

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

CONFIDENTIAL

API No. 15- 075-20165-0001

ORIGINAL

County Hamilton
- NE - SE - SW Sec. 9 Twp. 24S Rge. 39 X W
1285 Feet from S/N (circle one) Line of Section
1503 Feet from E/W (circle one) Line of Section

Operator: License # 5952

Name: Amoco Production Company

Address PO Box 800 Room 924

City/State/Zip Denver, CO 80201

Purchaser: N/A-Dry

Operator Contact Person: Susan R. Potts

Phone (303) 830-5323

Contractor: Name: Cheyenne Drilling

License: 5382

Wellsite Geologist: Charles Schmaltz

Designate Type of Completion
 New Well X Re-Entry Workover

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

If Workover:

Operator: American Public Energy Company

Well Name: Dunn-Burraston #1

Comp. Date 11/6/76 Old Total Depth 3220'

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

7/9/96 7/17/96
Start Date Of Re-Entry Date Reached TD Completion Date Of Re-Entry

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

Lease Name B. Masterson Well # 1-9

Field Name Wildcat

Producing Formation N/A-Dry

Elevation: Ground 3290.08' KB 3301'

Total Depth 5450' PBSD 3100'

Amount of Surface Pipe Set and Cemented at 367 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 **UNSUCCESSFUL REENTRY** JK
(Data must be collected from the Reserve Pit) 1-24-97

Chloride content 2100 ppm Fluid volume 1800 bbls

Dewatering method used Dried and Filled

Location of fluid disposal if hauled offsite:

Operator Name

Lease Name License No.

 Quarter Sec. Twp. S Rng. E/W

County Docket No.

CONFIDENTIAL
AUG 13

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 Juan R. Potts

Title Senior Staff Assistant Date 8/12/96

Subscribed and sworn to before me this 12th day of August 19 96.

Notary Public Susan Callahan

Date Commission Expires 8/2/98

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)

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STATE CORPORATION COMMISSION FORM ACO-1 (7-91)

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SIDE TWO

Operator Name Amoco Production Company Lease Name B. Masterson Well # 1-9

Sec. 9 Twp. 24S Rge. 39 East County Hamilton

East

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: Complex Lithology Analysis, Microlog, High Resolution Induction, Borehole Compensated Sonic, Spectral Density Dual Spaced Neutron II

Log Formation (Top), Depth and Datums Sample

| Name | Top | Datum |
|-------------------|-------|-------|
| Base Stone Corral | 1961' | KB |
| Chase | 2444' | |
| Council Grove | 2685' | |
| Admire | 3119' | |
| Base Heebner | 3778' | |
| Base Kansas City | 4322' | |
| Marmaton | 4362' | |
| Morrow | 4866' | |
| St. Louis | 5208' | |

CASING RECORD

New Used

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

| Purpose of String | Size Hole Drilled | Size Casing Set (In O.D.) | Weight Lbs./Ft. | Setting Depth | Type of Cement | # Sacks Used | Type and Percent Additives |
|-------------------|-------------------|---------------------------|-----------------|---------------|----------------|--------------|---|
| Surface | 12.25" | 8.625" | 28 | 367' | Class C | 365- | This is information from PI when this well was originally drilled by American Public Energy Co. |
| | | | | | | | |
| | | | | | | | |

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 |
|----------------|--|--|-------|
| N/A | | | |
| | | | |
| | | | |

| TUBING RECORD | Size | Set At | Packer At | Liner Run <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No |
|--|---|--------------------|------------------------|---|
| N/A-Dry | | | | |
| 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) | | | |
| N/A-Dry | D&A | | | |
| Estimated Production Per 24 Hours | Oil <u>N/A</u> Bbls. | Gas <u>N/A</u> Mcf | Water <u>N/A</u> 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 Dry Other (Specify) _____

Production Interval _____

[Handwritten notes and signatures]

ORIGINAL

CONFIDENTIAL

AMOCO PRODUCTION COMPANY
BAY MASTERSON 1-9
SECTION 9-T24S-R39W
HAMILTON COUNTY, KANSAS

15-075-20165-0001

COMMENCED: 07-09-96
COMPLETED: 07-17-96

FORMATION

DEPTH

| | |
|------------------------|-----------------|
| PREVIOUS WELL BORE | 0 - 3160 |
| COUNCIL GROVE | 3160 - 3932 |
| LANSING | 3932 - 4151 |
| KANSAS CITY | 4151 - 4320 |
| KANSAS CITY & MARMATON | 4320 - 4586 |
| MARMATON | 4586 - 4800 |
| MORROW | 4800 - 5175 |
| MISSISSIPPI | 5175 - 5450 RTD |

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AUG 13
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I DO HEREBY CERTIFY THAT THE FOREGOING STATEMENTS ARE TRUE AND CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF.

CHEYENNE DRILLING, INC.

WRAY VALENTINE

STATE OF KANSAS : ss:

SUBSCRIBED AND SWORN TO BEFORE ME THIS 23RD DAY OF JULY, 1996

JOLENE K. RUSSELL

NOTARY PUBLIC



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STATE CORPORATION COMMISSION

AUG 14 1996

STATE CORPORATION COMMISSION
HAMILTON COUNTY, KANSAS

CONFIDENTIAL



HALLIBURTON

ORIGINAL

15-075-20165-0001

JOB LOG HAL-2013-C

DATE 7-16-96 PAGE NO.

CUSTOMER Amco Prod. WELL NO. 1-9 LEASE B Masterson 19 1/2 To Arzon JOB TYPE To Arzon TICKET NO. 920466

| CHART NO. | TIME | RATE (BPM) | VOLUME (BBL) (GAL) | PUMPS | | PRESSURE (PSI) | | DESCRIPTION OF OPERATION AND MATERIALS |
|-----------|------|------------|--------------------|-------|---|----------------|--------|--|
| | | | | T | C | TUBING | CASING | |
| | 2130 | | | | | | | Time Called |
| | 2200 | | | | | | | Time Ready |
| | 0030 | | | | | | | Time on loc. |
| | | | | | | | | RELEASED |
| | 0325 | | | | | | | 1 P/S 3100 FT w 100 SE Hook Up To DP |
| | 0330 | 5 | | | | | | Start Water Ahead |
| | 0332 | | | | | | | Start Mixing Cement |
| | 0337 | | 29.2 | | | | | Start Spacers Behind |
| | 0338 | | 3.5 | | | | | Start Displacement w/ mud. |
| | 0345 | | 32.95 | | | | | Shut Down + Break Lose |
| | 0500 | | | | | | | 2 P/S 1970 FT w 50 SE Hook Up To DP |
| | 0505 | | | | | | | Start Water Ahead |
| | 0507 | | 10 | | | | | Start Mixing Cement |
| | 0510 | | 14.6 | | | | | Start Spacers Behind |
| | 0511 | | 3.5 | | | | | Start Displacement w/ mud. |
| | 0515 | | 20 | | | | | Shut Down + Break Lose |
| | 0600 | | | | | | | 3 P/S 800 FT w 50 SE Hook Up To DP |
| | 0605 | | | | | | | Start Water Ahead |
| | 0607 | | 10 | | | | | Start Mixing Cement |
| | 0610 | | 14.6 | | | | | Start Spacers Behind |
| | 0611 | | 3.5 | | | | | Start Displacement w/ mud. |
| | 0612 | | 14 | | | | | Shut Down + Break Lose |
| | 0625 | | | | | | | 4 P/S 390 FT w 50 SE Hook Up To DP |
| | 0628 | | 10 | | | | | Start Water Ahead |
| | 0630 | | 14.6 | | | | | Start Mixing Cement |
| | 0633 | | 3 | | | | | Start Spacers Behind |
| | 0634 | | 2 | | | | | Start Displacement w/ mud. |
| | 0635 | | | | | | | Shut Down + Break Lose |
| | 0735 | | | | | | | 5 P/S 0-40 FT w 10 SE Hook Up To DP |
| | 0738 | | | | | | | Start Mixing Cement |
| | 0740 | | 2.5 | | | | | Grout Cement |
| | 0745 | | 2.5 | | | | | 6/7 P/S 10 SE Mouse Hole |
| | 0750 | | 3.5 | | | | | 15 SE BT Hole |
| | 0800 | | | | | | | Finish Jobs |

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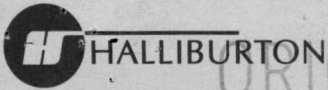
AUG 14 1996

8-14-1996

CDI... WICHITA, KANSAS

Thanks For Calling Halliburton Energy Services

CUSTOMER



JOB SUMMARY

HALLIBURTON DIVISION
HALLIBURTON LOCATION

Mid Cont
Lizbeth Ks

15-075-20165-0001

BILLED ON TICKET NO. 920466

WELL DATA

FIELD _____ SEC. _____ W.P. _____ RNG. _____ COUNTY Kearny STATE Ks

FORMATION NAME _____ TYPE _____ NEW USED _____ WEIGHT _____ SIZE _____ FROM _____ TO _____ MAXIMUM PSI ALLOWABLE _____

FORMATION THICKNESS _____ FROM _____ TO _____ CASING _____ 28" 8 3/4 GL 367

INITIAL PROD: OIL _____ BPD. WATER _____ BPD. GAS _____ MCFD _____ LINER _____

PRESENT PROD: OIL _____ BPD. WATER _____ BPD. GAS _____ MCFD _____ TUBING _____

COMPLETION DATE _____ MUD TYPE _____ MUD WT. _____ OPEN HOLE _____ 367 5400 SHOTS/FT. _____

PACKER TYPE _____ SET AT _____ PERFORATIONS _____

BOTTOM HOLE TEMP. _____ PRESSURE _____ PERFORATIONS _____

MISC. DATA _____ TOTAL DEPTH _____ PERFORATIONS _____

JOB DATA

| CALLLED OUT | ON LOCATION | JOB STARTED | JOB COMPLETED |
|-------------|-------------|-------------|---------------|
| DATE 7-16 | DATE 7-17 | DATE 7-17 | DATE 7-17 |
| TIME 2130 | TIME 0030 | TIME 0325 | TIME 0800 |

TOOLS AND ACCESSORIES

| TYPE AND SIZE | QTY. | MAKE |
|---------------|------|------|
| FLOAT COLLAR | | |
| FLOAT SHOE | | |
| GUIDE SHOE | | |
| CENTRALIZERS | | |
| BOTTOM PLUG | | |
| TOP PLUG | | |
| HEAD | | |
| PACKER | | |
| OTHER | | |

PERSONNEL AND SERVICE UNITS

| NAME | UNIT NO. & TYPE | LOCATION |
|-----------|-----------------|------------|
| D Coenz | 420041 | Lizbeth Ks |
| G Montoya | 52938 | " |
| D Cooper | 4037 / 4012 | Horton Ks |

MATERIALS

TREAT. FLUID _____ DENSITY _____ LB./GAL. °API

DISPL. FLUID _____ DENSITY _____ LB./GAL. °API

PROP. TYPE _____ SIZE _____ LB.

PROP. TYPE _____ SIZE _____ LB.

ACID TYPE _____ GAL. _____ %

ACID TYPE _____ GAL. _____ %

ACID TYPE _____ GAL. _____ %

SURFACTANT TYPE _____ GAL. _____ IN

NE AGENT TYPE _____ GAL. _____ IN

FLUID LOSS ADD. TYPE _____ GAL.-LB. _____ IN

GELLING AGENT TYPE _____ GAL.-LB. _____ IN

FRIC. RED. AGENT TYPE _____ GAL.-LB. _____ IN

BREAKER TYPE _____ GAL.-LB. _____ IN

BLOCKING AGENT TYPE _____ GAL.-LB. _____

PERFPAC BALLS TYPE _____ QTY. _____

OTHER _____

OTHER _____

DEPARTMENT Cement

DESCRIPTION OF JOB _____

JOB DONE THRU: TUBING CASING ANNULUS TBG./ANN.

CUSTOMER REPRESENTATIVE Dennis Gar

HALLIBURTON OPERATOR _____ COPIES REQUESTED _____

CEMENT DATA

| STAGE | NUMBER OF SACKS | CEMENT | BRAND | BULK SACKED | ADDITIVES | YIELD CU.FT./SK. | MIXED LBS./GAL. |
|-------|-----------------|--------|-------|-------------|-------------|------------------|-----------------|
| | 285 | 10/40 | Poz | 6% Gel | RELEASED | 1.64 | 13.1 |
| | | | | | OCT 12 1998 | | |

PRESSURES IN PSI

CIRCULATING _____ DISPLACEMENT _____

BREAKDOWN _____ MAXIMUM _____

AVERAGE _____ FRACTURE GRADIENT _____

SHUT-IN: INSTANT _____ 5-MIN _____ 15-MIN _____

HYDRAULIC HORSEPOWER _____

ORDERED _____ AVAILABLE _____ USED _____

AVERAGE RATES IN BPM _____

TREATING _____ DISPL. _____ OVERALL _____

CEMENT LEFT IN PIPE _____

FEET _____ REASON 2 Hrs 50th + 10th

SUMMARY

PRESLUSH: BBL.-GAL. _____ TYPE _____

LOAD & BKDN: BBL.-GAL. _____ PAD: BBL.-GAL. _____

TREATMENT: BBL.-GAL. _____ DISPL: BBL.-GAL. _____

CEMENT SLURRY: BBL.-GAL. _____

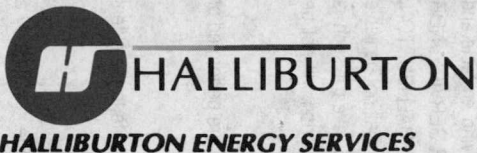
TOTAL VOLUME: BBL.-GAL. _____

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CUSTOMER

CUSTOMER: Amerco Production
LEASE: B. Maslerson
WELL NO: 1-9
JOB TYPE: DTA
DATE: 7-16-96



HALLIBURTON ENERGY SERVICES

HAL-1906-N

15-075-20165-0001

CUSTOMER COPY

TICKET

No.

920466 - 8

CHARGE TO: Amoco Production
 ADDRESS:
 CITY, STATE, ZIP CODE:

PAGE 1 OF

| | | | | | | | |
|--|--|---|------------------------------------|----------------------------------|-------------------------------|-----------------|----------------|
| 1. SERVICE LOCATIONS 25540 Leake Ks | WELL/PROJECT NO. 1-9 | LEASE B. Masterson | COUNTY/PARISH Kearney | STATE Ks | CITY/OFFSHORE LOCATION | DATE 7-16-96 | OWNER Amoco |
| 2. 25535 Hugotank Ks | TICKET TYPE <input checked="" type="checkbox"/> SERVICE <input type="checkbox"/> SALES | NITROGEN JOB? <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO | CONTRACTOR | RIG NAME/NO. 3/ Cheyenne Poly | SHIPPED VIA Loc | ORDER NO. | |
| 3. | WELL TYPE | WELL CATEGORY 01 03 | JOB PURPOSE 115 Plug To Abandon | WELL PERMIT NO. | WELL LOCATION W of Kendall | | |
| 4. REFERRAL LOCATION | INVOICE INSTRUCTIONS | | | | | | |

| PRICE REFERENCE | SECONDARY REFERENCE/ PART NUMBER | ACCOUNTING | | | DESCRIPTION | QTY. | | U/M | | UNIT PRICE | AMOUNT |
|-----------------|-------------------------------------|------------|------|----|------------------|------|-------|-----|--|------------|---------|
| | | LOC | ACCT | DF | | | | | | | |
| 000-117 | | 1 | | | MILEAGE | 224 | Mls | | | 2.99 | 669.76 |
| 000-119 | | 1 | | | Crew Mileage | 224 | Mls | | | 1.60 | 358.40 |
| 009-019 | | 1 | | | Pump charge | 3100 | FT | | | | 1640.00 |
| 009-027 | | 1 | | | Additional Hours | 2 | Hours | | | 260.00 | 520.00 |

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AUG 1 1996

LEGAL TERMS: Customer hereby acknowledges and agrees to the terms and conditions on the reverse side hereof which include, but are not limited to, **PAYMENT, RELEASE, INDEMNITY, and LIMITED WARRANTY** provisions.

MUST BE SIGNED BY CUSTOMER OR CUSTOMER'S AGENT PRIOR TO START OF WORK OR DELIVERY OF GOODS

DATE SIGNED: Sam Cozack Amoco Rep. TIME SIGNED: [] A.M. [] P.M.

do do not require IPC (Instrument Protection). Not offered

| | | | | | | |
|--|-----------------|--|------------------------------|-----------------------------|------------|-----------|
| SUB SURFACE SAFETY VALVE WAS: <input type="checkbox"/> PULLED & RETURN <input type="checkbox"/> PULLED <input type="checkbox"/> RUN | | SURVEY | | AGREE | UN-DECIDED | DIS-AGREE |
| TYPE LOCK | DEPTH | OUR EQUIPMENT PERFORMED WITHOUT BREAKDOWN? | | | | |
| BEAN SIZE | SPACERS | WE UNDERSTOOD AND MET YOUR NEEDS? | | | | |
| TYPE OF EQUALIZING SUB. | CASING PRESSURE | OUR SERVICE WAS PERFORMED WITHOUT DELAY? | | | | |
| TUBING SIZE | TUBING PRESSURE | WE OPERATED THE EQUIPMENT AND PERFORMED JOB CALCULATIONS SATISFACTORILY? | | | | |
| | WELL DEPTH | ARE YOU SATISFIED WITH OUR SERVICE? | <input type="checkbox"/> YES | <input type="checkbox"/> NO | | |
| TREE CONNECTION | TYPE VALVE | <input type="checkbox"/> CUSTOMER DID NOT WISH TO RESPOND | | | | |

| | | |
|---|------|----|
| PAGE TOTAL | 3188 | 16 |
| FROM CONTINUATION PAGE(S) | 4185 | 91 |
| SUB-TOTAL | | |
| APPLICABLE TAXES WILL BE ADDED ON INVOICE | | |

CUSTOMER ACCEPTANCE OF MATERIALS AND SERVICES The customer hereby acknowledges receipt of the materials and services listed on this ticket.

| | | | | |
|---|--|-------------------------------|-------|----------------------|
| CUSTOMER OR CUSTOMER'S AGENT (PLEASE PRINT) | CUSTOMER OR CUSTOMER'S AGENT (SIGNATURE) | HALLIBURTON OPERATOR/ENGINEER | EMP # | HALLIBURTON APPROVAL |
| | X | L102 | 59179 | |

TERMS AND CONDITIONS

For good and valuable consideration received, Customer (as identified on the face of this document) and Halliburton Energy Services, a division of Halliburton Company (hereinafter "Halliburton") agree as follows:

A. CUSTOMER REPRESENTATION - Customer warrants that the well is in proper condition to receive the services, equipment, products, and materials to be supplied by Halliburton.

B. PRICE AND PAYMENT - The services, equipment, products, and/or materials to be supplied hereunder are priced in accordance with Halliburton's current price list. All prices are exclusive of taxes. If Customer does not have an approved open account with Halliburton, all sums due are payable in cash at the time of performance of services or delivery of equipment, products or materials. If Customer has an approved open account, invoices are payable on the twentieth day after the date of invoice. Customer agrees to pay interest on any unpaid balance from the date payable until paid at the highest lawful contract rate applicable, but never to exceed 18% per annum. In the event Halliburton employs an attorney for collection of any account, Customer agrees to pay attorney fees of 20% of the unpaid account, plus all collection and court costs.

C. RELEASE AND INDEMNITY - CUSTOMER AGREES TO RELEASE HALLIBURTON GROUP FROM ANY AND ALL LIABILITY FOR ANY AND ALL DAMAGES WHATSOEVER TO PROPERTY OF ANY KIND OWNED BY, IN THE POSSESSION OF, OR LEASED BY CUSTOMER AND THOSE PERSONS AND ENTITIES CUSTOMER HAS THE ABILITY TO BIND BY CONTRACT. CUSTOMER ALSO AGREES TO DEFEND, INDEMNIFY, AND HOLD HALLIBURTON GROUP HARMLESS FROM AND AGAINST ANY AND ALL LIABILITY, CLAIMS, COSTS, EXPENSES, ATTORNEY FEES AND DAMAGES WHATSOEVER FOR PERSONAL INJURY, ILLNESS, DEATH, PROPERTY DAMAGE AND LOSS RESULTING FROM:

LOSS OF WELL CONTROL; SERVICES TO CONTROL A WILD WELL WHETHER UNDERGROUND OR ABOVE THE SURFACE; RESERVOIR OR UNDERGROUND DAMAGE, INCLUDING LOSS OF OIL, GAS, OTHER MINERAL SUBSTANCES OR WATER; SURFACE DAMAGE ARISING FROM UNDERGROUND DAMAGE; DAMAGE TO OR LOSS OF THE WELL BORE; SUBSURFACE TRESPASS OR ANY ACTION IN THE NATURE THEREOF; FIRE; EXPLOSION; SUBSURFACE PRESSURE; RADIOACTIVITY; AND POLLUTION AND ITS CLEANUP AND CONTROL.

CUSTOMER'S RELEASE, DEFENSE, INDEMNITY AND HOLD HARMLESS OBLIGATIONS WILL APPLY EVEN IF THE LIABILITY AND CLAIMS ARE CAUSED BY THE SOLE, CONCURRENT, ACTIVE OR PASSIVE NEGLIGENCE, FAULT, OR STRICT LIABILITY OF ONE OR MORE MEMBERS OF THE HALLIBURTON GROUP, THE UNSEAWORTHINESS OF ANY VESSEL OR ANY DEFECT IN THE DATA, PRODUCTS, SUPPLIES, MATERIALS OR EQUIPMENT FURNISHED BY HALLIBURTON GROUP WHETHER IN THE DESIGN, MANUFACTURE, MAINTENANCE OR MARKETING THEREOF OR FROM A FAILURE TO WARN OF SUCH DEFECT. "HALLIBURTON GROUP" IS DEFINED AS HALLIBURTON, ITS PARENT, SUBSIDIARY, AND AFFILIATED COMPANIES AND ITS/THEIR OFFICERS, DIRECTORS, EMPLOYEES, AND AGENTS. CUSTOMER'S RELEASE, DEFENSE, INDEMNITY AND HOLD HARMLESS OBLIGATIONS APPLY WHETHER THE PERSONAL INJURY, ILLNESS, DEATH, PROPERTY DAMAGE OR LOSS IS SUFFERED BY ONE OR MORE MEMBERS OF THE HALLIBURTON GROUP, CUSTOMER, OR ANY OTHER PERSON OR ENTITY AND THE CUSTOMER WILL SUPPORT SUCH OBLIGATIONS ASSUMED HEREIN WITH LIABILITY INSURANCE TO THE MAXIMUM EXTENT ALLOWED BY APPLICABLE LAW.

D. EQUIPMENT LIABILITY - Customer shall at its risk and expense attempt to recover any Halliburton equipment lost or lodged in the well. If the equipment is recovered and repairable, Customer shall pay the repair costs, unless caused by Halliburton's sole negligence. If the equipment is not recovered or is irreparable, Customer shall pay the replacement cost, unless caused by Halliburton's sole negligence. If a radioactive source becomes lost or lodged in the well, Customer shall meet all requirements of Section 39.15(a) of the Nuclear Regulatory Commission regulations and any other applicable laws or regulations concerning retrieval or abandonment and shall permit Halliburton to monitor the recovery or abandonment efforts all at no risk or liability to Halliburton. Customer shall be responsible for damage to or loss of Halliburton equipment, products, and materials while in transit aboard Customer-supplied transportation, even if such is arranged by Halliburton at Customer's request, and during loading and unloading from such transport. Customer will also pay for the repair or replacement of Halliburton equipment damaged by corrosion or abrasion due to well effluents.

E. LIMITED WARRANTY - Halliburton warrants only title to the equipment, products, and materials supplied under this agreement and that same are free from defects in workmanship and materials for one year from date of delivery. THERE ARE NO WARRANTIES, EXPRESS OR IMPLIED, OF MERCHANTABILITY, FITNESS OR OTHERWISE BEYOND THOSE STATED IN THE IMMEDIATELY PRECEDING SENTENCE. Halliburton's sole liability and Customer's exclusive remedy in any cause of action (whether in contract, tort, breach of warranty or otherwise) arising out of the sale, lease or use of any equipment, products, or materials is expressly limited to the replacement of such on their return to Halliburton or, at Halliburton's option, to the allowance to Customer of credit for the cost of such items. In no event shall Halliburton be liable for special, incidental, indirect, consequential, or punitive damages. Because of the uncertainty of variable well conditions and the necessity of relying on facts and supporting services furnished by others, HALLIBURTON IS UNABLE TO GUARANTEE THE EFFECTIVENESS OF THE EQUIPMENT, MATERIALS, OR SERVICE, NOR THE ACCURACY OF ANY CHART INTERPRETATION, RESEARCH ANALYSIS, JOB RECOMMENDATION OR OTHER DATA FURNISHED BY HALLIBURTON. Halliburton personnel will use their best efforts in gathering such information and their best judgment in interpreting it, but Customer agrees that Halliburton shall not be liable for and CUSTOMER SHALL INDEMNIFY HALLIBURTON GROUP AGAINST ANY DAMAGES ARISING FROM THE USE OF SUCH INFORMATION, even if such is contributed to by Halliburton's negligence or fault. Halliburton also does not warrant the accuracy of data transmitted by electronic process, and Halliburton will not be responsible for accidental or intentional interception of such data by third parties.

F. GOVERNING LAW - The validity, interpretation and construction of this agreement shall be determined by the laws of the jurisdiction where the services are performed or the equipment or materials are delivered.

G. WAIVER - Customer agrees to waive the provisions of the Texas Deceptive Trade Practices-Consumer Protection Act or any similar federal or state statute to the extent permitted by law.

H. MODIFICATIONS - Customer agrees that Halliburton shall not be bound by any modifications to this agreement, except where such modification is made in writing by a duly authorized executive officer of Halliburton. Requests for modifications should be directed to the Vice President - Legal, 5151 San Felipe, Houston, Texas 77056.

15-075-20165-0001

CONFIDENTIAL

RELEASED

OCT 12 1998

FROM CONFIDENTIAL

WELL NAME: B. Masterson #1-19
COMPANY: Amoco Production Company
LOCATION: 9-24S-39W
Hamilton County Kansas
DATE: 07/16/96

RUC

AUG 13

CONFIDENTIAL

15-075-20165-0001

TEST HISTORY

8796 B Masterson # 1-19 Amoco Prod. Co.

Flag Points

| | t (Min.) | P (PSig) |
|----|----------|----------|
| A: | 0.00 | 2627.60 |
| B: | 0.00 | 693.57 |
| C: | 18.00 | 974.81 |
| D: | 58.00 | 1310.43 |
| E: | 0.00 | 1061.26 |
| F: | 46.00 | 1306.75 |
| G: | 126.00 | 1311.94 |
| Q: | 0.00 | 2607.46 |

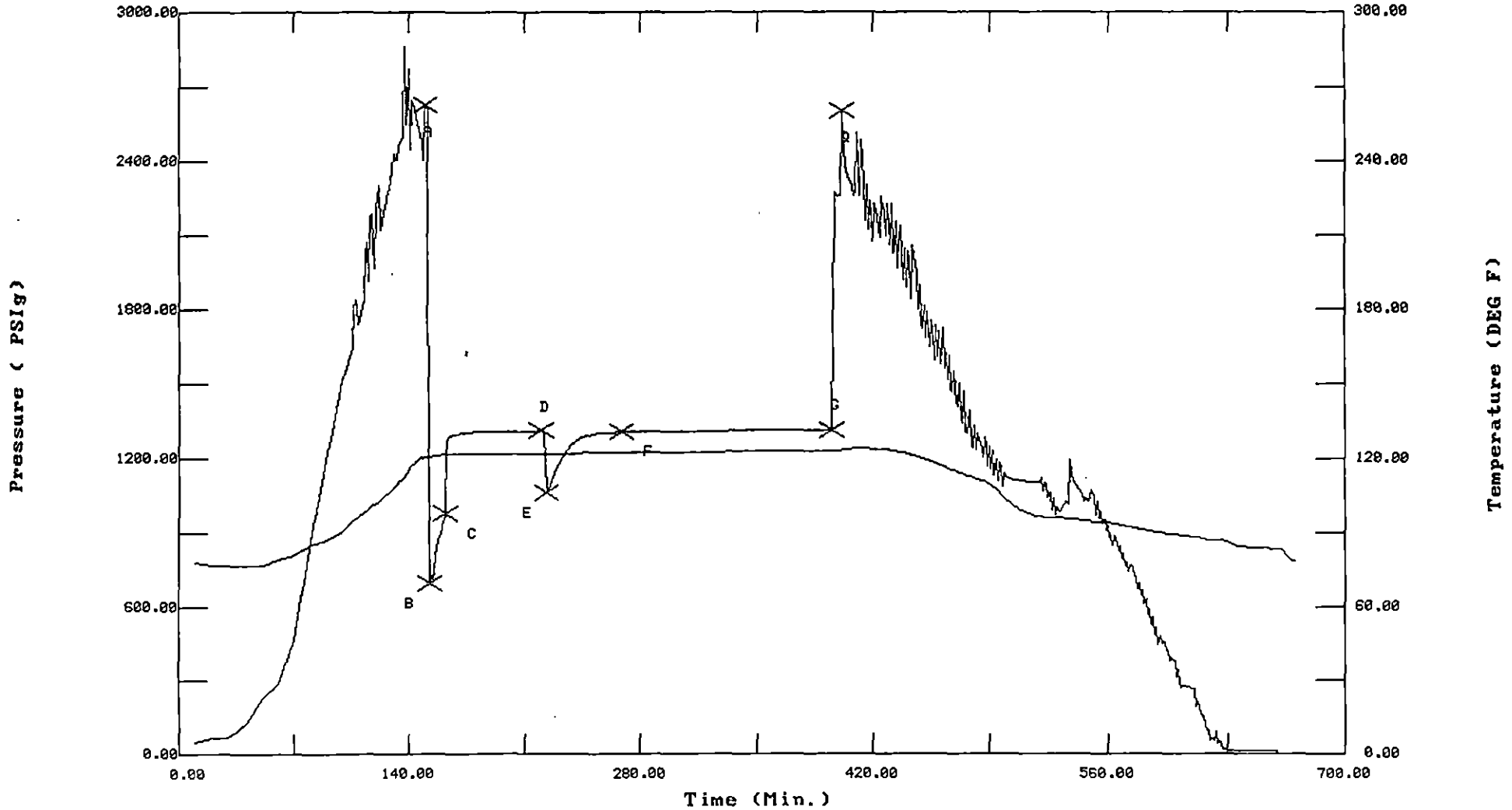
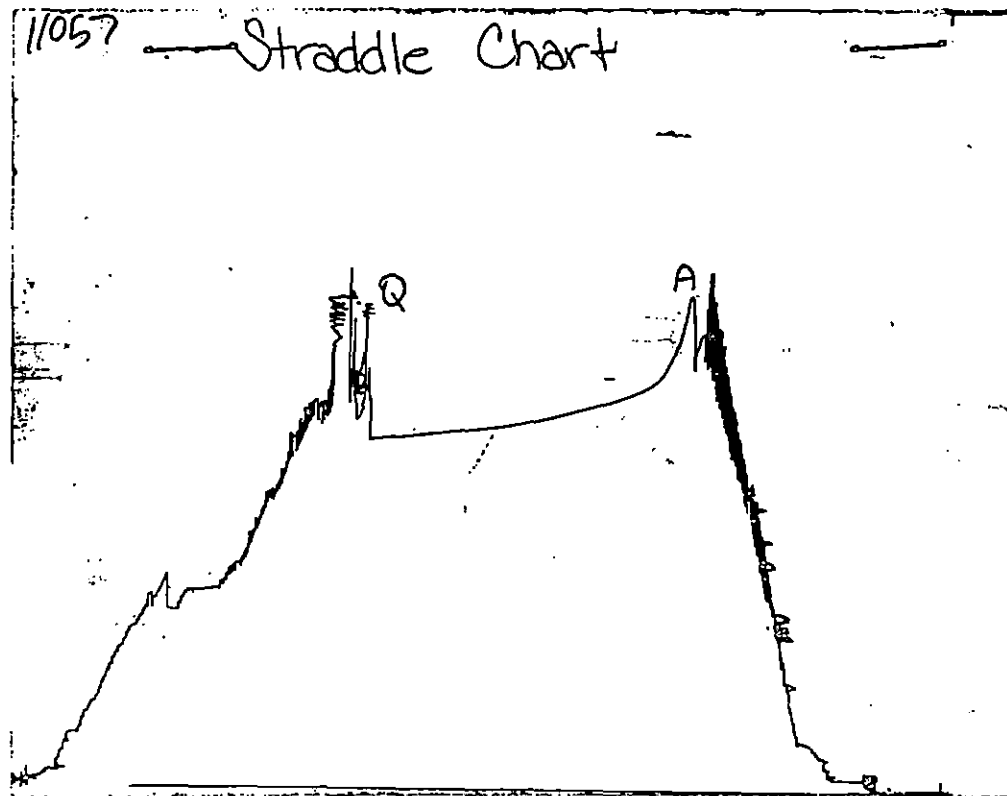


CHART PAGE



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

ALPINE SUBSURFACE ELECTRONICS PROBE INCREMENTS LISTING

TEST: 8796 B Masterson # 1-19 Amoco Prod. Co.

DATE: 07/16/96

TIME: 09:11:09

| | Time | Pressure PSig | delta P PSig | Temp. DEG F | (T+dT)/dT | P ² /10 ⁶ |
|----------------------|--------|------------------|-----------------|----------------|-----------|---------------------------------|
| ***** Initial Hydro. | 150.00 | 2627.6 | 0.0 | 120.30 | | |
| ***** Start Flow 1 | 0.00 | 693.6 | 0.0 | 120.51 | | |
| | 1.00 | 725.6 | 32.1 | 120.65 | | |
| | 2.00 | 710.5 | 17.0 | 120.81 | | |
| | 3.00 | 741.3 | 47.8 | 120.98 | | |
| | 4.00 | 806.9 | 113.3 | 121.12 | | |
| | 5.00 | 839.9 | 146.4 | 121.23 | | |
| | 6.00 | 869.0 | 175.4 | 121.31 | | |
| | 7.00 | 897.9 | 204.3 | 121.37 | | |
| | 8.00 | 924.4 | 230.8 | 121.43 | | |
| | 9.00 | 950.1 | 256.6 | 121.45 | | |
| ***** End Flow 1 | 10.00 | 974.8 | 281.2 | 121.50 | | |
| ***** Start Shutin 1 | 0.00 | 974.8 | 0.0 | 121.50 | 0.0000 | 0.950 |
| | 1.00 | 1267.1 | 292.3 | 121.52 | 11.0000 | 1.606 |
| | 2.00 | 1280.8 | 306.0 | 121.55 | 6.0000 | 1.640 |
| | 3.00 | 1286.9 | 312.0 | 121.58 | 4.3333 | 1.656 |
| | 4.00 | 1290.5 | 315.7 | 121.60 | 3.5000 | 1.665 |
| | 5.00 | 1293.1 | 318.3 | 121.62 | 3.0000 | 1.672 |
| | 6.00 | 1295.1 | 320.3 | 121.64 | 2.6667 | 1.677 |
| | 7.00 | 1296.8 | 321.9 | 121.65 | 2.4286 | 1.682 |
| | 8.00 | 1298.1 | 323.3 | 121.67 | 2.2500 | 1.685 |
| | 9.00 | 1299.4 | 324.5 | 121.66 | 2.1111 | 1.688 |
| | 10.00 | 1300.5 | 325.6 | 121.66 | 2.0000 | 1.691 |
| | 11.00 | 1301.4 | 326.6 | 121.68 | 1.9091 | 1.694 |
| | 12.00 | 1302.1 | 327.3 | 121.68 | 1.8333 | 1.696 |
| | 13.00 | 1302.8 | 328.0 | 121.69 | 1.7692 | 1.697 |
| | 14.00 | 1303.4 | 328.6 | 121.69 | 1.7143 | 1.699 |
| | 15.00 | 1304.0 | 329.2 | 121.67 | 1.6667 | 1.700 |
| | 16.00 | 1304.3 | 329.5 | 121.69 | 1.6250 | 1.701 |
| | 17.00 | 1304.6 | 329.8 | 121.69 | 1.5882 | 1.702 |
| | 18.00 | 1305.2 | 330.3 | 121.69 | 1.5556 | 1.703 |
| | 19.00 | 1305.4 | 330.6 | 121.68 | 1.5263 | 1.704 |
| | 20.00 | 1305.7 | 330.9 | 121.68 | 1.5000 | 1.705 |
| | 21.00 | 1306.2 | 331.3 | 121.69 | 1.4762 | 1.706 |
| | 22.00 | 1306.4 | 331.6 | 121.69 | 1.4545 | 1.707 |
| | 23.00 | 1306.7 | 331.9 | 121.69 | 1.4348 | 1.708 |
| | 24.00 | 1306.9 | 332.1 | 121.69 | 1.4167 | 1.708 |
| | 25.00 | 1307.1 | 332.3 | 121.69 | 1.4000 | 1.708 |
| | 26.00 | 1307.4 | 332.6 | 121.70 | 1.3846 | 1.709 |
| | 27.00 | 1307.6 | 332.8 | 121.70 | 1.3704 | 1.710 |
| | 28.00 | 1307.8 | 332.9 | 121.70 | 1.3571 | 1.710 |
| | 29.00 | 1308.0 | 333.2 | 121.70 | 1.3448 | 1.711 |
| | 30.00 | 1308.1 | 333.3 | 121.71 | 1.3333 | 1.711 |
| | 31.00 | 1308.3 | 333.4 | 121.71 | 1.3226 | 1.712 |
| | 32.00 | 1308.3 | 333.5 | 121.71 | 1.3125 | 1.712 |
| | 33.00 | 1308.6 | 333.8 | 121.71 | 1.3030 | 1.712 |
| | 34.00 | 1308.5 | 333.7 | 121.72 | 1.2941 | 1.712 |
| | 35.00 | 1308.7 | 333.9 | 121.73 | 1.2857 | 1.713 |
| | 36.00 | 1308.8 | 334.0 | 121.74 | 1.2778 | 1.713 |
| | 37.00 | 1308.9 | 334.1 | 121.76 | 1.2703 | 1.713 |
| | 38.00 | 1309.0 | 334.2 | 121.75 | 1.2632 | 1.714 |

ALPINE SUBSURFACE ELECTRONICS PROBE INCREMENTS LISTING

TEST: 8796 B Masterson # 1-19 Amoco Prod. Co.

DATE: 07/16/96

TIME: 09:11:09

| Time | Pressure PSig | delta P PSig | Temp. DEG F | (T+dT)/dT | P ² /10 ⁶ |
|---------------------|------------------|-----------------|----------------|-----------|---------------------------------|
| 39.00 | 1309.1 | 334.3 | 121.78 | 1.2564 | 1.714 |
| 40.00 | 1309.3 | 334.4 | 121.77 | 1.2500 | 1.714 |
| 41.00 | 1309.3 | 334.4 | 121.80 | 1.2439 | 1.714 |
| 42.00 | 1309.3 | 334.5 | 121.78 | 1.2381 | 1.714 |
| 43.00 | 1309.5 | 334.7 | 121.76 | 1.2326 | 1.715 |
| 44.00 | 1309.4 | 334.6 | 121.75 | 1.2273 | 1.715 |
| 45.00 | 1309.6 | 334.8 | 121.74 | 1.2222 | 1.715 |
| 46.00 | 1309.8 | 334.9 | 121.70 | 1.2174 | 1.715 |
| 47.00 | 1309.8 | 334.9 | 121.74 | 1.2128 | 1.715 |
| 48.00 | 1309.8 | 334.9 | 121.76 | 1.2083 | 1.715 |
| 49.00 | 1309.8 | 335.0 | 121.76 | 1.2041 | 1.716 |
| 50.00 | 1310.0 | 335.2 | 121.77 | 1.2000 | 1.716 |
| 51.00 | 1310.0 | 335.2 | 121.79 | 1.1961 | 1.716 |
| 52.00 | 1310.0 | 335.2 | 121.79 | 1.1923 | 1.716 |
| 53.00 | 1310.2 | 335.4 | 121.80 | 1.1887 | 1.717 |
| 54.00 | 1310.1 | 335.3 | 121.81 | 1.1852 | 1.716 |
| 55.00 | 1310.3 | 335.5 | 121.82 | 1.1818 | 1.717 |
| 56.00 | 1310.4 | 335.5 | 121.82 | 1.1786 | 1.717 |
| 57.00 | 1310.4 | 335.6 | 121.82 | 1.1754 | 1.717 |
| 58.00 | 1310.4 | 335.6 | 121.83 | 1.1724 | 1.717 |
| ***** End Shut-in 1 | | | | | |
| ***** Start Flow 2 | | | | | |
| 0.00 | 1061.3 | 0.0 | 121.87 | | |
| 1.00 | 1074.4 | 13.1 | 121.85 | | |
| 2.00 | 1091.0 | 29.7 | 121.84 | | |
| 3.00 | 1108.3 | 47.0 | 121.85 | | |
| 4.00 | 1125.4 | 64.1 | 121.85 | | |
| 5.00 | 1141.2 | 80.0 | 121.84 | | |
| 6.00 | 1157.1 | 95.8 | 121.86 | | |
| 7.00 | 1170.4 | 109.1 | 121.85 | | |
| 8.00 | 1183.3 | 122.0 | 121.87 | | |
| 9.00 | 1196.2 | 135.0 | 121.89 | | |
| 10.00 | 1208.1 | 146.9 | 121.88 | | |
| 11.00 | 1218.8 | 157.5 | 121.77 | | |
| 12.00 | 1228.3 | 167.0 | 121.91 | | |
| 13.00 | 1237.3 | 176.0 | 121.91 | | |
| 14.00 | 1245.3 | 184.1 | 121.93 | | |
| 15.00 | 1252.4 | 191.2 | 121.93 | | |
| 16.00 | 1258.6 | 197.3 | 121.94 | | |
| 17.00 | 1264.4 | 203.1 | 121.96 | | |
| 18.00 | 1269.2 | 208.0 | 121.96 | | |
| 19.00 | 1273.8 | 212.6 | 121.98 | | |
| 20.00 | 1277.5 | 216.2 | 121.98 | | |
| 21.00 | 1280.7 | 219.5 | 122.00 | | |
| 22.00 | 1283.7 | 222.4 | 122.01 | | |
| 23.00 | 1286.3 | 225.0 | 122.02 | | |
| 24.00 | 1288.4 | 227.1 | 122.05 | | |
| 25.00 | 1290.3 | 229.0 | 122.04 | | |
| 26.00 | 1291.9 | 230.6 | 122.06 | | |
| 27.00 | 1293.3 | 232.1 | 122.05 | | |
| 28.00 | 1294.7 | 233.4 | 122.06 | | |
| 29.00 | 1295.9 | 234.7 | 122.08 | | |
| 30.00 | 1296.9 | 235.7 | 122.09 | | |

ALPINE SUBSURFACE ELECTRONICS PROBE INCREMENTS LISTING

TEST: 8796 B Masterson # 1-19 Amoco Prod. Co.

DATE: 07/16/96

TIME: 09:11:09

| | Time | Pressure PSig | delta P PSig | Temp. DEG F | (T+dT)/dT | P ² /10 ⁶ |
|----------------------|-------|------------------|-----------------|----------------|-----------|---------------------------------|
| | 31.00 | 1298.4 | 237.1 | 122.09 | | |
| | 32.00 | 1299.2 | 237.9 | 122.10 | | |
| | 33.00 | 1299.9 | 238.7 | 122.10 | | |
| | 34.00 | 1300.7 | 239.4 | 122.12 | | |
| | 35.00 | 1301.3 | 240.0 | 122.13 | | |
| | 36.00 | 1301.9 | 240.6 | 122.13 | | |
| | 37.00 | 1302.6 | 241.3 | 122.14 | | |
| | 38.00 | 1303.1 | 241.9 | 122.15 | | |
| | 39.00 | 1303.6 | 242.3 | 122.15 | | |
| | 40.00 | 1303.9 | 242.6 | 122.17 | | |
| | 41.00 | 1304.3 | 243.1 | 122.17 | | |
| | 42.00 | 1304.6 | 243.4 | 122.18 | | |
| | 43.00 | 1304.9 | 243.6 | 122.19 | | |
| | 44.00 | 1305.8 | 244.6 | 122.20 | | |
| | 45.00 | 1306.4 | 245.2 | 122.21 | | |
| ***** End Flow 2 | 46.00 | 1306.7 | 245.5 | 122.23 | | |
| ***** Start Shutin 2 | 0.00 | 1306.7 | 0.0 | 122.23 | 0.0000 | 1.708 |
| | 1.00 | 1307.1 | 0.3 | 122.31 | 57.0000 | 1.708 |
| | 2.00 | 1307.3 | 0.6 | 122.24 | 29.0000 | 1.709 |
| | 3.00 | 1307.5 | 0.8 | 122.24 | 19.6667 | 1.710 |
| | 4.00 | 1307.5 | 0.8 | 122.23 | 15.0000 | 1.710 |
| | 5.00 | 1307.8 | 1.0 | 122.19 | 12.2000 | 1.710 |
| | 6.00 | 1307.8 | 1.0 | 122.24 | 10.3333 | 1.710 |
| | 7.00 | 1307.9 | 1.2 | 122.26 | 9.0000 | 1.711 |
| | 8.00 | 1308.1 | 1.3 | 122.26 | 8.0000 | 1.711 |
| | 9.00 | 1308.1 | 1.3 | 122.27 | 7.2222 | 1.711 |
| | 10.00 | 1308.3 | 1.5 | 122.28 | 6.6000 | 1.712 |
| | 11.00 | 1308.2 | 1.4 | 122.29 | 6.0909 | 1.711 |
| | 12.00 | 1308.3 | 1.6 | 122.30 | 5.6667 | 1.712 |
| | 13.00 | 1308.4 | 1.7 | 122.31 | 5.3077 | 1.712 |
| | 14.00 | 1308.4 | 1.7 | 122.31 | 5.0000 | 1.712 |
| | 15.00 | 1308.6 | 1.8 | 122.32 | 4.7333 | 1.712 |
| | 16.00 | 1308.6 | 1.8 | 122.33 | 4.5000 | 1.712 |
| | 17.00 | 1308.4 | 1.7 | 122.33 | 4.2941 | 1.712 |
| | 18.00 | 1308.7 | 1.9 | 122.34 | 4.1111 | 1.713 |
| | 19.00 | 1308.7 | 1.9 | 122.35 | 3.9474 | 1.713 |
| | 20.00 | 1308.6 | 1.8 | 122.36 | 3.8000 | 1.712 |
| | 21.00 | 1308.8 | 2.1 | 122.36 | 3.6667 | 1.713 |
| | 22.00 | 1308.8 | 2.1 | 122.37 | 3.5455 | 1.713 |
| | 23.00 | 1308.8 | 2.1 | 122.38 | 3.4348 | 1.713 |
| | 24.00 | 1308.9 | 2.2 | 122.39 | 3.3333 | 1.713 |
| | 25.00 | 1308.9 | 2.2 | 122.39 | 3.2400 | 1.713 |
| | 26.00 | 1308.9 | 2.2 | 122.40 | 3.1538 | 1.713 |
| | 27.00 | 1309.1 | 2.3 | 122.41 | 3.0741 | 1.714 |
| | 28.00 | 1309.1 | 2.3 | 122.41 | 3.0000 | 1.714 |
| | 29.00 | 1309.2 | 2.4 | 122.42 | 2.9310 | 1.714 |
| | 30.00 | 1309.2 | 2.4 | 122.42 | 2.8667 | 1.714 |
| | 31.00 | 1309.2 | 2.4 | 122.43 | 2.8065 | 1.714 |
| | 32.00 | 1309.2 | 2.4 | 122.44 | 2.7500 | 1.714 |
| | 33.00 | 1309.3 | 2.5 | 122.45 | 2.6970 | 1.714 |
| | 34.00 | 1309.3 | 2.5 | 122.44 | 2.6471 | 1.714 |

ALPINE SUBSURFACE ELECTRONICS PROBE INCREMENTS LISTING

TEST: 8796 B Masterson # 1-19 Amoco Prod. Co.

DATE: 07/16/96

TIME: 09:11:09

| Time | Pressure PSig | delta P PSig | Temp. DEG F | (T+dT)/dT | P ² /10 ⁶ |
|-------|------------------|-----------------|----------------|-----------|---------------------------------|
| 35.00 | 1309.3 | 2.5 | 122.46 | 2.6000 | 1.714 |
| 36.00 | 1309.3 | 2.5 | 122.47 | 2.5556 | 1.714 |
| 37.00 | 1309.3 | 2.5 | 122.47 | 2.5135 | 1.714 |
| 38.00 | 1309.3 | 2.6 | 122.48 | 2.4737 | 1.714 |
| 39.00 | 1309.4 | 2.7 | 122.48 | 2.4359 | 1.715 |
| 40.00 | 1309.3 | 2.5 | 122.49 | 2.4000 | 1.714 |
| 41.00 | 1309.3 | 2.5 | 122.50 | 2.3659 | 1.714 |
| 42.00 | 1309.3 | 2.5 | 122.50 | 2.3333 | 1.714 |
| 43.00 | 1309.3 | 2.6 | 122.51 | 2.3023 | 1.714 |
| 44.00 | 1309.4 | 2.7 | 122.51 | 2.2727 | 1.715 |
| 45.00 | 1309.4 | 2.7 | 122.52 | 2.2444 | 1.715 |
| 46.00 | 1309.3 | 2.6 | 122.52 | 2.2174 | 1.714 |
| 47.00 | 1309.3 | 2.6 | 122.53 | 2.1915 | 1.714 |
| 48.00 | 1309.5 | 2.8 | 122.53 | 2.1667 | 1.715 |
| 49.00 | 1309.3 | 2.6 | 122.54 | 2.1429 | 1.714 |
| 50.00 | 1309.4 | 2.7 | 122.55 | 2.1200 | 1.715 |
| 51.00 | 1309.5 | 2.8 | 122.56 | 2.0980 | 1.715 |
| 52.00 | 1309.5 | 2.8 | 122.56 | 2.0769 | 1.715 |
| 53.00 | 1309.5 | 2.8 | 122.57 | 2.0566 | 1.715 |
| 54.00 | 1309.5 | 2.8 | 122.58 | 2.0370 | 1.715 |
| 55.00 | 1309.5 | 2.8 | 122.58 | 2.0182 | 1.715 |
| 56.00 | 1309.5 | 2.8 | 122.58 | 2.0000 | 1.715 |
| 57.00 | 1309.5 | 2.8 | 122.58 | 1.9825 | 1.715 |
| 58.00 | 1309.5 | 2.8 | 122.59 | 1.9655 | 1.715 |
| 59.00 | 1309.7 | 2.9 | 122.60 | 1.9492 | 1.715 |
| 60.00 | 1309.7 | 2.9 | 122.61 | 1.9333 | 1.715 |
| 61.00 | 1309.9 | 3.2 | 122.61 | 1.9180 | 1.716 |
| 62.00 | 1309.9 | 3.2 | 122.62 | 1.9032 | 1.716 |
| 63.00 | 1310.1 | 3.4 | 122.63 | 1.8889 | 1.716 |
| 64.00 | 1310.3 | 3.5 | 122.64 | 1.8750 | 1.717 |
| 65.00 | 1310.4 | 3.6 | 122.64 | 1.8615 | 1.717 |
| 66.00 | 1310.5 | 3.8 | 122.65 | 1.8485 | 1.717 |
| 67.00 | 1310.5 | 3.8 | 122.64 | 1.8358 | 1.717 |
| 68.00 | 1310.5 | 3.8 | 122.63 | 1.8235 | 1.717 |
| 69.00 | 1310.8 | 4.0 | 122.65 | 1.8116 | 1.718 |
| 70.00 | 1310.8 | 4.0 | 122.65 | 1.8000 | 1.718 |
| 71.00 | 1310.9 | 4.1 | 122.67 | 1.7887 | 1.718 |
| 72.00 | 1310.9 | 4.2 | 122.67 | 1.7778 | 1.719 |
| 73.00 | 1310.9 | 4.1 | 122.68 | 1.7671 | 1.718 |
| 74.00 | 1311.1 | 4.4 | 122.68 | 1.7568 | 1.719 |
| 75.00 | 1311.1 | 4.4 | 122.68 | 1.7467 | 1.719 |
| 76.00 | 1311.1 | 4.4 | 122.69 | 1.7368 | 1.719 |
| 77.00 | 1311.1 | 4.4 | 122.70 | 1.7273 | 1.719 |
| 78.00 | 1311.1 | 4.4 | 122.69 | 1.7179 | 1.719 |
| 79.00 | 1311.2 | 4.4 | 122.71 | 1.7089 | 1.719 |
| 80.00 | 1311.2 | 4.4 | 122.72 | 1.7000 | 1.719 |
| 81.00 | 1311.2 | 4.4 | 122.72 | 1.6914 | 1.719 |
| 82.00 | 1311.3 | 4.5 | 122.73 | 1.6829 | 1.719 |
| 83.00 | 1311.3 | 4.5 | 122.73 | 1.6747 | 1.719 |
| 84.00 | 1311.3 | 4.5 | 122.74 | 1.6667 | 1.719 |
| 85.00 | 1311.4 | 4.6 | 122.75 | 1.6588 | 1.720 |

15-075-20165.0001

ALPINE SUBSURFACE ELECTRONICS PROBE INCREMENTS LISTING

TEST: 8796 B Masterson # 1-19 Amoco Prod. Co.

DATE: 07/16/96

TIME: 09:11:09

| Time | Pressure PSig | delta P PSig | Temp. DEG F | (T+dT)/dT | P ² /10 ⁶ |
|---------------------|------------------|-----------------|----------------|-----------|---------------------------------|
| 86.00 | 1311.4 | 4.6 | 122.74 | 1.6512 | 1.720 |
| 87.00 | 1311.4 | 4.6 | 122.76 | 1.6437 | 1.720 |
| 88.00 | 1311.4 | 4.6 | 122.76 | 1.6364 | 1.720 |
| 89.00 | 1311.4 | 4.7 | 122.77 | 1.6292 | 1.720 |
| 90.00 | 1311.4 | 4.7 | 122.77 | 1.6222 | 1.720 |
| 91.00 | 1311.5 | 4.8 | 122.78 | 1.6154 | 1.720 |
| 92.00 | 1311.5 | 4.8 | 122.79 | 1.6087 | 1.720 |
| 93.00 | 1311.4 | 4.7 | 122.78 | 1.6022 | 1.720 |
| 94.00 | 1311.6 | 4.9 | 122.80 | 1.5957 | 1.720 |
| 95.00 | 1311.4 | 4.7 | 122.81 | 1.5895 | 1.720 |
| 96.00 | 1311.6 | 4.9 | 122.81 | 1.5833 | 1.720 |
| 97.00 | 1311.6 | 4.9 | 122.80 | 1.5773 | 1.720 |
| 98.00 | 1311.6 | 4.9 | 122.82 | 1.5714 | 1.720 |
| 99.00 | 1311.6 | 4.9 | 122.82 | 1.5657 | 1.720 |
| 100.00 | 1311.6 | 4.9 | 122.82 | 1.5600 | 1.720 |
| 101.00 | 1311.5 | 4.8 | 122.81 | 1.5545 | 1.720 |
| 102.00 | 1311.5 | 4.8 | 122.84 | 1.5490 | 1.720 |
| 103.00 | 1311.7 | 4.9 | 122.83 | 1.5437 | 1.721 |
| 104.00 | 1311.7 | 4.9 | 122.83 | 1.5385 | 1.721 |
| 105.00 | 1311.6 | 4.9 | 122.84 | 1.5333 | 1.720 |
| 106.00 | 1311.8 | 5.0 | 122.85 | 1.5283 | 1.721 |
| 107.00 | 1311.8 | 5.0 | 122.85 | 1.5234 | 1.721 |
| 108.00 | 1311.8 | 5.0 | 122.85 | 1.5185 | 1.721 |
| 109.00 | 1311.7 | 4.9 | 122.87 | 1.5138 | 1.721 |
| 110.00 | 1311.7 | 4.9 | 122.86 | 1.5091 | 1.721 |
| 111.00 | 1311.9 | 5.1 | 122.87 | 1.5045 | 1.721 |
| 112.00 | 1311.9 | 5.1 | 122.88 | 1.5000 | 1.721 |
| 113.00 | 1311.9 | 5.1 | 122.88 | 1.4956 | 1.721 |
| 114.00 | 1311.9 | 5.1 | 122.89 | 1.4912 | 1.721 |
| 115.00 | 1311.9 | 5.1 | 122.90 | 1.4870 | 1.721 |
| 116.00 | 1311.8 | 5.0 | 122.89 | 1.4828 | 1.721 |
| 117.00 | 1311.8 | 5.0 | 122.91 | 1.4786 | 1.721 |
| 118.00 | 1312.0 | 5.2 | 122.91 | 1.4746 | 1.721 |
| 119.00 | 1311.8 | 5.0 | 122.91 | 1.4706 | 1.721 |
| 120.00 | 1311.9 | 5.1 | 122.92 | 1.4667 | 1.721 |
| 121.00 | 1311.9 | 5.2 | 122.93 | 1.4628 | 1.721 |
| 122.00 | 1311.9 | 5.2 | 122.93 | 1.4590 | 1.721 |
| 123.00 | 1311.9 | 5.2 | 122.92 | 1.4553 | 1.721 |
| 124.00 | 1311.9 | 5.2 | 122.94 | 1.4516 | 1.721 |
| 125.00 | 1311.9 | 5.2 | 122.94 | 1.4480 | 1.721 |
| 126.00 | 1311.9 | 5.2 | 122.95 | 1.4444 | 1.721 |
| ***** End Shut-in 2 | | | | | |
| ***** Final Hydro. | 401.00 | 2607.5 | 0.0 | 123.31 | |

*** TOOL DIAGRAM *** CONV. STRADDLE

WELL NAME: B Masterson #1-19

LOCATION : 9-24S-39W Hamilton Cty KS

TICKET No. 8796 D.S.T. No. 1 DATE 7-16-96

TOTAL TOOL TO BOTTOM OF TOP PACKERS 30

INTERVAL TOOL 25

BOTTOM PACKERS AND ANCHOR 230

TOTAL TOOL 285

DRILL COLLAR ANCHOR IN INTERVAL

D.C. ANCHOR STND.Stands Single Total

D.P. ANCHOR STND.Stands 1 Single 1 Total 93

TOTAL ASSEMBLY 378

D.C. ABOVE TOOLS.Stands8 Single Total 479

D.P. ABOVE TOOLS.Stands74 Single Total 4624

TOTAL DRILL COLLARS DRILL PIPE & TOOLS .. 5481

TOTAL DEPTH 5450

TOTAL DRILL PIPE ABOVE K.B. 31

REMARKS:

FLUID SAMPLER DATA

SAMPLER RECOVERY -

Water 4000 ml, Pressure 1010 PSI,
Total 4,000 ml

SAMPLER ANALYSIS -

Resistivity .23 ohms @ 85 F
Chlorides 22500 ppm

PIT MUD ANALYSIS -

Chlorides 4100 ppm, Viscosity 61,
Mud Weight 9, Filtrate 9.4, LCM 2#

PIPE RECOVERY -

T - Resist .45 ohms @ 77 F, Chlor 12000 ppm
B - Resist .23 ohms @ 85 F, Chlor 22500 ppm

| | |
|------------------------|------|
| P.O. SUB | |
| C.O. SUB 1' | 5072 |
| S.I. TOOL 5' | 5078 |
| sampler 3' | 5081 |
| HMV 5' | 5086 |
| JARS 5' | 5091 |
| SAFETY JOINT 2' | 5093 |
| PACKER top | 5097 |
| PACKER bottom | 5102 |
| DEPTH 5102 | |
| STUBB 1' | 5103 |
| ANCHOR 5'perf | 5108 |
| 93' drillpipe | 5201 |
| alpine recorder | 5201 |
| ak-1 | 5206 |
| 15' perf | 5216 |
| 1' blank off sub | 5217 |
| 3' top of straddle | 5220 |
| T.C. | |
| DEPTH | |
| PACKER straddle packer | 5220 |
| 1' stubb | 5221 |
| 10' perf | 5231 |
| 31' drillpipe | 5262 |
| 1' c.o. sub | 5263 |
| 181' collars | 5444 |
| 1'double pin | 5445 |
| ak-1 recorder | 5445 |
| BULLNOSE 5' bullplug | |
| T.D. | 5450 |

TRILOBITE TESTING L.L.C.

P.O. Box 362 • Hays, Kansas 67601

Test Ticket

No 8796

| | | |
|---|---------------------------------|-------------------------|
| Well Name & No. <u>B Mustison #1-19</u> | Test No. <u>1</u> | Date <u>7-16-96</u> |
| Company <u>Pinoco Prod Co</u> | Zone Tested <u>Lower member</u> | |
| Address <u>P.O. Box 800 Room 924 Denver, Colo</u> | Elevation | KB |
| Co. Rep / Geo. <u>Chuck Schmelz</u> | Cont. <u>Cheyenne #3</u> | Est. Ft. of Pay |
| Location: Sec. <u>9</u> | Twp. <u>24</u> | Rge. <u>39</u> |
| Co. <u>Harris</u> | | State <u>KS</u> |
| No. of Copies <u>None</u> | Distribution Sheet (Y, N) | Turnkey (Y, N) <u>N</u> |
| | | Evaluation (Y, N) |

| | | |
|---|-------------------------------------|--------------------------------------|
| Interval Tested <u>5102'</u> - <u>5220'</u> | Initial Str Wt./Lbs. <u>106,000</u> | Unseated Str Wt./Lbs. <u>138,000</u> |
| Anchor Length <u>118'</u> | Wt. Set Lbs. <u>50,000</u> | Wt. Pulled Loose/Lbs. <u>153,000</u> |
| Top Packer Depth <u>5097'</u> | Hole Size - <u>7 7/8"</u> ✓ | Rubber Size - <u>6 3/4"</u> ✓ |
| Bottom Packer Depth <u>5102'</u> | Wt. Pipe I.D. - <u>2.7 Ft. Run</u> | |
| Total Depth <u>5450'</u> | Drill Collar - <u>2.25 Ft. Run</u> | <u>XH 660'</u> |
| Mud Wt. <u>9.0</u> LCM <u>#2</u> Vis. <u>61</u> WL <u>9.4</u> | Drill Pipe Size <u>4 1/2 FH</u> | Ft. Run <u>4717'</u> |
| Blow Description <u>B.O.B. in 1 min.</u> | | |

T.S.I: Bleed off Blow 3 1/2 min - No return
 F.F! B.O.B 1/2 min Strong Blow started dying off in 17 min.
 F.S.I: Bleed off Blow - No return

| Recovery - Total Feet | Ft. in DC | Ft. in WP | Ft. in DP | %gas | %oil | %water | %mud |
|-----------------------------|---------------------------------|-----------|-----------|------|------|------------|------------|
| Rec. <u>300'</u> | Feet Of <u>Silly Watery Mud</u> | | | | | <u>15%</u> | <u>85%</u> |
| Rec. <u>120'</u> | Feet Of <u>water cut mud</u> | | | | | <u>30%</u> | <u>70%</u> |
| Rec. <u>120'</u> | Feet Of <u>muddy water</u> | | | | | <u>80%</u> | <u>20%</u> |
| Rec. <u>2205'</u> | Feet Of <u>Water</u> | | | | | | |
| Rec. <u>Dropped Bar Pin</u> | Feet Of | | | | | | |

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

RW 275 @ 85 °F Chlorides 17,500 ppm Recovery Chlorides 4,100 ppm System

| | | |
|--|---------------------------|----------------------------|
| (A) Initial Hydrostatic Mud <u>2627</u> PSI | Recorder No. <u>2341</u> | T-Started <u>9:11 AM</u> |
| (B) First Initial Flow Pressure <u>693</u> PSI | @ (depth) <u>5201</u> | T-Open <u>11:42 AM</u> |
| (C) First Final Flow Pressure <u>974</u> PSI | Recorder No. <u>11058</u> | T-Pulled <u>15:37 P.M.</u> |
| (D) Initial Shut-in Pressure <u>1310</u> PSI | @ (depth) <u>5206'</u> | T-Out <u>21:00 P.M.</u> |
| (E) Second Initial Flow Pressure <u>1061</u> PSI | Recorder No. <u>11057</u> | |
| (F) Second Final Flow Pressure <u>1306</u> PSI | @ (depth) <u>5445'</u> | |
| (G) Final Shut-in Pressure <u>1311</u> PSI | Initial Opening <u>10</u> | Test <u>X</u> |
| (H) Final Hydrostatic Mud <u>2607</u> PSI | Initial Shut-in <u>60</u> | Jars <u>X</u> |

Final Flow 45 Safety Joint X

Final Shut-in 120 Straddle X

Circ. Sub X N/C

Sampler X

Extra Packer X

Elect. Rec. X

Other _____

TOTAL PRICE \$ _____

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.

Approved By _____

Our Representative [Signature]

15-075-20165-0001

TRILOBITE TESTING L.L.C.

P.O. Box 362 - Hays, Kansas 67601

FLUID SAMPLER DATA

Ticket No. 879G Date 7-16-96
 Company Name Amoco Prod.
 Lease B Test No. 1
 County Hamilton, KS Sec. 9 Twp. 24 Rng. 39

SAMPLER RECOVERY

Gas _____ ML
 Oil _____ ML
 Mud _____ ML
 Water 4,000 ML
 Other _____ ML
 Pressure 1010 PSI PSI
 Total 4,000 ML

PIT MUD ANALYSIS

Chlorides 4,100 ppm.
 Resistivity _____ ohms @ _____ F
 Viscosity 61
 Mud Weight 9.0
 Filtrate 9.4
 Other LCM # 2

SAMPLER ANALYSIS

Resistivity 23 ohms @ 85 F
 Chlorides 22,500 ppm.
 Gravity _____ corrected @ 60 F

PIPE RECOVERY

TOP
 Resistivity .45 ohms @ 77 F
 Chlorides 12,000 ppm.

MIDDLE
 Resistivity _____ ohms @ _____ F
 Chlorides _____ ppm.

BOTTOM
 Resistivity 23 ohms @ 85 F
 Chlorides 22,500 ppm.