

**CONFIDENTIAL**

SIDE ONE  
**ORIGINAL**

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

API NO. 15-075-20591-0000

County Hamilton  
N/2 - N/2 - SE - NE Sec. 24 Twp. 21S Rge. 39 X W  
1600 Feet from S/N (circle one) Line of Section  
660 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: Texaco

Operator Contact Person: Susan R. Potts **RELEASED**

Phone (303) 830-5323

Contractor: Name: Cheyenne Drilling **OCT 12 1998**

License: 5382 **FROM CONFIDENTIAL**

Wellsite Geologist: Charles Schmaltz

Designate Type of Completion  
X New Well      Re-Entry      Workover

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

If Workover:

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

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

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

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

4/10/96 4/20/96 6/4/96  
Spud Date Date Reached TD Completion Date

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

Lease Name Doc Holliday Well # 1-24

Field Name Wildcat

Producing Formation Morrow

Elevation: Ground 3421.08' KB 3432'

Total Depth 5428' PBSD 5386'

Amount of Surface Pipe Set and Cemented at 488 Feet

Multiple Stage Cementing Collar Used? X Yes      No

If yes, show depth set 3311 Feet

If Alternate II completion, cement circulated from 3311'

feet depth to Surface w/ 5 475 sx cmt.

Drilling Fluid Management Plan ALT 2 878 1-23-97  
(Data must be collected from the Reserve Pit)

Chloride content 11,000 ppm Fluid volume 2000 bbls

Dewatering method used Dried and Filled

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

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

Lease Name \_\_\_\_\_ License No. 5

Quarter \_\_\_\_\_ Sec. \_\_\_\_\_ Twp. \_\_\_\_\_ S               

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

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**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 Susan R. Potts

Title Senior Staff Assistant Date 8/5/96

Subscribed and sworn to before me this 5<sup>th</sup> day of August, 1996

Notary Public [Signature]

Date Commission Expires January 4, 1997

1070 BROADWAY  
DENVER, CO 80201

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

RECEIVED Form ACO-1 (7-91)  
KANSAS CORPORATION COMMISSION

AUG 06 1996 8-6-96

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Operator Name Amoco Production Company Lease Name Doc Holliday Well # 1-24

Sec. 24 Twp. 21S Rge. 39  East  West  
 County Hamilton

**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.)

Log Formation (Top), Depth and Datums  Sample

Name	Top	Datum
Base Stone Corral	2339'	KB
Chase	2721'	
Council Grove	2951'	
Admiral	3406'	
Base Heebner	4001'	
Lansing	4052'	
Kansas City	4524'	
Marmaton	4564'	
Cherokee	4713'	
Morrow	4996'	
Mississippian	5216'	

List All E.Logs Run: Complex Lithology Analysis, Microlog, Long Spaced Sonic, High Resolution Induction DFL, Spectral Density Dual Spaced Neutron II

**CASING RECORD**

New  Used-Production

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"	20	488'	Premium Plus Lite	150	2%CC+1/4#Flocele
Production-1st stage	7.875"	4.5"	10.5	4500-5428'	Premium Plus	100	2%CC+1/4#Flocele
Production-2nd stage	7.875"	4.5"	10.5	11-3311'	Premium Plus Lite	250	7%EA-2, 1%CC,.6% Halad-322, 15%Salt, 1/4# sk D-Air 1/4# Flocele

**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
4	5009-5016'	Chemical treatment-Treat with 18 bbls xylene, 12 bbls. kerosene, 68 bbls. treated water.	5009-5016'
		FRAC w/ 22,900 lbs of 12/20 sand and 470 bbls x-link gelled fresh water, 24 bbls. slick water, and flush w/81 bbls. 2% potassium chloride.	5009-5016'

TUBING RECORD	Size	Set At	Packer At	Liner Run
2.375"	4.7# J-55 EUE T&C	5102'	5102'	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No

Date of First, Resumed Production, SWD or Inj. First Oil 6/7/96 Producing Method  Flowing  Pumping  Gas Lift  Other (Explain)

Estimated Production Per 24 Hours	Oil 12 BOPD	Bbls.	Gas Mcf	Water 2 BWPD	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 5009-5016"  
 Other (Specify) \_\_\_\_\_ **Production Interval**

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ORIGINAL

DRILLERS LOG

AMOCO PRODUCTION COMPANY  
DOC HOLIDAY #1-24  
SECTION 24-T21S-R39W  
HAMILTON COUNTY, KANSAS

15-075-20591.0000

COMMENCED: 04-10-96  
COMPLETED: 04-20-96

SURFACE CASING: 488' OF 8 5/8" CMTD.  
W/100 SKS PREMIUM PLUS LITE + 2% CC + 1/4  
#/SK FLOCELE. TAILED IN W/150 SKS  
PREMIUM PLUS + 2% CC + 1/4 #/SK FLOCELE.

FORMATION

DEPTH

SURFACE HOLE	0 - 488
SHALE & SANDSTONE	488 - 1850
SHALE	1850 - 2740
COUNCIL GROVE & CHASE	2740 - 3170
COUNCIL GROVE	3170 - 3812
HEBNER	3812 - 4005
LANSING	4005 - 4650
KANSAS CITY	4650 - 4902
MORROW & KANSAS CITY	4902 - 5030
MORROW	5030 - 5125
ST. GENEVIEVE	5125 - 5230
ST. LOUIS	5230 - 5428 RTD

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OCT 12 1998

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hcc  
AUG 5  
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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*

WRAY VALENTINE

STATE OF KANSAS : ss:

SUBSCRIBED AND SWORN TO BEFORE ME THIS 24TH DAY OF APRIL, 1996

JOLENE K. RUSSELL



RECEIVED

KANSAS CORPORATION COMMISSION

*Jolene K. Russell*

NOTARY PUBLIC

AUG 06 1996

CONSERVATION DIVISION  
WICHITA, KS

JOB LOG HAL-2013-C

DATE: 14-10-96  
PAGE NO.  
TICKET NO. 921518

CUSTOMER: *Amoco Prod* WELL NO.: *1-24* LEASE: *Dr. Halliday* JOB TYPE: *8 3/8 SURECE*

CHART NO. TIME RATE (BPM) VOLUME (BBL) (GAL) PUMPS T C PRESSURE (PSI) TUBING CASING DESCRIPTION OF OPERATION AND MATERIALS

1500  
1300  
1800  
2200

Time Called  
Time Ready  
Time out.

2200  
2212  
2214

Start Pumping Casing + Casing Wash Casing  
Down 14/19" + 1 1/2" PIP  
Casing in Hole

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2214  
2230

Hook up To Circulate Casing  
Circulate Casing w/ 1200 PPS  
Circulate Mud To Ground Level

2235  
2246  
2250  
2251

Hook up To Pump Truck

2235	5.2	54.76		175	Start Mixing Cement	AUG 5
2246	/	23.3		175	Start Tank Cement	CONFIDENTIAL
2250	/	78.26	Total	150	Final Mixing Cement	
2251				150	Start Down	Drop Pkg.

2257  
2300

0/100 Start Displacement  
w/nd Pumps + Lines  
250/ Plug Down

2300

Reinforced up Casing 1710 PSL  
and Partial Landing down off  
8 3/8" Drop Down on To Bottom  
of Hole. Re-Pick up joint of  
8 3/8" and Sealed Back in the  
8 3/8" surface casing and Pick  
up + Spot Cement at  
Ground Level

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KANSAS CORPORATION COMMISSION  
AUG 06 1996  
CONSERVATION DIVISION  
WICHITA, KS

Thanks For Calling Halliburton  
Energy  
Dennis Lane &  
Crew



HALLIBURTON

JOB SUMMARY

HALLIBURTON DIVISION  
HALLIBURTON LOCATION

Mid Cont  
Liberal Ks

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BILLED ON TICKET NO.

921518

WELL DATA

FIELD ORIGINAL SEC 24 TWP 21 S RNG 39 W COUNTY Hamilton STATE Ks

FORMATION NAME TYPE  
FORMATION THICKNESS FROM TO  
INITIAL PROD: OIL BPD. WATER BPD. GAS MCFD  
PRESENT PROD: OIL BPD. WATER BPD. GAS MCFD  
COMPLETION DATE MUD TYPE MUD WT.  
PACKER TYPE SET AT  
BOTTOM HOLE TEMP. PRESSURE  
MISC. DATA TOTAL DEPTH

	NEW USED	WEIGHT	SIZE	FROM	TO	MAXIMUM PSI ALLOWABLE
CASING		28	8 3/8	123	1493	
LINER						
TUBING						
OPEN HOLE			12 1/4 GL		1493	SHOTS/FT.
PERFORATIONS						
PERFORATIONS						
PERFORATIONS						

JOB DATA

CALLLED OUT	ON LOCATION	JOB STARTED	JOB COMPLETED
DATE 4-10	DATE 4-10	DATE 4-10	DATE 4-10
TIME -	TIME 1300	TIME 2200	TIME 2300

PERSONNEL AND SERVICE UNITS

NAME	UNIT NO. & TYPE	LOCATION
Dack	1420041	Liberal Ks
R. R. ...	52533 / FOSI	"
G. ...	80806 / 1649	Hamilton Ks
	KUU	
	AUG 5	
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TOOLS AND ACCESSORIES

TYPE AND SIZE	QTY.	MAKE
Float Collar Inset Float	1	
Float Shoe Fishtrap	1	
GUIDE SHOE		
CENTRALIZERS	3	
BOTTOM PLUG		
TOP PLUG	1	
HEAD	1	
PACKER		
OTHER Flow-weld A	1/23	

MATERIALS

TREAT. FLUID DENSITY LB/GAL. API  
DISPL. FLUID DENSITY LB/GAL. API  
PROP. TYPE SIZE RELEASED  
PROP. TYPE SIZE LB.  
ACID TYPE GAL. OCT 12 1998  
ACID TYPE GAL. %  
ACID TYPE GAL. %  
SURFACTANT TYPE FROM CONFIDENTIAL  
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 8 3/8 SURFACE  
JOB DONE THRU: TUBING  CASING  ANNULUS  TBG./ANN.   
CUSTOMER REPRESENTATIVE X  
HALLIBURTON OPERATOR Dennis Coe  
COPIES REQUESTED

CEMENT DATA

STAGE	NUMBER OF SACKS	CEMENT	BRAND	BULK SACKED	ADDITIVES	YIELD CU.FT./SK.	MIXED LBS./GAL.
	150	1 Prem Plus	MTWT		2% CC 1/4 # Floc		
	100	1 Prem Plus			2% CC 1/4 # Floc		

PRESSURES IN PSI

SUMMARY

VOLUMES

CIRCULATING DISPLACEMENT RECEIVED PRES LUSH: BBL.-GAL. TYPE  
BREAKDOWN MAXIMUM KANSAS CORPORATION COMMISSION LOAD & BKON: BBL.-GAL. PAD: BBL.-GAL.  
AVERAGE FRACTURE GRADIENT TREATMENT: BBL.-GAL. DISPL: BBL.-GAL.  
SHUT-IN: INSTANT 5-MIN 15-MIN AUG 06 1998 CEMENT SLURRY: BBL.-GAL. 75  
HYDRAULIC HORSEPOWER TOTAL VOLUME: BBL.-GAL.

ORDERED AVAILABLE USED AVERAGE RATES IN BPM CONSERVATION DIVISION WICHITA, KS  
TREATING DISPL. OVERALL CEMENT LEFT IN PIPE  
FEET 142 REASON Shoe Joint

CUSTOMER: Amoco Production Lease  
LEASE: Dec Halliday  
WELL NO.: 1-271  
JOB TYPE: 8





**HALLIBURTON ENERGY SERVICES**

HAL-1906-N

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

CUSTOMER COPY

TICKET

No.

921518 - 4

PAGE 1 OF

1. SERVICE LOCATIONS / <i>25940 Lizard Ka</i>	WELL/PROJECT NO. <i>1-24 Doc Holiday</i>	LEASE <i>Doc Holiday</i>	COUNTY/PARISH <i>Hamilton</i>	STATE <i>Ka</i>	CITY/OFFSHORE LOCATION	DATE <i>4-10-96</i>	OWNER <i>Amoco</i>
2.	TICKET TYPE <input checked="" type="checkbox"/> SERVICE	NITROGEN JOB? <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO	CONTRACTOR	RIG NAME/NO. <i>Reynolds 3</i>	SHIPPED VIA <i>Loc</i>	ORDER NO.	
3.	WELL TYPE	WELL CATEGORY	JOB PURPOSE <i>8 3/8 SURFACE</i>	WELL PERMIT NO.	WELL LOCATION <i>NOF Kendall</i>		
4. REFERRAL LOCATION	INVOICE INSTRUCTIONS <i>0103</i>						

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PRICE REFERENCE	SECONDARY REFERENCE / PART NUMBER	ACCOUNTING			DESCRIPTION	QTY.		UNIT PRICE		AMOUNT
		LOC	ACCT	DF			U/M		U/M	
000-117		1			MILEAGE	248	Miles	2	85	706.80
000-119		1			Green Mileage	248	Miles	1	50	372.60
000-016		1			Pump charge	1493	FT			630.00
030-018		1			5 in Top Plug	1	Eq	8 3/8	130.00	130.00
24A	815-19508				<del>24A</del> Tress Flat	1	Eq	8 3/8	195.00	195.00
27	815-19415				Fillup	1			64.00	64.00
41	306-61048				Contributors	3			61.00	183.00
350	390-10822				Hesco weld A	1	413		16.00	16.00

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**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

*X SAM CORINACK* Amoco *Col 301*

DATE SIGNED: \_\_\_\_\_ TIME SIGNED: \_\_\_\_\_

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 2297.35

FROM CONTINUATION PAGE(S) 41609.62

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) *X*

CUSTOMER OR CUSTOMER'S AGENT (SIGNATURE) *Liotos Dennis 0122 59179*

HALLIBURTON OPERATOR/ENGINEER EMP # \_\_\_\_\_

HALLIBURTON APPROVAL \_\_\_\_\_

## 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.



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HALLIBURTON

ORIGINAL

JOB LOG HAL-2013-C

DATE 4-20-96 PAGE NO. 1

CUSTOMER AMOCO PRODUCTION WELL NO. 1-24 LEASE DOC HOLDING JOB TYPE 4 1/2 D.V. TICKET NO. 919434

Table with columns: CHART NO., TIME, RATE (BPM), VOLUME (BBL) (GAL), PUMPS (T, C), PRESSURE (PSI) (TUBING, CASING), DESCRIPTION OF OPERATION AND MATERIALS. Includes handwritten entries for operations like 'CALL OUT', 'ON LOCATION', 'SAFETY MEETING', 'CIRC. CASING', 'HOOK UP TO PUMP', 'DISPLACE W/ H2O', 'DISPLACE W/ MUD', 'BUMP PLUG', 'CHECK FLOAT', 'DROP BOMB', 'PRESSURE UP OPEN D.V. TOOL', 'HOOK UP TO REG PUMP', 'CIRCULATE FOR 4 HOURS', '2ND STAGE', 'HOOK UP TO CASING', 'DISPLACE', 'BUMP PLUG', 'PRESSURE UP CLOSE D.V. TOOL'.

RELEASED

OCT 12 1998

FROM CONFIDENTIAL

AUG 5

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RECEIVED KANSAS CORPORATION COMMISSION

AUG 6 1996

CONSERVATION DIVISION WICHITA, KS

Circ 15 BBL (37 SA) TO P.T

THANK YOU MCELLEN DAVE

FIELD OFFICE

**WELL DATA**

FIELD \_\_\_\_\_ SEC. 34 TWP. 21 RANG. 39W COUNTY HAMILTON STATE KANSAS

FORMATION NAME \_\_\_\_\_ TYPE \_\_\_\_\_  
 FORMATION THICKNESS \_\_\_\_\_ FROM \_\_\_\_\_ TO \_\_\_\_\_  
 INITIAL PROD: OIL \_\_\_\_\_ BPD. WATER \_\_\_\_\_ BPD. GAS \_\_\_\_\_ MCFD  
 PRESENT PROD: OIL \_\_\_\_\_ BPD. WATER \_\_\_\_\_ BPD. GAS \_\_\_\_\_ MCFD  
 COMPLETION DATE \_\_\_\_\_ MUD TYPE \_\_\_\_\_ MUD WT. \_\_\_\_\_  
 PACKER TYPE \_\_\_\_\_ SET AT \_\_\_\_\_  
 BOTTOM HOLE TEMP. \_\_\_\_\_ PRESSURE \_\_\_\_\_  
 MISC DATA \_\_\_\_\_ TOTAL DEPTH \_\_\_\_\_

	NEW USED	WEIGHT	SIZE	FROM	TO	MAXIMUM PSI ALLOWABLE
CASING	<u>U</u>	<u>10.5</u>	<u>4 1/2</u>	<u>SURF</u>	<u>5445</u>	
LINER						
TUBING						
OPEN HOLE						SHOTS/FT
PERFORATIONS						
PERFORATIONS						
PERFORATIONS						

**JOB DATA**

CALLED OUT	ON LOCATION	JOB STARTED	JOB COMPLETED
DATE <u>4-20-96</u>	DATE <u>4-20-96</u>	DATE <u>4-20-96</u>	DATE <u>4-20-96</u>
TIME <u>0500</u>	TIME <u>0810</u>	TIME <u>1356</u>	TIME <u>2005</u>

**TOOLS AND ACCESSORIES**

TYPE AND SIZE	QTY	MAKE
FLOAT COLLAR <u>D.J. TOOL</u>	<u>1</u>	
FLOAT SHOE		
GUIDE SHOE	<u>1</u>	
CENTRALIZERS <u>FLUOR MINIFER</u>	<u>8</u>	
BOTTOM PLUGS <u>(CENTRALIZERS (STANDARD))</u>	<u>6</u>	
TOP PLUGS <u>SGT</u>	<u>1</u>	
HEAD <u>P.C.</u>	<u>1</u>	
PACKER <u>CANVAS BASKET</u>	<u>1</u>	
OTHER <u>WELD-A</u>	<u>1</u>	

**PERSONNEL AND SERVICE UNITS**

NAME	UNIT NO. & TYPE	LOCATION
<u>MICRAN ALLESON</u>	<u>38242</u>	<u>DUNSMAN</u>
	<u>62275</u>	<u>OKLA</u>
<u>DEVED MAGRUDER</u>	<u>52276</u>	<u>LIBERAL</u>
	<u>7131 PCM</u>	<u>KAN.</u>
<u>MIKE LONGWORTH</u>	<u>5044</u>	<u>HUNTING</u>
	<u>755CS</u>	<u>KAN.</u>
	<u>546R</u>	<u>DUNSMAN</u>
		<u>OK</u>
<u>DALLAS CORP.</u>		<u>OKLAHOMA</u>
	<u>6-2728</u>	<u>KAN</u>
		<u>AUG 5</u>
		<u>CONFIDENTIAL</u>

**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 \_\_\_\_\_  
 NE AGENT TYPE \_\_\_\_\_ GAL \_\_\_\_\_ IN  
 FLUID LOSS ADD. TYPE \_\_\_\_\_ GAL.-LB. OCT 12 1998  
 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 (5001)

DESCRIPTION OF JOB CEMENT 4 1/2" PRODUCTION PASSING  
1.25" D.J. TOOL

JOB DONE THRU: TUBING  CASING  ANNULUS  TBG/ANN

CUSTOMER REPRESENTATIVE X MICRAN ALLESON

HALLIBURTON OPERATOR MICRAN ALLESON COPIES REQUESTED \_\_\_\_\_

**CEMENT DATA**

STAGE	NUMBER OF SACKS	CEMENT	BRAND	BULK SACKED	ADDITIVES	YIELD CU.FT./SK	MIXED LBS./GAL.
<u>1</u>	<u>250</u>	<u>H</u>		<u>B</u>	<u>7% EA-2, 17% CC. 7% HALAD-22, 15% SALT</u> <u>1/4% D-AIR-2</u>	<u>1.35</u>	<u>15.6</u>
<u>2</u>	<u>475</u>	<u>'C' LT.WT</u>		<u>B</u>	<u>1/4% SODIUM</u>	<u>2.06</u>	<u>12.3</u>

**PRESSURES IN PSI**

**SUMMARY**

**VOLUMES**

CIRCULATING \_\_\_\_\_ DISPLACEMENT \_\_\_\_\_ PRESLUSH: BBL.-GAL. 10 EACH STAGE TYPE H2O  
 BREAKDOWN \_\_\_\_\_ MAXIMUM \_\_\_\_\_ LOAD & BKDN: BBL.-GAL. (1) 2350 PAD: BBL.-GAL. 83.25  
 AVERAGE \_\_\_\_\_ FRACTURE GRADIENT \_\_\_\_\_ TREATMENT: BBL.-GAL. (2) DISPL BBL.-GAL. 5.15  
 SHUT-IN: INSTANT \_\_\_\_\_ 5-MIN \_\_\_\_\_ 15-MIN \_\_\_\_\_ CEMENT SLURRY: BBL.-GAL. (1) 60.1 (2) 174  
 HYDRAULIC HORSEPOWER AUG 06 1998 TOTAL VOLUME BBL.-GAL. 570.35  
 ORDERED \_\_\_\_\_ AVAILABLE \_\_\_\_\_ USED \_\_\_\_\_ AVERAGE RATES IN BPM \_\_\_\_\_  
 TREATING \_\_\_\_\_ DISPL. \_\_\_\_\_ OVERALL \_\_\_\_\_ CEMENT LEFT IN PIPE \_\_\_\_\_  
 FEET 41 REASON SURF TIGHT

**REMARKS**

SEE JOB LOG.

CUSTOMER Amoco Production Co.  
 LEASE Doc Horridy  
 WELL NO. 1-24  
 JOB TYPE 4 1/2" D.J. TOOL  
 DATE 4-20-96





**HALLIBURTON ENERGY SERVICES**

HAL-1906-N

CHARGE TO: AMCO PRODUCTION Co.  
 ADDRESS:  
 CITY, STATE, ZIP CODE:

CUSTOMER COPY

TICKET

No.

919434 - X

PAGE OF  
 RELEASED  
 OCT 12 1996  
 FROM CONFIDENTIAL

SERVICE LOCATIONS 1. <u>BRISBANE OYLA</u>	WELL/PROJECT NO. <u>1-24</u>	LEASE <u>De Halls-004</u>	COUNTY/PARISH <u>Harrison</u>	STATE <u>KAN</u>	CITY/OFFSHORE LOCATION <u>ELWOOD</u>	DATE <u>4-20-96</u>	OWNER
2. <u>BRISBANE KAY</u>	TICKET TYPE <input checked="" type="checkbox"/> SERVICE	NITROGEN JOB? <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO	CONTRACTOR <u>CHRYSLER</u>	RIG NAME/NO. <u>#3</u>	SHIPPED VIA <u>CV</u>	DELIVERED TO <u>LOCATION</u>	ORDER NO.
3. <u>HARRISON KAY</u>	WELL TYPE		WELL CATEGORY	JOB PURPOSE	WELL PERMIT NO.	WELL LOCATION	
4. <u>02</u>	<u>01</u>		<u>035</u>				
REFERRAL LOCATION	INVOICE INSTRUCTIONS <u>CONCPT 4 1/2 CASTING WITH HAWES D.V. TOOL</u>						

PRICE REFERENCE	SECONDARY REFERENCE/ PART NUMBER	ACCOUNTING			DESCRIPTION	QTY.		UNIT PRICE		AMOUNT
		LOC	ACCT	DF		QTY.	U/M	QTY.	U/M	
000-117					MILEAGE R.C.M.	279	1/EA	2.50		745.15
000-119					CREW MILEAGE	217	1/EA	1.90		414.30
001-016					DEPTH CHARGE	5445	1/EA	1765.00		1765.00
007-013					MISCELLANEOUS	1	1/EA	1400.00		1400.00
12A	E25 201				GRIPPER SHOE	1	1/EA	95.00		95.00
41	006-10001				CONTRACTOR (FLUID METER)	6	1/EA	50.00		300.00
60	006-01104				CONTRACTOR (FLUID METER)	1	1/EA	453.00		453.00
71	013-0000				D.V. CONCEPT TOOL	1	1/EA	2740.00		2740.00
75	015-10011				PLUG SET	1	1/EA	700.00		700.00
320	006-01115				2 INCHES BASKET	1	1/EA	97.00		97.00
360	010-10002				VALVE-A	1	1/EA	616.75		616.75

**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

**X**

DATE SIGNED	TIME SIGNED	<input type="checkbox"/> A.M. <input type="checkbox"/> P.M.	SUB SURFACE SAFETY VALVE WAS: <input type="checkbox"/> PULLED & RETURN <input type="checkbox"/> PULLED <input type="checkbox"/> RUN	<b>SURVEY</b>	AGREE	UN-DECIDED	DIS-AGREE	PAGE TOTAL <u>6917</u> <u>40</u>
<input type="checkbox"/> do <input type="checkbox"/> do not require IPC (Instrument Protection). <input type="checkbox"/> Not offered			TYPE LOCK	DEPTH	OUR EQUIPMENT PERFORMED WITHOUT BREAKDOWN? WE UNDERSTOOD AND MET YOUR NEEDS? OUR SERVICE WAS PERFORMED WITHOUT DELAY? WE OPERATED THE EQUIPMENT AND PERFORMED JOB CALCULATIONS SATISFACTORILY? ARE YOU SATISFIED WITH OUR SERVICE? <input type="checkbox"/> YES <input type="checkbox"/> NO			
			BEAN SIZE	SPACERS				SUB-TOTAL APPLICABLE TAXES WILL BE ADDED ON INVOICE
			TYPE OF EQUALIZING SUB.	CASING PRESSURE				
			TUBING SIZE	TUBING PRESSURE	WELL DEPTH			
			TREE CONNECTION	TYPE VALVE				

**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) <u>[Signature]</u>	CUSTOMER OR CUSTOMER'S AGENT (SIGNATURE) <b>X</b>	HALLIBURTON OPERATOR/ENGINEER <u>[Signature]</u>	EMP # <u>62275</u>	HALLIBURTON APPROVAL
---	--	---	-----------------------	----------------------

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OCT 12 1996  
FROM CONFIDENTIAL



TERMS AND CONDITIONS

EBOW CONFIDENTIAL

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:

001 13 1008

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.

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**WELL NAME:** Doc Holliday #1-24  
**OPERATOR:** Amoco Production Company  
**LOCATION:** Sec 24 Twp 21S Rge 39W  
Hamilton County Kansas  
**DATE:** 04/17/96

**RELEASED**

**OCT 12 1998**

**FROM CONFIDENTIAL**

15-075-20597

RCC

**AUG 5**

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**RECEIVED**  
KANSAS CORPORATION COMMISSION

**AUG 06 1990**

Created by Kansas  
Department of  
Revenue

TRILOBITE TESTING L.L.C.

OPERATOR : Amoco Production Company  
 WELL NAME: Doc Holliday #1-24  
 LOCATION : 24-21S-39W, Hamilton KS  
 INTERVAL : 4955.00 To 5030.00 ft

DATE 4-17-96

KB 3942.00 ft TICKET NO: 9166 DST #1  
 GR 3421.00 ft FORMATION: UPPER MORROW  
 TD 5030.00 ft TEST TYPE: CONVENTIONAL

RECORDER DATA

Mins		Field	1	2	3	4	TIME DATA-----
PF 10	Rec.	13339	13339	2342			PF Fr. 0142 to 0152 hr
SI 60	Range(Psi )	4025.0	4025.0	4995.0	0.0	0.0	IS Fr. 0152 to 0252 hr
SF 120	Clock(hrs)	AK-1	AK-1	Alpin			SF Fr. 0252 to 0452 hr
FS 120	Depth(ft )	5025.0	5025.0	4960.0	0.0	0.0	FS Fr. 0452 to 0652 hr

	Field	1	2	3	4	
A. Init Hydro	2423.0	2489.0	2393.0	0.0	0.0	T STARTED 2215 hr
B. First Flow	20.0	79.0	29.0	0.0	0.0	T ON BOTM 0133 hr
B1. Final Flow	83.0	109.0	102.0	0.0	0.0	T OPEN 0142 hr
C. In Shut-in	1130.0	1160.0	1159.0	0.0	0.0	T PULLED 0652 hr
D. Init Flow	83.0	152.0	117.0	0.0	0.0	T OUT 1200 hr
E. Final Flow	291.0	308.0	308.0	0.0	0.0	
F. Fl Shut-in	1070.0	1083.0	1077.0	0.0	0.0	TOOL DATA-----
G. Final Hydro	2343.0	2392.0	2279.0	0.0	0.0	Tool Wt. 1800.00 lbs
Inside/Outside	0	0	I			Wt Set On Packer 25000.00 lbs
						Wt Pulled Loose 150000.00 lb
						Initial Str Wt 90000.00 lbs
						Unseated Str Wt 100000.00 lb
						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 727.00 ft
						D.P. Length 4219.00 ft

RECOVERY

Tot Fluid 880.00 ft of 727.00 ft in DC and 153.00 ft in DP  
 2820.00 ft of Gas in pipe  
 153.00 ft of Clean gassy oil - 20% gas, 80% oil  
 120.00 ft of Clean gassy oil - 40% gas, 60% oil  
 607.00 ft of Gassy oil cut mud - 20% gas, 20% oil, 60% mud

MUD DATA-----

Mud Type Chemical  
 Weight 9.00 lb  
 Vis. 57.00 S/  
 W.L. 8.00 in  
 F.C. 0.00 in  
 Mud Drop Y 100.0 ft

SALINITY 0.00 P.P.M. A.P.I. Gravity 30.20

BLOW DESCRIPTION

Initial Flow -  
 .5" blow built to 10"  
 Initial Shutin -  
 Bled off blow - no return  
 Final Flow -  
 Surface blow built to bottom in 6 min  
 Final Shutin -  
 Bled off blow, weak surface return  
 built to bottom in 40 min

Amt. of fill 0.00 ft  
 Btm. H. Temp. 132.00 F  
 Hole Condition GOOD  
 % Porosity 0.00  
 Packer Size 6.75 in  
 No. of Packers 2  
 Cushion Amt. 0.00  
 Cushion Type  
 Reversed Out N  
 Tool Chased N  
 Tester ROD STEINBRINK  
 Co. Rep. SAM CARMACK  
 Contr. CHEYENNE DRLG  
 Rig # 3  
 Unit #  
 Pump T.

SAMPLES:  
 SENT TO:

Test Successful: Y

CALCULATED RECOVERY ANALYSIS

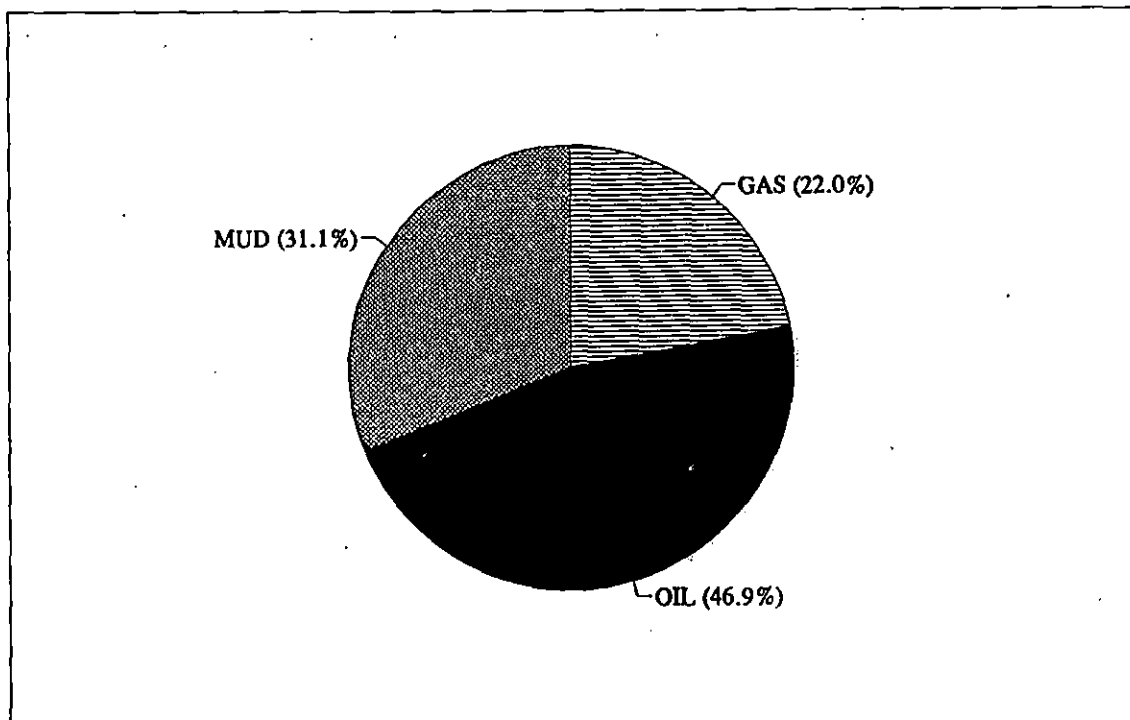
DST # 1

TICKET 9166

SAMPLE #	TOTAL FEET	GAS		OIL		WATER		MUD	
		%	FEET	%	FEET	%	FEET	%	FEET
DRL PIPE 1	153	20	30.6	80	122.4		0		0
2			0		0		0		0
3			0		0		0		0
4			0		0		0		0
5			0		0		0		0
6			0		0		0		0
WGT PIPE 1			0		0		0		0
2			0		0		0		0
3			0		0		0		0
4			0		0		0		0
COLLARS 1	120	40	48	80	72		0		0
2	607	20	121.4	20	121.4		0	60	364.2
3			0		0		0		0
4			0		0		0		0
5			0		0		0		0
<b>TOTAL</b>	<b>880</b>		<b>200</b>		<b>315.8</b>		<b>0</b>		<b>364.2</b>

HRS OPE BBL/DAY

BBL OIL= 2.686254 \* 2.16 29.8473  
 BBL WATER= 0 \* 0  
 BBL MUD= 1.780938  
 BBL GAS = 1.263498





# TEST HISTORY

9166 DST #1 DOC HOLLIDAY #1-24 AMOCO PROD

## Flag Points

t(Min.) P(PSIg)

A:	0.00	2392.61
B:	0.00	29.37
C:	13.00	102.30
D:	61.00	1159.45
E:	0.00	117.15
F:	119.00	309.17
G:	121.00	1077.20
Q:	0.00	2278.97

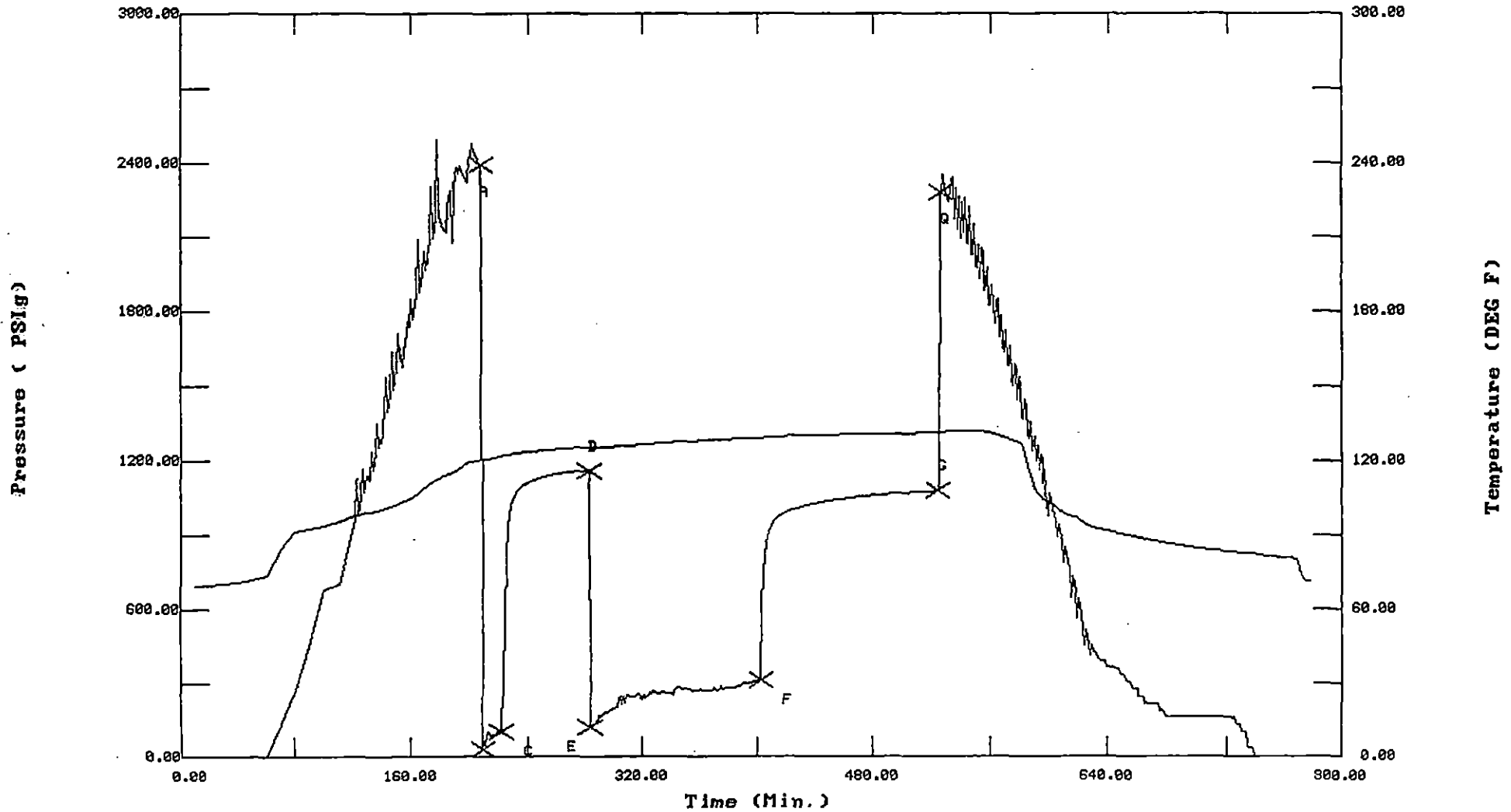
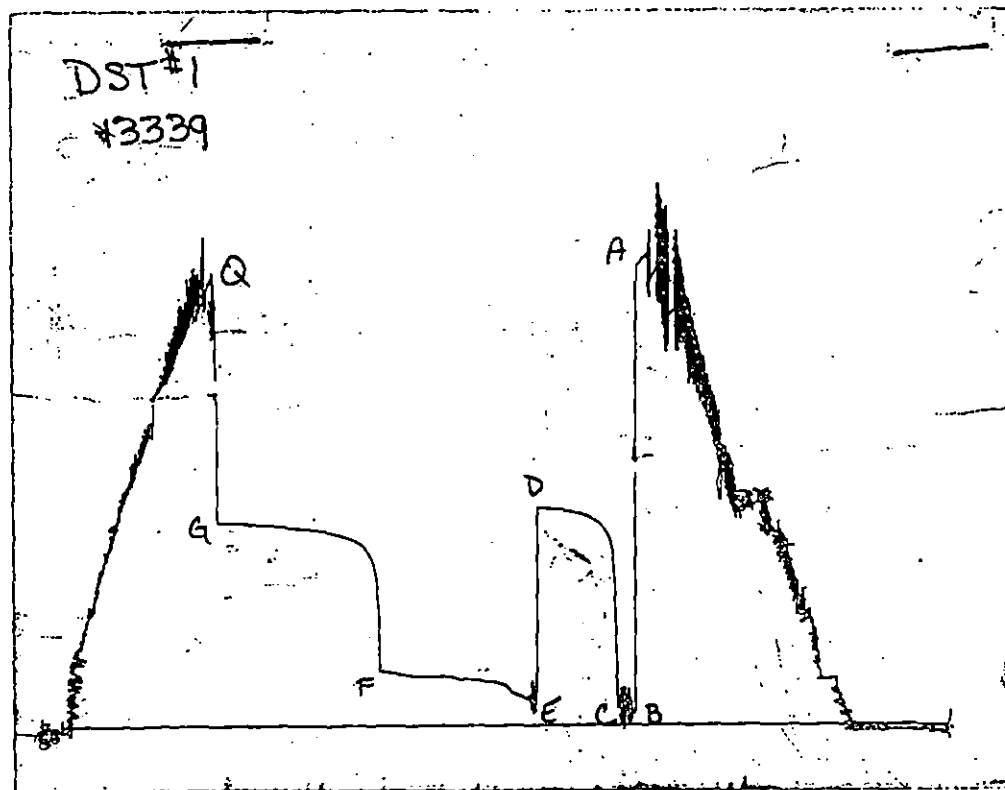


CHART PAGE



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

ALPINE SUBSURFACE ELECTRONICS PROBE INCREMENTS LISTING

TEST: 9166 DST #1 DOC HOLLIDAY #1-24 AMOCO PROD

DATE: 04/16/96

TIME: 22:15:14

	Time	Pressure PSig	delta P PSig	Temp. DEG F	(T+dT)/dT	P <sup>2</sup> /10 <sup>6</sup>
***** Initial Hydro.	208.00	2392.6	0.0	120.32		
***** Start Flow 1	0.00	29.4	0.0	120.29		
	1.00	57.7	28.4	120.28		
	2.00	45.1	15.7	120.28		
	3.00	90.2	60.8	120.32		
	4.00	100.7	71.3	120.44		
	5.00	91.6	62.2	120.63		
	6.00	75.5	46.2	120.82		
	7.00	89.0	59.6	121.01		
	8.00	85.8	56.5	121.21		
	9.00	87.9	58.6	121.39		
	10.00	98.4	69.1	121.56		
	11.00	96.4	67.1	121.71		
	12.00	98.7	69.3	121.84		
***** End Flow 1	13.00	102.3	72.9	121.94		
***** Start Shutin 1	0.00	102.3	0.0	121.94	0.0000	0.010
	1.00	295.4	193.1	122.05	14.0000	0.087
	2.00	576.5	474.2	122.16	7.5000	0.332
	3.00	815.9	713.6	122.27	5.3333	0.666
	4.00	930.2	827.9	122.37	4.2500	0.865
	5.00	985.3	883.0	122.48	3.6000	0.971
	6.00	1016.4	914.1	122.59	3.1667	1.033
	7.00	1036.8	934.5	122.69	2.8571	1.075
	8.00	1051.4	949.1	122.78	2.6250	1.105
	9.00	1062.8	960.5	122.87	2.4444	1.129
	10.00	1071.8	969.5	122.95	2.3000	1.149
	11.00	1079.3	977.0	123.02	2.1818	1.165
	12.00	1085.8	983.5	123.09	2.0833	1.179
	13.00	1091.3	989.0	123.16	2.0000	1.191
	14.00	1096.3	994.0	123.23	1.9286	1.202
	15.00	1100.7	998.4	123.27	1.8667	1.212
	16.00	1104.5	1002.2	123.35	1.8125	1.220
	17.00	1108.1	1005.8	123.41	1.7647	1.228
	18.00	1111.4	1009.1	123.47	1.7222	1.235
	19.00	1114.4	1012.1	123.53	1.6842	1.242
	20.00	1117.1	1014.8	123.59	1.6500	1.248
	21.00	1119.6	1017.3	123.65	1.6190	1.253
	22.00	1121.9	1019.6	123.71	1.5909	1.259
	23.00	1124.0	1021.7	123.76	1.5652	1.263
	24.00	1126.1	1023.8	123.82	1.5417	1.268
	25.00	1128.1	1025.8	123.86	1.5200	1.273
	26.00	1129.8	1027.5	123.93	1.5000	1.277
	27.00	1131.5	1029.2	123.97	1.4815	1.280
	28.00	1133.2	1030.9	124.02	1.4643	1.284
	29.00	1134.6	1032.3	124.08	1.4483	1.287
	30.00	1136.0	1033.7	124.13	1.4333	1.291
	31.00	1137.4	1035.1	124.18	1.4194	1.294
	32.00	1138.6	1036.3	124.23	1.4062	1.297
	33.00	1139.8	1037.5	124.27	1.3939	1.299
	34.00	1141.0	1038.7	124.32	1.3824	1.302
	35.00	1142.2	1039.9	124.37	1.3714	1.305

ALPINE SUBSURFACE ELECTRONICS PROBE INCREMENTS LISTING

TEST: 9166 DST #1 DOC HOLLIDAY #1-24 AMOCO PROD

DATE: 04/16/96 TIME: 22:15:14

Time	Pressure PSig	delta P PSig	Temp. DEG F	(T+dT)/dT	P <sup>2</sup> /10 <sup>6</sup>
36.00	1143.2	1040.9	124.41	1.3611	1.307
37.00	1144.2	1041.9	124.47	1.3514	1.309
38.00	1145.2	1042.9	124.50	1.3421	1.311
39.00	1146.1	1043.8	124.55	1.3333	1.314
40.00	1147.0	1044.7	124.60	1.3250	1.316
41.00	1147.8	1045.5	124.64	1.3171	1.317
42.00	1148.6	1046.3	124.68	1.3095	1.319
43.00	1149.4	1047.1	124.72	1.3023	1.321
44.00	1150.1	1047.8	124.77	1.2955	1.323
45.00	1150.9	1048.6	124.81	1.2889	1.325
46.00	1151.6	1049.3	124.85	1.2826	1.326
47.00	1152.2	1049.9	124.89	1.2766	1.328
48.00	1152.8	1050.5	124.96	1.2708	1.329
49.00	1153.5	1051.2	124.97	1.2653	1.331
50.00	1154.1	1051.8	125.01	1.2600	1.332
51.00	1154.7	1052.4	125.05	1.2549	1.333
52.00	1155.3	1053.0	125.09	1.2500	1.335
53.00	1155.8	1053.5	125.13	1.2453	1.336
54.00	1156.3	1054.0	125.17	1.2407	1.337
55.00	1156.9	1054.6	125.20	1.2364	1.338
56.00	1157.3	1055.0	125.24	1.2321	1.339
57.00	1157.8	1055.5	125.28	1.2281	1.340
58.00	1158.2	1055.9	125.31	1.2241	1.341
59.00	1158.7	1056.4	125.35	1.2203	1.343
60.00	1159.1	1056.8	125.39	1.2167	1.344
61.00	1159.5	1057.2	125.41	1.2131	1.344
***** End Shut-in 1					
***** Start Flow 2					
0.00	117.2	0.0	125.40		
1.00	119.3	2.2	125.41		
2.00	128.1	11.0	125.40		
3.00	127.4	10.2	125.39		
4.00	140.6	23.4	125.38		
5.00	140.5	23.3	125.37		
6.00	163.7	46.5	125.37		
7.00	162.1	45.0	125.38		
8.00	168.3	51.1	125.39		
9.00	170.0	52.9	125.42		
10.00	176.0	58.8	125.43		
11.00	179.2	62.0	125.46		
12.00	179.6	62.4	125.49		
13.00	183.7	66.6	125.52		
14.00	188.2	71.0	125.55		
15.00	192.3	75.1	125.59		
16.00	196.0	78.9	125.62		
17.00	198.8	81.7	125.65		
18.00	199.8	82.7	125.69		
19.00	203.1	85.9	125.72		
20.00	240.3	123.1	125.77		
21.00	243.1	126.0	125.80		
22.00	215.1	97.9	125.85		
23.00	245.6	128.4	125.89		
24.00	222.3	105.2	125.93		

ALPINE SUBSURFACE ELECTRONICS PROBE INCREMENTS LISTING

TEST: 9166 DST #1 DOC HOLLIDAY #1-24 AMOCO PROD

DATE: 04/16/96

TIME: 22:15:14

Time	Pressure PSig	delta P PSig	Temp. DEG F	(T+dT)/dT	P <sup>2</sup> /10 <sup>6</sup>
25.00	247.6	130.4	125.97		
26.00	250.4	133.3	126.02		
27.00	242.0	124.8	126.05		
28.00	245.5	128.3	126.09		
29.00	241.6	124.5	126.14		
30.00	244.0	126.8	126.18		
31.00	245.8	128.7	126.22		
32.00	251.4	134.2	126.26		
33.00	253.1	136.0	126.30		
34.00	251.4	134.2	126.35		
35.00	245.9	128.7	126.39		
36.00	234.5	117.3	126.44		
37.00	247.1	129.9	126.48		
38.00	237.4	120.3	126.53		
39.00	242.8	125.6	126.58		
40.00	249.9	132.8	126.63		
41.00	262.1	144.9	126.68		
42.00	258.9	141.8	126.72		
43.00	266.0	148.9	126.77		
44.00	261.8	144.6	126.81		
45.00	261.2	144.0	126.86		
46.00	257.1	140.0	126.91		
47.00	253.3	136.1	126.95		
48.00	257.1	139.9	127.00		
49.00	261.6	144.4	127.05		
50.00	262.4	145.3	127.09		
51.00	260.8	143.6	127.14		
52.00	260.1	142.9	127.18		
53.00	258.9	141.8	127.23		
54.00	257.7	140.6	127.26		
55.00	256.6	139.5	127.31		
56.00	255.7	138.6	127.34		
57.00	254.1	137.0	127.39		
58.00	250.8	133.6	127.43		
59.00	266.0	148.9	127.47		
60.00	276.5	159.4	127.51		
61.00	280.6	163.4	127.55		
62.00	279.6	162.5	127.59		
63.00	277.5	160.4	127.63		
64.00	276.4	159.2	127.66		
65.00	275.4	158.2	127.70		
66.00	274.7	157.5	127.74		
67.00	273.9	156.8	127.77		
68.00	272.6	155.4	127.80		
69.00	271.0	153.8	127.84		
70.00	271.4	154.3	127.87		
71.00	270.6	153.4	127.90		
72.00	268.7	151.6	127.93		
73.00	268.6	151.5	127.96		
74.00	270.5	153.3	128.00		
75.00	269.7	152.5	128.03		

ALPINE SUBSURFACE ELECTRONICS PROBE INCREMENTS LISTING

TEST: 9166 DST #1 DOC HOLLIDAY #1-24 AMOCO PROD

DATE: 04/16/96 TIME: 22:15:14

Time	Pressure PSIg	delta P PSIg	Temp. DEG F	(T+dT)/dT	P <sup>2</sup> /10 <sup>6</sup>	
76.00	269.1	152.0	128.06			
77.00	272.4	155.3	128.09			
78.00	270.1	152.9	128.11			
79.00	270.2	153.0	128.14			
80.00	268.8	151.7	128.17			
81.00	268.6	151.5	128.19			
82.00	268.6	151.5	128.22			
83.00	268.3	151.2	128.25			
84.00	268.6	151.4	128.28			
85.00	265.9	148.7	128.31			
86.00	279.6	162.4	128.32			
87.00	273.3	156.1	128.35			
88.00	270.5	153.3	128.37			
89.00	270.6	153.4	128.40			
90.00	272.0	154.8	128.42			
91.00	285.5	168.4	128.45			
92.00	273.8	156.7	128.47			
93.00	276.5	159.4	128.49			
94.00	277.6	160.5	128.52			
95.00	278.1	161.0	128.54			
96.00	277.1	160.0	128.56			
97.00	278.0	160.9	128.59			
98.00	280.1	163.0	128.61			
99.00	280.9	163.7	128.64			
100.00	281.7	164.6	128.66			
101.00	282.7	165.5	128.69			
102.00	283.5	166.3	128.70			
103.00	286.5	169.4	128.73			
104.00	288.7	171.5	128.75			
105.00	294.2	177.1	128.78			
106.00	295.5	178.3	128.81			
107.00	296.7	179.5	128.83			
108.00	295.8	178.6	128.86			
109.00	298.9	181.8	128.89			
110.00	297.3	180.1	128.91			
111.00	300.9	183.7	128.94			
112.00	299.4	182.2	128.96			
113.00	303.9	186.7	128.98			
114.00	303.0	185.8	129.02			
115.00	306.6	189.4	129.03			
116.00	308.5	191.4	129.06			
117.00	307.0	189.8	129.09			
118.00	307.7	190.5	129.11			
119.00	308.2	191.0	129.14			
***** End Flow 2						
***** Start Shutin 2	0.00	308.2	0.0	129.14	0.0000	0.095
	1.00	617.1	308.9	129.18	133.0000	0.381
	2.00	747.7	439.5	129.21	67.0000	0.559
	3.00	820.1	512.0	129.26	45.0000	0.673
	4.00	865.3	557.1	129.32	34.0000	0.749
	5.00	895.1	586.9	129.36	27.4000	0.801
	6.00	915.6	607.4	129.42	23.0000	0.838

ALPINE SUBSURFACE ELECTRONICS PROBE INCREMENTS LISTING

TEST: 9166 DST #1 DOC HOLLIDAY #1-24 AMOCO PROD

DATE: 04/16/96

TIME: 22:15:14

Time	Pressure PSig	delta P PSig	Temp. DEG F	(T+dT)/dT	P <sup>2</sup> /10 <sup>6</sup>
7.00	930.2	622.1	129.46	19.8571	0.865
8.00	941.5	633.3	129.61	17.5000	0.886
9.00	950.5	642.3	129.54	15.6667	0.903
10.00	957.8	649.6	129.58	14.2000	0.917
11.00	963.9	655.7	129.63	13.0000	0.929
12.00	969.3	661.1	129.65	12.0000	0.939
13.00	974.0	665.8	129.69	11.1538	0.949
14.00	978.2	670.0	129.71	10.4286	0.957
15.00	981.9	673.7	129.74	9.8000	0.964
16.00	985.4	677.2	129.77	9.2500	0.971
17.00	988.7	680.5	129.80	8.7647	0.977
18.00	991.7	683.5	129.82	8.3333	0.983
19.00	994.3	686.1	129.84	7.9474	0.989
20.00	996.8	688.6	129.86	7.6000	0.994
21.00	999.3	691.1	129.89	7.2857	0.999
22.00	1001.7	693.5	129.90	7.0000	1.003
23.00	1003.8	695.6	129.93	6.7391	1.008
24.00	1006.0	697.8	129.94	6.5000	1.012
25.00	1007.9	699.7	129.97	6.2800	1.016
26.00	1009.8	701.6	129.99	6.0769	1.020
27.00	1011.7	703.5	130.00	5.8889	1.023
28.00	1013.3	705.2	130.03	5.7143	1.027
29.00	1015.0	706.8	130.04	5.5517	1.030
30.00	1016.6	708.4	130.07	5.4000	1.033
31.00	1018.1	709.9	130.08	5.2581	1.037
32.00	1019.7	711.5	130.09	5.1250	1.040
33.00	1021.2	713.1	130.11	5.0000	1.043
34.00	1022.7	714.5	130.13	4.8824	1.046
35.00	1023.9	715.7	130.15	4.7714	1.048
36.00	1025.3	717.1	130.17	4.6667	1.051
37.00	1026.4	718.3	130.18	4.5676	1.054
38.00	1027.7	719.5	130.20	4.4737	1.056
39.00	1028.9	720.8	130.21	4.3846	1.059
40.00	1030.0	721.9	130.22	4.3000	1.061
41.00	1031.2	723.0	130.24	4.2195	1.063
42.00	1032.3	724.1	130.25	4.1429	1.066
43.00	1033.3	725.1	130.28	4.0698	1.068
44.00	1034.4	726.2	130.29	4.0000	1.070
45.00	1035.5	727.3	130.31	3.9333	1.072
46.00	1036.4	728.2	130.33	3.8696	1.074
47.00	1037.3	729.2	130.33	3.8085	1.076
48.00	1038.3	730.2	130.35	3.7500	1.078
49.00	1039.3	731.1	130.36	3.6939	1.080
50.00	1040.2	732.0	130.37	3.6400	1.082
51.00	1041.0	732.9	130.39	3.5882	1.084
52.00	1041.9	733.7	130.41	3.5385	1.085
53.00	1042.8	734.6	130.43	3.4906	1.087
54.00	1043.5	735.3	130.44	3.4444	1.089
55.00	1044.3	736.1	130.44	3.4000	1.091
56.00	1045.1	737.0	130.46	3.3571	1.092
57.00	1045.9	737.7	130.48	3.3158	1.094

ALPINE SUBSURFACE ELECTRONICS PROBE INCREMENTS LISTING

TEST: 9166 DST #1 DOC HOLLIDAY #1-24 AMOCO PROD  
 DATE: 04/16/96 TIME: 22:15:14

Time	Pressure PSIg	delta P PSIg	Temp. DEG F	(T+dT)/dT	P <sup>2</sup> /10 <sup>6</sup>
58.00	1046.7	738.5	130.49	3.2759	1.095
59.00	1047.4	739.2	130.50	3.2373	1.097
60.00	1048.2	740.0	130.52	3.2000	1.099
61.00	1048.8	740.7	130.54	3.1639	1.100
62.00	1049.5	741.3	130.54	3.1290	1.101
63.00	1050.2	742.0	130.56	3.0952	1.103
64.00	1050.9	742.7	130.57	3.0625	1.104
65.00	1051.4	743.3	130.59	3.0308	1.106
66.00	1052.2	744.0	130.59	3.0000	1.107
67.00	1052.7	744.5	130.60	2.9701	1.108
68.00	1053.5	745.3	130.62	2.9412	1.110
69.00	1054.0	745.9	130.63	2.9130	1.111
70.00	1054.6	746.5	130.63	2.8857	1.112
71.00	1055.4	747.2	130.65	2.8592	1.114
72.00	1055.9	747.7	130.67	2.8333	1.115
73.00	1056.4	748.2	130.68	2.8082	1.116
74.00	1057.1	748.9	130.70	2.7838	1.117
75.00	1057.6	749.5	130.70	2.7600	1.119
76.00	1058.2	750.0	130.72	2.7368	1.120
77.00	1058.7	750.5	130.72	2.7143	1.121
78.00	1059.2	751.1	130.74	2.6923	1.122
79.00	1059.8	751.7	130.75	2.6709	1.123
80.00	1060.3	752.2	130.76	2.6500	1.124
81.00	1060.8	752.7	130.77	2.6296	1.125
82.00	1061.3	753.1	130.78	2.6098	1.126
83.00	1061.8	753.6	130.80	2.5904	1.127
84.00	1062.3	754.2	130.81	2.5714	1.129
85.00	1062.8	754.6	130.82	2.5529	1.129
86.00	1063.4	755.2	130.83	2.5349	1.131
87.00	1063.8	755.6	130.84	2.5172	1.132
88.00	1064.2	756.0	130.85	2.5000	1.133
89.00	1064.7	756.5	130.86	2.4831	1.134
90.00	1065.1	756.9	130.87	2.4667	1.134
91.00	1065.6	757.4	130.88	2.4505	1.136
92.00	1066.0	757.9	130.90	2.4348	1.136
93.00	1066.5	758.3	130.91	2.4194	1.137
94.00	1066.9	758.7	130.92	2.4043	1.138
95.00	1067.4	759.2	130.93	2.3895	1.139
96.00	1067.7	759.5	130.96	2.3750	1.140
97.00	1068.1	760.0	131.00	2.3608	1.141
98.00	1068.6	760.4	131.03	2.3469	1.142
99.00	1069.1	760.9	130.88	2.3333	1.143
100.00	1069.5	761.3	130.95	2.3200	1.144
101.00	1069.7	761.6	130.98	2.3069	1.144
102.00	1070.2	762.0	131.00	2.2941	1.145
103.00	1070.6	762.4	131.00	2.2816	1.146
104.00	1071.0	762.8	131.02	2.2692	1.147
105.00	1071.4	763.2	131.03	2.2571	1.148
106.00	1071.7	763.6	131.04	2.2453	1.149
107.00	1072.3	764.1	131.06	2.2336	1.150
108.00	1072.6	764.4	131.06	2.2222	1.150



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 ALPINE SUBSURFACE ELECTRONICS PROBE INCREMENTS LISTING

TEST: 9166 DST #1 DOC HOLLIDAY #1-24 AMOCO PROD

DATE: 04/16/96 TIME: 22:15:14  
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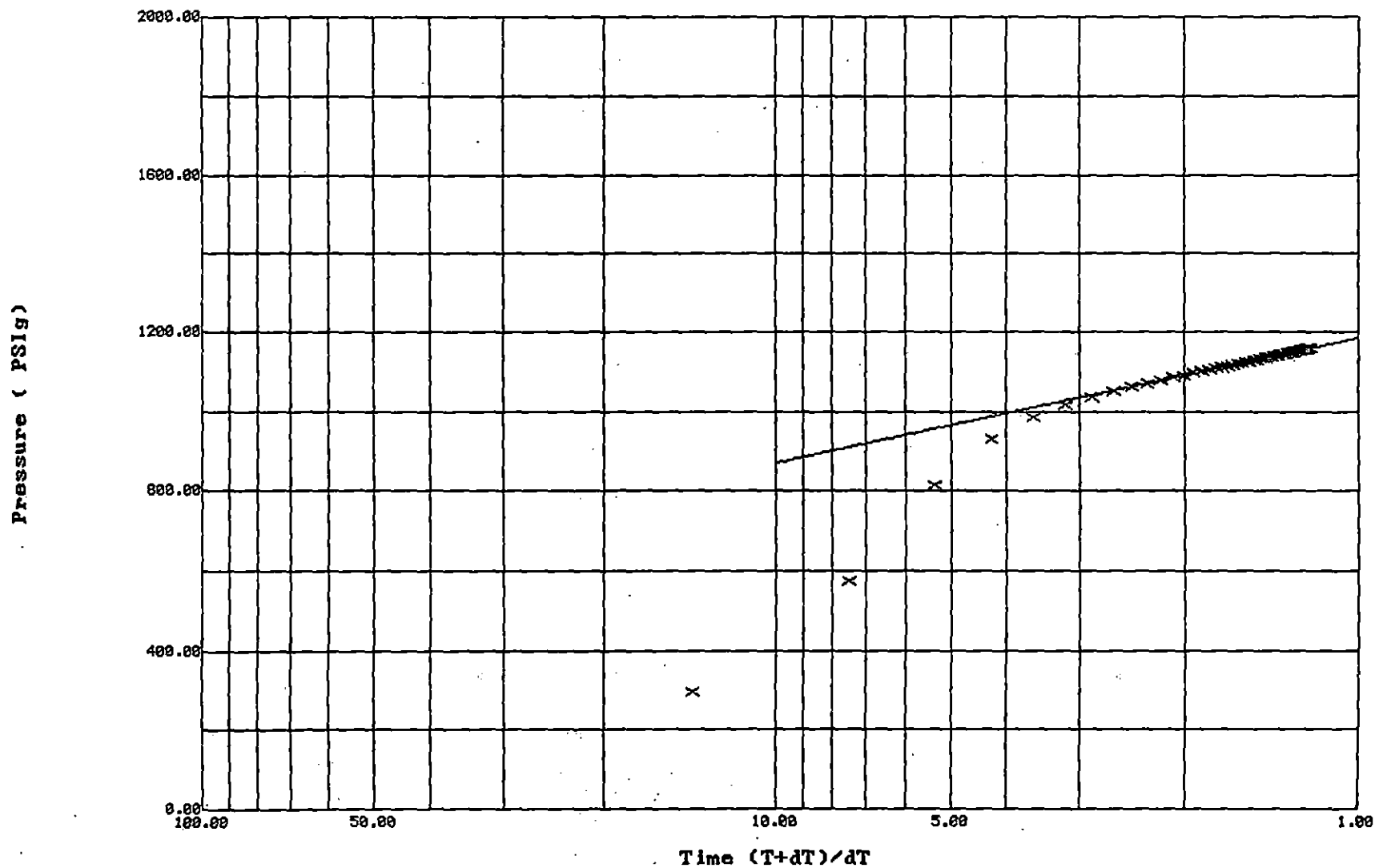
	Time	Pressure PSig	delta P PSig	Temp. DEG F	(T+dT)/dT	P <sup>2</sup> /10 <sup>6</sup>
	109.00	1072.9	764.8	131.07	2.2110	1.151
	110.00	1073.2	765.0	131.08	2.2000	1.152
	111.00	1073.6	765.4	131.10	2.1892	1.153
	112.00	1074.0	765.8	131.10	2.1786	1.154
	113.00	1074.4	766.2	131.11	2.1681	1.154
	114.00	1074.7	766.5	131.13	2.1579	1.155
	115.00	1075.0	766.8	131.13	2.1478	1.156
	116.00	1075.4	767.2	131.14	2.1379	1.156
	117.00	1075.7	767.5	131.15	2.1282	1.157
	118.00	1076.1	767.9	131.16	2.1186	1.158
	119.00	1076.4	768.3	131.17	2.1092	1.159
	120.00	1076.8	768.6	131.18	2.1000	1.159
***** End Shut-in 2	121.00	1077.2	769.0	131.19	2.0909	1.160
***** Final Hydro.	526.00	2279.0	0.0	131.28		

# Horner Plot: shut-in #1

9166 DST #1 DOC HOLLIDAY #1-24 AMOCO PROD

Slope: 314.1694 PSig/cycle

Ext. Pressure: 1185.4863 PSig

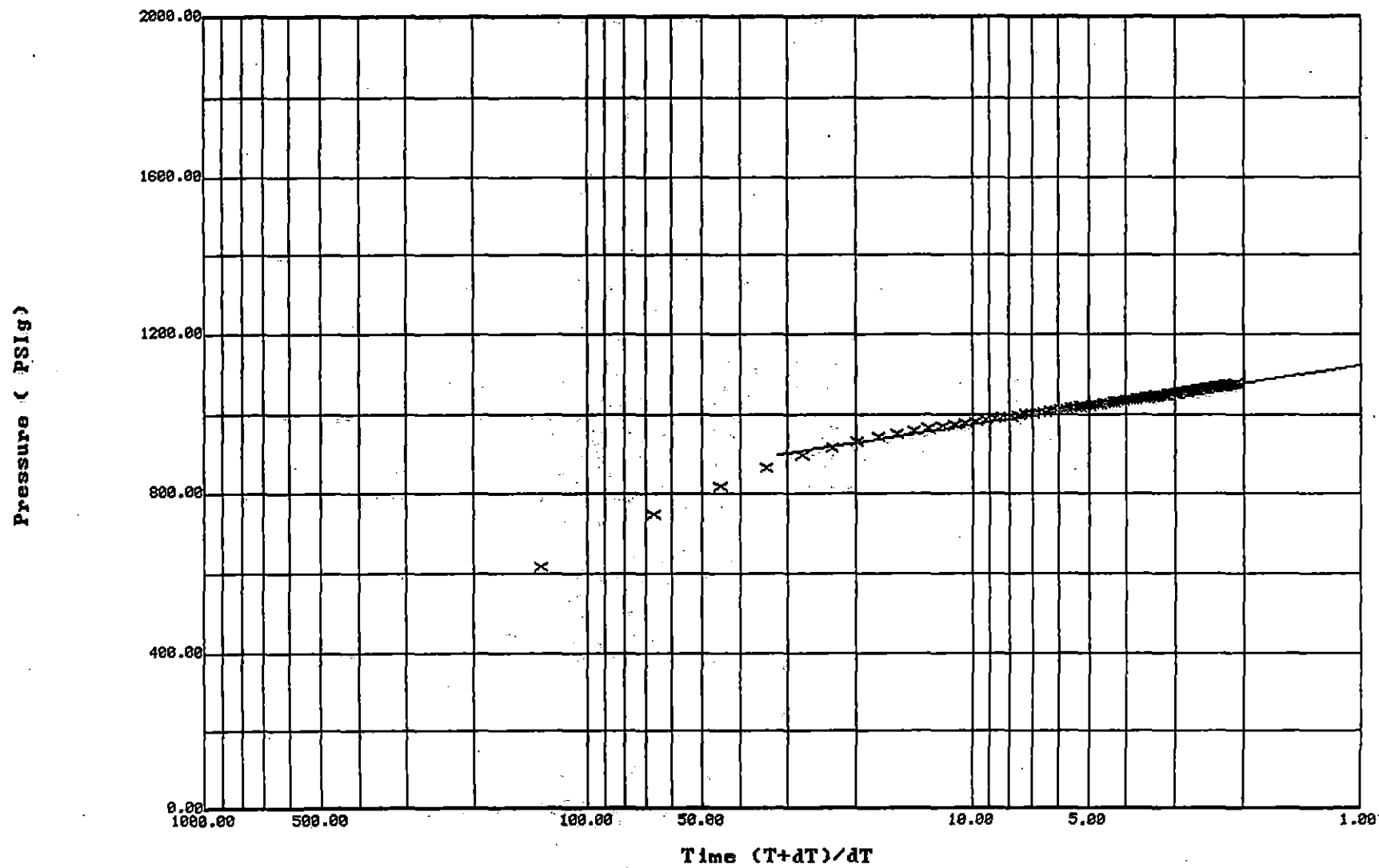


# Horner Plot: shut-in #2

9166 DST #1 DOC HOLLIDAY #1-24 AMOCO PROD

Slope: 151.1811 PSig/cycle

Ext. Pressure: 1124.7007 PSig



\*\*\* TOOL DIAGRAM \*\*\* CONVENTIONAL

WELL NAME: Doc Holliday #1-24

LOCATION : 24-21S-39W, Hamilton KS

TICKET No. 9166 D.S.T. No. 1 DATE 4-17-96

TOTAL TOOL TO BOTTOM OF TOP PACKERS ..... 25

INTERVAL TOOL .....

BOTTOM PACKERS AND ANCHOR ..... 16

TOTAL TOOL ..... 41

DRILL COLLAR ANCHOR IN INTERVAL .....

D.C. ANCHOR STND.Stands Single Total

D.P. ANCHOR STND.Stands 1 Single Total 64

TOTAL ASSEMBLY ..... 105

D.C. ABOVE TOOLS.Stands12 Single Total 727

D.P. ABOVE TOOLS.Stands67 Single 1 Total 4219

TOTAL DRILL COLLARS DRILL PIPE & TOOLS .. 5051

TOTAL DEPTH ..... 5030

TOTAL DRILL PIPE ABOVE K.B. .... 21

REMARKS:

FLUID SAMPLER DATA

SAMPLER RECOVERY -

Gas 900 ml, Oil 3000 ml, Mud 100 ml,  
Pressure 350 PSI, Total 4000 ml

SAMPLER ANALYSIS -

Gravity 30.2 corrected @ 60 F

PIT MUD ANALYSIS -

Chlorides 4000 ppm, Viscosity 57,  
Mud Wt 9.0, Filtrate 8.0, LCM 1#/bbl

P.O. SUB 1' ABOVE 120' DC	4805
C.O. SUB 1'	4925
S.I. TOOL 5'	4931
SAMPLER 3'	4934
HMV 5'	4939
JARS 5'	4944
SAFETY JOINT 2'	4946
PACKER 5'	4950
PACKER 5'	4955
DEPTH	
STUBB 1'	4956
ANCHOR	
Alpine recorder	4960
5'	4961
64' drill pipe	5025
AK-1 recorder	5025
T.C.	
DEPTH	
BULLNOSE 5'	
T.D.	5030

# TRILOBITE TESTING L.L.C.

P.O. Box 362 • Hays, Kansas 67601

## Test Ticket

N<sup>o</sup> 9166

Well Name & No. Doc Holiday #1-24 Test No. 1 Date 4-17-96  
 Company Amoco Production Company Zone Tested Upper Morrow  
 Address \_\_\_\_\_ Elevation 3432 KB 3421 GL  
 Co. Rep / Geo. Sam Carmack Cont. Cheyenne #3 Est. Ft. of Pay \_\_\_\_\_ Por. \_\_\_\_\_ %  
 Location: Sec. 24 Twp. 21<sup>S</sup> Rge. 39<sup>W</sup> Co. Hamilton State KS  
 No. of Copies \_\_\_\_\_ Distribution Sheet (Y, N) N Turnkey (Y, N) N Evaluation (Y, N) \_\_\_\_\_

Interval Tested 4955 - 5030 Initial Str Wt./Lbs. 90,000 Unseated Str Wt./Lbs. 100,000  
 Anchor Length 75' Wt. Set Lbs. 25,000 Wt. Pulled Loose/Lbs. 150,000  
 Top Packer Depth 4950 Hole Size — 7 7/8" Rubber Size — 6 3/4"  
 Bottom Packer Depth 4955 Wt. Pipe I.D. — 2.7 Ft. Run  
 Total Depth 5030 Drill Collar — 2.25 Ft. Run 4 1/2" XH 727'  
 Mud Wt. 9.0 LCM 1# Vis. 57 WL B.O Drill Pipe Size 4 1/2" FH Ft. Run 4203 19'

Blow Description IF: 1/2" blow slowly built to 10"  
ISI: Bled off blow - no return  
FF: Surface blow built to bttm in 6 mins  
FSI: Bled off blow - weak surface blow built off bttm in 40 mins

Recovery — Total Feet	Ft. in DC	Ft. in WP	Ft. in DP	%gas	%oil	%water	%mud
Rec. <u>2820'</u>	Feet Of <u>GIP</u>	—	<u>153'</u>	—	—	—	—
Rec. <u>153'</u>	Feet Of <u>CGO</u>	<u>20</u>	—	<u>80</u>	—	—	—
Rec. <u>120'</u>	Feet Of <u>CGO</u>	<u>40</u>	—	<u>60</u>	—	—	—
Rec. <u>607'</u>	Feet Of <u>GOCM</u>	<u>20</u>	—	<u>20</u>	—	<u>60</u>	<u>60</u>
Rec. _____	Feet Of _____	_____	_____	_____	_____	_____	_____

BHT 132° °F Gravity 32 °API @ 78° °F Corrected Gravity 30.2 °API  
 RW \_\_\_\_\_ @ \_\_\_\_\_ °F Chlorides \_\_\_\_\_ ppm Recovery Chlorides 4,000 ppm System

(A) Initial Hydrostatic Mud	<u>2392</u>   <u>2423</u> PSI	Recorder No.	<u>2342</u>	T-Started	<u>2215</u>
(B) First Initial Flow Pressure	<u>29</u>   <u>20</u> PSI	@ (depth)	<u>4960</u>	T-Open	<u>0242</u>
(C) First Final Flow Pressure	<u>98</u>   <u>83</u> PSI	Recorder No.	<u>13339</u>	T-Pulled	<u>0652</u>
(D) Initial Shut-in Pressure	<u>1159</u>   <u>1130</u> PSI	@ (depth)	<u>5025</u>	T-Out	<u>1200</u>
(E) Second Initial Flow Pressure	<u>117</u>   <u>83</u> PSI	Recorder No.	_____		
(F) Second Final Flow Pressure	<u>308</u>   <u>291</u> PSI	@ (depth)	_____		
(G) Final Shut-in Pressure	<u>1077</u>   <u>1070</u> PSI	Initial Opening	<u>10</u>	Test	_____
(H) Final Hydrostatic Mud	<u>2278</u>   <u>2343</u> PSI	Initial Shut-in	<u>60</u>	Jars	<u>X</u>

Elec. Alp. AK-1

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.

Final Flow 120 Safety Joint X  
 Final Shut-in 120 Straddle \_\_\_\_\_  
 Circ. Sub X N/C  
 Sampler X  
 Extra Packer \_\_\_\_\_  
 Elect. Rec. X  
 Other \_\_\_\_\_

Approved By \_\_\_\_\_

# TRILOBITE TESTING L.L.C.

P.O. Box 362 - Hays, Kansas 67601

## FLUID SAMPLER DATA

Ticket No. 9166 Date 4-17-96  
Company Name Amoco Prod. Co. Cont. Cheyenne #3  
Lease Doc Holiday #1-24 Test No. 1 Upper Morrow  
County Hamilton KS Sec. 24 Twp. 21<sup>S</sup> Rng. 39<sup>W</sup>

### SAMPLER RECOVERY

Gas 900 ML  
Oil 3,000 ML  
Mud 100 ML  
Water — ML  
Other — ML  
Pressure 350\* PSI  
Total 4,000 ML

### PIT MUD ANALYSIS

Chlorides 4,000 ppm.  
Resistivity \_\_\_\_\_ ohms @ \_\_\_\_\_ F  
Viscosity 57  
Mud Weight 9.0  
Filtrate 8.0  
Other LCM 1#/bbl

### SAMPLER ANALYSIS

Resistivity \_\_\_\_\_ ohms @ \_\_\_\_\_ F  
Chlorides \_\_\_\_\_ ppm.  
Gravity 30.2 corrected @ 60 F

### PIPE RECOVERY

TOP  
Resistivity \_\_\_\_\_ ohms @ \_\_\_\_\_ F  
Chlorides \_\_\_\_\_ ppm.  
MIDDLE  
Resistivity \_\_\_\_\_ ohms @ \_\_\_\_\_ F  
Chlorides \_\_\_\_\_ ppm.  
BOTTOM  
Resistivity \_\_\_\_\_ ohms @ \_\_\_\_\_ F  
Chlorides \_\_\_\_\_ ppm.

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

Operator: License # 5952

Name: Amoco Production Company

Address PO Box 800 Room 924

City/State/Zip Denver, CO 80201

Purchaser: Texaco

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  Re-Entry  Workover

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

If Workover:

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

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

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

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

4/10/96 4/20/96 6/4/96  
Spud Date Date Reached TD Completion Date

API NO. 15- 075-20591-0000

County Hamilton

N/2 - N/2 - SE - NE Sec. 24 Twp. 21S Rge. 39  W

1600 Feet from S/N (circle one) Line of Section

660 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 Doc Holliday Well # 1-24

Field Name Wildcat

Producing Formation Morrow

Elevation: Ground 3421.08' KB 3432'

Total Depth 5428' PBDT 5386'

Amount of Surface Pipe Set and Cemented at 488 Feet

Multiple Stage Cementing Collar Used?  Yes  No

If yes, show depth set 3311 Feet

If Alternate II completion, cement circulated from 3311'

feet depth to Surface w/ 475 sx cmt.

Drilling Fluid Management Plan ALT 2 8/24 1-23-97  
(Data must be collected from the Reserve Pit)

Chloride content 11,000 ppm Fluid volume 2000 bbls

Dewatering method used Dried and Filled

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

Operator Name Susan R. Potts

Lease Name \_\_\_\_\_ License No. 5

Quarter \_\_\_\_\_ Sec. \_\_\_\_\_ Twp. 21S Rng. 39 E/W W

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

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 confidentially 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 Susan R. Potts

Title Senior Staff Assistant Date 8/5/96

Subscribed and sworn to before me this 5<sup>th</sup> day of August, 1996

Notary Public [Signature]

Date Commission Expires January 4, 1997

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)

RECEIVED  
OCT 10 1996  
KANSAS CORPORATION COMMISSION  
WICHITA, CO 67202

Form ACO-1 (7-91)

AUG 09 1996

8-6-96