATE 4-1-97 | SEC. | TWP. | RANGE | CALLED OUT | ON LOCATION 10:30pm | JOB START | JOB FINISH 12:45pm |
|---|---|---|---|---|---|---|---|
| LEASE Coberly | WELL # 1 | | LOCATION Quinter 19s 7w 2½s ¾E ¾N | | | COUNTY Gove | STATE Ks |
| OLD OR (NEW) (Circle one) | | | | | | | |

CONTRACTOR Discovery #2
TYPE OF JOB Surface
HOLE SIZE 12¼ T.D. 205
CASING SIZE 8⅝ DEPTH 202 208
TUBING SIZE DEPTH
DRILL PIPE DEPTH
TOOL DEPTH
PRES. MAX MINIMUM
MEAS. LINE SHOE JOINT
CEMENT LEFT IN CSG. 10-15
PERFS.
DISPLACEMENT 12¼

OWNER

**CEMENT**
AMOUNT ORDERED 140 60/40 3%cc 2%gel

**EQUIPMENT**

PUMP TRUCK CEMENTER Mark
# 153 HELPER Paul
BULK TRUCK
# 305 DRIVER Dan
BULK TRUCK
# DRIVER

| | | | |
|---|---|---|---|
| COMMON | @ | | |
| POZMIX | @ | | |
| GEL | @ | | |
| CHLORIDE | @ | | |
| | @ | | |
| | @ | | |
| | @ | | |
| | @ | | |
| | @ | | |
| HANDLING | @ | | |
| MILEAGE | | | |

TOTAL

**REMARKS:**

Cement Did Circ. ✓

**SERVICE**

| | | |
|---|---|---|
| DEPTH OF JOB | | |
| PUMP TRUCK CHARGE | | |
| EXTRA FOOTAGE | @ | |
| MILEAGE | @ | |
| PLUG | @ | |
| | @ | |
| | @ | |

TOTAL

CHARGE TO: Castle Resources Inc.
STREET
CITY STATE ZIP

**FLOAT EQUIPMENT**

| | | |
|---|---|---|
| | @ | |
| | @ | |
| | @ | |
| | @ | |
| | @ | |

TOTAL

To Allied Cementing Co., Inc.
You are hereby requested to rent cementing equipment and furnish cementer and helper to assist owner or contractor to do work as is listed. The above work was

# ALLIED CEMENTING CO., INC. 5440

ORIGINAL

REMIT TO P.O. BOX 31
RUSSELL, KANSAS 67665

SERVICE POINT: R

| DATE 4/7/97 | SEC. 7 | TWP. 15S | RANGE 27W | CALLED OUT | ON LOCATION | JOB START 1:15 PM | JOB FINISH 4:00 pm |
|---|---|---|---|---|---|---|---|
| LEASE Cobert | WELL # 1 | LOCATION Quinter 19S 7W 2 2S 3/4E 3/4N | | | | COUNTY Gove | STATE KS |

OLD OR NEW (Circle one)

CONTRACTOR Discovery Rig 1
TYPE OF JOB Plug
HOLE SIZE 7 7/8 T.D. 4330
CASING SIZE DEPTH
TUBING SIZE DEPTH
DRILL PIPE DEPTH
TOOL DEPTH
PRES. MAX MINIMUM
MEAS. LINE SHOE JOINT
CEMENT LEFT IN CSG.
PERFS.

OWNER

CEMENT

AMOUNT ORDERED 200 60/40 6% gel
1/4 # Flocele

COMMON @
POZMIX @
GEL @
CHLORIDE @
@
@
@
@
@
HANDLING @
MILEAGE

TOTAL

**EQUIPMENT**

177 Dave
PUMP TRUCK CEMENTER Glen
# HELPER
BULK TRUCK
# DRIVER
BULK TRUCK
# 213 DRIVER Jason

**REMARKS:**

25 @ 1990
100 @ 910
40 @ 255
10 @ 40 w/c plug
10 mouse hole
15 Rat hole

**SERVICE**

DEPTH OF JOB
PUMP TRUCK CHARGE
EXTRA FOOTAGE @
MILEAGE @
PLUG Dry Hole 6¾ @
@
@

TOTAL

CHARGE TO: Cox Hc Resources
STREET
CITY STATE ZIP

**FLOAT EQUIPMENT**

@
@
@
@
@

TOTAL

ORIGINAL

15-063-21500

| | |
|---|---|
| **WELL NAME:** | Fossil Gully #1 |
| **COMPANY:** | Castle Resources |
| **LOCATION:** | 7-15S-27W |
| | Gove County Kansas |
| **DATE:** | 04/09/97 |

TRILOBITE TESTING L.L.C.

OPERATOR : Castle Resources — DATE 4-6-97
WELL NAME: Fossil Gully #1 — KB 2513.00 ft — TICKET NO: 9954 — DST #1
LOCATION : 7-15-27 — GR 2508.00 ft — FORMATION: Mississippi
INTERVAL : 4220.00 To 4330.00 ft — TD 4330.00 ft — TEST TYPE: CONV.

RECORDER DATA

| Mins | | Field | 1 | 2 | 3 | 4 |
|---|---|---|---|---|---|---|
| PF 45 | Rec. | 11057 | 11057 | 2342 | | |
| SI 45 | Range(Psi ) | 4500.0 | 4500.0 | 4995.0 | 0.0 | 0.0 |
| SF 45 | Clock(hrs) | 12 | 12 HR | 24 | | |
| FS 45 | Depth(ft ) | 4325.0 | 4325.0 | 4261.0 | 0.0 | 0.0 |

TIME DATA----------
PF Fr. 0106 to 0151 hr
IS Fr. 0151 to 0236 hr
SF Fr. 0236 to 0321 hr
FS Fr. 0321 to 0406 hr

| | Field | 1 | 2 | 3 | 4 |
|---|---|---|---|---|---|
| A. Init Hydro | 2185.0 | 2168.0 | 2184.0 | 0.0 | 0.0 |
| B. First Flow | 78.0 | 98.0 | 33.0 | 0.0 | 0.0 |
| B1. Final Flow | 89.0 | 81.0 | 48.0 | 0.0 | 0.0 |
| C. In Shut-in | 1174.0 | 1156.0 | 1148.0 | 0.0 | 0.0 |
| D. Init Flow | 100.0 | 109.0 | 51.0 | 0.0 | 0.0 |
| E. Final Flow | 100.0 | 95.0 | 62.0 | 0.0 | 0.0 |
| F. Fl Shut-in | 1152.0 | 1120.0 | 1120.0 | 0.0 | 0.0 |
| G. Final Hydro | 2174.0 | 2115.0 | 2076.0 | 0.0 | 0.0 |
| Inside/Outside | O | O | I | | |

T STARTED 2245 hr
T ON BOTM 0102 hr
T OPEN 0106 hr
T PULLED 0406 hr
T OUT 0700 hr

RECOVERY
Tot Fluid 70.00 ft of 0.00 ft in DC and 70.00 ft in DP
70.00 ft of Drilling Mud
0.00 ft of
0.00 ft of
0.00 ft of
0.00 ft of
0.00 ft of
0.00 ft of
0.00 ft of
SALINITY 2000.00 P.P.M. A.P.I. Gravity 0.00

TOOL DATA----------

| | |
|---|---|
| Tool Wt. | 5000.00 lbs |
| Wt Set On Packer | 26000.00 lbs |
| Wt Pulled Loose | 73000.00 lbs |
| Initial Str Wt | 43000.00 lbs |
| Unseated Str Wt | 43000.00 lbs |
| Bot Choke | 0.75 in |
| Hole Size | 7.88 in |
| D Col. ID | 2.25 in |
| D. Pipe ID | 3.60 in |
| D.C. Length | 0.00 ft |
| D.P. Length | 4283.00 ft |

BLOW DESCRIPTION
Initial Flow:
.25" at open, built to 1.25"

Initial Shut In:
No return

Final Flow:
Weak surface blow, built to .25"

Final Shut In:
No return

MUD DATA----------

| | |
|---|---|
| Mud Type | Chemical |
| Weight | 9.40 lb/c |
| Vis. | 46.00 S/L |
| W.L. | 9.60 in3 |
| F.C. | 0.00 in |
| Mud Drop N | |
| Amt. of fill | 0.00 ft |
| Btm. H. Temp. | 124.00 F |
| Hole Condition | good |
| % Porosity | 0.00 |
| Packer Size | 6.75 in |
| No. of Packers | 2 |
| Cushion Amt. | 0.00 |
| Cushion Type | |
| Reversed Out N | |
| Tool Chased N | |
| Tester | Shane McBride |
| Co. Rep. | Jerry Green |
| Contr. | Discovery |
| Rig # | 2 |
| Unit # | |
| Pump T. | |

SAMPLES:
SENT TO:

Test Successful: Y

*** TOOL DIAGRAM *** CONV.

WELL NAME: Fossil Gully #1

LOCATION : 7-15-27

TICKET No. 9954 D.S.T. No. 1 DATE 4-6-97

TOTAL TOOL TO BOTTOM OF TOP PACKERS ..... 20

INTERVAL TOOL .....

BOTTOM PACKERS AND ANCHOR ..... 47

TOTAL TOOL ..... 67

DRILL COLLAR ANCHOR IN INTERVAL .....

D.C. ANCHOR STND.Stands Single Total

D.P. ANCHOR STND.Stands 1 Single Total 63

TOTAL ASSEMBLY ..... 130

D.C. ABOVE TOOLS.Stands Single Total

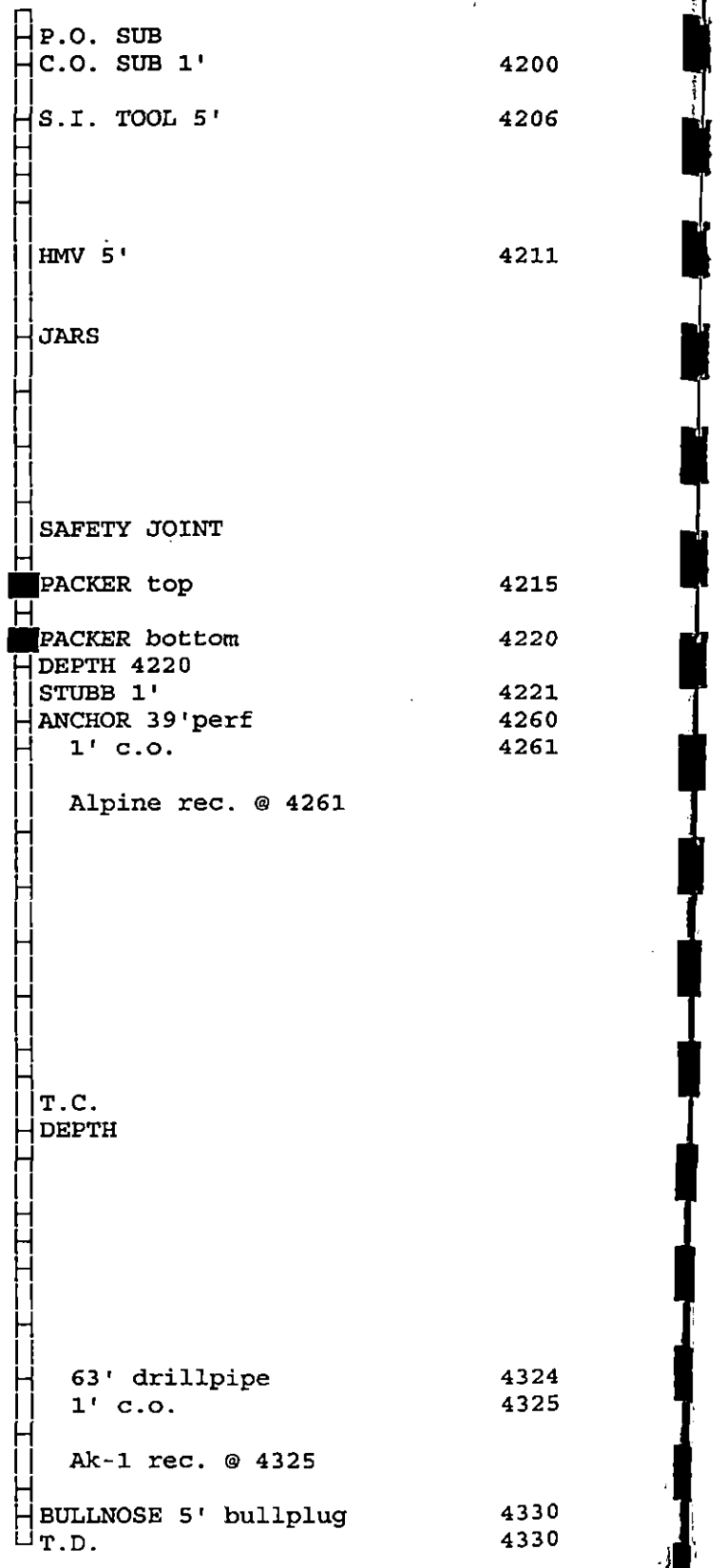
D.P. ABOVE TOOLS.Stands Single 1 Total 4220

TOTAL DRILL COLLARS DRILL PIPE & TOOLS .. 4350

TOTAL DEPTH ..... 4330

TOTAL DRILL PIPE ABOVE K.B. ..... 20

REMARKS:



ALPINE SUBSURFACE ELECTRONICS PROBE INCREMENTS LISTING

TEST: 9954 DST #1 Castle Resources

DATE: 04/06/97 TIME: 21:42:09

| | Time | Pressure PSIg | delta P PSIg | Temp. DEG F | (T+dT)/dT | P^2/10^6 |
|---|---|---|---|---|---|---|
| ****** Initial Hydro. | 143.00 | 2184.0 | 0.0 | 113.45 | | |
| ****** Start Flow 1 | 0.00 | 33.5 | 0.0 | 114.13 | | |
| | 1.00 | 34.2 | 0.8 | 114.22 | | |
| | 2.00 | 34.5 | 1.0 | 114.28 | | |
| | 3.00 | 35.1 | 1.6 | 114.34 | | |
| | 4.00 | 35.2 | 1.8 | 114.40 | | |
| | 5.00 | 35.7 | 2.3 | 114.46 | | |
| | 6.00 | 36.3 | 2.9 | 114.54 | | |
| | 7.00 | 36.6 | 3.1 | 114.61 | | |
| | 8.00 | 37.0 | 3.5 | 114.69 | | |
| | 9.00 | 37.2 | 3.7 | 114.77 | | |
| | 10.00 | 37.4 | 3.9 | 114.86 | | |
| | 11.00 | 38.0 | 4.5 | 114.95 | | |
| | 12.00 | 38.1 | 4.6 | 115.04 | | |
| | 13.00 | 38.2 | 4.7 | 115.13 | | |
| | 14.00 | 39.3 | 5.8 | 115.23 | | |
| | 15.00 | 39.8 | 6.3 | 115.32 | | |
| | 16.00 | 40.3 | 6.8 | 115.42 | | |
| | 17.00 | 40.9 | 7.4 | 115.52 | | |
| | 18.00 | 41.0 | 7.6 | 115.62 | | |
| | 19.00 | 40.8 | 7.3 | 115.72 | | |
| | 20.00 | 41.5 | 8.1 | 115.81 | | |
| | 21.00 | 42.3 | 8.8 | 115.91 | | |
| | 22.00 | 42.0 | 8.6 | 116.01 | | |
| | 23.00 | 41.7 | 8.2 | 116.10 | | |
| | 24.00 | 41.8 | 8.3 | 116.20 | | |
| | 25.00 | 42.0 | 8.6 | 116.29 | | |
| | 26.00 | 42.5 | 9.0 | 116.39 | | |
| | 27.00 | 42.7 | 9.2 | 116.49 | | |
| | 28.00 | 43.1 | 9.7 | 116.58 | | |
| | 29.00 | 43.6 | 10.2 | 116.67 | | |
| | 30.00 | 44.1 | 10.6 | 116.77 | | |
| | 31.00 | 44.6 | 11.1 | 116.85 | | |
| | 32.00 | 44.8 | 11.3 | 116.95 | | |
| | 33.00 | 45.2 | 11.7 | 117.05 | | |
| | 34.00 | 45.5 | 12.0 | 117.13 | | |
| | 35.00 | 46.4 | 12.9 | 117.23 | | |
| | 36.00 | 47.3 | 13.8 | 117.31 | | |
| | 37.00 | 46.6 | 13.1 | 117.40 | | |
| | 38.00 | 46.7 | 13.3 | 117.48 | | |
| | 39.00 | 47.0 | 13.5 | 117.58 | | |
| | 40.00 | 47.3 | 13.8 | 117.66 | | |
| | 41.00 | 47.7 | 14.2 | 117.74 | | |
| | 42.00 | 47.8 | 14.4 | 117.83 | | |
| ****** End Flow 1 | 43.00 | 48.1 | 14.6 | 117.91 | | |
| ****** Start Shutin 1 | 0.00 | 48.1 | 0.0 | 117.91 | 0.0000 | 0.002 |
| | 1.00 | 53.3 | 5.2 | 117.99 | 44.0000 | 0.003 |
| | 2.00 | 83.2 | 35.1 | 118.08 | 22.5000 | 0.007 |
| | 3.00 | 153.5 | 105.4 | 118.16 | 15.3333 | 0.024 |
| | 4.00 | 297.1 | 249.0 | 118.26 | 11.7500 | 0.088 |
| | 5.00 | 474.9 | 426.8 | 118.35 | 9.6000 | 0.225 |

ALPINE SUBSURFACE ELECTRONICS PROBE INCREMENTS LISTING

TEST: 9954 DST #1 Castle Resources

DATE: 04/06/97 TIME: 21:42:09

| | Time | Pressure PSIg | delta P PSIg | Temp. DEG F | (T+dT)/dT | P^2/10^6 |
|---|---|---|---|---|---|---|
| | 6.00 | 629.9 | 581.8 | 118.46 | 8.1667 | 0.397 |
| | 7.00 | 748.2 | 700.1 | 118.57 | 7.1429 | 0.560 |
| | 8.00 | 835.7 | 787.7 | 118.68 | 6.3750 | 0.698 |
| | 9.00 | 899.7 | 851.6 | 118.79 | 5.7778 | 0.809 |
| | 10.00 | 946.5 | 898.4 | 118.89 | 5.3000 | 0.896 |
| | 11.00 | 981.1 | 933.0 | 119.00 | 4.9091 | 0.963 |
| | 12.00 | 1006.9 | 958.8 | 119.10 | 4.5833 | 1.014 |
| | 13.00 | 1026.8 | 978.8 | 119.20 | 4.3077 | 1.054 |
| | 14.00 | 1042.0 | 993.9 | 119.29 | 4.0714 | 1.086 |
| | 15.00 | 1054.2 | 1006.1 | 119.38 | 3.8667 | 1.111 |
| | 16.00 | 1064.1 | 1016.0 | 119.45 | 3.6875 | 1.132 |
| | 17.00 | 1072.4 | 1024.3 | 119.55 | 3.5294 | 1.150 |
| | 18.00 | 1079.4 | 1031.3 | 119.63 | 3.3889 | 1.165 |
| | 19.00 | 1085.4 | 1037.3 | 119.70 | 3.2632 | 1.178 |
| | 20.00 | 1090.7 | 1042.6 | 119.77 | 3.1500 | 1.190 |
| | 21.00 | 1095.6 | 1047.5 | 119.84 | 3.0476 | 1.200 |
| | 22.00 | 1099.9 | 1051.8 | 119.91 | 2.9545 | 1.210 |
| | 23.00 | 1103.8 | 1055.7 | 119.99 | 2.8696 | 1.218 |
| | 24.00 | 1107.3 | 1059.3 | 120.05 | 2.7917 | 1.226 |
| | 25.00 | 1110.6 | 1062.5 | 120.11 | 2.7200 | 1.233 |
| | 26.00 | 1113.6 | 1065.5 | 120.18 | 2.6538 | 1.240 |
| | 27.00 | 1116.5 | 1068.4 | 120.24 | 2.5926 | 1.247 |
| | 28.00 | 1119.2 | 1071.1 | 120.31 | 2.5357 | 1.253 |
| | 29.00 | 1121.7 | 1073.6 | 120.37 | 2.4828 | 1.258 |
| | 30.00 | 1124.0 | 1076.0 | 120.43 | 2.4333 | 1.263 |
| | 31.00 | 1126.2 | 1078.1 | 120.49 | 2.3871 | 1.268 |
| | 32.00 | 1128.2 | 1080.2 | 120.56 | 2.3438 | 1.273 |
| | 33.00 | 1130.2 | 1082.2 | 120.61 | 2.3030 | 1.277 |
| | 34.00 | 1132.1 | 1084.0 | 120.67 | 2.2647 | 1.282 |
| | 35.00 | 1133.9 | 1085.9 | 120.73 | 2.2286 | 1.286 |
| | 36.00 | 1135.7 | 1087.6 | 120.79 | 2.1944 | 1.290 |
| | 37.00 | 1137.3 | 1089.2 | 120.84 | 2.1622 | 1.293 |
| | 38.00 | 1138.8 | 1090.7 | 120.90 | 2.1316 | 1.297 |
| | 39.00 | 1140.3 | 1092.2 | 120.96 | 2.1026 | 1.300 |
| | 40.00 | 1141.7 | 1093.6 | 121.01 | 2.0750 | 1.303 |
| | 41.00 | 1143.1 | 1095.0 | 121.06 | 2.0488 | 1.307 |
| | 42.00 | 1144.3 | 1096.3 | 121.12 | 2.0238 | 1.310 |
| | 43.00 | 1145.8 | 1097.7 | 121.17 | 2.0000 | 1.313 |
| | 44.00 | 1147.0 | 1099.0 | 121.22 | 1.9773 | 1.316 |
| ****** End Shut-in 1 | 45.00 | 1148.2 | 1100.1 | 121.28 | 1.9556 | 1.318 |
| ****** Start Flow 2 | 0.00 | 51.1 | 0.0 | 121.28 | | |
| | 1.00 | 51.2 | 0.1 | 121.28 | | |
| | 2.00 | 51.4 | 0.3 | 121.27 | | |
| | 3.00 | 51.7 | 0.6 | 121.28 | | |
| | 4.00 | 51.9 | 0.8 | 121.30 | | |
| | 5.00 | 52.2 | 1.1 | 121.32 | | |
| | 6.00 | 52.4 | 1.3 | 121.35 | | |
| | 7.00 | 52.7 | 1.6 | 121.38 | | |
| | 8.00 | 53.0 | 1.9 | 121.40 | | |
| | 9.00 | 53.5 | 2.3 | 121.45 | | |
| | 10.00 | 53.9 | 2.8 | 121.49 | | |

ALPINE SUBSURFACE ELECTRONICS PROBE INCREMENTS LISTING

TEST: 9954 DST #1 Castle Resources

DATE: 04/06/97 TIME: 21:42:09

| | Time | Pressure PSIg | delta P PSIg | Temp. DEG F | (T+dT)/dT | P^2/10^6 |
|---|---|---|---|---|---|---|
| | 11.00 | 54.0 | 2.9 | 121.52 | | |
| | 12.00 | 54.0 | 2.9 | 121.57 | | |
| | 13.00 | 54.4 | 3.3 | 121.60 | | |
| | 14.00 | 54.6 | 3.5 | 121.65 | | |
| | 15.00 | 54.8 | 3.7 | 121.69 | | |
| | 16.00 | 55.0 | 3.9 | 121.74 | | |
| | 17.00 | 55.4 | 4.3 | 121.78 | | |
| | 18.00 | 55.6 | 4.4 | 121.82 | | |
| | 19.00 | 55.8 | 4.7 | 121.86 | | |
| | 20.00 | 56.0 | 4.9 | 121.91 | | |
| | 21.00 | 56.3 | 5.2 | 121.95 | | |
| | 22.00 | 56.6 | 5.5 | 121.99 | | |
| | 23.00 | 57.0 | 5.9 | 122.03 | | |
| | 24.00 | 57.3 | 6.2 | 122.07 | | |
| | 25.00 | 57.6 | 6.5 | 122.11 | | |
| | 26.00 | 58.0 | 6.9 | 122.16 | | |
| | 27.00 | 58.2 | 7.0 | 122.20 | | |
| | 28.00 | 58.5 | 7.4 | 122.24 | | |
| | 29.00 | 58.7 | 7.6 | 122.27 | | |
| | 30.00 | 58.9 | 7.8 | 122.32 | | |
| | 31.00 | 59.1 | 8.0 | 122.36 | | |
| | 32.00 | 59.4 | 8.3 | 122.40 | | |
| | 33.00 | 59.7 | 8.6 | 122.44 | | |
| | 34.00 | 59.8 | 8.7 | 122.49 | | |
| | 35.00 | 60.2 | 9.1 | 122.52 | | |
| | 36.00 | 60.3 | 9.2 | 122.56 | | |
| | 37.00 | 60.5 | 9.4 | 122.60 | | |
| | 38.00 | 60.8 | 9.7 | 122.64 | | |
| | 39.00 | 61.0 | 9.9 | 122.67 | | |
| | 40.00 | 61.2 | 10.1 | 122.71 | | |
| | 41.00 | 61.4 | 10.3 | 122.75 | | |
| | 42.00 | 61.6 | 10.5 | 122.79 | | |
| ****** End Flow 2 | 43.00 | 61.8 | 10.7 | 122.82 | | |
| ****** Start Shutin 2 | 0.00 | 61.8 | 0.0 | 122.82 | 0.0000 | 0.004 |
| | 1.00 | 66.2 | 4.4 | 122.85 | 87.0000 | 0.004 |
| | 2.00 | 83.0 | 21.1 | 122.90 | 44.0000 | 0.007 |
| | 3.00 | 109.1 | 47.3 | 122.93 | 29.6667 | 0.012 |
| | 4.00 | 152.1 | 90.2 | 122.97 | 22.5000 | 0.023 |
| | 5.00 | 222.7 | 160.8 | 123.02 | 18.2000 | 0.050 |
| | 6.00 | 326.0 | 264.1 | 123.07 | 15.3333 | 0.106 |
| | 7.00 | 448.4 | 386.6 | 123.12 | 13.2857 | 0.201 |
| | 8.00 | 567.2 | 505.3 | 123.18 | 11.7500 | 0.322 |
| | 9.00 | 669.5 | 607.6 | 123.25 | 10.5556 | 0.448 |
| | 10.00 | 752.9 | 691.1 | 123.31 | 9.6000 | 0.567 |
| | 11.00 | 819.0 | 757.1 | 123.37 | 8.8182 | 0.671 |
| | 12.00 | 871.1 | 809.2 | 123.44 | 8.1667 | 0.759 |
| | 13.00 | 911.8 | 849.9 | 123.50 | 7.6154 | 0.831 |
| | 14.00 | 943.6 | 881.7 | 123.57 | 7.1429 | 0.890 |
| | 15.00 | 968.9 | 907.0 | 123.62 | 6.7333 | 0.939 |
| | 16.00 | 988.8 | 927.0 | 123.68 | 6.3750 | 0.978 |
| | 17.00 | 1004.9 | 943.1 | 123.73 | 6.0588 | 1.010 |

ALPINE SUBSURFACE ELECTRONICS PROBE INCREMENTS LISTING

TEST: 9954 DST #1 Castle Resources

DATE: 04/06/97 TIME: 21:42:09

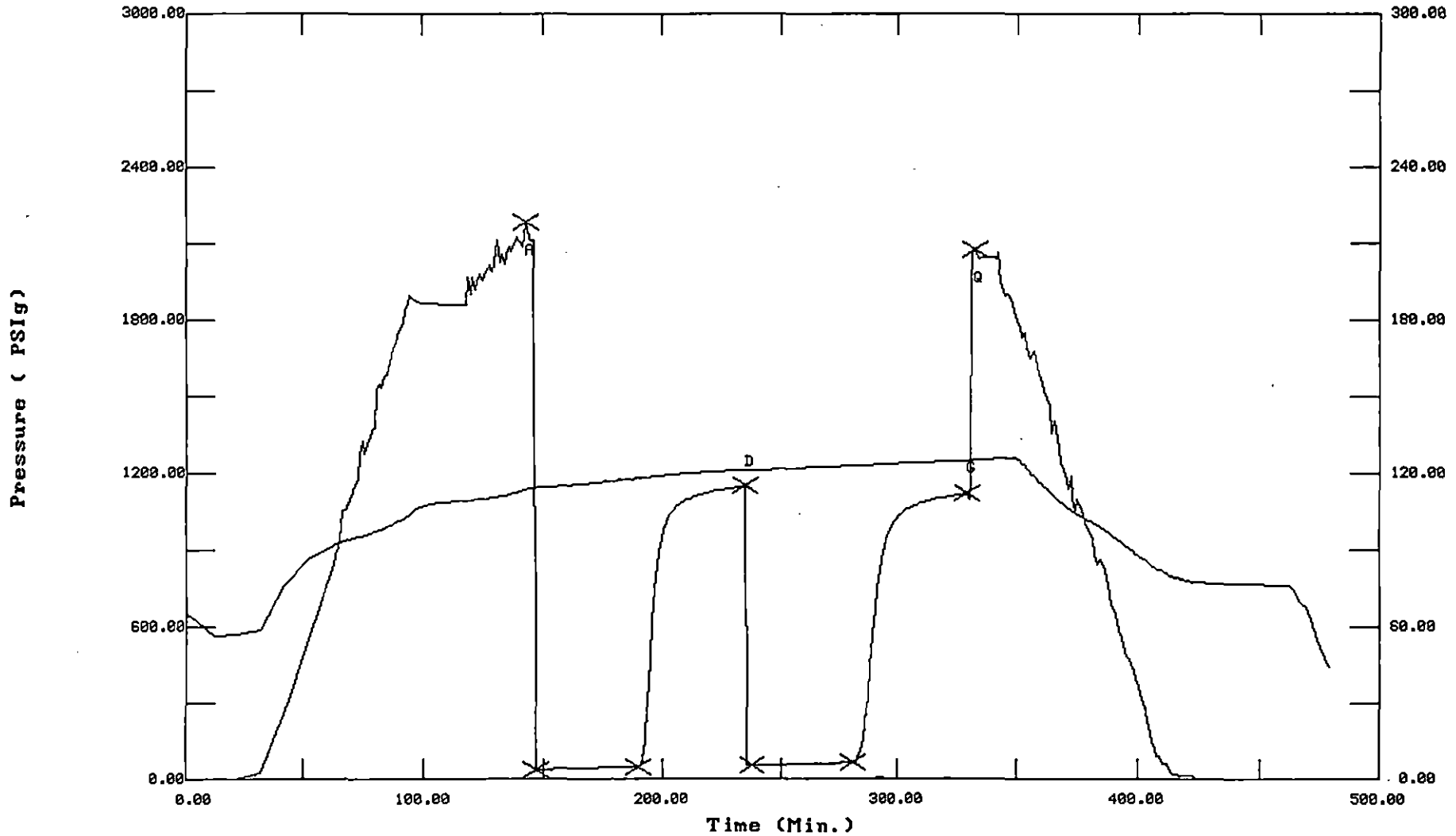
| | Time | Pressure PSIg | delta P PSIg | Temp. DEG F | (T+dT)/dT | P^2/10^6 |
|---|---|---|---|---|---|---|
| | 18.00 | 1018.0 | 956.2 | 123.78 | 5.7778 | 1.036 |
| | 19.00 | 1028.9 | 967.0 | 123.82 | 5.5263 | 1.059 |
| | 20.00 | 1037.8 | 976.0 | 123.88 | 5.3000 | 1.077 |
| | 21.00 | 1045.6 | 983.7 | 123.92 | 5.0952 | 1.093 |
| | 22.00 | 1052.2 | 990.3 | 123.96 | 4.9091 | 1.107 |
| | 23.00 | 1058.1 | 996.2 | 124.01 | 4.7391 | 1.120 |
| | 24.00 | 1063.2 | 1001.3 | 124.05 | 4.5833 | 1.130 |
| | 25.00 | 1067.9 | 1006.0 | 124.11 | 4.4400 | 1.140 |
| | 26.00 | 1072.1 | 1010.2 | 124.13 | 4.3077 | 1.149 |
| | 27.00 | 1075.9 | 1014.0 | 124.16 | 4.1852 | 1.157 |
| | 28.00 | 1079.3 | 1017.5 | 124.20 | 4.0714 | 1.165 |
| | 29.00 | 1082.6 | 1020.7 | 124.24 | 3.9655 | 1.172 |
| | 30.00 | 1085.6 | 1023.8 | 124.27 | 3.8667 | 1.179 |
| | 31.00 | 1088.4 | 1026.5 | 124.31 | 3.7742 | 1.185 |
| | 32.00 | 1091.0 | 1029.1 | 124.34 | 3.6875 | 1.190 |
| | 33.00 | 1093.5 | 1031.6 | 124.38 | 3.6061 | 1.196 |
| | 34.00 | 1095.8 | 1033.9 | 124.42 | 3.5294 | 1.201 |
| | 35.00 | 1098.0 | 1036.2 | 124.45 | 3.4571 | 1.206 |
| | 36.00 | 1100.2 | 1038.4 | 124.49 | 3.3889 | 1.210 |
| | 37.00 | 1102.1 | 1040.3 | 124.52 | 3.3243 | 1.215 |
| | 38.00 | 1104.1 | 1042.2 | 124.55 | 3.2632 | 1.219 |
| | 39.00 | 1105.9 | 1044.1 | 124.59 | 3.2051 | 1.223 |
| | 40.00 | 1107.6 | 1045.7 | 124.62 | 3.1500 | 1.227 |
| | 41.00 | 1109.3 | 1047.4 | 124.65 | 3.0976 | 1.230 |
| | 42.00 | 1111.0 | 1049.2 | 124.67 | 3.0476 | 1.234 |
| | 43.00 | 1112.5 | 1050.7 | 124.71 | 3.0000 | 1.238 |
| | 44.00 | 1114.0 | 1052.2 | 124.75 | 2.9545 | 1.241 |
| | 45.00 | 1115.6 | 1053.7 | 124.77 | 2.9111 | 1.244 |
| | 46.00 | 1116.9 | 1055.1 | 124.79 | 2.8696 | 1.247 |
| | 47.00 | 1118.3 | 1056.5 | 124.82 | 2.8298 | 1.251 |
| ****** End Shut-in 2 | 48.00 | 1119.7 | 1057.8 | 124.86 | 2.7917 | 1.254 |
| ****** Final Hydro. | 332.00 | 2076.2 | 0.0 | 125.05 | | |

# TEST HISTORY

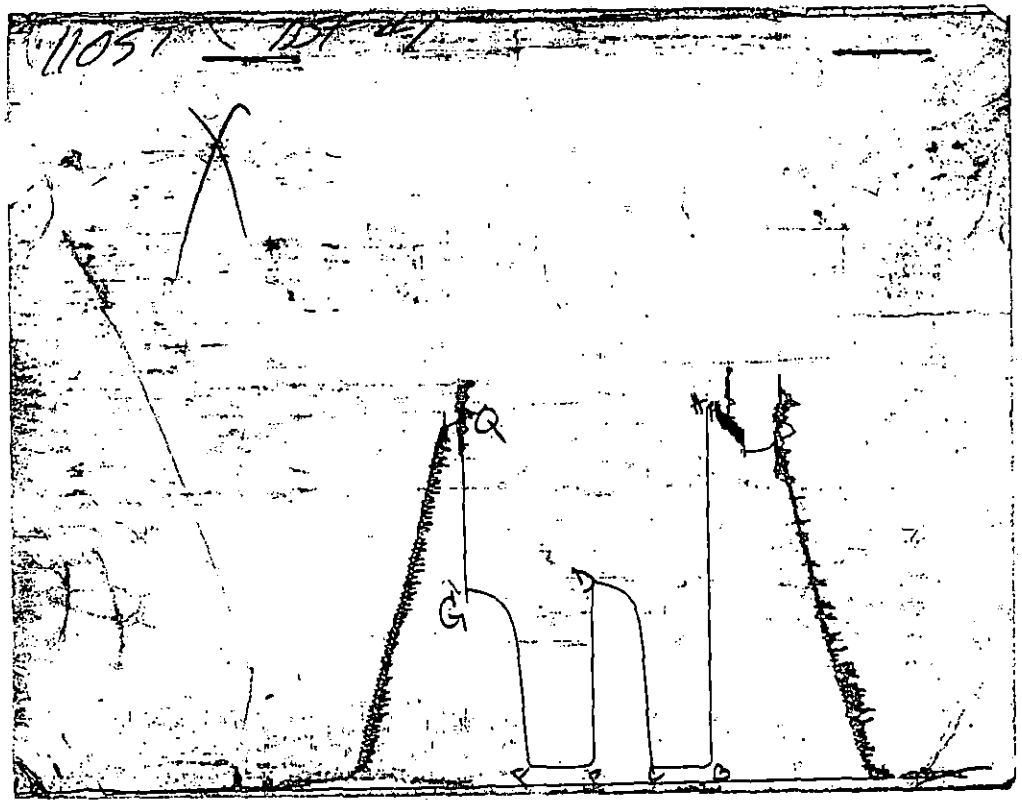
9954 DST #1 Castle Resources

Flag Points

| | t(Min.) | P( PSIg) |
|---|---|---|
| A: | 0.00 | 2184.05 |
| B: | 0.00 | 33.48 |
| C: | 43.00 | 48.08 |
| D: | 45.00 | 1148.21 |
| E: | 0.00 | 51.10 |
| F: | 43.00 | 61.85 |
| G: | 48.00 | 1119.67 |
| Q: | 0.00 | 2076.20 |



# CHART PAGE



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

# TRILOBITE TESTING L.L.C.

P.O. Box 362 • Hays, Kansas 67601

## Test Ticket

№ 9954

Well Name & No. Fossil Gully #1 Test No. 1 Date 4-6-97

Company Castle Resources Zone Tested M55

Address 1200 East 27th St. Suite C Hays Ks 67601 Elevation 2513' KB 2528' GL

Co. Rep / Geo. Jerry Green Cont. Duke's #2 Est. Ft. of Pay ____ Por. ____ %

Location: Sec. 7 Twp. 15 Rge. 27 Co. Gove State KS

No. of Copies Norm Distribution Sheet (Y, N) N Turnkey (Y, N) Y Evaluation (Y, N) ____

Interval Tested 4220' — 4330' Initial Str Wt./Lbs. 43,000 Unseated Str Wt./Lbs. 43,000

Anchor Length 110' Wt. Set Lbs. 26,000 Wt. Pulled Loose/Lbs. 23,000

Top Packer Depth 4215 Tool Weight 5,000

Bottom Packer Depth 4220 Hole Size — 7 7/8" ✓ Rubber Size — 6 3/4" ✓

Total Depth 4330 Wt. Pipe Run — Drill Collar Run —

Mud Wt. 9.4 LCM ____ Vis. 46 WL 9.6 Drill Pipe Size 4 1/2 XH Ft. Run 4283'

Blow Description 1/2" in @ open, built to 1/4" in.

I.S.I: No return

F.F: weak surface blow, built to 1/4" in.

F.S.I: No return

Recovery — Total Feet 70' GIP — Ft. in DC — Ft. in DP 70'

| | | | | | | |
|---|---|---|---|---|---|---|
| Rec. 70 | Feet Of Drlg mud | ‰gas | ‰oil | ‰water | 100 | ‰mud |
| Rec. ____ | Feet Of ____ | ‰gas | ‰oil | ‰water | | ‰mud |
| Rec. ____ | Feet Of ____ | ‰gas | ‰oil | ‰water | | ‰mud |
| Rec. ____ | Feet Of ____ | ‰gas | ‰oil | ‰water | | ‰mud |
| Rec. ____ | Feet Of ____ | ‰gas | ‰oil | ‰water | | ‰mud |

BHT 124° °F Gravity — °API D@ — °F Corrected Gravity — °API

RW — @ ____ °F Chlorides — ppm Recovery Chlorides 2,000 ppm System

| | | | | | |
|---|---|---|---|---|---|
| (A) Initial Hydrostatic Mud | 2185 | 2184 PSI | Recorder No. | 28442 | T-Started 22:45 P.m |
| (B) First Initial Flow Pressure | 78 | 33 PSI | (depth) | 4261' | T-Open 01:06 Am |
| (C) First Final Flow Pressure | 89 | 48 PSI | Recorder No. | 11057 | T-Pulled 04:06 A.m. |
| (D) Initial Shut-in Pressure | 1174 | 1148 PSI | (depth) | 4325' | T-Out 07:00 Am |
| (E) Second Initial Flow Pressure | 100 | 51 PSI | Recorder No. | | |
| (F) Second Final Flow Pressure | 100 | 61 PSI | (depth) | | |
| (G) Final Shut-in Pressure | 1152 | 1119 PSI | Initial Opening | 45 | Test X ____ |
| (H) Final Hydrostatic Mud | 2174 | 2076 PSI | Initial Shut-in | 45 | Jars ____ |
| AK-1 | AMP MC | | Final Flow | 45 | Safety Joint ____ |
| | | | Final Shut-in | 45 | Straddle ____ |
| | | | | | Circ. Sub X N/C |
| | | | | | Sampler ____ |
| | | | | | Extra Packer ____ |
| | | | | | Elect. Rec. X ____ |
| | | | | | Other ____ |



Approved By ____