

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

API NO. 15- 033-20936 0000

County Commanche

~~NE~~ ~~NW~~ ~~SE~~ Sec. 1 Twp. 33S Rge. 18 X <sup>E</sup>

2380 Feet from (S)N (circle one) Line of Section

1830 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 Crossbar-Judith Well # 1-1

Field Name Wildcat

Producing Formation None - Dry Hole

Elevation: Ground 1921' KB 1934'

Total Depth 6027' PBTB

Amount of Surface Pipe Set and Cemented at 658' 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 P&A, 5-17-99 U.C.  
(Data must be collected from the Reserve Pit)

Chloride content 3700 ppm Fluid volume 8000 bbls

Dewatering method used Evaporation

Location of fluid disposal if hauled offsite: \_\_\_\_\_

Operator Name \_\_\_\_\_

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

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

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

Operator: License # 5293

Name: Helmerich & Payne, Inc.

Address 2606 Fleming

City/State/Zip Garden City, Ks. 67846

Purchaser: \_\_\_\_\_

Operator Contact Person: Ken Jehlik/Mike LaMascus

Phone (316) 276-3693

Contractor: Name: Duke Drilling

License: \_\_\_\_\_

Wellsite Geologist: Wesley D. Hansen

Designate Type of Completion  
 New Well  Re-Entry  Workover

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

If Workover/Reentry: Old Well Info as follows:

Operator: \_\_\_\_\_

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

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

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

6-18-97 6-29-97 6-30-97  
Spud Date Date Reached TD Completion Date

P&A

INSTRUCTIONS: An original and two copies of this form shall be filed with the Kansas Corporation Commission, 130 S. Market - Room 2078, 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 Mike LaMascus *KL*

Title District Engineer Date 7-10-97

Subscribed and sworn to before me this 10<sup>th</sup> day of July, 19 97.

Notary Public Judy R. Ramirez

Date Commission Expires 8/10/2000

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)

NOTARY PUBLIC  
STATE OF KANSAS

RECEIVED  
MAY 10 1999  
5-10-99  
CONSERVATION DIVISION  
Wichita, Kansas

Operator Name Helmerich & Payne, Ir Lease Name Crossbar-Judith Well # 1-1  
 Sec. 1 Twp. 33S Rge. 18  East County Commanche  
 West

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: GR, Induction, Micro-Res.,  
 N/D, Microlog.  
 DST; Interval: 5090'-5125', 60 min ISIP  
 631 psig, 120 min. FSIP = 1082 psig. Re-  
 covery; 62' Drilling Mud Gas TSTM

| <input type="checkbox"/> Log Formation (Top), Depth and Datums |       | <input checked="" type="checkbox"/> Sample |
|--|-------|--|
| Name   | Top   | Datum                                      |
| Heebner Sh.  | 4217' |  |
| Lansing "A"  | 4455' |  |
| Swope Ls.  | 4806' |  |
| Marmaton   | 4941' |  |
| Cherokee Sh.   | 5040' |  |
| Miss Spergen   | 5097' |  |
| Viola  | 5679' |  |
| Simpson  | 5887' |  |
| TD   | 6027' |  |

| CASING RECORD <input 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              | 658'          | Litewate       | 125          | 3% CaCl                    |
|   |                   |                           |                 |               | Class A        | 150          | 3% CaCl                    |
| Dry Hole  |                   |                           |                 |               | Litewate       | 150          | 3% CaCl                    |

| 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  |                  |                |             |                            |

| 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 <input type="checkbox"/> Yes <input type="checkbox"/> No |
|--|-----------|---|-------------|---------------|--|
| Date of First, Resumed Production, SWD or Inj. |           | Producing Method <input type="checkbox"/> Flowing <input type="checkbox"/> Pumping <input type="checkbox"/> Gas Lift <input type="checkbox"/> Other (Explain) |             |               |  |
| None - Dry Hole                                |           |   |             |               |  |
| Estimated Production Per 24 Hours              | Oil Bbls. | Gas Mcf   | Water Bbls. | Gas-Oil Ratio | Gravity  |

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 \_\_\_\_\_

Date 6-18-97 District Med. Lodge Ticket No. 6548  
 Company Helmerich & Payne Rig 7-25 #7  
 Lease Crossbar - Judith Well No. 1-1  
 County Comanche State KS.  
 Location Wilmore #1, Jct. Field 1-23-18  
45-17-10-25

CASING DATA: PTA  Squeeze   
 Surface  Intermediate  Production  Liner   
 Size 2 5/8 Type ST-55 Weight 24 Collar \_\_\_\_\_

Casing Depths: Top 274 - 2 5/8 Bottom \_\_\_\_\_

Drill Pipe: Size 4 1/2 Weight 16.10 Collars Whole  
 Open Hole: Size 12 1/4 T.D. 675 ft. P.B. to \_\_\_\_\_ Ft.

CAPACITY FACTORS:  
 Casing: Bbls/Lin. ft. 01.37 Lin. ft./Bbl. 15.70  
 Open Holes: Bbls/Lin. ft. 14.58 Lin. ft./Bbl. \_\_\_\_\_  
 Drill Pipe: Bbls/Lin. ft. \_\_\_\_\_ Lin. ft./Bbl. \_\_\_\_\_  
 Annulus: Bbls/Lin. ft. 17.35 Lin. ft./Bbl. \_\_\_\_\_  
 Bbls/Lin. ft. \_\_\_\_\_ Lin. ft./Bbl. \_\_\_\_\_  
 Perforations: From \_\_\_\_\_ ft. to \_\_\_\_\_ ft. Amt. \_\_\_\_\_

CEMENT DATA:  
 Spacer Type: \_\_\_\_\_  
 Amt. \_\_\_\_\_ Skys Yield \_\_\_\_\_ ft<sup>3</sup>/sk Density \_\_\_\_\_ PPG

LEAD: Pump Time \_\_\_\_\_ hrs. Type CLASS A - 110  
3% CaCl<sub>2</sub> + 1/4# Flo-Seal Excess \_\_\_\_\_  
 Amt. \_\_\_\_\_ Skys Yield 1.97 ft<sup>3</sup>/sk Density 12.5 PPG

TAIL: Pump Time \_\_\_\_\_ hrs. Type CLASS A  
3% CaCl<sub>2</sub> + 2% Gel Excess \_\_\_\_\_  
 Amt. 1.50 Skys Yield 1.34 ft<sup>3</sup>/sk Density 12.2 PPG

WATER: Lead 10.9 gals/sk Tail 6.5 gals/sk Total \_\_\_\_\_ Bbls.

Pump Trucks Used 233-300 James H.  
 Bulk Equip. 240-251 James H.

Float Equip: Manufacturer \_\_\_\_\_  
 Shoe: Type \_\_\_\_\_ Depth \_\_\_\_\_  
 Float Type Baffle Plate Depth 224.48  
 Centralizers: Quantity \_\_\_\_\_ Plugs Top Number Btm. \_\_\_\_\_  
 Stage Collars \_\_\_\_\_  
 Special Equip. Basket  
 Disp. Fluid Type Fresh H<sub>2</sub>O Amt. 41 Bbls. Weight 8.34 PPG  
 Mud Type Chemical Weight 9.1 PPG

COMPANY REPRESENTATIVE Ken IneGoice

CEMENTER Harry Drilling

| TIME | PRESSURES PSI |                   | FLUID PUMPED DATA |             |                        | REMARKS  |
|------|---------------|-------------------|-------------------|-------------|------------------------|--|
|      | AM/PM         | DRILL PIPE CASING | ANNULUS           | TOTAL FLUID | Pumped Per Time Period |  |
| 4:00 |               | 300               |                   |             |                        | Pipe on Bottom - Break Circ  |
| 4:15 |               | 250               |                   | 44          | 6                      | Start Cement 1255xs. CLASS A + ALL + 3% CaCl <sub>2</sub> + 1/4# Flo-Seal. |
|      |               | 250               |                   | 36          | 5 1/2                  | Cement 1505xs. CLASS A + 2% CaCl <sub>2</sub> + 2% Gel.                    |
| 4:30 |               |                   |                   |             |                        | Cement In. Stop Pumps.   |
| 4:31 |               |                   |                   |             |                        | Release Plug   |
| 4:45 |               | 250               |                   | 41          | 4                      | Plump Displace Plug w/ Fresh H <sub>2</sub> O                              |
|      |               |                   |                   |             |                        | Bump Plug  |
|      |               |                   |                   |             |                        | Shut In.   |
|      |               |                   |                   |             |                        | Did not Circ. Cement   |
| 5:30 |               |                   |                   |             |                        | Rig up to Run 1"   |
| 5:45 |               | 600               |                   | 42          | 2                      | Cement 1505xs. CLASS A + ALL + 3% CaCl <sub>2</sub> + 1/4# Flo-Seal.       |
| 6:15 |               |                   |                   |             |                        | Cement Circ. to Surface. ✓   |

RECEIVED  
 STATE OF KANSAS  
 MAY 10 1998  
 CONSERVATION DIVISION  
 Wichita, Kansas



# CEMENTING LOG

ORIGINAL  
STAGE NO.

Date 6-30-97 District Medicine Lodge Ticket No. 6243  
 Company Hilltop & Pella Rig Duke Rig 7  
 Lease Compton - T.D. Th Well No. 21-10  
 County Comanche State Kan  
 Location 160 W. P.O. Rd Field 1-335-18w  
525/KW, KS

CASING DATA: PTA  Squeeze   
 Surface  Intermediate  Production  Liner   
 Size \_\_\_\_\_ Type \_\_\_\_\_ Weight \_\_\_\_\_ Collar \_\_\_\_\_

Casing Depths: Top \_\_\_\_\_ Bottom \_\_\_\_\_

Drill Pipe: Size 4 1/2 Weight 16.60 Collars \_\_\_\_\_  
 Open Hole: Size 7 7/8 T.D. \_\_\_\_\_ ft. P.B. to \_\_\_\_\_ ft.

CAPACITY FACTORS:  
 Casing: Bbbls/Lin. ft. \_\_\_\_\_ Lin. ft./Bbl. \_\_\_\_\_  
 Open Holes: Bbbls/Lin. ft. 0.602 Lin. ft./Bbl. 16.59  
 Drill Pipe: Bbbls/Lin. ft. 0.142 Lin. ft./Bbl. 70.30  
 Annulus: Bbbls/Lin. ft. 0.142 Lin. ft./Bbl. 24.64  
 Bbbls/Lin. ft. 0.140 Lin. ft./Bbl. 22.72  
 Perforations: From \_\_\_\_\_ ft. to \_\_\_\_\_ ft. Amt. \_\_\_\_\_

CEMENT DATA:  
 Spacer Type: Fresh water  
 Amt. \_\_\_\_\_ Skys Yield \_\_\_\_\_ ft<sup>3</sup>/sk Density \_\_\_\_\_ PPG

LEAD: Pump Time \_\_\_\_\_ hrs. Type 60:40:60  
 Amt. 60 Skys Yield 1.58 ft<sup>3</sup>/sk Density 13.8 PPG

TAIL: Pump Time \_\_\_\_\_ hrs. Type 60:40:60  
 Amt. 8.5 Skys Yield 1.58 ft<sup>3</sup>/sk Density 13.8 PPG

WATER: Lead 7.8 gals/sk Tail 7.9 gals/sk Total 25 Bbbls.

Pump Trucks Used 200-215 White Winson  
 Bulk Equip. 240-251 James Hill

Float Equip: Manufacturer \_\_\_\_\_  
 Shoe: Type \_\_\_\_\_ Depth \_\_\_\_\_  
 Float Type \_\_\_\_\_ Depth \_\_\_\_\_  
 Centralizers: Quantity \_\_\_\_\_ Plugs Top \_\_\_\_\_ Btm. \_\_\_\_\_  
 Stage Collars \_\_\_\_\_  
 Special Equip. \_\_\_\_\_  
 Disp. Fluid Type Mud Amt. 10 Bbbls. Weight 9.5 PPG  
 Mud Type \_\_\_\_\_ Weight 9.5 PPG

COMPANY REPRESENTATIVE \_\_\_\_\_

CEMENTER Pat Baldwin

| TIME    | PRESSURES PSI     |         | FLUID PUMPED DATA |                        |                 | REMARKS                       |
|---------|-------------------|---------|-------------------|------------------------|-----------------|-------------------------------|
|         | DRILL PIPE CASING | ANNULUS | TOTAL FLUID       | Pumped Per Time Period | RATE Bbbls Min. |                               |
|         |                   |         |                   |                        |                 | on location 5:15 pm           |
| 6:50 am |                   |         |                   |                        |                 | 1st plug 975 feet             |
| 7:00 pm | 150               | -       | 8.2               | 8.5                    | 3               | load hole with rig pump       |
| 7:02 pm | 150               |         | 22.5              | 14                     | 5               | pump 8.5 Bbbls fresh water    |
| 7:05 pm | 50                |         | 25.5              | 3                      | 4               | pump 50 x 60:40:60 gal        |
| 7:07 pm | 50                |         | 31.5              | 6                      | 4               | pump 3 Bbbls Fresh water      |
|         |                   |         |                   |                        |                 | pump 6 Bbbls mud displacement |
| 7:10    |                   |         |                   |                        |                 | 2nd plug 690 feet             |
| 7:25    | 100               |         | 40                | 8.5                    |                 | load hole with rig pump       |
|         | 100               |         | 54                | 14                     |                 | pump 8.5 Bbbls Fresh water    |
|         | 100               |         | 56.5              | 1.5                    |                 | pump 50 x 60:40:60 gal        |
|         | 50                |         | 60.5              | 4                      |                 | pump 2.5 Bbbls Fresh water    |
|         |                   |         |                   |                        |                 | pump 4 Bbbls mud              |
| 8:30    | 0                 |         | 63.5              | 3                      | 2               | pump 10 x 40 feet             |
| 8:32    | 0                 |         | 69                | 4.5                    | 1               | 15 x 240 hole                 |
| 8:34    | 0                 |         | 71                | 3                      | 0               | 10 x 1100 hole                |
|         |                   |         |                   |                        |                 | RECEIVED                      |
|         |                   |         |                   |                        |                 | STATE CORPORATION COMMISSION  |
|         |                   |         |                   |                        |                 | MAY 1 1999                    |
|         |                   |         |                   |                        |                 | CONSERVATION DIVISION         |
|         |                   |         |                   |                        |                 | Wichita, Kansas               |



# ALLIED CEMENTING CO., INC. ORIGINAL

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

SERVICE POINT: med ledge

|                            |               |                  |  |                              |                               |                            |                             |
|----------------------------|---------------|------------------|--|------------------------------|-------------------------------|----------------------------|-----------------------------|
| DATE <u>6-18-97</u>        | SEC. <u>1</u> | TWP. <u>33</u>   | RANGE <u>18</u>                                  | CALLED OUT <u>10:00 P.M.</u> | ON LOCATION <u>12:30 A.M.</u> | JOB START <u>4:00 A.M.</u> | JOB FINISH <u>6:15 A.M.</u> |
| CROSSBAR LEASE <u>Text</u> |               | WELL# <u>1-1</u> | LOCATION <u>W. Incline + 100 ft. 45-1/2 W-35</u> |                              |                               | COUNTY <u>Comanche</u>     | STATE <u>KS</u>             |

OLD OR NEW (Circle one)

CONTRACTOR Duke Drilling #7  
 TYPE OF JOB SURFACE CSG  
 HOLE SIZE 1 1/4 T.D. 675'  
 CASING SIZE 8 5/8 x 24 DEPTH 674  
 TUBING SIZE \_\_\_\_\_ DEPTH \_\_\_\_\_  
 DRILL PIPE \_\_\_\_\_ DEPTH \_\_\_\_\_  
 TOOL \_\_\_\_\_ DEPTH \_\_\_\_\_  
 PRES. MAX 300 MINIMUM 150  
 MEAS. LINE \_\_\_\_\_ SHOE JOINT 43.51  
 CEMENT LEFT IN CSG. \_\_\_\_\_  
 PERFS. \_\_\_\_\_

OWNER Helmerich + Payne  
 CEMENT

AMOUNT ORDERED 2755x5 ALW + 3% CALL<sup>2</sup>  
1/4# Flo-Seal 1505x5 CLASS A + 3% CALL<sup>2</sup>  
2% Gel.

COMMON \_\_\_\_\_ @ \_\_\_\_\_  
 POZMIX \_\_\_\_\_ @ \_\_\_\_\_  
 GEL \_\_\_\_\_ @ \_\_\_\_\_  
 CHLORIDE \_\_\_\_\_ @ \_\_\_\_\_  
 \_\_\_\_\_ @ \_\_\_\_\_  
 \_\_\_\_\_ @ \_\_\_\_\_  
 \_\_\_\_\_ @ \_\_\_\_\_  
 \_\_\_\_\_ @ \_\_\_\_\_  
 HANDLING \_\_\_\_\_ @ \_\_\_\_\_  
 MILEAGE \_\_\_\_\_ @ \_\_\_\_\_

**EQUIPMENT**

PUMP TRUCK CEMENTER Harry Dreiling  
 # 233-302 HELPER Justin Hart  
 BULK TRUCK  
 # 240-251 DRIVER James Holt  
 BULK TRUCK  
 # \_\_\_\_\_ DRIVER \_\_\_\_\_

TOTAL \_\_\_\_\_

**REMARKS:**

**SERVICE**

Pipe on Bottom - Break Circ.  
Cement 1255x5 ALW + 3% CALL<sup>2</sup> + 1/4#  
Flo-Seal 1505x5 CLASS A + 3% CALL<sup>2</sup> +  
2% Gel. Release Plug. Pump + Displace  
Plug w/ 4 Bls. Fresh H<sub>2</sub>O. Partial Returns  
Required Run 1" Cement w/ 1505x5  
ALW + 3% CALL<sup>2</sup> + 1/4# Flo-Seal Cement  
Circ. to Surface.

DEPTH OF JOB 674  
 PUMP TRUCK CHARGE \_\_\_\_\_  
 EXTRA FOOTAGE \_\_\_\_\_ @ \_\_\_\_\_  
 MILEAGE \_\_\_\_\_ @ \_\_\_\_\_  
 PLUG Rubber \_\_\_\_\_ @ \_\_\_\_\_  
 \_\_\_\_\_ @ \_\_\_\_\_  
 \_\_\_\_\_ @ \_\_\_\_\_

TOTAL \_\_\_\_\_

CHARGE TO: Duke Drilling  
 STREET \_\_\_\_\_  
 CITY \_\_\_\_\_ STATE \_\_\_\_\_ ZIP \_\_\_\_\_

**FLOAT EQUIPMENT**

1-Baffle Plate \_\_\_\_\_ @ \_\_\_\_\_  
1-Basket \_\_\_\_\_ @ \_\_\_\_\_  
 \_\_\_\_\_ @ \_\_\_\_\_  
 \_\_\_\_\_ @ \_\_\_\_\_

TOTAL \_\_\_\_\_

RECEIVED  
 STATE CORPORATION COMMISSION  
 MAY 1 1997  
 CONSERVATION DIVISION  
 Wichita, Kansas

TAX \_\_\_\_\_  
 TOTAL CHARGE \_\_\_\_\_  
 DISCOUNT \_\_\_\_\_ IF PAID IN 30 DAYS

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 done to satisfaction and supervision of owner agent or contractor. I have read & understand the "TERMS AND CONDITIONS" listed on the reverse side.

SIGNATURE X [Signature]

GCWF

**WELL NAME:** Cross Bar Judith #1-1  
**COMPANY:** Helmerich & Payne  
**LOCATION:** 1-33S-18W  
Comanche County Kansas  
**DATE:** 07/01/97

ORIGINAL

15-033-20936

STATE OF KANSAS  
CONSERVATION DIVISION

MAY 1 1997

CONSERVATION DIVISION  
Wichita, Kansas

TRILOBITE TESTING L.L.C.

OPERATOR : Helmerich & Payne Inc.

DATE 06-26-97

WELL NAME: CrossBar Judith #1-1

KB 1934.00 ft

TICKET NO: 10056

DST #1

LOCATION : Sec.01 Twp.33s Rge.18w Ks

GR 1921.00 ft

FORMATION: Miss

INTERVAL : 5090.00 To 5125.00 ft

TD 5125.00 ft

TEST TYPE: CONV

RECORDER DATA

| Mins              | Field  | 1      | 2      | 3   | 4   | TIME DATA-----         |
|-------------------|--------|--------|--------|-----|-----|------------------------|
| PF 15 Rec.        | 13788  | 13788  | 3030   |     |     | PF Fr. 0410 to 0425 hr |
| SI 60 Range(Psi ) | 4650.0 | 4650.0 | 4995.0 | 0.0 | 0.0 | IS Fr. 0425 to 0525 hr |
| SF 60 Clock(hrs)  | 12hr.  | 12hr.  | Elec   |     |     | SF Fr. 0525 to 0625 hr |
| FS 120 Depth(ft ) | 5122.0 | 5122.0 | 5096.0 | 0.0 | 0.0 | FS Fr. 0625 to 0825 hr |

|                | Field  | 1      | 2      | 3   | 4   |                               |
|----------------|--------|--------|--------|-----|-----|-------------------------------|
| A. Init Hydro  | 2507.0 | 2462.0 | 2477.0 | 0.0 | 0.0 | T STARTED 0128 hr             |
| B. First Flow  | 58.0   | 59.0   | 41.0   | 0.0 | 0.0 | T ON BOTM 0402 hr             |
| B1. Final Flow | 47.0   | 43.0   | 36.0   | 0.0 | 0.0 | T OPEN 0410 hr                |
| C. In Shut-in  | 645.0  | 633.0  | 631.0  | 0.0 | 0.0 | T PULLED 0828 hr              |
| D. Init Flow   | 30.0   | 46.0   | 21.0   | 0.0 | 0.0 | T OUT 1030 hr                 |
| E. Final Flow  | 35.0   | 45.0   | 35.0   | 0.0 | 0.0 |                               |
| F. Fl Shut-in  | 1098.0 | 1095.0 | 1082.0 | 0.0 | 0.0 | TOOL DATA-----                |
| G. Final Hydro | 2472.0 | 2367.0 | 2448.0 | 0.0 | 0.0 | Tool Wt. 2100.00 lbs          |
| Inside/Outside | 0      | 0      | I      | T   |     | Wt Set On Packer 22000.00 lbs |
|                |        |        |        |     |     | Wt Pulled Loose 80000.00 lbs  |
|                |        |        |        |     |     | Initial Str Wt 75000.00 lbs   |
|                |        |        |        |     |     | Unseated Str Wt 75000.00 lbs  |
|                |        |        |        |     |     | Bot Choke 0.75 in             |
|                |        |        |        |     |     | Hole Size 7.88 in             |
|                |        |        |        |     |     | D Col. ID 2.25 in             |
|                |        |        |        |     |     | D. Pipe ID 3.80 in            |
|                |        |        |        |     |     | D.C. Length 240.00 ft         |
|                |        |        |        |     |     | D.P. Length 4855.00 ft        |

RECOVERY

Tot Fluid 62.00 ft of 62.00 ft in DC and 0.00 ft in DP  
 62.00 ft of Heavy 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 Rw 3.77ohms @77 dgrees F. Nitrates 55mg./ltr  
 0.00 ft of EST. FT. OF PAY-----15  
 SALINITY 6000.00 P.P.M. A.P.I. Gravity 0.00

MUD DATA-----

Mud Type Chemical  
 Weight 9.10 lb/cf  
 Vis. 55.00 S/L  
 W.L. 10.40 in3  
 F.C. 0.20 in  
 Mud Drop N

BLOW DESCRIPTION

Initial Flow:  
 Strong blow, bottom of bucket in 50sec

Initial Shut In:  
 No blow

Final Flow:  
 Strong blow, bottom of bucket in 10sec  
 Gas to Surface in 37 mins. TSTM

Final Shut In:  
 No blow.

STAFF  
 CONSTRUCTION DIVISION  
 Wichita, Kansas

Amt. of fill 0.00 ft  
 Btm. H. Temp. 120.00 F  
 Hole Condition good  
 % Porosity 9.00  
 Packer Size 6.75 in  
 No. of Packers 2  
 Cushion Amt. 0.00 N  
 Cushion Type None  
 Reversed Out N  
 Tool Chased N  
 Tester Gary Pevoteaux  
 Co. Rep. Wes Hanson  
 Contr. Duke Drlg.  
 Rig # 7  
 Unit #  
 Pump T. LCM 0#/bl

SAMPLES: none  
 SENT TO: Caraway / Liberal Ks

Test Successful: Y



\*\*\* TOOL DIAGRAM \*\*\* CONV

NAME: CrossBar Judith #1-1  
 ION : Sec.01 Twp.33s Rge.18w Ks  
 WT No. 10056 D.S.T. No. 1 DATE 06-26-97  
 L TOOL TO BOTTOM OF TOP PACKERS ..... 26  
 RVAL TOOL .....  
 M PACKERS AND ANCHOR ..... 35  
 L TOOL ..... 61  
 L COLLAR ANCHOR IN INTERVAL .....  
 ANCHOR STND.Stands Single Total  
 ANCHOR STND.Stands Single Total  
 L ASSEMBLY ..... 61  
 ABOVE TOOLS.Stands4 Single Total 240  
 ABOVE TOOLS.Stands78 Single Total 4855  
 L DRILL COLLARS DRILL PIPE & TOOLS .. 5156  
 L DEPTH ..... 5125  
 L DRILL PIPE ABOVE K.B. .... 31

RKS:  
 FLUID SAMPLER DATA (not run)  
 ----- Cubic Ft.  
 ----- ML.  
 ----- ML.  
 R----- ML.  
 R----- ML.  
 SURE----- PSI  
 ----- OHMS @  
 RIDES----- DEGREES F  
 ----- ppm.

P.O. SUB  
 C.O. SUB Top of tool @ 5064  
 S.I. TOOL H & T 5070  
 HMV Sterling 5075  
 JARS Sterling 5079  
 SAFETY JOINT Bowen 5081  
 PAKER Top 5085  
 PAKER Bottom 5090  
 DEPTH 5090  
 STUBB 1' 5091  
 ANCHOR  
 perfs  
 Alpine rec. @ 5096  
 T.C.  
 DEPTH  
 29 ft. perfs to 5120  
 AK-1 rec. @ 5122  
 BULLNOSE 5' Perforated to 5125  
 T.D.

RECORDED  
 STATE OF KANSAS  
 MAY 10 1999  
 CONSERVATION DIVISION  
 Wichita, Kansas



ALPINE SUBSURFACE ELECTRONICS PROBE INCREMENTS LISTING

TEST: 10056 DST#1 CROSSBAR-JUDITH#1-1 HELMRICH & PAYNE

DATE: 06/26/97 TIME: 01:28:16

|                      | Time   | Pressure<br>PSIg | delta P<br>PSig | Temp.<br>DEG F | (T+dT)/dT | P^2/10^6 |
|----------------------|--------|------------------|-----------------|----------------|-----------|----------|
| ***** Initial Hydro. | 157.00 | 2477.0           | 0.0             | 113.62         |           |          |
| ***** Start Flow 1   | 0.00   | 40.8             | 0.0             | 114.05         |           |          |
|                      | 0.50   | 40.5             | -0.3            | 114.21         |           |          |
|                      | 1.00   | 39.5             | -1.3            | 114.40         |           |          |
|                      | 1.50   | 39.4             | -1.4            | 114.58         |           |          |
|                      | 2.00   | 39.0             | -1.8            | 114.74         |           |          |
|                      | 2.50   | 39.0             | -1.8            | 114.87         |           |          |
|                      | 3.00   | 38.7             | -2.1            | 114.99         |           |          |
|                      | 3.50   | 38.5             | -2.3            | 115.09         |           |          |
|                      | 4.00   | 38.1             | -2.7            | 115.16         |           |          |
|                      | 4.50   | 37.8             | -3.0            | 115.22         |           |          |
|                      | 5.00   | 37.4             | -3.4            | 115.28         |           |          |
|                      | 5.50   | 37.0             | -3.8            | 115.32         |           |          |
|                      | 6.00   | 36.7             | -4.1            | 115.36         |           |          |
|                      | 6.50   | 36.3             | -4.5            | 115.39         |           |          |
|                      | 7.00   | 36.2             | -4.6            | 115.42         |           |          |
|                      | 7.50   | 35.8             | -5.0            | 115.44         |           |          |
|                      | 8.00   | 35.5             | -5.3            | 115.46         |           |          |
|                      | 8.50   | 35.4             | -5.4            | 115.49         |           |          |
|                      | 9.00   | 35.2             | -5.6            | 115.50         |           |          |
|                      | 9.50   | 35.2             | -5.6            | 115.52         |           |          |
|                      | 10.00  | 34.6             | -6.2            | 115.54         |           |          |
|                      | 10.50  | 34.8             | -6.0            | 115.56         |           |          |
|                      | 11.00  | 34.6             | -6.2            | 115.58         |           |          |
|                      | 11.50  | 34.3             | -6.5            | 115.60         |           |          |
|                      | 12.00  | 33.9             | -6.9            | 115.61         |           |          |
|                      | 12.50  | 34.0             | -6.8            | 115.63         |           |          |
|                      | 13.00  | 34.1             | -6.7            | 115.64         |           |          |
|                      | 13.50  | 33.6             | -7.2            | 115.65         |           |          |
|                      | 14.00  | 33.6             | -7.2            | 115.66         |           |          |
| ***** End Flow 1     | 14.50  | 35.7             | -5.1            | 115.68         |           |          |
| ***** Start Shutin 1 | 0.00   | 35.7             | 0.0             | 115.68         | 0.0000    | 0.001    |
|                      | 0.50   | 58.0             | 22.3            | 115.70         | 30.0000   | 0.003    |
|                      | 1.00   | 80.4             | 44.7            | 115.70         | 15.5000   | 0.006    |
|                      | 1.50   | 101.4            | 65.7            | 115.72         | 10.6667   | 0.010    |
|                      | 2.00   | 120.7            | 85.0            | 115.73         | 8.2500    | 0.015    |
|                      | 2.50   | 138.5            | 102.8           | 115.75         | 6.8000    | 0.019    |
|                      | 3.00   | 154.9            | 119.2           | 115.76         | 5.8333    | 0.024    |
|                      | 3.50   | 170.0            | 134.3           | 115.77         | 5.1429    | 0.029    |
|                      | 4.00   | 183.9            | 148.2           | 115.78         | 4.6250    | 0.034    |
|                      | 4.50   | 196.7            | 161.0           | 115.79         | 4.2222    | 0.039    |
|                      | 5.00   | 208.4            | 172.7           | 115.80         | 3.9000    | 0.043    |
|                      | 5.50   | 219.3            | 183.6           | 115.81         | 3.6364    | 0.048    |
|                      | 6.00   | 229.3            | 193.6           | 115.82         | 3.4167    | 0.053    |
|                      | 6.50   | 238.6            | 202.9           | 115.83         | 3.2308    | 0.057    |
|                      | 7.00   | 247.3            | 211.6           | 115.84         | 3.0714    | 0.061    |
|                      | 7.50   | 255.4            | 219.7           | 115.85         | 2.9333    | 0.065    |
|                      | 8.00   | 262.9            | 227.2           | 115.85         | 2.8125    | 0.069    |
|                      | 8.50   | 270.0            | 234.3           | 115.86         | 2.7059    | 0.073    |
|                      | 9.00   | 276.5            | 240.8           | 115.87         | 2.6111    | 0.076    |
|                      | 9.50   | 282.7            | 247.1           | 115.87         | 2.5263    | 0.080    |

MAY 15 1998

CONSERVATION DIVISION  
Wichita, Kansas

ALPINE SUBSURFACE ELECTRONICS PROBE INCREMENTS LISTING

TEST: 10056 DST#1 CROSSBAR-JUDITH#1-1 HELMRICH & PAYNE

DATE: 06/26/97

TIME: 01:28:16

| Time  | Pressure<br>PSI <sub>g</sub> | delta P<br>PSI <sub>g</sub> | Temp.<br>DEG F | (T+dT)/dT | P <sup>2</sup> /10 <sup>6</sup> |
|-------|------------------------------|-----------------------------|----------------|-----------|---------------------------------|
| 10.00 | 288.7                        | 253.0                       | 115.88         | 2.4500    | 0.083                           |
| 10.50 | 294.3                        | 258.6                       | 115.89         | 2.3810    | 0.087                           |
| 11.00 | 299.5                        | 263.8                       | 115.89         | 2.3182    | 0.090                           |
| 11.50 | 304.6                        | 268.9                       | 115.90         | 2.2609    | 0.093                           |
| 12.00 | 309.4                        | 273.7                       | 115.90         | 2.2083    | 0.096                           |
| 12.50 | 314.0                        | 278.3                       | 115.91         | 2.1600    | 0.099                           |
| 13.00 | 318.4                        | 282.7                       | 115.92         | 2.1154    | 0.101                           |
| 13.50 | 322.8                        | 287.1                       | 115.92         | 2.0741    | 0.104                           |
| 14.00 | 326.9                        | 291.2                       | 115.92         | 2.0357    | 0.107                           |
| 14.50 | 330.9                        | 295.2                       | 115.93         | 2.0000    | 0.109                           |
| 15.00 | 334.8                        | 299.1                       | 115.93         | 1.9667    | 0.112                           |
| 15.50 | 338.6                        | 302.9                       | 115.94         | 1.9355    | 0.115                           |
| 16.00 | 342.2                        | 306.5                       | 115.95         | 1.9062    | 0.117                           |
| 16.50 | 345.8                        | 310.1                       | 115.95         | 1.8788    | 0.120                           |
| 17.00 | 349.3                        | 313.6                       | 115.95         | 1.8529    | 0.122                           |
| 17.50 | 352.6                        | 316.9                       | 115.95         | 1.8286    | 0.124                           |
| 18.00 | 355.9                        | 320.2                       | 115.96         | 1.8056    | 0.127                           |
| 18.50 | 359.1                        | 323.4                       | 115.97         | 1.7838    | 0.129                           |
| 19.00 | 362.2                        | 326.5                       | 115.97         | 1.7632    | 0.131                           |
| 19.50 | 365.3                        | 329.6                       | 115.98         | 1.7436    | 0.133                           |
| 20.00 | 368.4                        | 332.7                       | 115.98         | 1.7250    | 0.136                           |
| 20.50 | 371.6                        | 336.0                       | 115.99         | 1.7073    | 0.138                           |
| 21.00 | 374.9                        | 339.2                       | 115.99         | 1.6905    | 0.141                           |
| 21.50 | 378.1                        | 342.4                       | 116.00         | 1.6744    | 0.143                           |
| 22.00 | 381.3                        | 345.6                       | 116.00         | 1.6591    | 0.145                           |
| 22.50 | 384.5                        | 348.8                       | 116.00         | 1.6444    | 0.148                           |
| 23.00 | 387.8                        | 352.1                       | 116.01         | 1.6304    | 0.150                           |
| 23.50 | 391.1                        | 355.4                       | 116.02         | 1.6170    | 0.153                           |
| 24.00 | 394.4                        | 358.7                       | 116.02         | 1.6042    | 0.156                           |
| 24.50 | 397.7                        | 362.0                       | 116.03         | 1.5918    | 0.158                           |
| 25.00 | 400.9                        | 365.2                       | 116.03         | 1.5800    | 0.161                           |
| 25.50 | 404.2                        | 368.5                       | 116.04         | 1.5686    | 0.163                           |
| 26.00 | 407.5                        | 371.8                       | 116.04         | 1.5577    | 0.166                           |
| 26.50 | 410.9                        | 375.2                       | 116.05         | 1.5472    | 0.169                           |
| 27.00 | 414.2                        | 378.5                       | 116.05         | 1.5370    | 0.172                           |
| 27.50 | 417.5                        | 381.8                       | 116.06         | 1.5273    | 0.174                           |
| 28.00 | 420.8                        | 385.1                       | 116.06         | 1.5179    | 0.177                           |
| 28.50 | 424.2                        | 388.5                       | 116.06         | 1.5088    | 0.180                           |
| 29.00 | 427.6                        | 391.9                       | 116.06         | 1.5000    | 0.183                           |
| 29.50 | 430.9                        | 395.2                       | 116.07         | 1.4915    | 0.186                           |
| 30.00 | 434.3                        | 398.6                       | 116.08         | 1.4833    | 0.189                           |
| 30.50 | 437.6                        | 401.9                       | 116.08         | 1.4754    | 0.191                           |
| 31.00 | 441.0                        | 405.3                       | 116.09         | 1.4677    | 0.195                           |
| 31.50 | 444.4                        | 408.7                       | 116.10         | 1.4603    | 0.197                           |
| 32.00 | 447.7                        | 412.0                       | 116.10         | 1.4531    | 0.200                           |
| 32.50 | 451.1                        | 415.4                       | 116.11         | 1.4462    | 0.203                           |
| 33.00 | 454.4                        | 418.7                       | 116.11         | 1.4394    | 0.207                           |
| 33.50 | 457.8                        | 422.1                       | 116.12         | 1.4328    | 0.210                           |
| 34.00 | 461.2                        | 425.5                       | 116.12         | 1.4265    | 0.213                           |
| 34.50 | 464.6                        | 428.9                       | 116.13         | 1.4203    | 0.216                           |
| 35.00 | 468.0                        | 432.3                       | 116.13         | 1.4143    | 0.219                           |

STATE OF KANSAS  
 MAY 1 1997  
 CONSERVATION DIVISION  
 Wichita, Kansas

ALPINE SUBSURFACE ELECTRONICS PROBE INCREMENTS LISTING

TEST: 10056 DST#1 CROSSBAR-JUDITH#1-1 HELMRICH & PAYNE

DATE: 06/26/97

TIME: 01:28:16

| Time                | Pressure<br>PSig | delta P<br>PSig | Temp.<br>DEG F | (T+dT)/dT | P^2/10^6 |
|---------------------|------------------|-----------------|----------------|-----------|----------|
| 35.50               | 471.4            | 435.7           | 116.14         | 1.4085    | 0.222    |
| 36.00               | 474.8            | 439.1           | 116.15         | 1.4028    | 0.225    |
| 36.50               | 478.1            | 442.4           | 116.15         | 1.3973    | 0.229    |
| 37.00               | 481.5            | 445.8           | 116.16         | 1.3919    | 0.232    |
| 37.50               | 484.9            | 449.2           | 116.17         | 1.3867    | 0.235    |
| 38.00               | 488.3            | 452.6           | 116.17         | 1.3816    | 0.238    |
| 38.50               | 491.7            | 456.0           | 116.17         | 1.3766    | 0.242    |
| 39.00               | 495.1            | 459.4           | 116.18         | 1.3718    | 0.245    |
| 39.50               | 498.5            | 462.8           | 116.19         | 1.3671    | 0.248    |
| 40.00               | 501.9            | 466.2           | 116.20         | 1.3625    | 0.252    |
| 40.50               | 505.3            | 469.6           | 116.20         | 1.3580    | 0.255    |
| 41.00               | 508.6            | 472.9           | 116.21         | 1.3537    | 0.259    |
| 41.50               | 512.0            | 476.3           | 116.21         | 1.3494    | 0.262    |
| 42.00               | 515.4            | 479.7           | 116.22         | 1.3452    | 0.266    |
| 42.50               | 518.8            | 483.1           | 116.23         | 1.3412    | 0.269    |
| 43.00               | 522.2            | 486.5           | 116.23         | 1.3372    | 0.273    |
| 43.50               | 525.5            | 489.8           | 116.24         | 1.3333    | 0.276    |
| 44.00               | 528.9            | 493.2           | 116.25         | 1.3295    | 0.280    |
| 44.50               | 532.3            | 496.6           | 116.25         | 1.3258    | 0.283    |
| 45.00               | 535.6            | 499.9           | 116.26         | 1.3222    | 0.287    |
| 45.50               | 539.0            | 503.3           | 116.27         | 1.3187    | 0.291    |
| 46.00               | 542.4            | 506.7           | 116.27         | 1.3152    | 0.294    |
| 46.50               | 545.7            | 510.0           | 116.28         | 1.3118    | 0.298    |
| 47.00               | 549.1            | 513.4           | 116.29         | 1.3085    | 0.301    |
| 47.50               | 552.4            | 516.7           | 116.30         | 1.3053    | 0.305    |
| 48.00               | 555.7            | 520.0           | 116.30         | 1.3021    | 0.309    |
| 48.50               | 559.1            | 523.4           | 116.31         | 1.2990    | 0.313    |
| 49.00               | 562.4            | 526.7           | 116.32         | 1.2959    | 0.316    |
| 49.50               | 565.7            | 530.0           | 116.32         | 1.2929    | 0.320    |
| 50.00               | 569.1            | 533.4           | 116.33         | 1.2900    | 0.324    |
| 50.50               | 572.4            | 536.7           | 116.34         | 1.2871    | 0.328    |
| 51.00               | 575.7            | 540.0           | 116.35         | 1.2843    | 0.331    |
| 51.50               | 579.0            | 543.3           | 116.36         | 1.2816    | 0.335    |
| 52.00               | 582.3            | 546.6           | 116.36         | 1.2788    | 0.339    |
| 52.50               | 585.6            | 549.9           | 116.37         | 1.2762    | 0.343    |
| 53.00               | 589.0            | 553.3           | 116.38         | 1.2736    | 0.347    |
| 53.50               | 592.2            | 556.5           | 116.38         | 1.2710    | 0.351    |
| 54.00               | 595.5            | 559.8           | 116.39         | 1.2685    | 0.355    |
| 54.50               | 598.8            | 563.1           | 116.40         | 1.2661    | 0.359    |
| 55.00               | 602.0            | 566.3           | 116.41         | 1.2636    | 0.362    |
| 55.50               | 605.3            | 569.6           | 116.42         | 1.2613    | 0.366    |
| 56.00               | 608.6            | 572.9           | 116.42         | 1.2589    | 0.370    |
| 56.50               | 611.9            | 576.2           | 116.43         | 1.2566    | 0.374    |
| 57.00               | 615.1            | 579.4           | 116.44         | 1.2544    | 0.378    |
| 57.50               | 618.3            | 582.7           | 116.44         | 1.2522    | 0.382    |
| 58.00               | 621.6            | 585.9           | 116.45         | 1.2500    | 0.386    |
| 58.50               | 624.8            | 589.1           | 116.46         | 1.2479    | 0.390    |
| 59.00               | 628.0            | 592.3           | 116.47         | 1.2458    | 0.394    |
| 59.50               | 631.2            | 595.5           | 116.47         | 1.2437    | 0.398    |
| ***** End Shut-in 1 |                  |                 |                |           |          |
| ***** Start Flow 2  | 0.00             | 21.4            | 0.0            | 116.48    |          |
|                     | 0.50             | 21.6            | 0.2            | 116.48    |          |

STATE OF KANSAS

MAY 16 1997

CONSERVATION DIVISION  
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ALPINE SUBSURFACE ELECTRONICS PROBE INCREMENTS LISTING

TEST: 10056 DST#1 CROSSBAR-JUDITH#1-1 HELMRICH & PAYNE

DATE: 06/26/97 TIME: 01:28:16

| Time  | Pressure<br>PSI <sub>g</sub> | delta P<br>PSI <sub>g</sub> | Temp.<br>DEG F | (T+dT)/dT | P <sup>2</sup> /10 <sup>6</sup> |
|-------|------------------------------|-----------------------------|----------------|-----------|---------------------------------|
| 1.00  | 26.3                         | 4.9                         | 116.49         |           |                                 |
| 1.50  | 27.6                         | 6.2                         | 116.50         |           |                                 |
| 2.00  | 28.7                         | 7.3                         | 116.53         |           |                                 |
| 2.50  | 29.8                         | 8.4                         | 116.57         |           |                                 |
| 3.00  | 30.5                         | 9.1                         | 116.61         |           |                                 |
| 3.50  | 31.3                         | 9.9                         | 116.65         |           |                                 |
| 4.00  | 31.8                         | 10.4                        | 116.69         |           |                                 |
| 4.50  | 32.5                         | 11.1                        | 116.73         |           |                                 |
| 5.00  | 33.0                         | 11.6                        | 116.76         |           |                                 |
| 5.50  | 33.2                         | 11.8                        | 116.79         |           |                                 |
| 6.00  | 33.2                         | 11.8                        | 116.82         |           |                                 |
| 6.50  | 33.7                         | 12.3                        | 116.83         |           |                                 |
| 7.00  | 34.1                         | 12.7                        | 116.85         |           |                                 |
| 7.50  | 33.4                         | 12.0                        | 116.88         |           |                                 |
| 8.00  | 33.9                         | 12.5                        | 116.90         |           |                                 |
| 8.50  | 34.4                         | 13.0                        | 116.92         |           |                                 |
| 9.00  | 34.3                         | 12.9                        | 116.94         |           |                                 |
| 9.50  | 34.5                         | 13.1                        | 116.95         |           |                                 |
| 10.00 | 34.7                         | 13.3                        | 116.97         |           |                                 |
| 10.50 | 33.6                         | 12.2                        | 116.99         |           |                                 |
| 11.00 | 34.3                         | 12.9                        | 117.00         |           |                                 |
| 11.50 | 34.5                         | 13.0                        | 117.03         |           |                                 |
| 12.00 | 34.4                         | 13.0                        | 117.04         |           |                                 |
| 12.50 | 34.8                         | 13.4                        | 117.06         |           |                                 |
| 13.00 | 34.6                         | 13.2                        | 117.07         |           |                                 |
| 13.50 | 35.0                         | 13.5                        | 117.10         |           |                                 |
| 14.00 | 35.0                         | 13.6                        | 117.10         |           |                                 |
| 14.50 | 35.0                         | 13.6                        | 117.13         |           |                                 |
| 15.00 | 35.0                         | 13.6                        | 117.14         |           |                                 |
| 15.50 | 35.0                         | 13.5                        | 117.16         |           |                                 |
| 16.00 | 35.1                         | 13.7                        | 117.18         |           |                                 |
| 16.50 | 35.0                         | 13.6                        | 117.19         |           |                                 |
| 17.00 | 35.1                         | 13.7                        | 117.21         |           |                                 |
| 17.50 | 35.1                         | 13.6                        | 117.23         |           |                                 |
| 18.00 | 35.0                         | 13.6                        | 117.24         |           |                                 |
| 18.50 | 35.2                         | 13.8                        | 117.26         |           |                                 |
| 19.00 | 35.3                         | 13.9                        | 117.27         |           |                                 |
| 19.50 | 35.3                         | 13.9                        | 117.29         |           |                                 |
| 20.00 | 35.2                         | 13.8                        | 117.31         |           |                                 |
| 20.50 | 34.5                         | 13.0                        | 117.32         |           |                                 |
| 21.00 | 34.7                         | 13.2                        | 117.34         |           |                                 |
| 21.50 | 34.8                         | 13.3                        | 117.35         |           |                                 |
| 22.00 | 34.8                         | 13.4                        | 117.37         |           |                                 |
| 22.50 | 34.9                         | 13.4                        | 117.38         |           |                                 |
| 23.00 | 35.0                         | 13.6                        | 117.40         |           |                                 |
| 23.50 | 34.9                         | 13.4                        | 117.41         |           |                                 |
| 24.00 | 34.9                         | 13.5                        | 117.43         |           |                                 |
| 24.50 | 35.1                         | 13.7                        | 117.44         |           |                                 |
| 25.00 | 35.1                         | 13.7                        | 117.46         |           |                                 |
| 25.50 | 35.1                         | 13.7                        | 117.47         |           |                                 |
| 26.00 | 35.1                         | 13.7                        | 117.49         |           |                                 |

STATE OF KANSAS  
CONSERVATION DIVISION

MAY 1 1997

CONSERVATION DIVISION  
Wichita, Kansas

ALPINE SUBSURFACE ELECTRONICS PROBE INCREMENTS LISTING

TEST: 10056 DST#1 CROSSBAR-JUDITH#1-1 HELMRICH & PAYNE

DATE: 06/26/97 TIME: 01:28:16

| Time  | Pressure<br>PSIg | delta P<br>PSIg | Temp.<br>DEG F | (T+dT)/dT | P <sup>2</sup> /10 <sup>6</sup> |
|-------|------------------|-----------------|----------------|-----------|---------------------------------|
| 26.50 | 35.2             | 13.8            | 117.51         |           |                                 |
| 27.00 | 35.2             | 13.8            | 117.52         |           |                                 |
| 27.50 | 35.3             | 13.9            | 117.53         |           |                                 |
| 28.00 | 35.3             | 13.9            | 117.55         |           |                                 |
| 28.50 | 35.4             | 13.9            | 117.56         |           |                                 |
| 29.00 | 35.5             | 14.1            | 117.57         |           |                                 |
| 29.50 | 35.5             | 14.1            | 117.59         |           |                                 |
| 30.00 | 35.5             | 14.1            | 117.60         |           |                                 |
| 30.50 | 35.5             | 14.1            | 117.62         |           |                                 |
| 31.00 | 35.6             | 14.2            | 117.63         |           |                                 |
| 31.50 | 35.7             | 14.3            | 117.65         |           |                                 |
| 32.00 | 35.5             | 14.1            | 117.66         |           |                                 |
| 32.50 | 35.1             | 13.6            | 117.67         |           |                                 |
| 33.00 | 35.2             | 13.8            | 117.69         |           |                                 |
| 33.50 | 35.3             | 13.9            | 117.70         |           |                                 |
| 34.00 | 35.2             | 13.8            | 117.72         |           |                                 |
| 34.50 | 35.3             | 13.9            | 117.73         |           |                                 |
| 35.00 | 35.2             | 13.8            | 117.74         |           |                                 |
| 35.50 | 35.3             | 13.9            | 117.75         |           |                                 |
| 36.00 | 35.4             | 14.0            | 117.76         |           |                                 |
| 36.50 | 35.4             | 13.9            | 117.77         |           |                                 |
| 37.00 | 35.4             | 14.0            | 117.79         |           |                                 |
| 37.50 | 35.4             | 13.9            | 117.80         |           |                                 |
| 38.00 | 35.3             | 13.9            | 117.82         |           |                                 |
| 38.50 | 35.3             | 13.8            | 117.82         |           |                                 |
| 39.00 | 35.1             | 13.7            | 117.84         |           |                                 |
| 39.50 | 35.1             | 13.7            | 117.85         |           |                                 |
| 40.00 | 35.1             | 13.7            | 117.86         |           |                                 |
| 40.50 | 35.2             | 13.8            | 117.88         |           |                                 |
| 41.00 | 35.3             | 13.9            | 117.89         |           |                                 |
| 41.50 | 35.2             | 13.7            | 117.89         |           |                                 |
| 42.00 | 35.2             | 13.8            | 117.91         |           |                                 |
| 42.50 | 35.2             | 13.8            | 117.93         |           |                                 |
| 43.00 | 34.8             | 13.4            | 117.93         |           |                                 |
| 43.50 | 34.8             | 13.4            | 117.95         |           |                                 |
| 44.00 | 34.8             | 13.4            | 117.95         |           |                                 |
| 44.50 | 34.8             | 13.4            | 117.97         |           |                                 |
| 45.00 | 34.9             | 13.4            | 117.98         |           |                                 |
| 45.50 | 34.8             | 13.4            | 117.99         |           |                                 |
| 46.00 | 34.9             | 13.5            | 118.00         |           |                                 |
| 46.50 | 34.7             | 13.3            | 118.01         |           |                                 |
| 47.00 | 34.8             | 13.4            | 118.03         |           |                                 |
| 47.50 | 34.5             | 13.1            | 118.04         |           |                                 |
| 48.00 | 34.5             | 13.1            | 118.05         |           |                                 |
| 48.50 | 34.5             | 13.1            | 118.05         |           |                                 |
| 49.00 | 34.7             | 13.3            | 118.07         |           |                                 |
| 49.50 | 34.7             | 13.2            | 118.08         |           |                                 |
| 50.00 | 34.4             | 13.0            | 118.09         |           |                                 |
| 50.50 | 34.5             | 13.1            | 118.10         |           |                                 |
| 51.00 | 34.5             | 13.1            | 118.11         |           |                                 |
| 51.50 | 34.6             | 13.2            | 118.12         |           |                                 |

STATE OF KANSAS  
 CONSERVATION DIVISION

MAY 1 1997

CONSERVATION DIVISION  
 Wichita, Kansas

ALPINE SUBSURFACE ELECTRONICS PROBE INCREMENTS LISTING

TEST: 10056 DST#1 CROSSBAR-JUDITH#1-1 HELMRICH & PAYNE

DATE: 06/26/97 TIME: 01:28:16

| Time                 | Pressure<br>PSIg | delta P<br>PSIg | Temp.<br>DEG F | (T+dT)/dT | P <sup>2</sup> /10 <sup>6</sup> |
|----------------------|------------------|-----------------|----------------|-----------|---------------------------------|
| 52.00                | 34.7             | 13.3            | 118.13         |           |                                 |
| 52.50                | 34.7             | 13.3            | 118.14         |           |                                 |
| 53.00                | 34.7             | 13.3            | 118.15         |           |                                 |
| 53.50                | 34.8             | 13.4            | 118.16         |           |                                 |
| 54.00                | 34.9             | 13.5            | 118.17         |           |                                 |
| 54.50                | 34.9             | 13.5            | 118.18         |           |                                 |
| 55.00                | 35.0             | 13.6            | 118.19         |           |                                 |
| 55.50                | 35.0             | 13.5            | 118.20         |           |                                 |
| 56.00                | 35.0             | 13.6            | 118.21         |           |                                 |
| 56.50                | 35.0             | 13.6            | 118.22         |           |                                 |
| 57.00                | 35.0             | 13.6            | 118.23         |           |                                 |
| 57.50                | 35.1             | 13.7            | 118.24         |           |                                 |
| 58.00                | 35.2             | 13.8            | 118.25         |           |                                 |
| 58.50                | 35.2             | 13.8            | 118.26         |           |                                 |
| 59.00                | 35.3             | 13.9            | 118.27         |           |                                 |
| ***** End Flow 2     | 59.50            | 35.3            | 13.9           | 118.28    |                                 |
| ***** Start Shutin 2 | 0.00             | 35.3            | 0.0            | 118.28    | 0.0000 0.001                    |
|                      | 0.50             | 39.1            | 3.7            | 118.29    | 149.0000 0.002                  |
|                      | 1.00             | 47.0            | 11.7           | 118.30    | 75.0000 0.002                   |
|                      | 1.50             | 55.4            | 20.0           | 118.31    | 50.3333 0.003                   |
|                      | 2.00             | 63.8            | 28.4           | 118.32    | 38.0000 0.004                   |
|                      | 2.50             | 72.1            | 36.8           | 118.33    | 30.6000 0.005                   |
|                      | 3.00             | 80.3            | 45.0           | 118.34    | 25.6667 0.006                   |
|                      | 3.50             | 88.4            | 53.0           | 118.34    | 22.1429 0.008                   |
|                      | 4.00             | 96.3            | 60.9           | 118.36    | 19.5000 0.009                   |
|                      | 4.50             | 104.0           | 68.6           | 118.37    | 17.4444 0.011                   |
|                      | 5.00             | 111.6           | 76.2           | 118.38    | 15.8000 0.012                   |
|                      | 5.50             | 119.0           | 83.7           | 118.39    | 14.4545 0.014                   |
|                      | 6.00             | 126.4           | 91.1           | 118.40    | 13.3333 0.016                   |
|                      | 6.50             | 133.5           | 98.2           | 118.41    | 12.3846 0.018                   |
|                      | 7.00             | 140.5           | 105.2          | 118.42    | 11.5714 0.020                   |
|                      | 7.50             | 147.5           | 112.2          | 118.43    | 10.8667 0.022                   |
|                      | 8.00             | 154.4           | 119.1          | 118.44    | 10.2500 0.024                   |
|                      | 8.50             | 161.3           | 126.0          | 118.45    | 9.7059 0.026                    |
|                      | 9.00             | 168.2           | 132.9          | 118.46    | 9.2222 0.028                    |
|                      | 9.50             | 175.0           | 139.7          | 118.47    | 8.7895 0.031                    |
|                      | 10.00            | 181.9           | 146.5          | 118.48    | 8.4000 0.033                    |
|                      | 10.50            | 188.6           | 153.3          | 118.49    | 8.0476 0.036                    |
|                      | 11.00            | 195.4           | 160.1          | 118.50    | 7.7273 0.038                    |
|                      | 11.50            | 202.1           | 166.8          | 118.50    | 7.4348 0.041                    |
|                      | 12.00            | 208.8           | 173.5          | 118.51    | 7.1667 0.044                    |
|                      | 12.50            | 215.5           | 180.2          | 118.51    | 6.9200 0.046                    |
|                      | 13.00            | 222.1           | 186.8          | 118.52    | 6.6923 0.049                    |
|                      | 13.50            | 228.7           | 193.4          | 118.53    | 6.4815 0.052                    |
|                      | 14.00            | 235.2           | 199.9          | 118.54    | 6.2857 0.055                    |
|                      | 14.50            | 241.8           | 206.4          | 118.55    | 6.1034 0.058                    |
|                      | 15.00            | 248.3           | 212.9          | 118.55    | 5.9333 0.062                    |
|                      | 15.50            | 254.7           | 219.4          | 118.56    | 5.7742 0.065                    |
|                      | 16.00            | 261.2           | 225.9          | 118.57    | 5.6250 0.068                    |
|                      | 16.50            | 267.6           | 232.3          | 118.57    | 5.4848 0.072                    |
|                      | 17.00            | 274.0           | 238.6          | 118.58    | 5.3529 0.075                    |

RECORDED  
STATE OF KANSAS COMMISSION

MAY 18 1998

CONSERVATION DIVISION  
Wichita, Kansas

ALPINE SUBSURFACE ELECTRONICS PROBE INCREMENTS LISTING

TEST: 10056 DST#1 CROSSBAR-JUDITH#1-1 HELMRICH & PAYNE

DATE: 06/26/97

TIME: 01:28:16

| Time  | Pressure<br>PSig | delta P<br>PSig | P<br>DEG F | Temp.  | (T+dT)/dT | P <sup>2</sup> /10 <sup>6</sup> |
|-------|------------------|-----------------|------------|--------|-----------|---------------------------------|
| 17.50 | 280.3            | 245.0           | 118.58     | 5.2286 | 0.079     |                                 |
| 18.00 | 286.7            | 251.3           | 118.59     | 5.1111 | 0.082     |                                 |
| 18.50 | 292.9            | 257.6           | 118.60     | 5.0000 | 0.086     |                                 |
| 19.00 | 299.2            | 263.8           | 118.60     | 4.8947 | 0.090     |                                 |
| 19.50 | 305.4            | 270.1           | 118.61     | 4.7949 | 0.093     |                                 |
| 20.00 | 311.6            | 276.3           | 118.61     | 4.7000 | 0.097     |                                 |
| 20.50 | 317.7            | 282.4           | 118.62     | 4.6098 | 0.101     |                                 |
| 21.00 | 323.9            | 288.6           | 118.63     | 4.5238 | 0.105     |                                 |
| 21.50 | 330.0            | 294.7           | 118.63     | 4.4419 | 0.109     |                                 |
| 22.00 | 336.1            | 300.7           | 118.64     | 4.3636 | 0.113     |                                 |
| 22.50 | 342.1            | 306.8           | 118.65     | 4.2889 | 0.117     |                                 |
| 23.00 | 348.1            | 312.8           | 118.65     | 4.2174 | 0.121     |                                 |
| 23.50 | 354.1            | 318.8           | 118.66     | 4.1489 | 0.125     |                                 |
| 24.00 | 360.0            | 324.7           | 118.66     | 4.0833 | 0.130     |                                 |
| 24.50 | 366.0            | 330.6           | 118.67     | 4.0204 | 0.134     |                                 |
| 25.00 | 371.9            | 336.5           | 118.67     | 3.9600 | 0.138     |                                 |
| 25.50 | 377.7            | 342.4           | 118.68     | 3.9020 | 0.143     |                                 |
| 26.00 | 383.5            | 348.2           | 118.68     | 3.8462 | 0.147     |                                 |
| 26.50 | 389.4            | 354.0           | 118.69     | 3.7925 | 0.152     |                                 |
| 27.00 | 395.1            | 359.8           | 118.70     | 3.7407 | 0.156     |                                 |
| 27.50 | 400.8            | 365.5           | 118.70     | 3.6909 | 0.161     |                                 |
| 28.00 | 406.6            | 371.2           | 118.71     | 3.6429 | 0.165     |                                 |
| 28.50 | 412.3            | 376.9           | 118.71     | 3.5965 | 0.170     |                                 |
| 29.00 | 418.0            | 382.6           | 118.72     | 3.5517 | 0.175     |                                 |
| 29.50 | 423.6            | 388.2           | 118.72     | 3.5085 | 0.179     |                                 |
| 30.00 | 429.2            | 393.8           | 118.73     | 3.4667 | 0.184     |                                 |
| 30.50 | 434.8            | 399.4           | 118.74     | 3.4262 | 0.189     |                                 |
| 31.00 | 440.4            | 405.0           | 118.74     | 3.3871 | 0.194     |                                 |
| 31.50 | 445.9            | 410.5           | 118.75     | 3.3492 | 0.199     |                                 |
| 32.00 | 451.4            | 416.0           | 118.75     | 3.3125 | 0.204     |                                 |
| 32.50 | 456.9            | 421.5           | 118.76     | 3.2769 | 0.209     |                                 |
| 33.00 | 462.3            | 426.9           | 118.76     | 3.2424 | 0.214     |                                 |
| 33.50 | 467.7            | 432.4           | 118.76     | 3.2090 | 0.219     |                                 |
| 34.00 | 473.1            | 437.8           | 118.77     | 3.1765 | 0.224     |                                 |
| 34.50 | 478.5            | 443.1           | 118.78     | 3.1449 | 0.229     |                                 |
| 35.00 | 483.8            | 448.5           | 118.78     | 3.1143 | 0.234     |                                 |
| 35.50 | 489.1            | 453.8           | 118.79     | 3.0845 | 0.239     |                                 |
| 36.00 | 494.4            | 459.1           | 118.79     | 3.0556 | 0.244     |                                 |
| 36.50 | 499.7            | 464.3           | 118.80     | 3.0274 | 0.250     |                                 |
| 37.00 | 504.9            | 469.6           | 118.81     | 3.0000 | 0.255     |                                 |
| 37.50 | 510.1            | 474.8           | 118.81     | 2.9733 | 0.260     |                                 |
| 38.00 | 515.3            | 480.0           | 118.82     | 2.9474 | 0.266     |                                 |
| 38.50 | 520.4            | 485.1           | 118.82     | 2.9221 | 0.271     |                                 |
| 39.00 | 525.6            | 490.3           | 118.83     | 2.8974 | 0.276     |                                 |
| 39.50 | 530.7            | 495.3           | 118.83     | 2.8734 | 0.282     |                                 |
| 40.00 | 535.8            | 500.4           | 118.84     | 2.8500 | 0.287     |                                 |
| 40.50 | 540.8            | 505.5           | 118.84     | 2.8272 | 0.292     |                                 |
| 41.00 | 545.9            | 510.5           | 118.85     | 2.8049 | 0.298     |                                 |
| 41.50 | 550.9            | 515.5           | 118.86     | 2.7831 | 0.303     |                                 |
| 42.00 | 555.8            | 520.5           | 118.86     | 2.7619 | 0.309     |                                 |
| 42.50 | 560.7            | 525.4           | 118.87     | 2.7412 | 0.314     |                                 |

STATE OF KANSAS  
CONSERVATION DIVISION

MAY 1 8 1998

CONSERVATION DIVISION  
Wichita, Kansas



ALPINE SUBSURFACE ELECTRONICS PROBE INCREMENTS LISTING

TEST: 10056 DST#1 CROSSBAR-JUDITH#1-1 HELMRICH & PAYNE

DATE: 06/26/97

TIME: 01:28:16

| Time  | Pressure<br>PSig | delta P<br>PSig | Temp.<br>DEG F | (T+dT)/dT | P <sup>2</sup> /10 <sup>6</sup> |
|-------|------------------|-----------------|----------------|-----------|---------------------------------|
| 43.00 | 565.7            | 530.4           | 118.87         | 2.7209    | 0.320                           |
| 43.50 | 570.6            | 535.3           | 118.87         | 2.7011    | 0.326                           |
| 44.00 | 575.4            | 540.1           | 118.88         | 2.6818    | 0.331                           |
| 44.50 | 580.3            | 545.0           | 118.88         | 2.6629    | 0.337                           |
| 45.00 | 585.1            | 549.8           | 118.89         | 2.6444    | 0.342                           |
| 45.50 | 589.9            | 554.6           | 118.89         | 2.6264    | 0.348                           |
| 46.00 | 594.7            | 559.4           | 118.90         | 2.6087    | 0.354                           |
| 46.50 | 599.4            | 564.1           | 118.90         | 2.5914    | 0.359                           |
| 47.00 | 604.2            | 568.8           | 118.90         | 2.5745    | 0.365                           |
| 47.50 | 608.9            | 573.5           | 118.91         | 2.5579    | 0.371                           |
| 48.00 | 613.5            | 578.2           | 118.92         | 2.5417    | 0.376                           |
| 48.50 | 618.1            | 582.8           | 118.92         | 2.5258    | 0.382                           |
| 49.00 | 622.8            | 587.5           | 118.93         | 2.5102    | 0.388                           |
| 49.50 | 627.4            | 592.0           | 118.93         | 2.4949    | 0.394                           |
| 50.00 | 631.9            | 596.6           | 118.94         | 2.4800    | 0.399                           |
| 50.50 | 636.4            | 601.1           | 118.95         | 2.4653    | 0.405                           |
| 51.00 | 641.0            | 605.7           | 118.95         | 2.4510    | 0.411                           |
| 51.50 | 645.5            | 610.2           | 118.95         | 2.4369    | 0.417                           |
| 52.00 | 649.9            | 614.6           | 118.96         | 2.4231    | 0.422                           |
| 52.50 | 654.4            | 619.1           | 118.96         | 2.4095    | 0.428                           |
| 53.00 | 658.8            | 623.5           | 118.97         | 2.3962    | 0.434                           |
| 53.50 | 663.2            | 627.9           | 118.98         | 2.3832    | 0.440                           |
| 54.00 | 667.6            | 632.2           | 118.98         | 2.3704    | 0.446                           |
| 54.50 | 672.0            | 636.7           | 118.98         | 2.3578    | 0.452                           |
| 55.00 | 676.3            | 641.0           | 118.99         | 2.3455    | 0.457                           |
| 55.50 | 680.6            | 645.3           | 118.99         | 2.3333    | 0.463                           |
| 56.00 | 685.0            | 649.6           | 119.00         | 2.3214    | 0.469                           |
| 56.50 | 689.2            | 653.9           | 119.01         | 2.3097    | 0.475                           |
| 57.00 | 693.4            | 658.1           | 119.01         | 2.2982    | 0.481                           |
| 57.50 | 697.7            | 662.4           | 119.02         | 2.2870    | 0.487                           |
| 58.00 | 701.9            | 666.6           | 119.03         | 2.2759    | 0.493                           |
| 58.50 | 706.1            | 670.8           | 119.03         | 2.2650    | 0.499                           |
| 59.00 | 710.3            | 674.9           | 119.04         | 2.2542    | 0.504                           |
| 59.50 | 714.4            | 679.0           | 119.04         | 2.2437    | 0.510                           |
| 60.00 | 718.5            | 683.1           | 119.05         | 2.2333    | 0.516                           |
| 60.50 | 722.6            | 687.3           | 119.05         | 2.2231    | 0.522                           |
| 61.00 | 726.7            | 691.4           | 119.06         | 2.2131    | 0.528                           |
| 61.50 | 730.7            | 695.4           | 119.06         | 2.2033    | 0.534                           |
| 62.00 | 734.8            | 699.4           | 119.07         | 2.1935    | 0.540                           |
| 62.50 | 738.8            | 703.4           | 119.07         | 2.1840    | 0.546                           |
| 63.00 | 742.7            | 707.4           | 119.08         | 2.1746    | 0.552                           |
| 63.50 | 746.8            | 711.5           | 119.08         | 2.1654    | 0.558                           |
| 64.00 | 750.7            | 715.4           | 119.09         | 2.1562    | 0.564                           |
| 64.50 | 754.7            | 719.4           | 119.10         | 2.1473    | 0.570                           |
| 65.00 | 758.7            | 723.3           | 119.10         | 2.1385    | 0.576                           |
| 65.50 | 762.4            | 727.1           | 119.10         | 2.1298    | 0.581                           |
| 66.00 | 766.3            | 731.0           | 119.11         | 2.1212    | 0.587                           |
| 66.50 | 770.2            | 734.9           | 119.12         | 2.1128    | 0.593                           |
| 67.00 | 774.0            | 738.7           | 119.12         | 2.1045    | 0.599                           |
| 67.50 | 777.8            | 742.5           | 119.13         | 2.0963    | 0.605                           |
| 68.00 | 781.6            | 746.3           | 119.13         | 2.0882    | 0.611                           |

STATE OF KANSAS  
CONSERVATION DIVISION

MAY 1 1999

CONSERVATION DIVISION  
Wichita, Kansas

ALPINE SUBSURFACE ELECTRONICS PROBE INCREMENTS LISTING

TEST: 10056 DST#1 CROSSBAR-JUDITH#1-1 HELMRICH & PAYNE

DATE: 06/26/97

TIME: 01:28:16

| Time  | Pressure<br>PSig | delta P<br>PSig | Temp.<br>DEG F | (T+dT)/dT | P <sup>2</sup> /10 <sup>6</sup> |
|-------|------------------|-----------------|----------------|-----------|---------------------------------|
| 68.50 | 785.4            | 750.1           | 119.14         | 2.0803    | 0.617                           |
| 69.00 | 789.2            | 753.8           | 119.15         | 2.0725    | 0.623                           |
| 69.50 | 792.9            | 757.6           | 119.15         | 2.0647    | 0.629                           |
| 70.00 | 796.6            | 761.3           | 119.16         | 2.0571    | 0.635                           |
| 70.50 | 800.3            | 765.0           | 119.16         | 2.0496    | 0.640                           |
| 71.00 | 804.0            | 768.7           | 119.17         | 2.0423    | 0.646                           |
| 71.50 | 807.7            | 772.4           | 119.17         | 2.0350    | 0.652                           |
| 72.00 | 811.3            | 775.9           | 119.18         | 2.0278    | 0.658                           |
| 72.50 | 814.9            | 779.6           | 119.18         | 2.0207    | 0.664                           |
| 73.00 | 818.5            | 783.2           | 119.19         | 2.0137    | 0.670                           |
| 73.50 | 822.1            | 786.7           | 119.19         | 2.0068    | 0.676                           |
| 74.00 | 825.7            | 790.4           | 119.20         | 2.0000    | 0.682                           |
| 74.50 | 829.2            | 793.9           | 119.20         | 1.9933    | 0.688                           |
| 75.00 | 832.7            | 797.4           | 119.21         | 1.9867    | 0.693                           |
| 75.50 | 836.3            | 800.9           | 119.21         | 1.9801    | 0.699                           |
| 76.00 | 839.8            | 804.5           | 119.22         | 1.9737    | 0.705                           |
| 76.50 | 843.3            | 807.9           | 119.22         | 1.9673    | 0.711                           |
| 77.00 | 846.6            | 811.3           | 119.23         | 1.9610    | 0.717                           |
| 77.50 | 850.1            | 814.7           | 119.23         | 1.9548    | 0.723                           |
| 78.00 | 853.5            | 818.2           | 119.24         | 1.9487    | 0.728                           |
| 78.50 | 856.9            | 821.6           | 119.25         | 1.9427    | 0.734                           |
| 79.00 | 860.3            | 825.0           | 119.25         | 1.9367    | 0.740                           |
| 79.50 | 863.6            | 828.2           | 119.25         | 1.9308    | 0.746                           |
| 80.00 | 865.4            | 830.0           | 119.26         | 1.9250    | 0.749                           |
| 80.50 | 867.0            | 831.7           | 119.26         | 1.9193    | 0.752                           |
| 81.00 | 868.7            | 833.3           | 119.27         | 1.9136    | 0.755                           |
| 81.50 | 870.0            | 834.7           | 119.28         | 1.9080    | 0.757                           |
| 82.00 | 871.9            | 836.6           | 119.28         | 1.9024    | 0.760                           |
| 82.50 | 875.4            | 840.0           | 119.28         | 1.8970    | 0.766                           |
| 83.00 | 878.7            | 843.4           | 119.29         | 1.8916    | 0.772                           |
| 83.50 | 882.0            | 846.7           | 119.30         | 1.8862    | 0.778                           |
| 84.00 | 885.2            | 849.9           | 119.30         | 1.8810    | 0.784                           |
| 84.50 | 888.5            | 853.1           | 119.30         | 1.8757    | 0.789                           |
| 85.00 | 891.6            | 856.3           | 119.31         | 1.8706    | 0.795                           |
| 85.50 | 894.8            | 859.4           | 119.32         | 1.8655    | 0.801                           |
| 86.00 | 897.9            | 862.6           | 119.32         | 1.8605    | 0.806                           |
| 86.50 | 901.1            | 865.8           | 119.32         | 1.8555    | 0.812                           |
| 87.00 | 904.2            | 868.9           | 119.33         | 1.8506    | 0.818                           |
| 87.50 | 907.3            | 872.0           | 119.33         | 1.8457    | 0.823                           |
| 88.00 | 910.4            | 875.1           | 119.34         | 1.8409    | 0.829                           |
| 88.50 | 913.5            | 878.2           | 119.34         | 1.8362    | 0.834                           |
| 89.00 | 916.6            | 881.2           | 119.35         | 1.8315    | 0.840                           |
| 89.50 | 919.6            | 884.3           | 119.35         | 1.8268    | 0.846                           |
| 90.00 | 922.6            | 887.3           | 119.35         | 1.8222    | 0.851                           |
| 90.50 | 925.6            | 890.3           | 119.35         | 1.8177    | 0.857                           |
| 91.00 | 928.6            | 893.3           | 119.37         | 1.8132    | 0.862                           |
| 91.50 | 931.6            | 896.3           | 119.37         | 1.8087    | 0.868                           |
| 92.00 | 934.6            | 899.3           | 119.38         | 1.8043    | 0.873                           |
| 92.50 | 937.5            | 902.2           | 119.38         | 1.8000    | 0.879                           |
| 93.00 | 940.5            | 905.2           | 119.39         | 1.7957    | 0.885                           |
| 93.50 | 943.4            | 908.1           | 119.39         | 1.7914    | 0.890                           |

STATE OF KANSAS CONSERVATION DIVISION

MAY 1 1997

CONSERVATION DIVISION  
Wichita, Kansas

ALPINE SUBSURFACE ELECTRONICS PROBE INCREMENTS LISTING

TEST: 10056 DST#1 CROSSBAR-JUDITH#1-1 HELMRICH & PAYNE

DATE: 06/26/97 TIME: 01:28:16

| Time   | Pressure<br>PSig | delta P<br>PSig | Temp.<br>DEG F | (T+dT)/dT | P <sup>2</sup> /10 <sup>6</sup> |
|--------|------------------|-----------------|----------------|-----------|---------------------------------|
| 94.00  | 946.4            | 911.0           | 119.39         | 1.7872    | 0.896                           |
| 94.50  | 949.3            | 913.9           | 119.40         | 1.7831    | 0.901                           |
| 95.00  | 952.1            | 916.7           | 119.40         | 1.7789    | 0.906                           |
| 95.50  | 955.0            | 919.7           | 119.41         | 1.7749    | 0.912                           |
| 96.00  | 957.8            | 922.5           | 119.42         | 1.7708    | 0.917                           |
| 96.50  | 960.7            | 925.3           | 119.42         | 1.7668    | 0.923                           |
| 97.00  | 963.5            | 928.2           | 119.43         | 1.7629    | 0.928                           |
| 97.50  | 966.3            | 931.0           | 119.43         | 1.7590    | 0.934                           |
| 98.00  | 969.1            | 933.8           | 119.44         | 1.7551    | 0.939                           |
| 98.50  | 971.9            | 936.6           | 119.44         | 1.7513    | 0.945                           |
| 99.00  | 974.7            | 939.4           | 119.44         | 1.7475    | 0.950                           |
| 99.50  | 977.5            | 942.1           | 119.45         | 1.7437    | 0.955                           |
| 100.00 | 980.2            | 944.9           | 119.46         | 1.7400    | 0.961                           |
| 100.50 | 982.9            | 947.6           | 119.46         | 1.7363    | 0.966                           |
| 101.00 | 985.6            | 950.3           | 119.46         | 1.7327    | 0.971                           |
| 101.50 | 988.3            | 953.0           | 119.47         | 1.7291    | 0.977                           |
| 102.00 | 991.1            | 955.7           | 119.47         | 1.7255    | 0.982                           |
| 102.50 | 993.6            | 958.3           | 119.48         | 1.7220    | 0.987                           |
| 103.00 | 996.3            | 961.0           | 119.49         | 1.7184    | 0.993                           |
| 103.50 | 998.9            | 963.6           | 119.49         | 1.7150    | 0.998                           |
| 104.00 | 1001.5           | 966.2           | 119.49         | 1.7115    | 1.003                           |
| 104.50 | 1004.1           | 968.8           | 119.50         | 1.7081    | 1.008                           |
| 105.00 | 1006.7           | 971.3           | 119.51         | 1.7048    | 1.013                           |
| 105.50 | 1009.2           | 973.8           | 119.51         | 1.7014    | 1.018                           |
| 106.00 | 1011.7           | 976.4           | 119.52         | 1.6981    | 1.024                           |
| 106.50 | 1014.3           | 978.9           | 119.52         | 1.6948    | 1.029                           |
| 107.00 | 1016.8           | 981.5           | 119.53         | 1.6916    | 1.034                           |
| 107.50 | 1019.3           | 983.9           | 119.53         | 1.6884    | 1.039                           |
| 108.00 | 1021.7           | 986.3           | 119.54         | 1.6852    | 1.044                           |
| 108.50 | 1024.1           | 988.7           | 119.54         | 1.6820    | 1.049                           |
| 109.00 | 1026.4           | 991.1           | 119.56         | 1.6789    | 1.053                           |
| 109.50 | 1028.7           | 993.4           | 119.55         | 1.6758    | 1.058                           |
| 110.00 | 1030.9           | 995.5           | 119.56         | 1.6727    | 1.063                           |
| 110.50 | 1033.1           | 997.7           | 119.56         | 1.6697    | 1.067                           |
| 111.00 | 1035.3           | 1000            | 119.57         | 1.6667    | 1.072                           |
| 111.50 | 1037.4           | 1002.1          | 119.57         | 1.6637    | 1.076                           |
| 112.00 | 1039.5           | 1004.2          | 119.57         | 1.6607    | 1.081                           |
| 112.50 | 1041.6           | 1006.2          | 119.58         | 1.6578    | 1.085                           |
| 113.00 | 1043.6           | 1008.3          | 119.59         | 1.6549    | 1.089                           |
| 113.50 | 1045.6           | 1010.2          | 119.59         | 1.6520    | 1.093                           |
| 114.00 | 1047.5           | 1012.2          | 119.59         | 1.6491    | 1.097                           |
| 114.50 | 1049.5           | 1014.2          | 119.60         | 1.6463    | 1.101                           |
| 115.00 | 1051.3           | 1016.0          | 119.60         | 1.6435    | 1.105                           |
| 115.50 | 1053.3           | 1017.9          | 119.61         | 1.6407    | 1.109                           |
| 116.00 | 1055.3           | 1019.9          | 119.62         | 1.6379    | 1.114                           |
| 116.50 | 1057.2           | 1021.8          | 119.62         | 1.6352    | 1.118                           |
| 117.00 | 1059.0           | 1023.7          | 119.63         | 1.6325    | 1.122                           |
| 117.50 | 1060.9           | 1025.6          | 119.63         | 1.6298    | 1.126                           |
| 118.00 | 1062.7           | 1027.4          | 119.64         | 1.6271    | 1.129                           |
| 118.50 | 1064.6           | 1029.2          | 119.64         | 1.6245    | 1.133                           |
| 119.00 | 1066.3           | 1030.9          | 119.65         | 1.6218    | 1.137                           |

STATE OF KANSAS

MAY 1997

CONSERVATION DIVISION  
Wichita, Kansas

ALPINE SUBSURFACE ELECTRONICS PROBE INCREMENTS LISTING

TEST: 10056 DST#1 CROSSBAR-JUDITH#1-1 HELMRICH & PAYNE

DATE: 06/26/97 TIME: 01:28:16

|                     | Time   | Pressure | delta P | Temp.  | (T+dT)/dT | P^2/10^6 |
|---------------------|--------|----------|---------|--------|-----------|----------|
|                     |        | PSIg     | PSIg    | DEG F  |           |          |
|                     | 119.50 | 1068.0   | 1032.6  | 119.65 | 1.6192    | 1.141    |
|                     | 120.00 | 1069.6   | 1034.2  | 119.65 | 1.6167    | 1.144    |
|                     | 120.50 | 1071.2   | 1035.9  | 119.66 | 1.6141    | 1.147    |
|                     | 121.00 | 1072.7   | 1037.4  | 119.66 | 1.6116    | 1.151    |
|                     | 121.50 | 1074.1   | 1038.8  | 119.67 | 1.6091    | 1.154    |
|                     | 122.00 | 1075.5   | 1040.2  | 119.68 | 1.6066    | 1.157    |
|                     | 122.50 | 1076.9   | 1041.6  | 119.68 | 1.6041    | 1.160    |
|                     | 123.00 | 1078.3   | 1043.0  | 119.68 | 1.6016    | 1.163    |
|                     | 123.50 | 1079.6   | 1044.3  | 119.69 | 1.5992    | 1.166    |
|                     | 124.00 | 1080.9   | 1045.6  | 119.70 | 1.5968    | 1.168    |
| ***** End Shut-in 2 | 124.50 | 1082.2   | 1046.9  | 119.70 | 1.5944    | 1.171    |
| ***** Final Hydro.  | 420.50 | 2447.8   | 0.0     | 119.74 |           |          |

STATE OF KANSAS  
CONSTRUCTION DIVISION  
Wichita, Kansas

# TEST HISTORY

10056 DST#1 CROSSBAR-JUDITH#1-1 HELMRICH & PAYNE

Flag Points

|    | t (Min.) | Pk PSig |
|----|----------|---------|
| A: | 0.00     | 2476.95 |
| B: | 0.00     | 40.00   |
| C: | 14.50    | 35.69   |
| D: | 59.50    | 631.24  |
| E: | 0.00     | 21.41   |
| F: | 59.50    | 35.33   |
| G: | 124.50   | 1082.20 |
| Q: | 0.00     | 2447.81 |

Pressure ( PSig )

CONSOLE  
WICHITA, KANSAS

10056  
10056

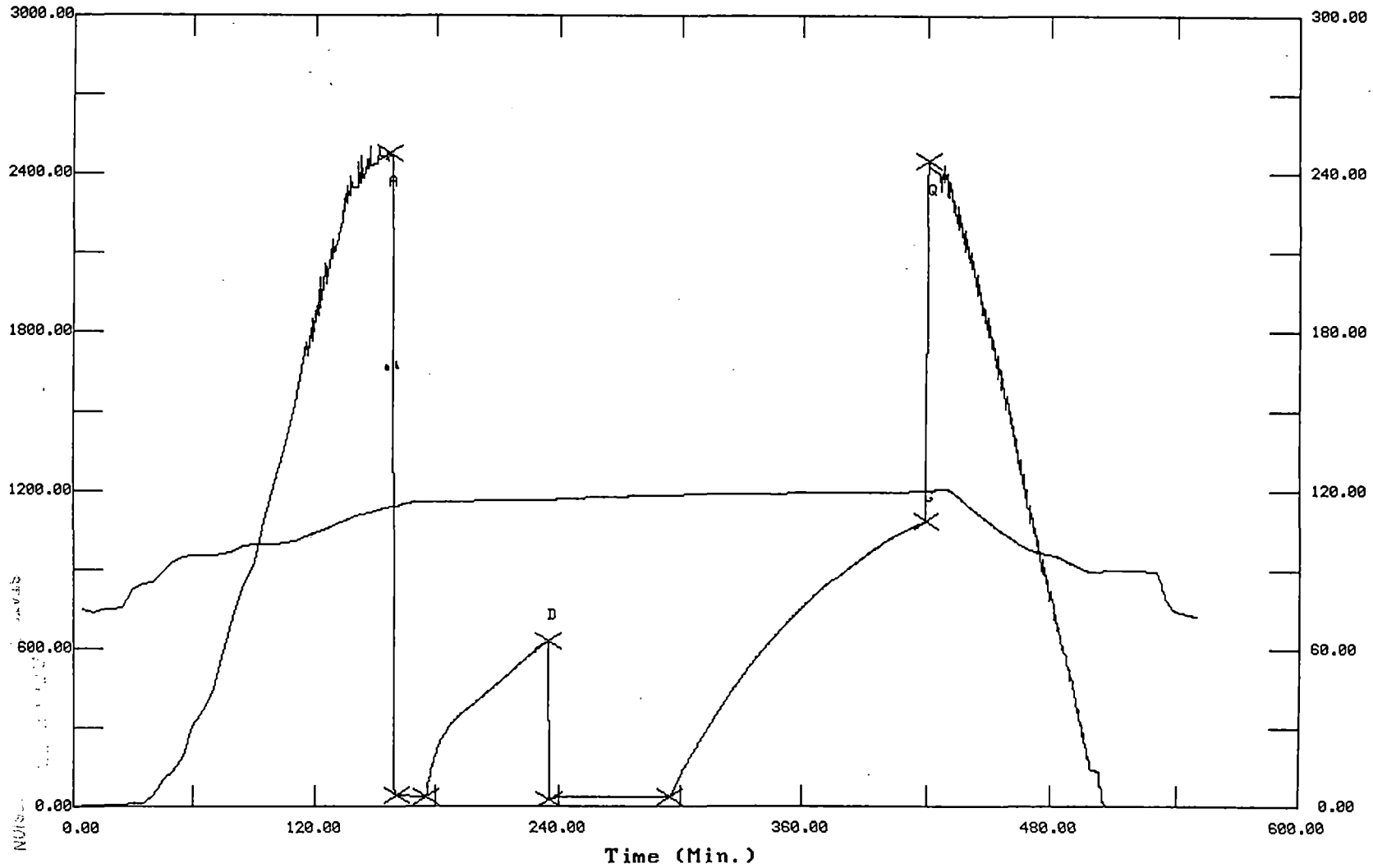
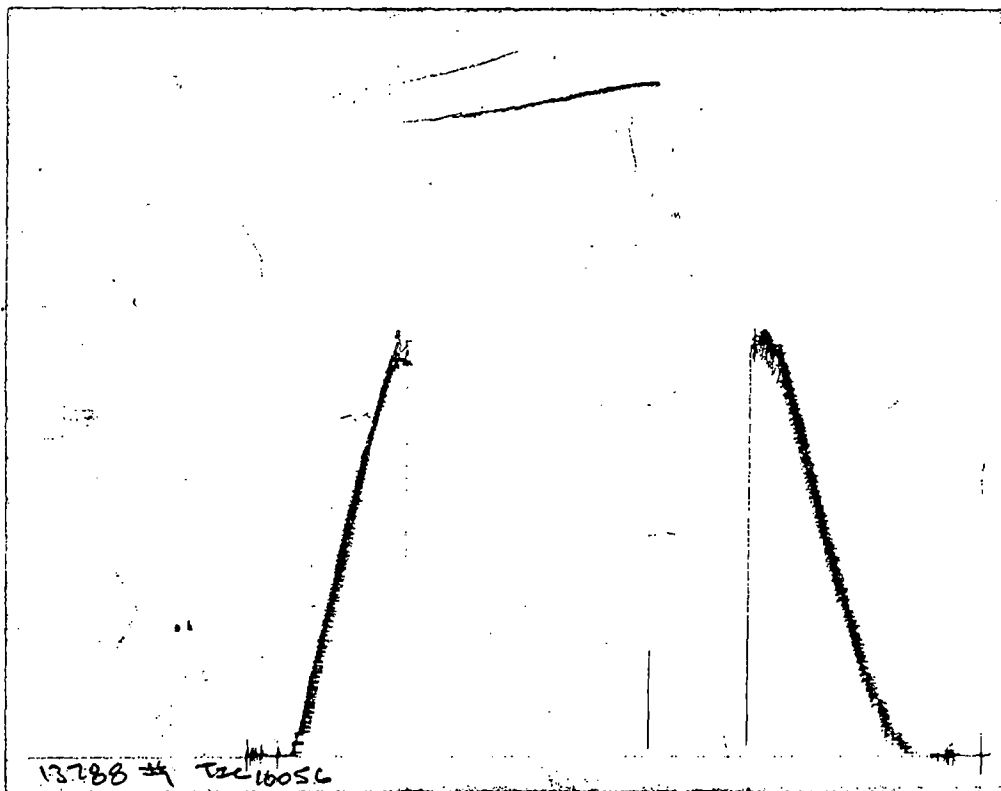


CHART PAGE



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

CONSERVATION DIVISION  
WICHITA, KANSAS

5/1/74

STATE OF KANSAS

# TRILOBITE TESTING L.L.C.

P.O. Box 362 • Hays, Kansas 67601

## Test Ticket

No 10056

|  |                                    |   |   |
|--|------------------------------------|---|---|
| Well Name & No. <u>CROSSBAR JUDITH # 1-1</u>       |                                    | Test No. <u>1</u>                       | Date <u>6-2-97</u>                        |
| Company <u>HELMERICH &amp; PAYNE INC.</u>          |                                    | Zone Tested <u>MISS.</u>                |   |
| Address <u>260 FLEMING / GARDEN CITY KS. 67846</u> |                                    | Elevation <u>1934</u> KB <u>1921</u> GL |   |
| Co. Rep / Geo. <u>WES HANSON</u>                   |                                    | Cont. <u>DUKE DRUG, #7</u>              | Est. Ft. of Pay <u>15</u> Por. <u>9</u> % |
| Location: Sec. <u>1</u>                            | Twp. <u>33S</u>                    | Rge. <u>18W</u>                         | Co. <u>COMANCHE</u> State <u>KS.</u>      |
| No. of Copies <u>5</u>                             | Distribution Sheet (Y, N) <u>Y</u> | Turnkey (Y, N) <u>Y</u>                 | Evaluation (Y, N) <u>~</u>                |

|  |  |  |
|--|--|--|
| Interval Tested <u>5090 - 5125'</u>                                | Initial Str Wt./Lbs. <u>15,000</u>                     | Unseated Str Wt./Lbs. <u>15,000</u>                      |
| Anchor Length <u>35'</u>   | Wt. Set Lbs. <u>22,000</u>                             | Wt. Pulled Loose/Lbs. <u>89,000</u>                      |
| Top Packer Depth <u>5085'</u>                                      | Tool Weight <u>2100<sup>lb</sup></u>                   |  |
| Bottom Packer Depth <u>5090'</u>                                   | Hole Size — 7 7/8" <input checked="" type="checkbox"/> | Rubber Size — 6 3/4" <input checked="" type="checkbox"/> |
| Total Depth <u>5125'</u>   | Wt. Pipe Run <u>None</u>                               | Drill Collar Run <u>240'</u>                             |
| Mud Wt. <u>9.1</u> LCM <u>~</u> Vis. <u>SS</u> WL <u>10.4 cc.</u>  | Drill Pipe Size <u>4 1/2" X. H.</u>                    | Ft. Run <u>4855'</u>                                     |
| Blow Description <u>IF: Strong blow. Btm. of mudset in 50 sec.</u> |  |  |
| <u>ISI: No Blow.</u>   |  |  |
| <u>FF: Strong blow. Btm. of mudset in 10 sec. G.T.S. 37</u>        |  |  |
| <u>mins. in to FF. T.S.T.M. F.S.I.: No blow.</u>                   |  |  |

|   |                |                     |                    |      |
|---|----------------|---------------------|--------------------|------|
| Recovery — Total Feet <u>62</u>               | GIP <u>yes</u> | Ft. in DC <u>62</u> | Ft. in DP <u>~</u> |      |
| Rec. <u>62</u> Feet Of <u>Heavy Mud.</u>      | %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 |
| Rec. _____ Feet Of <u>NITRATES SS Mg/LTR.</u> | %gas           | %oil                | %water             | %mud |

BHT 120 °F Gravity N/A °API @ ~ °F Corrected Gravity N/A °API

RW 3.77 @ 77 °F Chlorides 4,000 ppm Recovery Chlorides 5,000 ppm System

|                                  |                               |                           |   |
|----------------------------------|-------------------------------|---------------------------|---|
| (A) Initial Hydrostatic Mud      | <u>2507</u>   <u>2477</u> PSI | Recorder No. <u>13788</u> | T-Started <u>0128</u>   |
| (B) First Initial Flow Pressure  | <u>58</u>   <u>76</u> PSI     | (depth) <u>5122'</u>      | T-Open <u>0410</u>  |
| (C) First Final Flow Pressure    | <u>47</u>   <u>58</u> PSI     | Recorder No. <u>3030</u>  | T-Pulled <u>0828</u>  |
| (D) Initial Shut-in Pressure     | <u>645</u>   <u>631</u> PSI   | (depth) <u>5096'</u>      | T-Out <u>1030</u>   |
| (E) Second Initial Flow Pressure | <u>30</u>   <u>21</u> PSI     | Recorder No. <u>~</u>     |   |
| (F) Second Final Flow Pressure   | <u>35</u>   <u>35</u> PSI     | (depth) <u>~</u>          |   |
| (G) Final Shut-in Pressure       | <u>1098</u>   <u>1082</u> PSI | Initial Opening <u>15</u> | Test <input checked="" type="checkbox"/> <u>800<sup>00</sup></u>            |
| (H) Final Hydrostatic Mud        | <u>2472</u>   <u>2448</u> PSI | Initial Shut-in <u>60</u> | Jars <input checked="" type="checkbox"/> <u>200<sup>00</sup></u>            |
|                                  | <u>AK-1</u>   <u>alpine</u>   | Final Flow <u>60</u>      | Safety Joint <input checked="" type="checkbox"/> <u>50<sup>00</sup></u>     |
|                                  |                               | Final Shut-in <u>120</u>  | Straddle _____  |
|                                  |                               |                           | Circ. Sub _____   |
|                                  |                               |                           | Sampler _____   |
|                                  |                               |                           | Extra Packer _____  |
|                                  |                               |                           | Elect. Rec. <input checked="" type="checkbox"/> <u>150<sup>00</sup></u>     |
|                                  |                               |                           | Other _____   |
|                                  |                               |                           | TOTAL PRICE \$ <input checked="" type="checkbox"/> <u>1200<sup>00</sup></u> |

TRILOBITE TESTING L.L.C. SHALL NOT BE LIABLE FOR DAMAGE OF ANY KIND OF THE PROPERTY OR PERSONNEL OF THE ONE FOR WHOM A TEST IS MADE, OR FOR ANY LOSS SUFFERED OR SUSTAINED, DIRECTLY OR INDIRECTLY, THROUGH THE USE OF ITS EQUIPMENT, OR ITS STATEMENTS OR OPINION CONCERNING THE RESULTS OF ANY TEST. TOOLS LOST OR DAMAGED IN THE HOLE SHALL BE PAID FOR AT COST BY THE PARTY FOR WHOM THE TEST IS MADE.

CONSERVATION DIVISION  
Wichita, Kansas

Approved By Wesley Hanson

Our Representative \_\_\_\_\_

# ALLIED CEMENTING CO., INC. 6243

## ORIGINAL

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

SERVICE POINT  
Red Bridge

|               |         |                          |             |                     |                      |                    |                     |
|---------------|---------|--------------------------|-------------|---------------------|----------------------|--------------------|---------------------|
| DATE: 8-20-97 | SEC: 1  | TWP: 38 S                | RANGE: 18 W | CALLED OUT: 4:00 pm | ON LOCATION: 5:15 pm | JOB START: 7:00 am | JOB FINISH: 8:45 pm |
| LEASE: 17-1   | WELL #: | LOCATION: 160' Wilcox HC |             | S 2 S 24 25         |                      | COUNTY: Comanche   | STATE: Kansas       |

OLD OR NEW (Circle one)

CONTRACTOR: Duke Drilling  
 TYPE OF JOB: Pottery Pit  
 HOLE SIZE: 7 1/2" ID: 6027  
 CASING SIZE: 5 1/2" DEPTH: 674  
 TUBING SIZE: DEPTH:  
 DRILL PIPE: 4 1/2 x 16.00 DEPTH: 975  
 TOOL JOINT DEPTH:  
 PRES. MAX: 150 MINIMUM: 50  
 MEAS. LINE: SHOE JOINT  
 CEMENT LEFT IN CSG.  
 PERFS.

OWNER: Helmerich & Ryan  
 CEMENT:

AMOUNT ORDERED: 13.5 x 40 x 6

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

EQUIPMENT  
 PUMP TRUCK: CEMENTER Carl Balding #255-265  
 HELPER Steve Wilcox  
 BULK TRUCK #240-251 DRIVER James Holt  
 BULK TRUCK DRIVER

TOTAL

REMARKS:  
 Pump 50' / 975 feet  
 Pump 50' / 690 feet  
 Pump 10' / 40 feet  
 15' in Rat Hole  
 10' in mouse Hole

SERVICE

DEPTH OF JOB: 975  
 PUMP TRUCK CHARGE  
 EXTRA FOOTAGE @  
 MILEAGE @  
 PLUG @

TOTAL

CHARGE TO: Duke Drilling Co.  
 STREET  
 CITY STATE ZIP

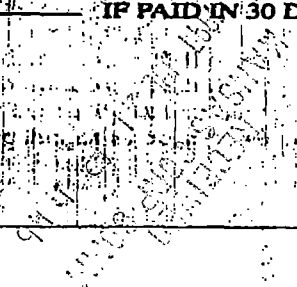
FLOAT EQUIPMENT

TOTAL

TAX  
 TOTAL CHARGE  
 DISCOUNT IF PAID IN 30 DAYS

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 done to satisfaction and supervision of owner agent or contractor. I have read & understand the "TERMS AND CONDITIONS" listed on the reverse side.

SIGNATURE: *Robert Michale*







# ALLIED CEMENTING CO., INC. 6548

## ORIGINAL

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

SERVICE POINT

med Lodge

|                     |                 |                   |  |                            |                             |                          |                           |
|---------------------|-----------------|-------------------|--|----------------------------|-----------------------------|--------------------------|---------------------------|
| DATE <u>7/18/97</u> | SRC             | TWP. <u>33</u>    | RANGE <u>18</u>                                  | CALLED OUT <u>10:00 AM</u> | ON LOCATION <u>12:30 AM</u> | JOB START <u>4:00 AM</u> | JOB FINISH <u>6:15 AM</u> |
| CROSS ANGLE         | LEASE ST. & TH. | WELL # <u>1-1</u> | LOCATION <u>6 1/2 miles + 1/4 sec + 45-12-35</u> | COUNTY <u>Comanche</u>     | STATE <u>KS</u>             |                          |                           |

OLD OR NEW (Circle one)

CONTRACTOR Duke Drilling

TYPE OF JOB Surface CSG

HOLE SIZE 12 1/4 ID. 6 7/8

CASING SIZE 8 5/8 x 24 DEPTH 674

TUBING SIZE DEPTH

DRILL PIPE DEPTH

TOOL DEPTH

PRES. MAX 300 MINIMUM 150

MEAS. LINE SHOE JOINT 43.51

CEMENT LEFT IN CSG.

PERFS.

OWNER Helmericht Paul

CEMENT

AMOUNT ORDERED 27555 ALLW 3% CACL2  
1/4# Flo-Seal 15055 CLASS A + 3% CACL2  
2% Gel

COMMON @

POZMIX @

GEL @

CHLORIDE @

EQUIPMENT

PUMP TRUCK CEMENTER Arny Drilling

# 233-303 HELPER Justin Hart

BULK TRUCK

# 240-251 DRIVER James Holt

BULK TRUCK

# DRIVER

HANDLING @

MILEAGE @

TOTAL

REMARKS:

Pipe on Bottom Break Circ.

Cement 12555 ALLW + 3% CACL2 + 1/4#

Flo-Seal 15055 CLASS A + 3% CACL2 +

2% Gel Release Pump + Displace

Plug w/ 418bbs Fresh H<sub>2</sub>O. Parial Returns

Rig up to Run 1 1/2" Cement w/ 15055

ALLW + 3% CACL2 + 1/4# Flo-Seal Cement

Cement to Surface

SERVICE

DEPTH OF JOB 674

PUMP TRUCK CHARGE @

EXTRA FOOTAGE @

MILEAGE @

PLUG Rubber @

TOTAL

CHARGE TO: Duke Drilling

STREET

CITY STATE ZIP

FLOAT EQUIPMENT

1-Baffle Plate @

1-Basket @

TOTAL

TAX

TOTAL CHARGE

DISCOUNT IF PAID IN 30 DAYS

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 done to satisfaction and supervision of owner agent or contractor. I have read & understand the "TERMS AND CONDITIONS" listed on the reverse side.

SIGNATURE [Signature]

RECEIVED  
ALLIED CEMENTING CO. INC.

# ALLIED CEMENTING CO., INC.

## CEMENTING LOG

STAGE NO. ORIGINAL

Date 6-18-97 District medilodge Ticket No. 6548  
 Company Helmer & Payne Rig DUKE #7  
 Lease Crossbar - Judith Well No. 1-1  
 County Comanche State KS  
 Location Wilmore #160 St. E. Field 1-33-18  
4s-1/2w-3s

CASING DATA: PTA  Squeez   
 Surface  Intermediate  Production  Liner   
 Size 8 5/8 Type J-55 Weight 24 Collar \_\_\_\_\_

Casing Depth: Top 674-8 5/8 Bottom \_\_\_\_\_

Drill Pipe Size 4 1/2 Weight 16.60 collars x hole  
 Open Hole Size 12 1/4 T.D. 675 ft. P.B. to \_\_\_\_\_ ft.

CAPACITY FACTORS:  
 Casing: Bbls/Lin. ft. 06.37 Lin. ft./Bbl. 15.70  
 Open Hole: Bbls/Lin. ft. 14.58 Lin. ft./Bbl. \_\_\_\_\_  
 Drill Pipe: Bbls/Lin. ft. \_\_\_\_\_ Lin. ft./Bbl. \_\_\_\_\_  
 Annulus: Bbls/Lin. ft. 07.35 Lin. ft./Bbl. \_\_\_\_\_  
 Bbls/Lin. ft. \_\_\_\_\_ Lin. ft./Bbl. \_\_\_\_\_  
 Perforations: From \_\_\_\_\_ ft. Amt. \_\_\_\_\_

CEMENT DATA:  
 Spacer Type: \_\_\_\_\_  
 Amt. \_\_\_\_\_ Sks Yield \_\_\_\_\_ R<sup>2</sup>/sk Density \_\_\_\_\_ PPG

LEAD: Pump Time \_\_\_\_\_ hrs. Type CLASS A-ALW  
3% CACL<sub>2</sub> + 1/4" FLO-SEAL Excess \_\_\_\_\_

Amt. \_\_\_\_\_ Sks Yield 1.52 R<sup>2</sup>/sk Density 12.5 PPG

TAIL: Pump Time \_\_\_\_\_ hrs. Type CLASS A  
3% CACL<sub>2</sub> + 2% GEL Excess \_\_\_\_\_

Amt. 1.50 Sks Yield 1.23 R<sup>2</sup>/sk Density 12.5 PPG

WATER: Lead 10.9 gal/sk Total 6.25 gal/sk Total \_\_\_\_\_ Bbls

Pump Trucks Used 2-33-305 \_\_\_\_\_

Skid Equip. 240-251 JAMES H.

Float Equip: Manufacturer \_\_\_\_\_  
 Shoe: Type \_\_\_\_\_ Depth \_\_\_\_\_  
 Float: Type BASIC PLATE Depth 624.48  
 Centralizers: Quantity \_\_\_\_\_ Plug Type Wedge Brr. \_\_\_\_\_  
 Stages Collars \_\_\_\_\_  
 Special Equip. BASKET  
 Disp. Fluid Type FRESH H<sub>2</sub>O Amt. 41 Bbls Weight 8.34 PPG  
 Mud Type CHEMICAL Weight 9.1 PPG

COMPANY REPRESENTATIVE Ken McGuire

CEMENTER Army Drilling

| TIME | PRESSURES PSI |         | FLUID PUMPED DATA |                        |                | REMARKS  |
|------|---------------|---------|-------------------|------------------------|----------------|--|
|      | DRILL PIPE    | ANNULUS | TOTAL FLUID       | Pumped Per Time Period | RATE Bbls Min. |  |
| 4:00 | 300           |         |                   |                        |                | Pipe on Bottom - Break Circ  |
| 4:15 | 250           |         | 44                |                        | 6              | Start Cement 1.50 sks CLASS A + ALW + 3% CACL <sub>2</sub> + 1/4" FLO-SEAL |
|      | 250           |         | 36                |                        | 5 1/2          | Cement 1.50 sks CLASS A + 3% CACL <sub>2</sub> + 2% GEL                    |
| 4:30 |               |         |                   |                        |                | Cement In. Stop Pumps  |
| 4:31 |               |         |                   |                        |                | Release Plug   |
| 4:45 | 75            |         | 20                |                        | 4              | Pump Displace Plug w/ Fresh H <sub>2</sub> O                               |
|      | 250           |         | 41                |                        | 4              | Bump Plug  |
|      |               |         |                   |                        |                | Shut In  |
| 5:30 |               |         |                   |                        |                | Did not Circ. Cement   |
| 5:45 | 600           |         | 42                |                        | 2              | Rig up to Run 1"   |
| 6:15 |               |         |                   |                        |                | Cement 1.50 sks CLASS A + ALW + 3% CACL <sub>2</sub> + 1/4" FLO-SEAL       |
|      |               |         |                   |                        |                | Cement Circ to Surface   |