FORM MUST BE TYPED SIDE ONE ORIGINAL

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

Operator: License # 32424

Name: HRF Exploration & Production, Inc.

Address P.O. Box 160

City/State/Zip Gaylord, MI 49735

RECEIVED
KANSAS CORPORATION COMMISSION
JUN 16 1999
CONSERVATION DIVISION
WICHITA, KS

Purchaser: _____

Operator Contact Person: Donald R. Day

Phone (517) 732-6950

Contractor: Name: Murfin Drilling Company, Inc.

License: 30606

Wellsite Geologist: JAMES DELTS

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/Re-Entry: old well info as follows:

Operator: _____

Well Name: _____

Comp. Date _____ Old Total Depth _____

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

02-17-99 Spud Date | 03-01-99 Date Reached TD | 03-02-99 Completion Date

API NO. 15- 119-209970000

County Meade

N/2 - SE - SE - Sec. 22 Twp. 33S Rge. 30 x E W

990 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 Powell Farms Well # 1

Field Name Novinger

Producing Formation CHESTER

Elevation: Ground 2702 KB 11

Total Depth 6350' PBTD _____

Amount of Surface Pipe Set and Cemented at 1630 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 Alt. I, 7-7-99 ucc
(Data must be collected from the Reserve Pit)

Chloride content 34,000 ppm Fluid volume 2,500 bbls

Dewatering method used _____

Location of fluid disposal if hauled offsite:

Operator Name _____

Lease Name _____ License No. _____

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

County _____ Docket No. _____

INSTRUCTIONS: An original and two copies of this form shall be filed with the Kansas Corporation Commission, 200 Colorado Derby Building, Wichita, Kansas 67202, within 120 days of the spud date, recompletion, workover or conversion of a well. Rule 82-3-130, 82-3-106 and 82-3-107 apply. Information on side two of this form will be held confidential for a period of 12 months if requested in writing and submitted with the form (see rule 82-3-107 for confidentiality in excess of 12 months). One copy of all wireline logs and geologist well report shall be attached with this form. ALL CEMENTING TICKETS MUST BE ATTACHED. Submit CP-4 form with all plugged wells. Submit CP-111 form with all temporarily abandoned wells.

All requirements of the statutes, rules and regulations promulgated to regulate the oil and gas industry have been fully complied with and the statements herein are complete and correct to the best of my knowledge.

Signature Donald R. Day

Title PRODUCTION MANAGER Date 6-10-99

Subscribed and sworn to before me this 14th day of June 1999.

Notary Public Gail M. Deering
Gail M. Deering

Date Commission Expires 7-24-2001

GAIL M. DEERING
NOTARY PUBLIC - OTSEGO COUNTY, MI
MY COMMISSION EXP. 07/24/2001

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)

X

ORIGINAL

Form ACO-1 (7-91)

SIDE TWO

Operator name HRF Exploration & Production, Inc. Lease Name Powell Farms Well # 1

Sec. 22 Twp. 33S Rge. 30 ☐ East ■ West County Meade

INSTRUCTIONS: Show important tops and base of formations penetrated. Detail all cores. Report all drill stem tests giving interval tested, time tool open and closed, flowing and shut-in pressures, whether shut-in pressure reached static level, hydrostatic pressures, bottom hole temperature, fluid recovery, and flow rates if gas to surface during test. Attach extra sheet if more space is needed. Attach copy of log.

Drill Stem Tests Taken (Attach Additional Sheets.)	☒ Yes	☐ No
Samples Sent to Geological Survey	☒ Yes	☐ No
Cores Taken	☐ Yes	☒ No
Electric Log Run (Submit Copy.)	☒ Yes	☐ No

List All E.Logs Run: DIFL/GR, DAL/GR/CAL, ZDL@/CN/ML/GR, DCBIL

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

Name	Top	Datum
LANSING	4570	-1856
MARMATON	5206	-2492
MORROW	5714	-3000
MISSISSIPPIAN CHESTER	5782	-3068
Mississippian St. Louis	6180	-3466
TD	6350	-3636

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	12¼"	8⅝"	24#	1630'	Prem+, 3%cc MidCon 2, 3%cc	125 365	
Production	7⅞"	5½"	15.5#	6349'	Class H	290	

ADDITIONAL CEMENTING/SQUEEZE RECORD

Purpose: _Perforate _Protect Csg _Plug Back TD _Plug Off Zone	Depth Top/Btm	Type of Cement	# Sacks Used	Type and Percent Additives

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
5799-5814	4 JSPF	1,500 gal 15% HCl; Frac w/8000 gal gelled 15% HCl w/N2	
5721-27	4 JSPF SET RBP @ ± 5,820'	1,000 gal 15% HCl	
5733-36	4 JSPF		

TUBING RECORD Size	Set At	Packer At	Liner Run
2 7/8		5750	_ Yes X No

Date of First, Resumed Production, SWD or Inj.	Producing Method _ Flowing X Pumping _ Gas Lift _ Other

Estimated Production Per 24 Hours	Oil Bbls	Gas Mcf	Water Bbls.	Gas-Oil Ratio	Gravity
	1	20	12	20,000	39

Disposition of Gas: **METHOD OF COMPLETION** Production Interval

☒ Vented ☐ Sold ☐ Used on Lease ☐ Open Hole ☒ Perf. ☐ Dually Comp. ☐ Commingled _____
(If vented, submit ACO-18.)

☐ _____ _____

HALLIBURTON

Work Order Contract

ORIGINAL

Order Number 34682

Halliburton Energy Services, Inc.
Houston Texas 77056

70012 SAP

TO: HALLIBURTON ENERGY SERVICES, INC. - YOU ARE HEREBY REQUESTED TO FURNISH EQUIPMENT AND SERVICE PERSONNEL TO DELIVER AND OPERATE THE SAME AS AN INDEPENDENT CONTRACTOR TO CUSTOMER LISTED BELOW AND DELIVER AND SELL PRODUCTS, SUPPLIES AND MATERIALS FOR THE PURPOSE OF SERVICING:

Well No. 41	Farm or Lease Powell Farms	County MEADE	State KS	Well Permit #
Customer MURFIN	Well Owner HRF EXPLORATION		Job Purpose 010	

THIS WORK ORDER MUST BE SIGNED BEFORE WORK IS COMMENCED

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 Energy Services, Inc. (hereinafter "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, or Halliburton's actual attorneys fees, whichever is greater, plus all collection and court costs. Customer agrees that the amount of attorney fees set out herein are reasonable and necessary.

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 or which are co-interest owners or joint venturers with Customer. Customer also agrees to DEFEND, INDEMNIFY AND HOLD Halliburton Group HARMLESS from and against any and all liability, fines, costs, expenses, attorney's fees and damages whatsoever for personal injury, illness, death, property damage and loss resulting from:

[illegible] well control, efforts to control the well whether underground or above the surface; reservoir or underground damage, including loss of oil, gas, other mineral [illegible] subsurface trespass or any action in the nature thereof; fire; [illegible] pollution and contamination 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 any member or members of the 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 Energy Services, Inc., its parent, subsidiary, and affiliated companies, insurers and subcontractors and all [illegible] officers, directors, employees, consultants 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. Customer agrees to support such obligations assumed herein with liability insurance with limits of not less than $500,000. Customer agrees to name Halliburton Group as named additional insureds on all of its general liability policy(s). Customer agrees that its liability under this Contract is not limited by the amounts of its insurance coverage, except where and as may be required by applicable local law for the provisions of this Contract to be enforceable.

D. EQUIPMENT LIABILITY - Customer shall at its risk and expense attempt to recover any Halliburton Group 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 Group. Customer shall be responsible for damage to or loss of Halliburton group equipment, products, and materials while in transit aboard Customer-supplied transportation, even if such is arranged by Halliburton or Customer's [illegible] and during loading and unloading from such transport. Customer will also pay for the repair or replacement of Halliburton group 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 Contract and that same are free from defects in workmanship and materials for thirty (30) days from the 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 GROUP. Halliburton personnel will use their best efforts in gathering such information and their best judgment in interpreting it, but Customer agrees that Halliburton Group 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 or caused by the active or passive negligence, fault or strict liability of any member or members of Halliburton Group. 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 Contract shall be determined by the laws of the jurisdiction where the services are performed or the equipment or materials are delivered.

G. DISPUTE RESOLUTION - Customer and Halliburton agree that any dispute that may arise out of the performance of this Contract shall be resolved by binding arbitration by a panel of three arbitrators under the rules of the American Arbitration Association. The arbitration will take place in Houston, TX.

H. SEVERABILITY - If any provision or part thereof of this Contract shall be held to be invalid, void, or of no effect for any reason, such holding shall not be deemed to affect the validity of the remaining provisions of this Contract which can be given effect, without the invalid provision or part thereof, and to this end, the provisions of this Contract are declared to be severable. Customer and Halliburton agree that any provision of this Contract that is unenforceable or void under applicable law will be modified to achieve the intent of the parties hereunder to the greatest extent allowed by applicable law.

I. MODIFICATIONS - Customer agrees that Halliburton shall not be bound by any modifications to this Contract, 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, 4500 Clinton Drive, Houston, TX 77020.

I HAVE READ AND UNDERSTAND THIS WORK ORDER CONTRACT WHICH CONTAINS RELEASE AND INDEMNITY LANGUAGE WHICH CUSTOMER ACKNOWLEDGES IS CONSPICUOUS AND AFFORDS FAIR AND ADEQUATE NOTICE AND I REPRESENT THAT I AM AUTHORIZED TO SIGN THE SAME AS CUSTOMER'S AGENT.

SIGNED: [signature] DATE: 2-17-99 TIME: 7:38 A.M. P.M.
CUSTOMER Authorized Signatory

Customer Acceptance of Materials and Services

THE CUSTOMER HEREBY ACKNOWLEDGES RECEIPT OF THE MATERIALS AND SERVICES DESCRIBED ON THE ATTACHED ORDER NUMBER _____

[signature]
CUSTOMER Authorized Signatory

White-Office Canary-Field Office Pink-Customer Green-Retain

RECEIVED
STATE CORPORATION COMMISSION
JUN 28 1999
CONSERVATION DIVISION
Wichita, Kansas

ORIGINAL

REGION: North America	NWA/COUNTRY: U.S.A.	BDA/STATE: KANSAS	COUNTY: MEADE
MBU ID / EMP #: MCLIDIII 11#377 106370	EMPLOYEE NAME: STERLING RAINES	PSL DEPARTMENT: 20NAL	
LOCATION: LIBERAL KS.	COMPANY: MURFIN DRILLING	CUSTOMER REP / PHONE:	
TICKET AMOUNT: 7335.75	WELL TYPE: 02	API / UWI #: 15119209970000	
WELL LOCATION: KISMET KS.	DEPARTMENT: 20NAL	JOB PURPOSE CODE: 010	
LEASE / WELL #: DOWELL FARMS #1	SEC / TWP / RNG: 2 - 33S - 30W		

HES EMP NAME/EMP#/(EXPOSURE HOURS)	HRS	HES EMP NAME/EMP#/(EXPOSURE HOURS)	HRS	HES EMP NAME/EMP#/(EXPOSURE HOURS)	HRS	HES EMP NAME/EMP#/(EXPOSURE HOURS)	HRS
S. RAINES H3377	6	106370					
J. WOODROW 62373	6	103848					
D. FOLK J0763	6	106109					
R. MATHERSON C8213	6	105915					

CHART NO.	TIME	RATE (BPM)	VOLUME (BBL/GAL)	PUMPS T	PUMPS C	PRESS. (psi) Tbg	PRESS. (psi) Csg	JOB DESCRIPTION / REMARKS
	5:53							ON LOCATION
	6:15							SAFTY MEETING
	7:33							RUN CASING INTO HOLE
	8:53							DROP BALL
	9:07							HOOK TO RIG PUMPS
	9:08						200	CIRCULATE HOLE
	9:23							HOOK UP TO HALLIBURTON PUMP
	9:25							START JOB
	9:25	1	1		—		2500	PRESSURE TEST
	9:27	—	—		-		—	SHUT DOWN
	9:28	4	5		—		200	H2O AHEAD
	9:32	6	209.32		—		300	LEAD CEMENT AT 11.1 #/GAL
	10:10	6	29.83				170	TAIL CEMENT AT 14.8 #/GAL
	10:19	—	—		—		—	SHUT DOWN
	10:20	—	—		-		—	DROP PLUG
	10:21	6	101.12		—		250	START DISPLACMENT
	10:56	2	10		—		450	CAND PLUG
	11:00	2	1		—		700	BUMP PLUG
	11:01	—	—		-		—	RELEASE P.S.I. FLOAT HELD

JOB COMPLETE

CIRCULATED 70 BBL'S
122 SACKS TO PIT

THANK YOU FOR CALLING
HALLIBURTON
STERLING RAINES + CREW

RECEIVED
STATE CORPORATION COMMISSION
JUN 28 1999
CONSERVATION DIVISION
Wichita, Kansas

JOB SUMMARY

ORDER NO. 70006 | 347082 | 6-11-77

ORIGINAL

REGION	NWA/COUNTRY	BDA / STATE	COUNTY
North America	USA	KANSAS	MEADE
MBU ID / EMP #	EMPLOYEE NAME	PSL DEPARTMENT	
MCLF0111 H3377 106330	STERLING RAINES	ZONAL	
LOCATION	COMPANY	CUSTOMER REP / PHONE	
LIBERAL KS	MURFIN DRILLING		
TICKET AMOUNT	WELL TYPE	API / UWI #	
7335.75	OZ	15119 2099	
WELL LOCATION	DEPARTMENT	JOB PURPOSE CODE	
KISMET KS.	ZONAL	010	
LEASE / WELL #	SEC / TWP / RNG		
POWELL FARMS #1	22-33S-30W		

HES EMP NAME/EMP#/(EXPOSURE HOURS)	HRS	HES EMP NAME/EMP#/(EXPOSURE HOURS)	HRS	HES EMP NAME/EMP#/(EXPOSURE HOURS)	HRS	HES EMP NAME/EMP#/(EXPOSURE HOURS)	HRS
S. RAINES H3377	6	106330					
J. WOODROW 62573	6	105848					
D. FOLK J0763	6	106109					
R. ANDERSON C8213	6	105915					

HES UNIT NUMBERS	R/T MILES	HES UNIT NUMBERS	R/T MILES	HES UNIT NUMBERS	R/T MILES	HES UNIT NUMBERS	R/T MILES
420044	54						
53592-78202	54						
52276-75817	27						
53335-29817	27						

Form Name ____ Type: ____
Form Thickness ____ From ____ To ____
Packer Type ____ Set At ____
Bottom Hole Temp. ____ Pressure ____
Misc. Data ____ Total Depth ____

	CALLED OUT	ON LOCATION	JOB STARTED	JOB COMPLETED
DATE	2-17-99	2-17-99	2-17-99	2-17-99
TIME	3100	5:53	9:25	11:01

TOOLS AND ACCESSORIES

TYPE AND SIZE	QTY	MAKE
Float Collar		
Float Shoe/I	1	HMCO
Guide Shoe	1	
Centralizers	2	
Bottom Plug		
Top Plug	1	
Head	1	
Packer		
Other		

WELL DATA

	NEW/USED	WEIGHT	SIZE	FROM	TO	MAX ALLOW
Casing	NEW	24.00	8 5/8	0	1634	
Liner						
Liner						
Tbg/D.P.						
Tbg/D.P.						
Open Hole						SHOTS/FT.
Perforations						
Perforations						
Perforations						

MATERIALS

Treat Fluid ____ Density ____ Lb/Gal
Disp. Fluid ____ Density ____ Lb/Gal
Prop. Type ____ Size ____ Lb ____
Prop. Type ____ Size ____ Lb ____
Acid Type ____ Gal. ____ %
Acid Type ____ Gal. ____ %
Surfactant ____ Gal ____ In
NE Agent ____ Gal ____ In
Fluid Loss ____ Gal/Lb ____ In
Gelling Agent ____ Gal/Lb ____ In
Fric. Red ____ Gal/Lb ____ In
Breaker ____ Gal/Lb ____ In
Blocking Agent ____ Gal/Lb ____
Perfpac Balls ____ Qty ____
Other ____
Other ____
Other ____
Other ____

HOURS ON LOCATION DATE	HOURS	OPERATING HOURS DATE	HOURS
TOTAL		TOTAL	

DESCRIPTION OF JOB: SEE JOB LOG

ORDERED ____ HYDRAULIC HORSEPOWER Avail. ____ Used ____
TREATED ____ AVERAGE RATES IN BPM Disp. ____ Overall ____
FEET 44.00 CEMENT LEFT IN PIPE Reason SHOE JOINT

CEMENT DATA

STAGE	SACKS	CEMENT	BULK/SKS	ADDITIVES	YIELD	LBS/GAL
	365	MIDCON W	B	3% CC 1/4 # FLOCELE	3.22	11.1
	175	PREM +	B	2% CC 1/4 # FLOCELE	1.34	14.8

Circulating ____ Displacement ____ Preflush: Gal BBL 5 Type ____
Breakdown ____ Maximum ____ Load & Bkdn: Gal - BBL ____ Pad: BBL - Gal ____
Average ____ Frac Gradient ____ Treatment Gal - BBL ____ Disp: BBL - Gal 707.72
Shut In: Instant ____ 5 Min ____ 15 Min ____ Cement Slurr Gal - BBL 239.15
Total Volume Gal - BBL 345.27

Frac Ring #1 | Frac Ring #2 | Frac Ring #3 | Frac Ring #4

THE INFORMATION STATED HEREIN IS CORRECT

CUSTOMER REPRESENTATIVE SIGNATURE

RECEIVED
STATE CORPORATION COMMISSION
JUN 28 1999
CONSERVATION DIVISION
Wichita, Kansas

HALLIBURTON ENERGY SERVICES
ACQUIRE Version 2.14

ORIGINAL

CUSTOMER AND JOB INFORMATION

Customer MURFIN
Contractor SAME
Lease POWELL FARMS
Location
Formation
Job Type O 2
Country MEADE
State KS

Date 17-Feb-1999
County
Town
Section
Range
Permit No
Well No #1
Field Name

Customer Representative | Halliburton Operator | Ticket No. 34682

WELLBORE CONFIGURATION

Wellbore Segment Number	Actual Length (ft)	Hole ID (inch)	Deviation TOP (deg)	Deviation BOT (deg)	Amount Excess (%)

TUBULAR GOODS

Pipe Segment Number	Pipe Length (ft)	Pipe OD (inch)	Pipe ID (inch)	Pipe Weight (lbs/ft)

DEPTH & TOOL INFORMATION

Top 0 ft Bottom 0 ft

Packer Type _____ Depth 0 ft
Plug Type _____ Depth 0 ft

Liner Top 0 ft
Height of Head above Ground or Flange 0 ft
Depth to top of Shoe Joint 0 ft

REMARKS ABOUT JOB

Customer:
Well Desc:
Formation:

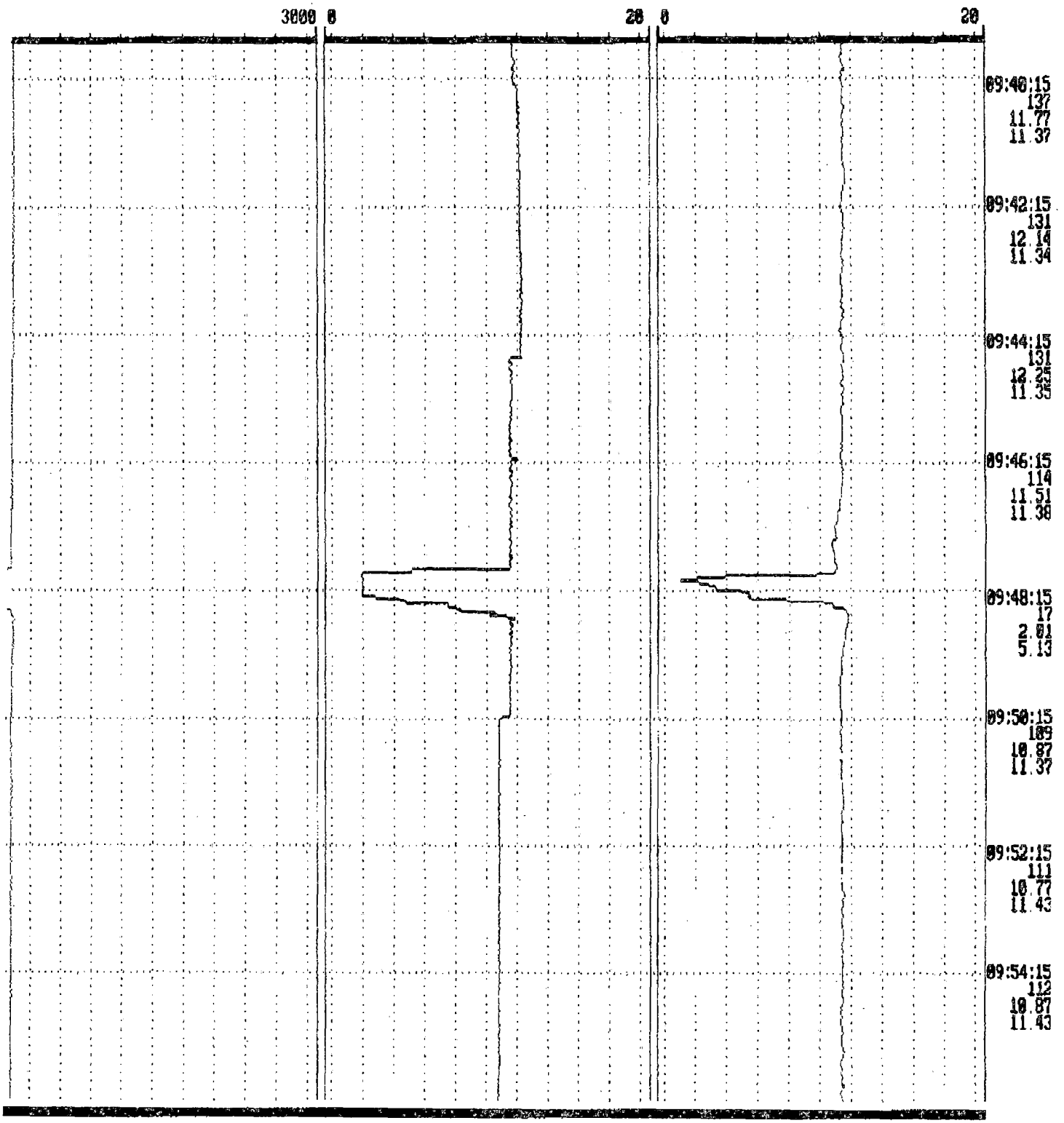
Date:
Ticket #: 34682
Job Type:

ORIGINAL

. Casing Press (psi)
. Slurry Rate (bpm)
. Slurry Density (lb/gal)

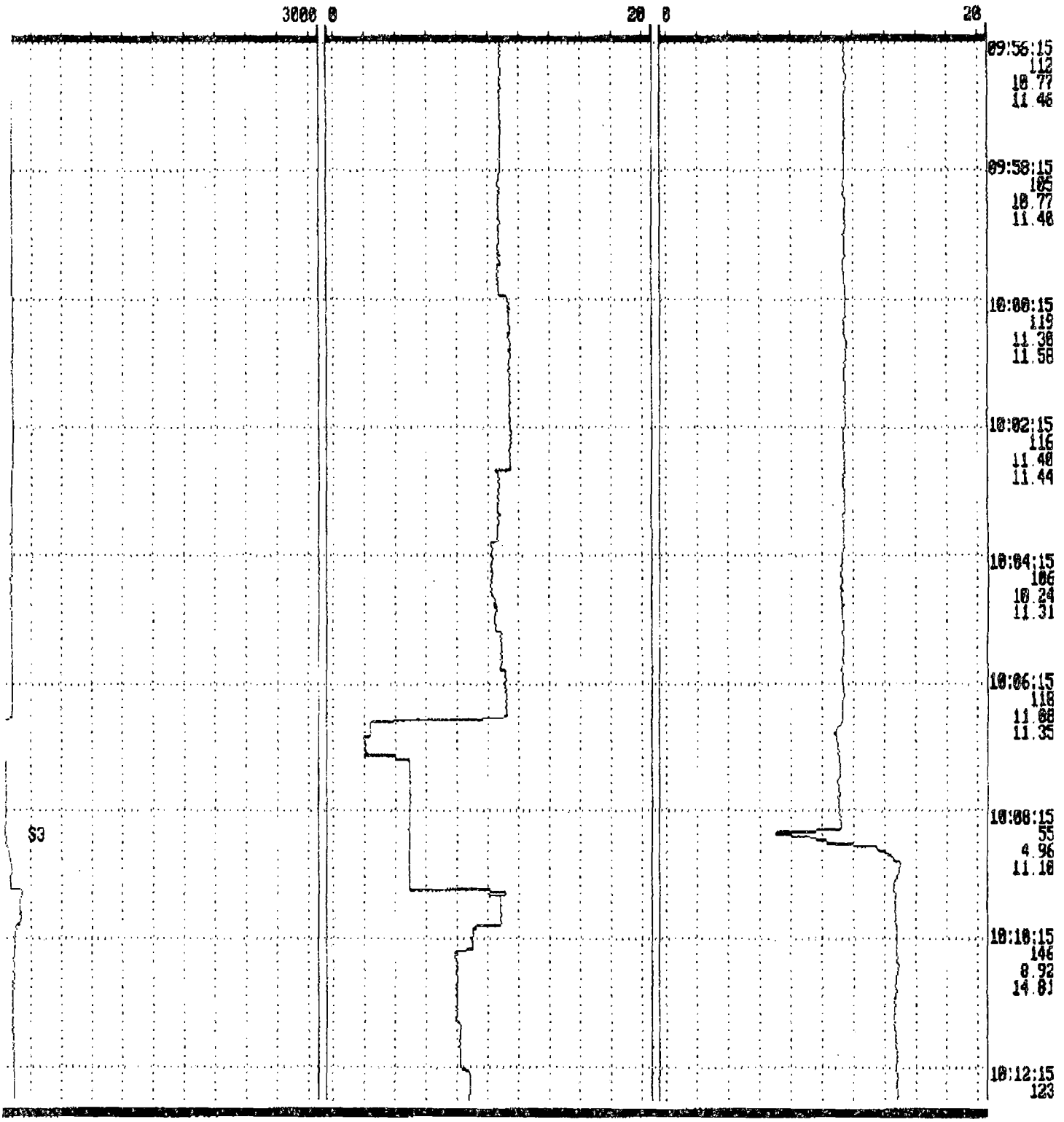
Casing Press (psi)
Slurry Rate (bpm)
Slurry Density (lb/gal)

ORIGINAL



ORIGINAL

Casing Press (psi)
Slurry Rate (bpm)
Slurry Density (lb/gal)

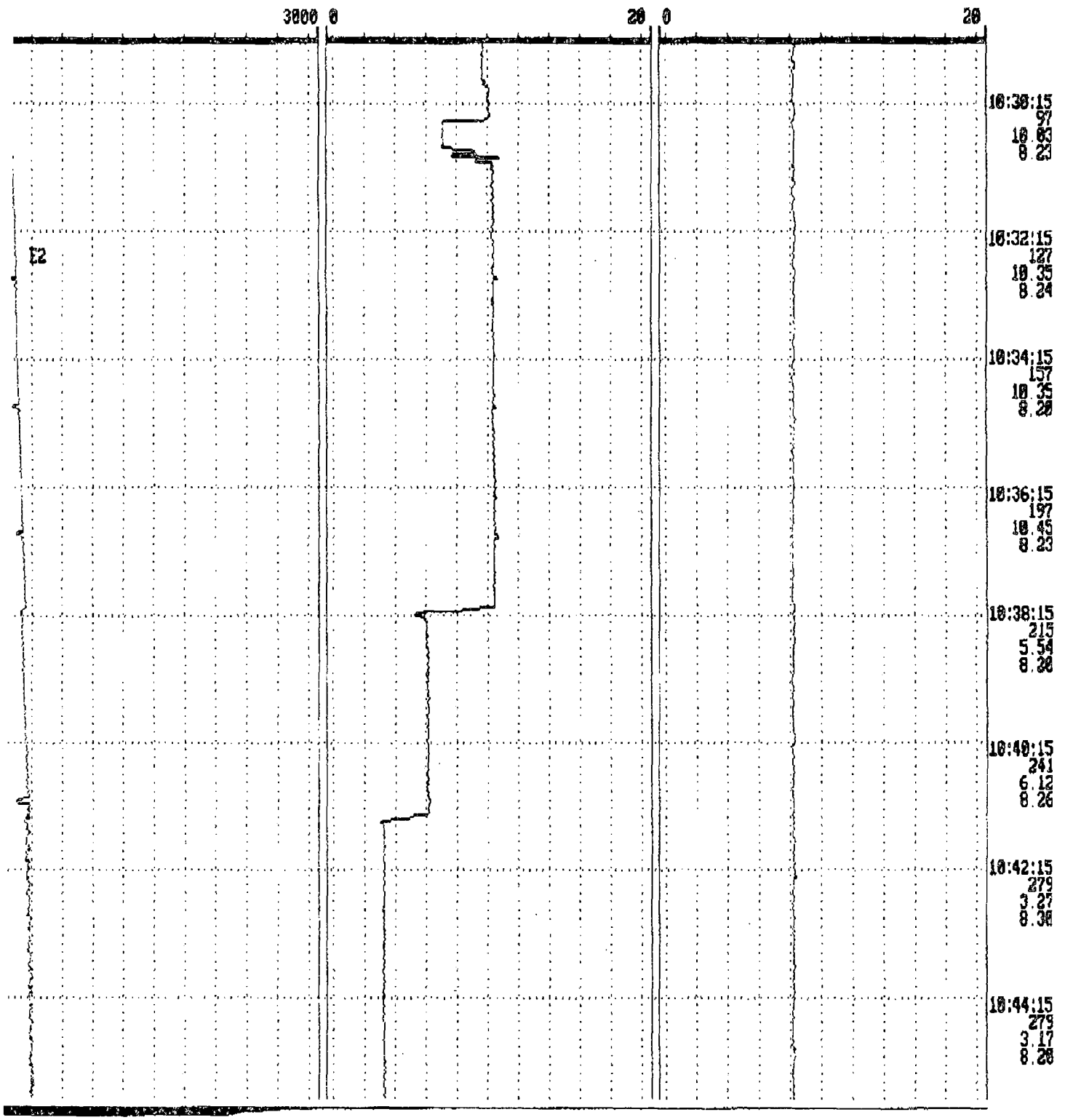


ORIGINAL

Casing Press (psi)
Slurry Rate (bpm)
Slurry Density (lb/gal)

Casing Press (psi)
Slurry Rate (bpm)
Slurry Density (lb/gal)

ORIGINAL

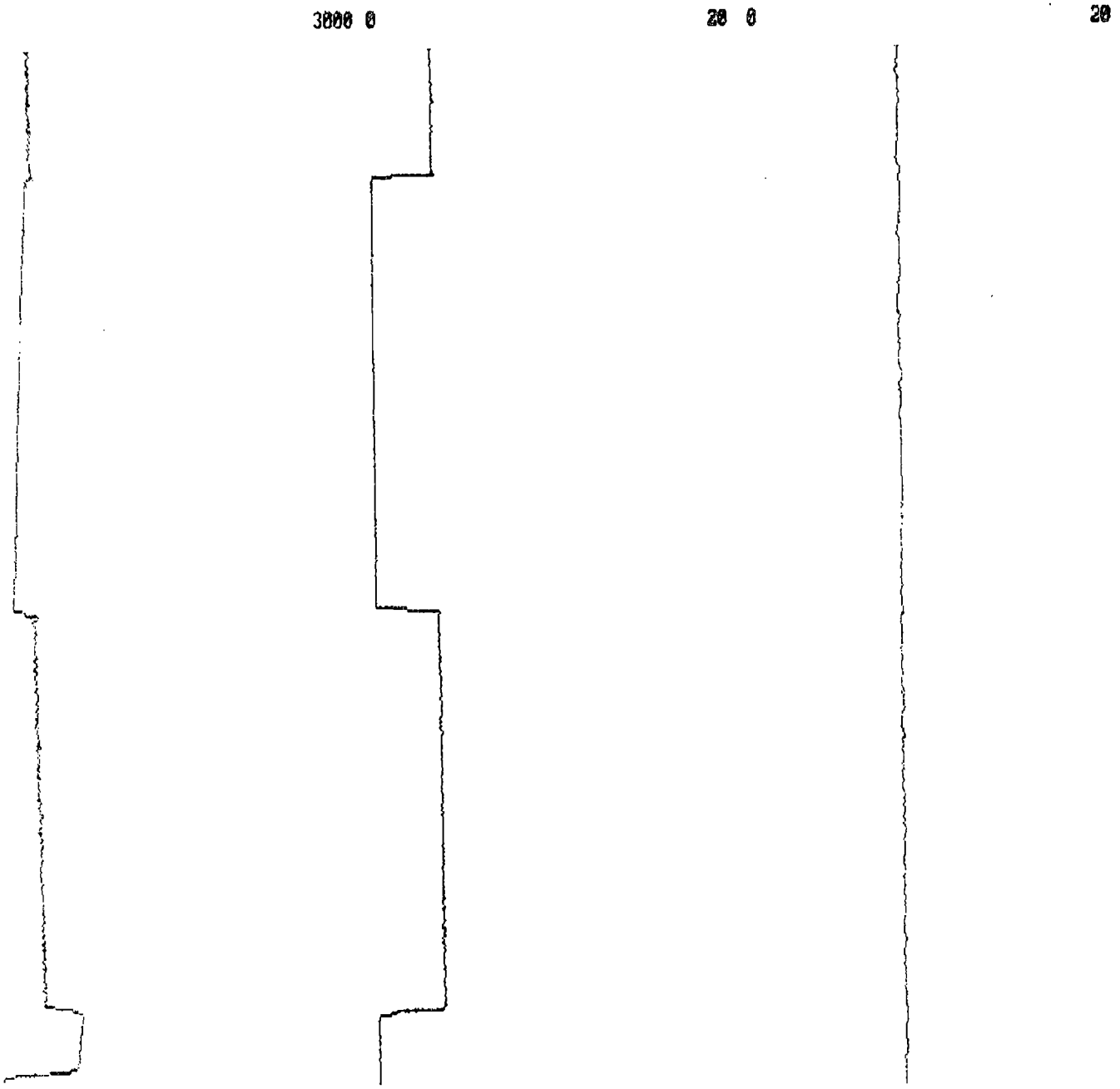


ORIGINAL

CASING PRESS psi

SLURRY RATE bpm

SLURRY DENSITY lb/gal



ORIGINAL

Schlumberger
Dowell

Cementing Service Report

Customer	Job Number
HRS EXPLORATION & PRODUCTION	20100542

Well	Location (legal)	Dowell Location	Job Start
POWELL FARMS 1	22,33S,30W	Ulysses, KS	3/2/99

Field	Formation Name/Type	Deviation	Bit Size	Well MD	Well TVD
NOVINGER	MORROW	0 °	7.88 in	6,350 ft	6,350 ft

County	State/Province	BHP	BHST	BHCT	Pore Press. Gradient
MEADE	KANSAS	psi	144 °F	115 °F	psi/ft

Rig Name	Drilled For	Service Via
MURFIN 20	Oil & Gas	Land

Offshore Zone	Well Class	Well Type
	New	Development

Drilling Fluid Type	Max. Density	Plastic Viscosity
Bentonite	9.5 lb/gal	30 cp

Service Line	Job Type
Cementing	Cem Prod Casing

Max. Allowed Tubing Pressure	Max. Allowed Ann. Pressure	WellHead Connection
3000 psi	500 psi	Single cement head

Casing/Liner

Depth, ft	Size, in	Weight, lb/ft	Grade	Thread
6350	5.5	15.5		

Tubing/Drill Pipe

Depth.	Size. in	Weight, lb/ft	Grade	Thread
0	0	0		
0	0	0		

Perforations/Open Hole

Top, ft	Bottom, ft	spf	No. of Shots	Total Interval
				ft
				Diameter
				in

Service Instructions

Safely cement 5 1/2" production casing set at approximately 6350 ft.

30 miles

Treat Down	Displacement	Packer Type	Packer Depth
Casing	150.2 bbl		ft

Tubing Vol.	Casing Vol.	Annular Vol.	OpenHole Vol
0 bbl	151.9 bbl	bbl	0 bbl

Casing/Tubing Secured ☑ 1 Hole Volume Circulated prior to Cementing ☐

Lift Pressure: 1000 psi

Pipe Rotated ☐ Pipe Reciprocated ☐

No. Centralizers: 10 Top Plugs: 1 Bottom Plugs: 0

Cement Head Type: Single

Job Scheduled For: | Arrived on Location: 3/2/99 3:45 | Leave Location: 3/2/99 10:30

Casing Tools

Shoe Type:	Guide
Shoe Depth:	6357 ft
Stage Tool Type:	n/a
Stage Tool Depth:	0 ft
Collar Type:	Auto-Fill
Collar Depth:	6312 ft

Squeeze Job

Squeeze Type	
Tool Type:	
Tool Depth:	0 ft
Tail Pipe Size:	0 in
Tail Pipe Depth:	0 ft
Sqz Total Vol:	0 bbl

Time (24-hr clock)	CumVol (bbl)	Density (PPG)	Elapsed Time (min)	Pressure (psi)	Temperature (DegF)			Message
8:27	0	0	0	0	0	0	0	START ACQUISITION
8:27	0	-6.26	0	-3496	0	0	0	
8:27	0	-6.25	0	-3496	0	0	0	Start Job
8:27	0	-6.25	0	-3496	0	0	0	Start Pumping Wash
8:30	0	8.143	3.017	0	0	0	0	
8:32	0	8.143	3.017	0	0	0	0	End Wash
8:33	0	8.143	3.017	0	0	0	0	Start Pumping Water
8:33	13.43	8.364	6.017	329.7	5.592	0	0	
8:33	13.43	8.364	6.017	329.7	5.592	0	0	Start Cement Slurry
8:33	13.43	8.364	6.017	329.7	5.592	0	0	(CumVol)=16.24 bbl
8:33	13.43	8.364	6.017	329.7	5.592	0	0	Reset Volume
8:36	13.87	14.27	9.017	284.6	5.62	0	0	
8:39	30.74	14.35	12.03	243.9	5.592	0	0	
8:42	47.61	14.62	15.05	248.4	5.592	0	0	
8:45	64.47	14.35	18.07	234.9	5.592	0	0	
8:45	64.47	14.35	18.07	234.9	5.592	0	0	Shutdown
8:46	64.47	14.35	18.07	234.9	5.592	0	0	PAUSE ACQUISITION
8:52	64.47	14.35	18.07	234.9	5.592	0	0	RESTART AFTER PAUSE
8:52	66.52	12.4	18.52	4.517	0	0	0	wash lines & pump
8:52	66.52	12.4	18.52	4.517	0	0	0	Reset Volume
8:52	66.52	12.4	18.52	4.517	0	0	0	(CumVol)=67.14 bbl
8:53	66.52	12.4	18.52	4.517	0	0	0	Reset Volume

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ORIGINAL

Well	Field	Service Date	Customer	Job Number
POWELL FARMS #1	NOVINGER		EXPLORATION & PRODU	20100542

Time 24 hr Clock	CumVol bbl	Density ppg	Elapsed Time min	Pressure (A) psi	TotRevVol bbl			Message
8:53	66.52	12.4	18.52	4.517	0	0	0	(CumVol)=1.562 bbl
8:53	66.52	12.4	18.52	4.517	0	0	0	Drop Top Plug
8:53	66.52	12.4	18.52	4.517	0	0	0	Start Displacement
8:55	9.812	11.9	21.52	122	5.62	0	0	
8:58	26.62	11.81	24.53	112.9	5.592	0	0	
9:01	43.44	11.75	27.54	108.4	5.592	0	0	
9:04	60.25	11.57	30.54	103.9	5.592	0	0	
9:07	77.07	11.51	33.55	108.4	5.592	0	0	
9:08	77.07	11.51	33.55	108.4	5.592	0	0	Remark
9:10	93.88	11.37	36.56	108.4	5.592	0	0	
9:13	110.7	11.29	39.56	271	5.592	0	0	
9:16	127.5	11.28	42.57	541.4	5.564	0	0	
9:19	143.9	11.3	45.58	844.6	2.684	0	0	lower rate
9:22	150.1	11.16	48.59	871.7	.4194	0	0	
9:23	150.1	11.16	48.59	871.7	.4194	0	0	Bump Top Plug
9:23	150.1	11.16	48.59	871.7	.4194	0	0	Bleed Off Pressure
9:25	151.5	11.26	51.59	-4.517	0	0	0	

Post Job Summary

Average Pump Rates, bpm

Slurry	N2	Mud	Maximum Rate
5.5	0	0	6

Volume of Fluid Injected, bbl

Total Slurry	Mud	Spacer	N2
66.5	0	15	0

Treating Pressure Summary, psi

Maximum	Final	Average	Bump Plug to	Breakdown
1500	1000	200	1500	0

Breakdown Fluid

Type	Volume	Density
1	0 bbl	8.34 lb/gal

Avg. N2 Percent	Designed Slurry Volume	Displacement	Mix Water Temp	Cement Circulated to Surface? Volume	Washed Thru Perfs To
0 %	68 bbl	152 bbl	55 °F	☐ 0 bbl	☐ 0 ft

Customer or Authorized Representative	Dowell Supervisor		
Eugnen Saloga	Jeff Diseker	☐ CirculationLost	☑ Job Completed

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Wichita, Kansas

ORIGINAL

HRF Exploration and Production Company

#1 Powell Farms
N/2 SE SE
22-33S-30W
Meade Co. Kansas
API # 15-119-20997

James Dilts
Consulting Geologist
209 W. Smith
Hesston, Kansas 67062

James Dilts
Consulting Geologist
209 W. Smith
Hesston, Kansas 67062
316-327-4316

ORIGINAL

HRF Exploration and Production Company
1260 S. Otsego Ave.
Gaylord, Michigan 49735
Att: Donald Day

#1 Powell Farms
N/2 SE SE
22-33S-30W
Meade Co. Kansas
API # 15-119-20997

Gentlemen:

Submitted herewith is the geological report concerning the above captioned test. Data pertinent to the operations are tabulated below.

Spud: Feb. 16, 1999 — Rotary Complete: March 2, 1999
Contractor: Murfin Drilling Co. Rig 20 — Tool Pusher: Mr. Rodney Farr
Drill Time: 4000 to RTD — Samples: 4000 to RTD
Surface Pipe: 8 5/8 24# at 1630
Production Casing: 5 ½ 15 ½# at 6348 w/ 310 sx
DST's: Trilobite Testing Co. (5) — Cores: None
Mud: Service Mud Co. — Mud Up: 4000 — Type: Chemical
Log: Baker Atlas DIFL/GR ZDLC/CN/ML/GR DAL/GR/CAL DCBIL
Gas Detector: yes

Geological formation tops as picked from samples and corrected to the open hole survey follow. All measurements are taken from rotary bushing elevation.

Elevations: 2714 KB. 2712 DF. 2702 GL.

E-log Tops

Lansing	4570	-1856
Swope	5050	-2336
Marmaton	5206	-2492
Novinger Porosity	5268	-2554
Morrow	5714	-3000
Morrow Sand	5716	-3002
Mississippian Chester	5782	-3068
Mississippian St. Gen	6084	-3370
Mississippian St. Louis	6180	-3466
RTD	6350	-3636
LTD	6350	-3636

Zones of interest were encountered at the following depths and evaluated as indicated.

5050 to 5072 Swope Limestone, tan to gray, fine crystalline, fossiliferous, no visual porosity, some spary calcite, no show of oil or gas.

5083 to 5096 Swope Limestone, cream, fine crystalline, fossiliferous, oolitic, with fair to good intergranular and oolicastic porosity. No show of oil or gas.

5104 to 5120 Hertha Limestone, tan, fine crystalline, oolitic, and oolicastic, with fair to good vuggy and oolicastic porosity. No show of oil or gas.

5150 to 5154 Pleasanton Limestone, tan, fine crystalline, fossiliferous, with fair to good vuggy and intergranular porosity, fair show of free oil, flashy odor, fair fluorescence. This interval gave a 25 unit Hotwire kick and a 10-unit Chromatograph kick. DST # 1 evaluated this interval.

DST #1 5150 to 5187 Pleasanton Lim
Open 30 min shut in 60 min. open 15 min shut in 30 min.
Weak surface blow on first open, no blow on second open
Recovered: 1 foot drilling mud.

IFP:	16 psi to 204 psi	FFP:	21 psi to 42 psi
ISIP:	337 psi	FSIP:	58 psi
IHP:	2550 psi	FFP:	2464 psi

BHT: 111° F.

5208 to 5218 Marmaton Limestone, buff to cream, fine crystalline, fossiliferous and oolitic, with good vuggy and oolicastic porosity. No show of oil or gas.

5267 to 5272 Novinger Zone Limestone, buff to tan, fine crystalline, fossiliferous, with scattered poor to fair vuggy and intergranular porosity, few with fracture faces, good odor, good fluorescence, fair show of light free oil, very light tan stain. This interval yielded a 55 unit Kick on the Hot Wire and a 53-unit kick on the Chromatograph. DST #2 evaluated this interval.

5272 to 5290 Novinger Zone Limestone, tan, fine crystalline, fossiliferous, with scattered vuggy and fracture porosity, scattered fluorescence, and questionable stain. DST #2 evaluated this interval.

DST # 2 5267 to 5290 Novinger Zone
Open 30 min. Shut in 60min. Open 75 min. Shut in 120 min.
Weak blow build to 6 in on first open build to 3.5 inches on 2nd open.
Recovered: 135 feet total fluid
15 feet oil cut mud 28%gas 2% oil 70% mud
120 feet muddy water 75% water 25 % mud
Chlorides 75,000 ppm

IFP: 54 psi to 65 psi FFP: 97 psi to 119 psi
ISIP: 1564 psi FSIP: 1585 psi
IHP: 2686 psi FHP: 2527 psi
BHT: 122° F.

5715 to 5718 Morrow Sand Sandstone, white to gray, very fine grained, fair sorting, friable, sub angular, with fair porosity, fair show of free oil, brown to black stain, good odor on break, some with shale, glauconite, or limestone. This interval gave a 10-unit kick on the Hotwire and an 8-unit kick on the Chromatograph. DST #3 evaluated this interval.

5722 to 5744 Morrow? Lime Limestone, tan, medium to course crystalline, very fossiliferous, with scattered intergranular porosity, with fair show of free oil, light odor, fair yellow fluorescence, glauconitic in part, with interbedded sandstone, very fine grained, white, clear, to green, cemented to quartzitic, some with abundant glauconite or pyrite, few chert tan, fossiliferous vitreous, sub transparent, a few clusters with show of free oil, fair stain, light odor, fair odor on break. This interval did not have a gas kick. DST #3 evaluated this interval

DST #3 5267 to 5290 Morrow Sand
Open 30 min. Shut in 60min. Open 30 min. Shut in 60 min.
Weak blow on first open, died at 20 min on 2nd open.
Recovered: 2 feet of drilling mud.

IFP: 111 psi to 223 psi FFP: 15 psi to 19 psi
ISIP: 64 psi FSIP: 32 psi
IHP: 2771 psi FHP: 2712 psi
BHT: 127° F.

5755 to 5763 Lower Morrow? Sand Sandstone, white to light gray, very fine grained, fair sorting sub angular, some shaly, some limy, with glauconite grains, scattered fair porosity, scattered stain, fair show of free oil and odor on break, fair

fluorescence. No kick was observed because we were just back to drilling after DST #3 and trip gas masked any possible kick. DST #4 evaluated this interval.

5801 to 5817 Chester Lime Limestone, tan, medium to course crystalline, very fossiliferous, with fair intercrystalline and intergranular porosity, good light tan stain, good show of free oil and odor on break, good blue white fluorescence. This break had a 20 unit Hotwire kick and a 9-unit chromatograph kick. DST #4 evaluated this interval. This interval should be perforated and tested to determine it's potential.

5817 to 5930 Chester Lime Limestone, fine to course crystalline, fossiliferous to very fossiliferous, with scattered intercrystalline and intergranular porosity, with fair to good stain and show of free oil in porosity. Interbedded with sandstone, white very fine grained, fair sorting friable, with glauconite pellets, with stain and show of free oil in porosity. This interval gave a 10 to 20-unit Hotwire kick and a 5 to 10 unit Chromatograph kick from top to bottom, depending on the rock properties. DST #4 evaluated this interval.

DST #4 5738 to 5930 Chester Lime
Open 30 min. Shut in 60min. Open 60 min. Shut in 90 min.
Strong blow. GTS 6 min 2nd open

Gauges	10 min	6.055 mcfpd
	20 min	7.051 mcfpd
	30 min	7.051 mcfpd
	40 min	7.032 mcfpd
	50 min	6.055 mcfpd
	60 min	6.055 mcfpd

Recovered: 130 feet drilling mud

IFP: 55 psi to 70 psi	FFP: 44 psi to 88 psi
ISIP: 1302 psi	FSIP: 1299 psi
IHP: 2870 psi	FHP: 2704 psi
BHT: 129° F.	

6032 to 6060 Lower Chester Sand Sandstone, clear, very fine grained, friable, fair sorting, with fair porosity, good tan stain and saturation, fair show of free oil, some scaly, good golden fluorescence, good cut. This interval gave a 50 + unit Hotwire kick and a 50 + unit Chromatograph kick. DST #5 evaluated this interval.

6084 to 6100 St. Gen Limestone, gray, fine crystalline, fossiliferous, very sandy, no visual porosity, and no show of oil of gas. This interval was open on DST #5

DST #5 5994 to 6101 Lower Chester Sand
Open 30 min. Shut in 60min. Open 30min. Shut in 60 min.
Weak blow on first open, no blow on 2nd open.
Recovered: 20 feet drilling mud.

IFP: 31 psi to 43 psi FFP: 47 psi to 52 psi
ISIP: 83 psi FSIP: 70 psi
IHP: 3083 psi FHP: 2923 psi
BHT: 131° F.

6180 to 6196 St. Louis Limestone, cream to white, fine crystalline, fossiliferous, oolitic, chalky, no visual porosity, no show of oil or gas. No kick on the gas detector.

6260 to 6276 St Louis Limestone, cream to white, fine to medium crystalline, fossiliferous, oolitic, an increase in chalky lime, no visual porosity, no show of oil or gas. No kick on the gas detector.

Structural Relationships

	HRF #1 Powell	Donoghue #1 Powell	Donoghue #2 Powell	Sevela #1 Powell
Lansing	4570 –1856	-1853 -3	-1853 -3	-1844 –12
Swope Lm	5050 –2336	-2322 -14	-2318 -18	-2312 -24
Swope Por	5084 –2370	-2360 -10	-2344 -26	not called
Marmaton	5206 –2492	-2488 -4	-2489 -3	-2475 -17
Novinger	5268 –2554	-2546 -8	-2551 -3	-2533 -21
Morrow	5714 –3000	-2978 -22	-2981 -19	-2977 -23
Morrow Sd.	5716 –3002	-2980 -22	-2990 -12	-2978 -24
Miss Chester	5728 –3014			
		Columbian Fuel 1 Novinger 26- 33- 30		Marlin Oil Corp #1 Warren 33 –33 –30
Miss St. Gen	6084 –3370	-3397 + 27		-3376 +6
Miss St. Louis	6180 –3466	-3498 + 32		-3508 +42

Recommendations

It was decided to run 51/2 inch casing to further evaluate the shows encountered in the Chester Lime. It is recommended that the zone from 5800 to 5814 be perforated along with any other intervals that indicate permeability and were covered by DST #4. Additionally The St. Gen and Novinger zones should be reviewed prior to abandonment.

Respectfully Submitted,

James Dilts

HALLIBURTON ENERGY SERVICES
ACQUIRE Version 2.14

CUSTOMER AND JOB INFORMATION

ORIGINAL

Customer	MURFIN	Date	17-Feb-1999
Contractor	SAME	County	
Lease	POWELL FARMS	Town	
Location		Section	
Formation		Range	
Job Type	O 2	Permit No	
Country	MEADE	Well No	#1
State	KS	Field Name	

Customer Representative | Halliburton Operator | Ticket No. 34682

WELLBORE CONFIGURATION

Wellbore Segment Number	Actual Length (ft)	Hole ID (inch)	Deviation TOP (deg)	Deviation BOT (deg)	Amount Excess (%)

TUBULAR GOODS

Pipe Segment Number	Pipe Length (ft)	Pipe OD (inch)	Pipe ID (inch)	Pipe Weight (lbs/ft)

DEPTH & TOOL INFORMATION

Top 0 ft Bottom 0 ft

Packer Type _____ Depth 0 ft
Plug Type _____ Depth 0 ft

Liner Top	0 ft
Height of Head above Ground or Flange	0 ft
Depth to top of Shoe Joint	0 ft

REMARKS ABOUT JOB

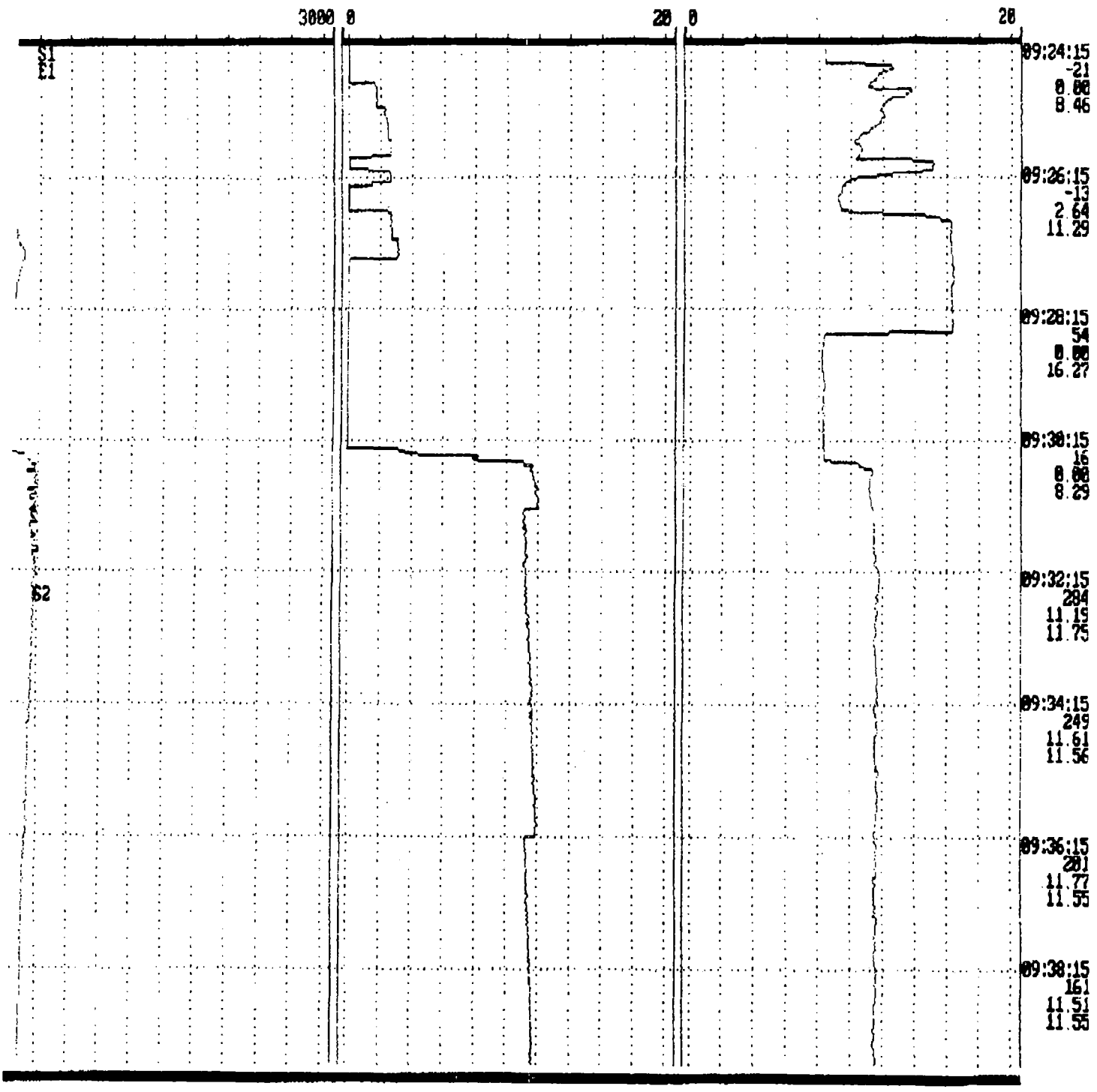
NOTICE: THIS REPORT IS BASED ON SOUND ENGINEERING PRACTICES, BUT BECAUSE OF VARIABLE WELL CONDITIONS AND OTHER INFORMATION WHICH MUST BE RELIED UPON, HALLIBURTON MAKES NO WARRANTY, EXPRESSED OR IMPLIED, AS TO THE ACCURACY OF THE DATA OR OF ANY CALCULATIONS OR OPINIONS EXPRESSED HEREIN. YOU AGREE THAT HALLIBURTON SHALL NOT BE LIABLE FOR ANY LOSS OR DAMAGE, WHETHER DUE TO NEGLIGENCE OR OTHERWISE ARISING OUT OF OR IN CONNECTION WITH SUCH DATA, CALCULATIONS OR OPINIONS

Customer:
Well Desc:
Formation:

Date:
Ticket #: 34682
Job Type:

ORIGINAL

. Casing Press (psi)
. Slurry Rate (bpm)
. Slurry Density (lb/gal)



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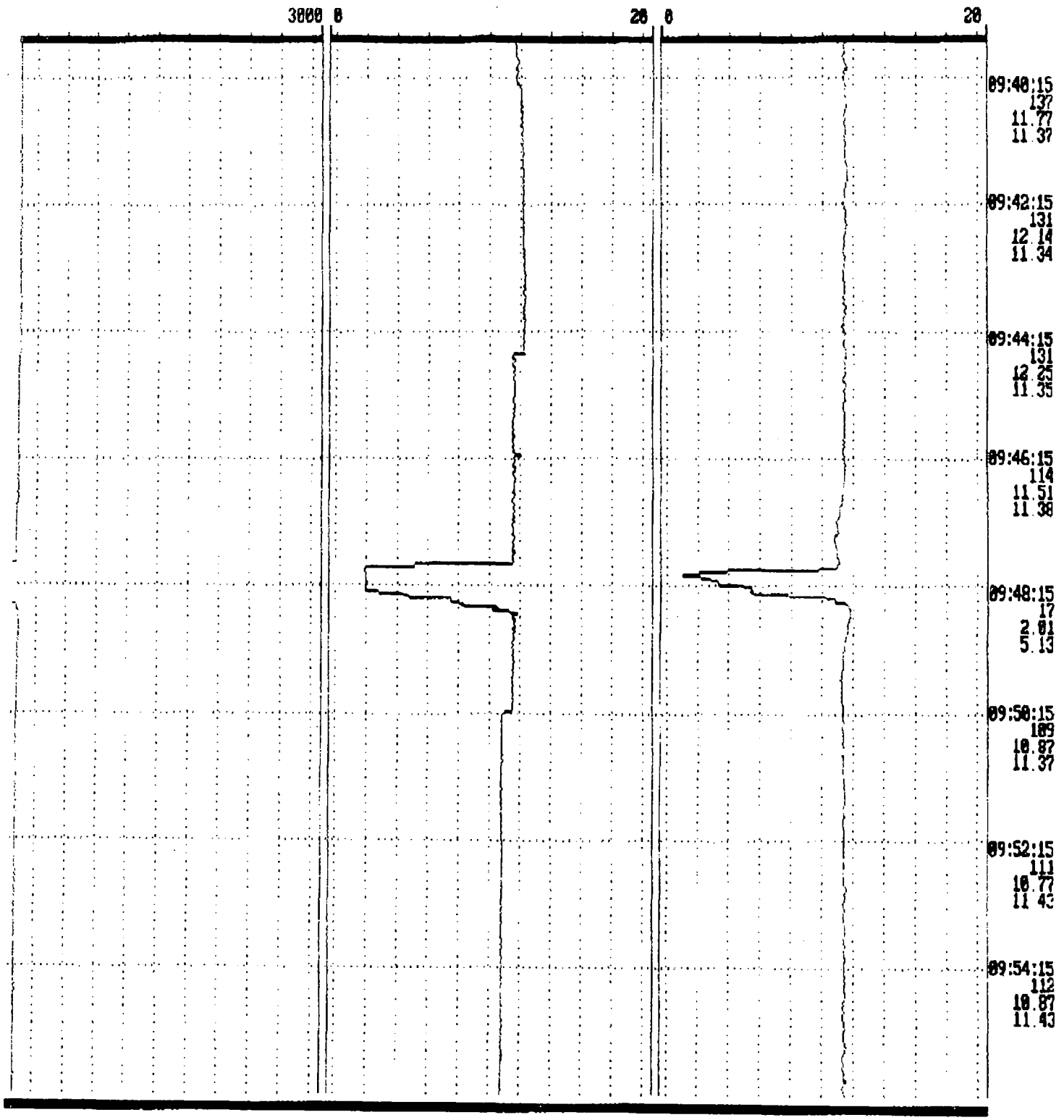
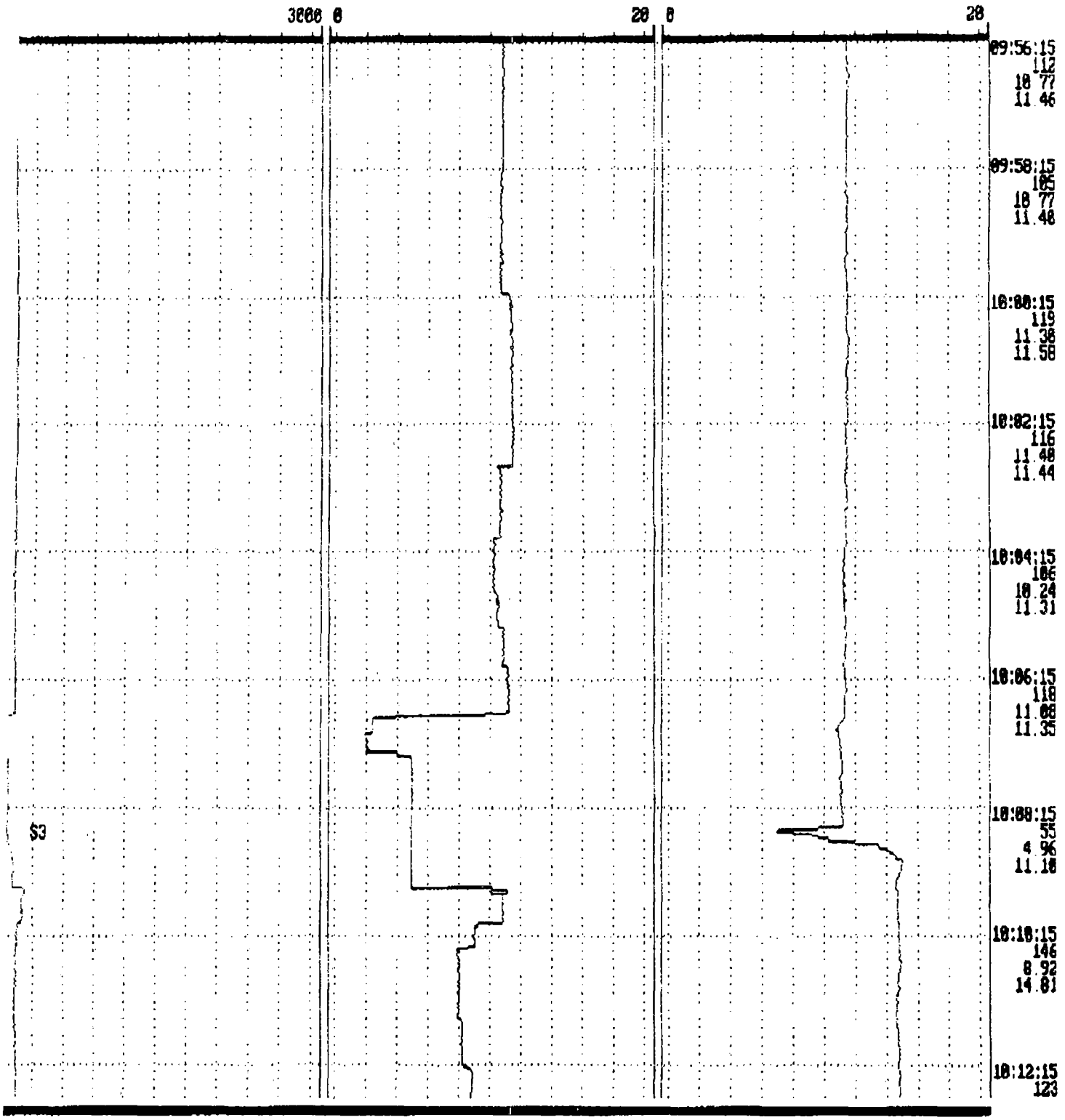
Casing Press (psi)
Slurry Rate (bpm)
Slurry Density (lb/gal)

ORIGINAL



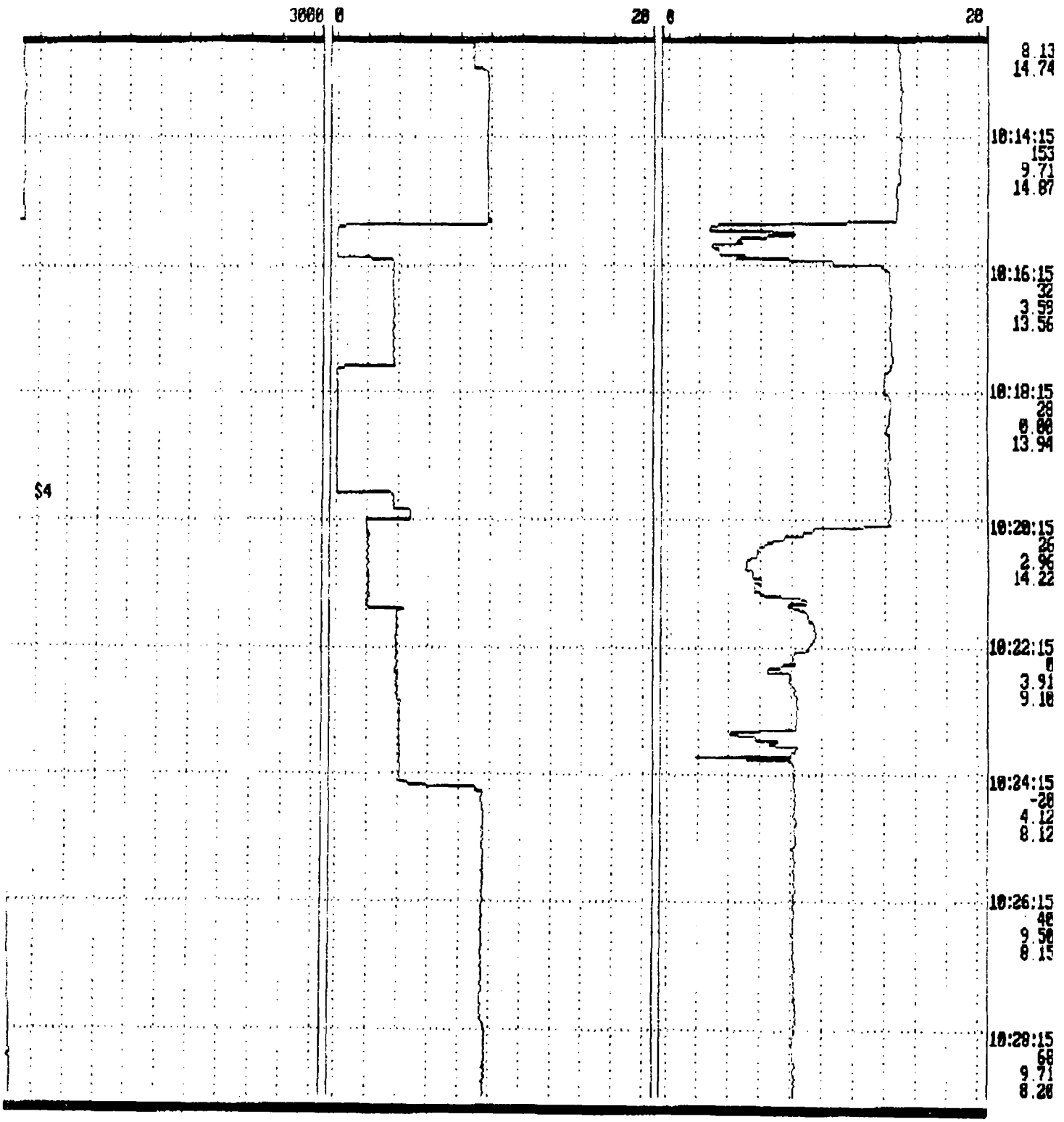
Casing Press (psi)
Slurry Rate (bpm)
Slurry Density (lb/gal)

ORIGINAL



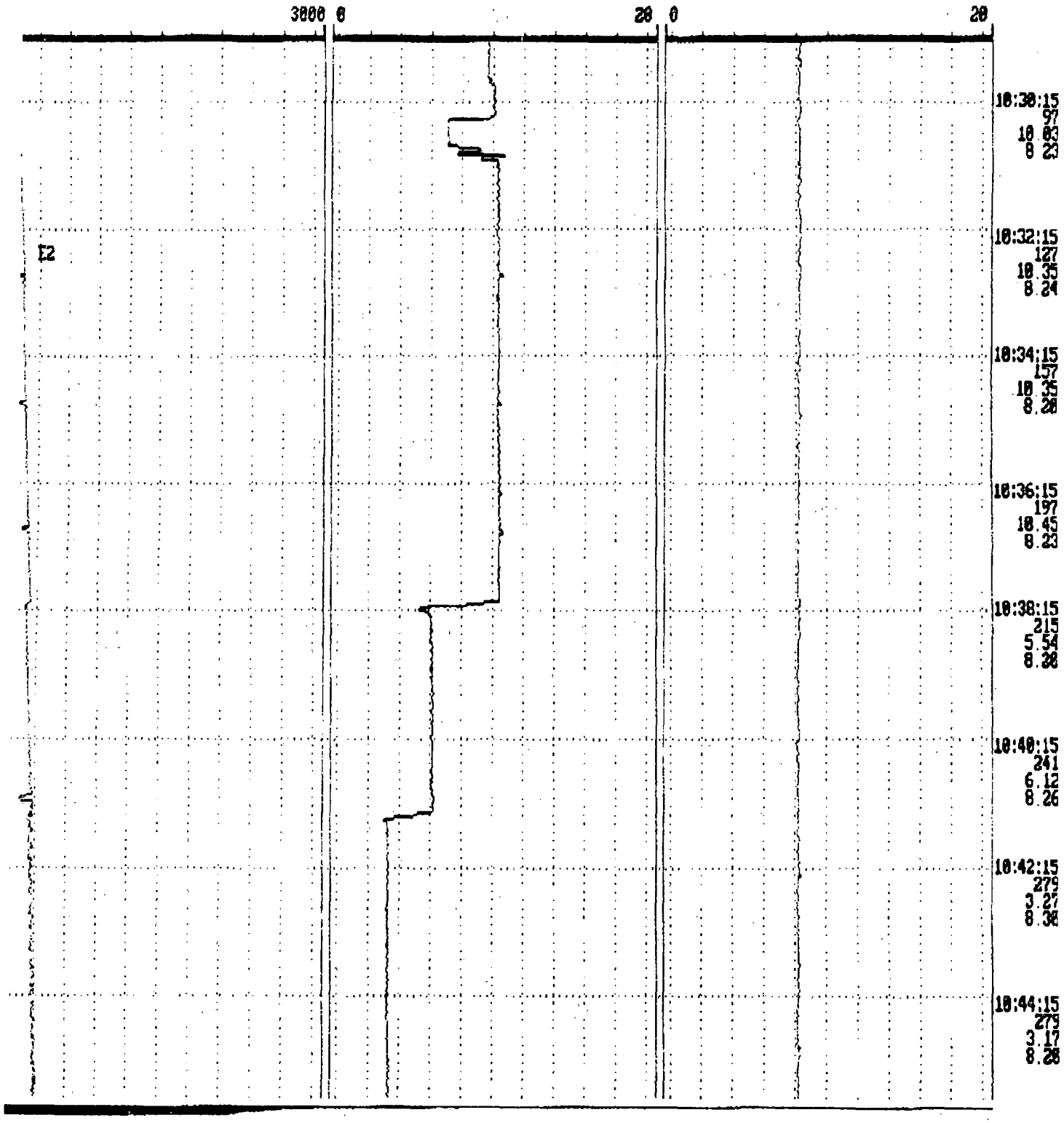
Casing Press (psi)
Slurry Rate (bpm)
Slurry Density (lb/gal)

ORIGINAL



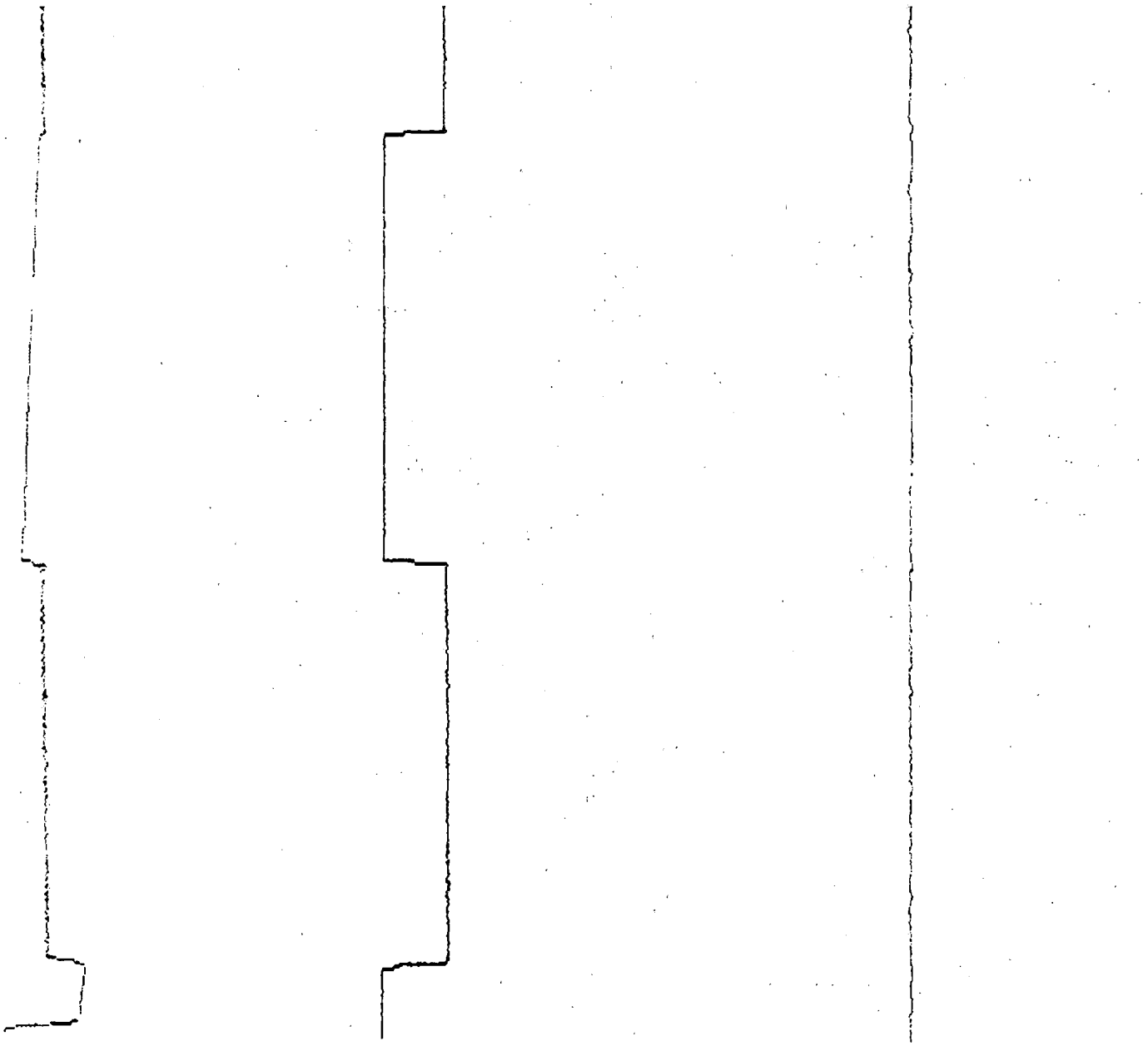
Casing Press (psi)
Slurry Rate (bpm)
Slurry Density (lb/gal)

ORIGINAL



ORIGINAL

CASING PRESS psi		SLURRY RATE bpm		SLURRY DENSITY lb/gal	
3000	0	20	0	20	



Schlumberger
Dowell

Cementing Service Report

Customer	Job Number
HRF EXPLORATION & PRODUCTION	20100542

Well	Location (legal)	Dowell Location	Job Start
POWELL FARMS 1	22,33S,30W	Ulysses KS	3/2/99

Field	Formation Name/Type	Deviation	Bit Size	Well MD	Well TVD
NOVINGER	MORROW	0 °	7.88 in	6,350 ft	6,350 ft

County	State/Province	BHP	BHST	BHCT	Pore Press. Gradient
MEADE	KANSAS	psi	144 °F	115 °F	psi/ft

Rig Name	Drilled For	Service Via
MURFIN 20	Oil & Gas	Land

Offshore Zone	Well Class	Well Type
	New	Development

Drilling Fluid Type	Max. Density	Plastic Viscosity
Bentonite	9.5 lb/gal	30 cp

Service Line	Job Type
Cementing	Cem Prod Casing

Max. Allowed Tubing Pressure	Max. Allowed Ann. Pressure	WellHead Connection
3000 psi	500 psi	Single cement head

Service Instructions

Safely cement 5 1/2" production casing set at approximately 6350 ft.

30 miles

Casing/Liner

Depth, ft	Size, in	Weight, lb/ft	Grade	Thread
6350	5.5	15.5		

Tubing/Drill Pipe

Depth,	Size, in	Weight, lb/ft	Grade	Thread
0	0	0		
0	0	0		

Perforations/Open Hole

Top, ft	Bottom, ft	spf	No. of Shots	Total Interval
				ft
				Diameter
				in

Treat Down	Displacement	Packer Type	Packer Depth
Casing	150.2 bbl		ft

Tubing Vol.	Casing Vol.	Annular Vol.	OpenHole Vol
0 bbl	151.9 bbl	bbl	0 bbl

Casing/Tubing Secured ☑ 1 Hole Volume Circulated prior to Cementing ☐

Lift Pressure: 1000 psi

Pipe Rotated ☐ Pipe Reciprocated ☐

No. Centralizers: 10 Top Plugs: 1 Bottom Plugs: 0

Cement Head Type: Single

Job Scheduled For:	Arrived on Location:	Leave Location:
	3/2/99 3:45	3/2/99 10:30

Casing Tools

Shoe Type:	Guide
Shoe Depth:	6357 ft
Stage Tool Type:	n/a
Stage Tool Depth:	0 ft
Collar Type:	Auto-Fill
Collar Depth:	6312 ft

Squeeze Job

Squeeze Type	
Tool Type:	
Tool Depth:	0 ft
Tail Pipe Size:	0 in
Tail Pipe Depth:	0 ft
Sqz Total Vol:	0 bbl

Time 24-hr clock	CumVol bbl	Density ppg	Elapsed Time min	Pressure U1 psi	Flowrate bpm			Message
8:27	0	0	0	0	0	0	0	START ACQUISITION
8:27	0	-6.25	0	-3496	0	0	0	
8:27	0	-6.25	0	-3496	0	0	0	Start Job
8:27	0	-6.25	0	-3496	0	0	0	Start Pumping Wash
8:30	0	8.143	3.017	0	0	0	0	
8:32	0	8.143	3.017	0	0	0	0	End Wash
8:33	0	8.143	3.017	0	0	0	0	Start Pumping Water
8:33	13.43	8.364	6.017	329.7	5.592	0	0	
8:33	13.43	8.364	6.017	329.7	5.592	0	0	Start Cement Slurry
8:33	13.43	8.364	6.017	329.7	5.592	0	0	(CumVol)=16.24 bbl
8:33	13.43	8.364	6.017	329.7	5.592	0	0	Reset Volume
8:36	13.87	14.27	9.017	284.6	5.62	0	0	
8:39	30.74	14.35	12.03	243.9	5.592	0	0	
8:42	47.61	14.62	15.05	248.4	5.592	0	0	
8:45	64.47	14.36	18.07	234.9	5.592	0	0	
8:45	64.47	14.35	18.07	234.9	5.592	0	0	Shutdown
8:45	64.47	14.35	18.07	234.9	5.592	0	0	PAUSE ACQUISITION
8:52	64.47	14.35	18.07	234.9	5.592	0	0	RESTART AFTER PAUSE
8:52	66.52	12.4	18.52	4.517	0	0	0	wash lines & pump
8:52	66.52	12.4	18.52	4.517	0	0	0	Reset Volume
8:52	66.52	12.4	18.52	4.517	0	0	0	(CumVol)=67.14 bbl
8:53	66.52	12.4	18.52	4.517	0	0	0	Reset Volume

RIGS 97 v2.1-SR

ORIGINAL

Well	Field	Service Date	Customer	Job Number
POWELL FARMS #1	NOVINGER		EXPLORATION & PRODUC	20100542

Time 24 hr Clock	CumVol bbl	Density ppg	Elapsed Time min	Pressure psi	TotRevVol bbl			Message
8:53	66.52	12.4	18.52	4.517	0	0	0	(CumVol)=1.562 bbl
8:53	66.52	12.4	18.52	4.517	0	0	0	Drop Top Plug
8:53	66.52	12.4	18.52	4.517	0	0	0	Start Displacement
8:55	9.812	11.9	21.52	122	5.62	0	0	
8:58	26.62	11.81	24.53	112.9	5.592	0	0	
9:01	43.44	11.76	27.54	108.4	5.592	0	0	
9:04	60.25	11.57	30.54	103.9	5.592	0	0	
9:07	77.07	11.51	33.55	108.4	5.592	0	0	
9:08	77.07	11.51	33.55	108.4	5.592	0	0	Remark
9:10	93.88	11.37	36.56	108.4	5.592	0	0	
9:13	110.7	11.29	39.56	271	5.592	0	0	
9:16	127.5	11.28	42.57	641.4	5.564	0	0	
9:19	143.9	11.3	45.58	844.6	2.684	0	0	lower rate
9:22	150.1	11.16	48.59	871.7	.4194	0	0	
9:23	150.1	11.16	48.59	871.7	.4194	0	0	Bump Top Plug
9:23	150.1	11.16	48.59	871.7	.4194	0	0	Bleed Off Pressure
9:25	151.5	11.26	51.59	-4.517	0	0	0	

Post Job Summary

Average Pump Rates, bpm				Volume of Fluid Injected, bbl			
Slurry	N2	Mud	Maximum Rate	Total Slurry	Mud	Spacer	N2
5.5	0	0	6	66.5	0	15	0

Treating Pressure Summary, psi					Breakdown Fluid		
Maximum	Final	Average	Bump Plug to	Breakdown	Type	Volume	Density
1500	1000	200	1500	0	1	0 bbl	8.34 lb/gal

Avg N2 Percent	Designed Slurry Volume	Displacement	Mix Water Temp	
0 %	68 bbl	152 bbl	55 °F	☐ Cement Circulated to Surface? Volume 0 bbl
				☐ Washed Thru Perfs To 0 ft

Customer or Authorized Representative	Dowell Supervisor		
Eugnen Saloga	Jeff Diseker	☐ CirculationLost	☑ Job Completed

RECEIVED
STATE CORPORATION COMMISSION
JUN 28 1999
CONSERVATION DIVISION
Wichita, Kansas

Well Name: Powell Farms #1
Company: HRF Explor. Prod. Inc.
Location: 22-33s-30w
Meade County Kansas

Date: 3-4-99

ORIGINAL

RECEIVED
KANSAS CORPORATION COMMISSION

JUN 16 1999

CONSERVATION DIVISION
WICHITA, KS

ORIGINAL

TRILOBITE TESTING L.L.C.

OPERATOR : HRP. Explor. Prod. Inc.
WELL NAME: Powell Farems #1
LOCATION : 22-33S-30W Meade co KS
INTERVAL : 5150.00 To 5187.00 ft

DATE 2-22-99
KB 2713.00 ft TICKET NO: 10952 DST #1
GR 2702.00 ft FORMATION: Upper Marmaton
TD 5187.00 ft TEST TYPE: CONVENTIONAL

RECORDER DATA

Mins		Field	1	2	3	4
PF 30	Rec.	10993	10993	3227		
SI 60	Range(Psi)	4250.0	4250.0	4995.0	0.0	0.0
SF 15	Clock(hrs)	12HR.	12HR.	Elet.		
FS 30	Depth(ft)	5184.0	5184.0	5153.0	0.0	0.0

TIME DATA----------
PF Fr. 1512 to 1542 hr
IS Fr. 1542 to 1642 hr
SF Fr. 1642 to 1657 hr
FS Fr. 1657 to 1727 hr

	Field	1	2	3	4
A. Init Hydro	2527.0	2536.0	2550.0	0.0	0.0
B. First Flow	108.0	85.0	16.0	0.0	0.0
B1. Final Flow	108.0	119.0	204.0	0.0	0.0
C. In Shut-in	358.0	357.0	337.0	0.0	0.0
D. Init Flow	108.0	100.0	21.0	0.0	0.0
E. Final Flow	108.0	92.0	42.0	0.0	0.0
F. Fl Shut-in	108.0	101.0	58.0	0.0	0.0
G. Final Hydro	2474.0	2464.0	2464.0	0.0	0.0
Inside/Outside	O	O	I		

T STARTED 1230 hr
T ON BOTM 1510 hr
T OPEN 1512 hr
T PULLED 1727 hr
T OUT 2030 hr

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

Tool Wt.	1800.00 lbs
Wt Set On Packer	25000.00 lbs
Wt Pulled Loose	90000.00 lbs
Initial Str Wt	78000.00 lbs
Unseated Str Wt	78000.00 lbs
Bot Choke	0.75 in
Hole Size	7.78 in
D Col. ID	2.25 in
D. Pipe ID	3.80 in
D.C. Length	244.00 ft
D.P. Length	4903.00 ft

RECOVERY
Tot Fluid 1.00 ft of 1.00 ft in DC and 0.00 ft in DP
1.00 ft of 100% Drilling mud
0.00 ft of
0.00 ft of
0.00 ft of
0.00 ft of
0.00 ft of
0.00 ft of
0.00 ft of
SALINITY 0.00 P.P.M. A.P.I. Gravity 0.00

BLOW DESCRIPTION
Initial Flow:
Weak surface blow
Final Flow:
No blow

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

Mud Type	Chemical
Weight	9.00 lb/cf
Vis.	56.00 S/L
W.L.	8.00 in3
F.C.	0.00 in
Mud Drop	N
Amt. of fill	0.00 ft
Btm. H. Temp.	111.00 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	Mike Colantonio
Co. Rep.	Eugene Saloga
Contr.	Murfin Drlg.
Rig #	20
Unit #	
Pump T.	

SAMPLES: no
SENT TO:

Test Successful: Y

*** TOOL DIAGRAM *** CONVENTIONAL

WELL NAME: Powell Farems #1

LOCATION : 22-33S-30W Meade co KS

TICKET No. 10952 D.S.T. No. 1 DATE 2-22-99

TOTAL TOOL TO BOTTOM OF TOP PACKERS 30

INTERVAL TOOL .....

BOTTOM PACKERS AND ANCHOR 37

TOTAL TOOL 67

DRILL COLLAR ANCHOR IN INTERVAL .....

D.C. ANCHOR STND.Stands Single Total

D.P. ANCHOR STND.Stands Single Total

TOTAL ASSEMBLY .....

D.C. ABOVE TOOLS.Stands4 Single Total 244

D.P. ABOVE TOOLS.Stands78 Single 1 Total 4903

TOTAL DRILL COLLARS DRILL PIPE & TOOLS .. 5214

TOTAL DEPTH 5187

TOTAL DRILL PIPE ABOVE K.B. 27ft

REMARKS:

SAMPLER DATA

1000ml Mud

50PSI.

1000ml Total

P.O. SUB 1ft	5121
C.O. SUB	
S.I. TOOL Sterling	5126
3ft Sampler	5129
HMV Sterling	5134
JARS Sterling	5139
SAFETY JOINT Bowens	5141
PACKER 5ft	5145
PACKER 5ft	5150
DEPTH	
STUBB 1ft	5151
ANCHOR	
2ft Perf	5153
Alpine Rec.	5153
T.C.	
DEPTH	
5ft P.U. Sub	5158
25ft perf	5183
AK-1 Rec.	5184
BULLNOSE	
T.D. 4ft Bullplug	5187

TEST HISTORY

10952 DST #1 Powell Farm #1 HRP. Explor. Prod. Inc.

Flag Points

	t(Min.)	P(PSIg)
A:	0.00	2550.75
B:	0.00	16.39
C:	29.50	204.56
D:	60.50	337.16
E:	0.00	21.73
F:	13.25	42.76
G:	39.00	58.66
Q:	0.00	2464.32

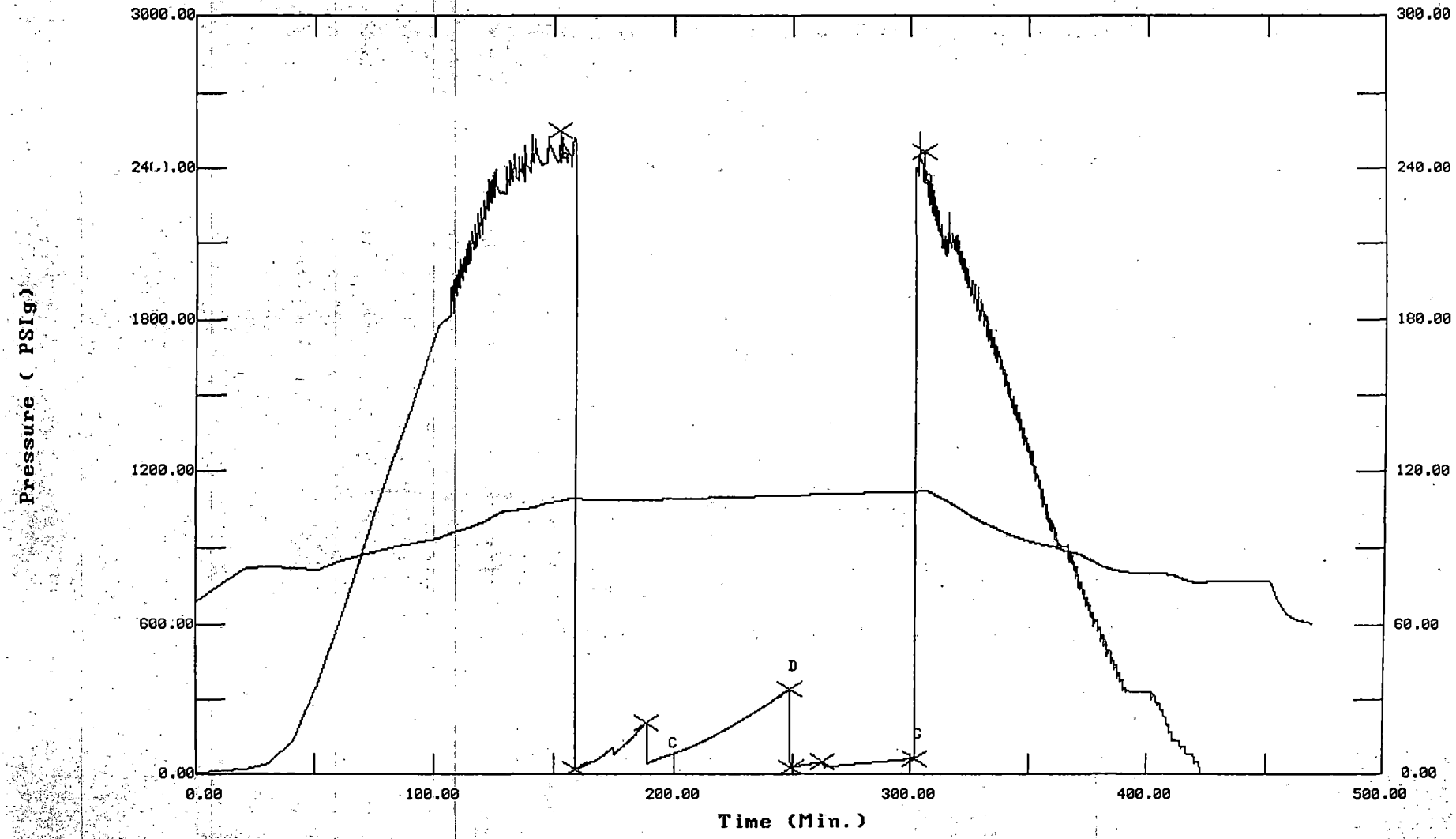
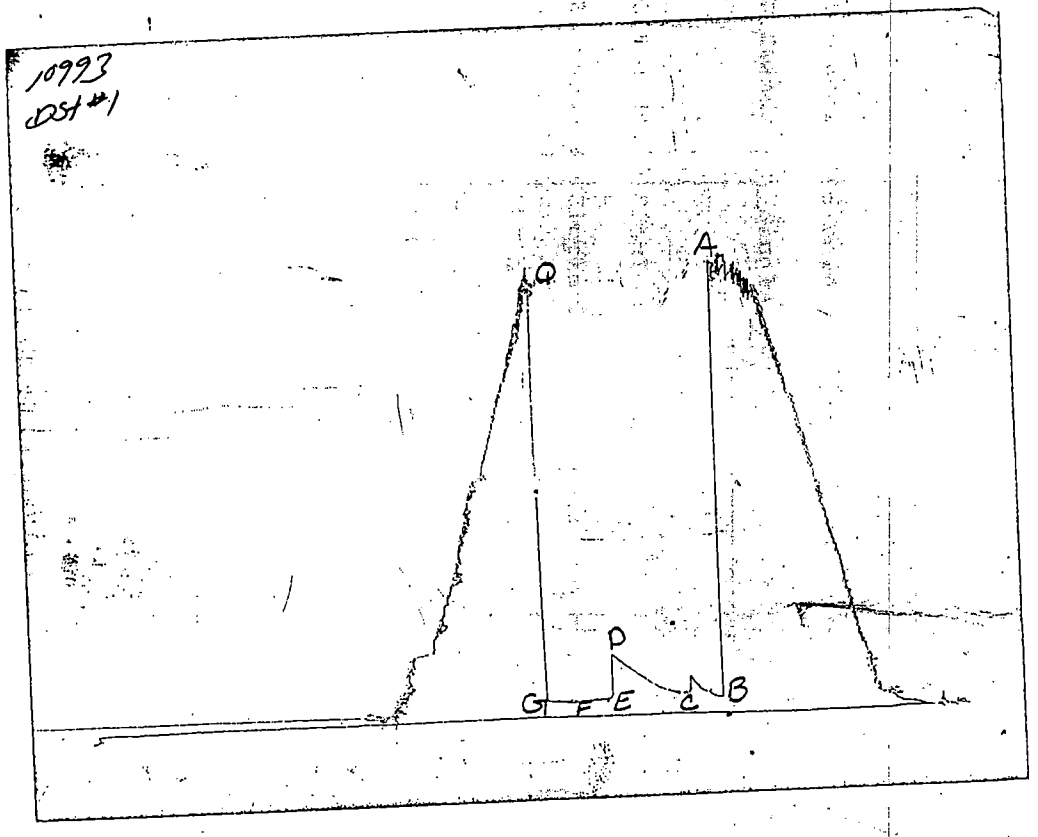


CHART PAGE



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

TRILOBITE TESTING L.L.C.

P.O. Box 362 • Hays, Kansas 67601

Test Ticket

No. 10952

Well Name & No. Powell Farms #1 Test No. #1 Date 2-22-99

Company HRP Exploration & Prod Inc. Zone Tested Upper Marmaton

Address 1260 S-Otsego Ave. Gaylord Michigan 49735 Elevation 2713 KB 2702 GL

Co. Rep / Geo. Jim Dilts Cont. Murfin #20 Est. Ft. of Pay 3 Por. ? %

Location: Sec. 22 Twp. 33S Rge. 30W Co. Meade State KS.

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

Interval Tested 5150 - 5187 Initial Str Wt./Lbs. 76,000 Unseated Str Wt./Lbs. 76,000

Anchor Length 37' Wt. Set Lbs. 25,000 Wt. Pulled Loose/Lbs. 90,000

Top Packer Depth 5145' Tool Weight 1,800

Bottom Packer Depth 5150 Hole Size — 7 7/8" X Rubber Size — 6 3/4" X

Total Depth 5187 Wt. Pipe Run ____ Drill Collar Run 244'

Mud Wt. 9.0 LCM 2# Vis. 56 WL 8.0 Drill Pipe Size 4.5X-0 Ft. Run ~~5541~~ 4903'

Blow Description Weak Surface Blow

2nd. Opening NO Blow

Recovery — Total Feet 1 GIP ____ Ft. in DC 1 Ft. in DP ____

Rec. 1 Feet Of D/S Mud %gas ____ %oil ____ %water 100 %mud

Rec. ____ Feet Of ____ %gas ____ %oil ____ %water ____ %mud

Rec. ____ Feet Of ____ %gas ____ %oil ____ %water ____ %mud

Rec. ____ Feet Of ____ %gas ____ %oil ____ %water ____ %mud

Rec. ____ Feet Of ____ %gas ____ %oil ____ %water ____ %mud

BHT 111 °F Gravity ____ °API D@ ____ °F Corrected Gravity ____ °API

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

(A) Initial Hydrostatic Mud	2550 PSI	Recorder No.	3227	T-Started	12:30
(B) First Initial Flow Pressure	16 PSI	(depth)	5153	T-Open	3:12 pm
(C) First Final Flow Pressure	204 PSI	Recorder No.	16993	T-Pulled	5:07 pm
(D) Initial Shut-in Pressure	337 PSI	(depth)	5184	T-Out	10 30
(E) Second Initial Flow Pressure	21 PSI	Recorder No.			
(F) Second Final Flow Pressure	42 PSI	(depth)			
(G) Final Shut-in Pressure	58 PSI	Initial Opening	30 min	Test	✓ Conventional 800
(H) Final Hydrostatic Mud	2464 PSI	Initial Shut-in	60 min	Jars	✓ 200
		Final Flow	15 min	Safety Joint	✓ 50
		Final Shut-in	30 min	Straddle	____
				Circ. Sub	✓ N/C
				Sampler	✓ 200
				Extra Packer	____
				Elect. Rec.	✓ 150
				Other	18 HRS on Loc. 200

BHP's

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 [signature]

TRILOBITE TESTING L.L.C.

OPERATOR : HRF. Explor. Prod. Inc. DATE 2-23-99
WELL NAME: Powell Farems #1 KB 2713.00 ft TICKET NO: 10953 DST #2
LOCATION : 22-33S-30W Meade co KS GR 2702.00 ft FORMATION: Nonvinger
INTERVAL : 5267.00 To 5290.00 ft TD 5290.00 ft TEST TYPE: CONVENTIONAL

RECORDER DATA

Mins		Field	1	2	3	4
PF 30	Rec.	10993	10993	3227		
SI 60	Range(Psi)	4250.0	4250.0	4995.0	0.0	0.0
SF 75	Clock(hrs)	12HR.	12HR.	Elet.		
FS 120	Depth(ft)	5287.0	5287.0	5270.0	0.0	0.0

TIME DATA----------
PF Fr. 1426 to 1456 hr
IS Fr. 1456 to 1556 hr
SF Fr. 1556 to 1711 hr
FS Fr. 1711 to 1911 hr

	Field	1	2	3	4
A. Init Hydro	2686.0	2639.0	2645.0	0.0	0.0
B. First Flow	54.0	73.0	41.0	0.0	0.0
B1. Final Flow	65.0	76.0	52.0	0.0	0.0
C. In Shut-in	1564.0	1579.0	1580.0	0.0	0.0
D. Init Flow	97.0	105.0	56.0	0.0	0.0
E. Final Flow	119.0	117.0	104.0	0.0	0.0
F. Fl Shut-in	1585.0	1595.0	1598.0	0.0	0.0
G. Final Hydro	2527.0	2541.0	2582.0	0.0	0.0
Inside/Outside		O	O	I	

T STARTED 1145 hr
T ON BOTM 1424 hr
T OPEN 1426 hr
T PULLED 1911 hr
T OUT 2215 hr

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

Tool Wt.	1800.00 lbs
Wt Set On Packer	25000.00 lbs
Wt Pulled Loose	90000.00 lbs
Initial Str Wt	78000.00 lbs
Unseated Str Wt	80000.00 lbs
Bot Choke	0.75 in
Hole Size	7.78 in
D Col. ID	2.25 in
D. Pipe ID	3.80 in
D.C. Length	244.00 ft
D.P. Length	4998.00 ft

RECOVERY
Tot Fluid 135.00 ft of 135.00 ft in DC and 0.00 ft in DP
15.00 ft of Gassy - Slightly Oil Cut Water
0.00 ft of 28% gas - 2% oil - 70% mud
120.00 ft of Muddy Water 75% Water - 25% Mud
0.00 ft of
0.00 ft of
0.00 ft of
0.00 ft of
0.00 ft of
SALINITY 75000.00 P.P.M. A.P.I. Gravity 0.00

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

Mud Type	Chemical
Weight	9.10 lb/cf
Vis.	51.00 S/L
W.L.	8.00 in3
F.C.	0.00 in
Mud Drop Y	50.0 ft
Amt. of fill	0.00 ft
Btm. H. Temp.	122.00 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	Mike Colantonio
Co. Rep.	Eugene Saloga
Contr.	Murfin Drlg.
Rig #	20
Unit #	
Pump T.	

BLOW DESCRIPTION
Initial Flow:
Slow building blow built to 6"

Final Flow:
Weak blow built to 3.5"

SAMPLES: no
SENT TO:

Test Successful: Y

*** TOOL DIAGRAM *** CONVENTIONAL

LL NAME: Powell Farems #1

CATION : 22-33S-30W

CKET No. 10953 D.S.T. No. 2 DATE 2-23-99

TAL TOOL TO BOTTOM OF TOP PACKERS 30

TERVAL TOOL .....

TTOM PACKERS AND ANCHOR 23

TAL TOOL 53

ILL COLLAR ANCHOR IN INTERVAL .....

C. ANCHOR STND.Stands Single Total

P. ANCHOR STND.Stands Single Total

TAL ASSEMBLY .....

C. ABOVE TOOLS.Stands4 Single Total 244

P. ABOVE TOOLS.Stands80 Single Total 4998

TAL DRILL COLLARS DRILL PIPE & TOOLS .. 5295

TAL DEPTH 5290

TAL DRILL PIPE ABOVE K.B. 5ft

MARKS:

SAMPLER DATA

00ml Water

5Psi

00ml Total

RW.120 68Temp
75000 Chlorides

P.O. SUB 1ft 5237
C.O. SUB

S.I. TOOL Sterling 5238

3ft Sampler 5246

HMV Sterling 5251

JARS Sterling 5256

SAFETY JOINT Bowens 5258

PACKER 5ft 5262

PACKER 5ft 5267
DEPTH
STUBB 1ft 5268
ANCHOR

2ft Perf 5270

Alpine Rec. 5270

T.C.
DEPTH

5ft P.U. Sub 5275

11ft perf 5286

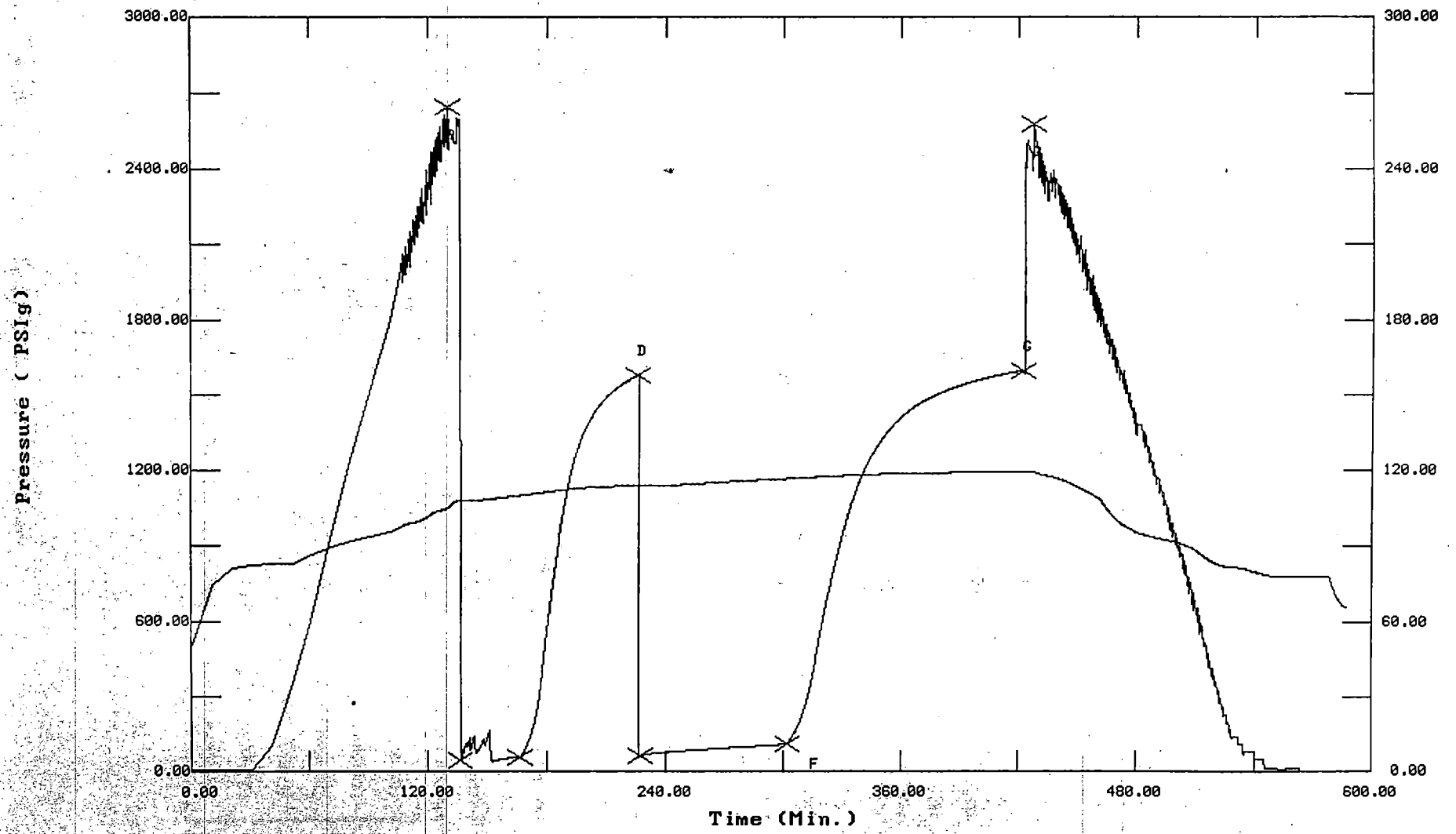
AK-1 Rec. 5287
BULLNOSE
T.D. 4ft Bullplug 5290

TEST HISTORY

10953 DST #2 Powell Farms #1 HRF Explor. Prod. Inc.

Flag Points

	t(Min.)	P(PSIg)
A:	0.00	2645.98
B:	0.00	41.12
C:	30.25	52.98
D:	59.50	1580.53
E:	0.00	56.26
F:	75.25	104.63
G:	120.25	1598.50
Q:	0.00	2582.08



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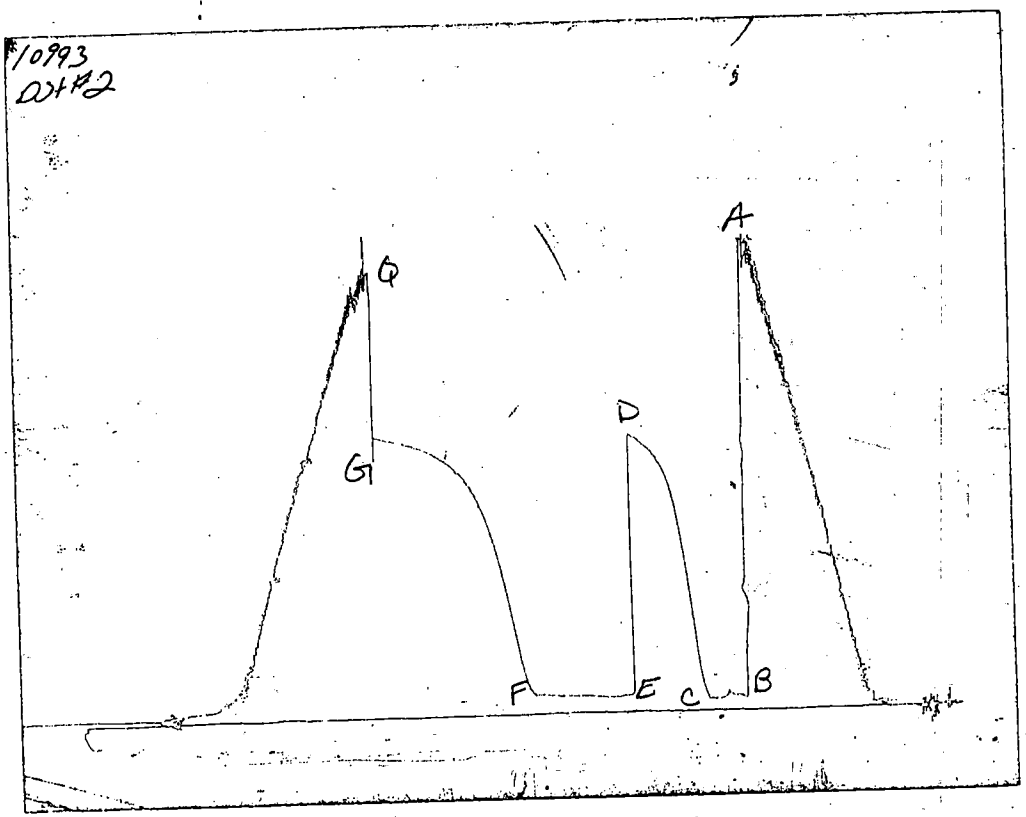


This is a photocopy of the actual AK-1 recorder chart

TRILOBITE TESTING L.L.C.

P.O. Box 362 • Hays, Kansas 67601

Test Ticket

№ 10953

Well Name & No. Dowell Farms #1 Test No. #2 Date 2-23-99

Company HRF Exploration & Prod. Inc. Zone Tested Novinger

Address Michigan 49735 Elevation 2713 KB 2702 GL

Co. Rep / Geo. Jim Oilts Cont. Murfin #20 Est. Ft. of Pay 7 Por. ? %

Location: Sec. 22 Twp. 33S Rge. 30W Co. Meade State KS.

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

Interval Tested 5267 - 5290 Initial Str Wt./Lbs. 78,000 Unseated Str Wt./Lbs. 80,000

Anchor Length 23' Wt. Set Lbs. 25,000 Wt. Pulled Loose/Lbs. 90,000

Top Packer Depth 5262 Tool Weight 1,800

Bottom Packer Depth 5267 Hole Size — 7 7/8" X Rubber Size — 6 3/4" X

Total Depth 5290 Wt. Pipe Run ____ Drill Collar Run 244'

Mud Wt. 9.1 LCM 2# Vis. 51 WL 8.0 Drill Pipe Size 4.5X-D Ft. Run 4998

Blow Description Slow Building Blow Built to 6"

2nd. Opening Weak Blow Built to 3½"

Recovery — Total Feet 135 GIP 45' Ft. in DC ____ Ft. in DP ____

Rec. 15 Feet Of G-S-O-C-W 28 %gas 2 %oil %water 70 %mud

Rec. ____ Feet Of ____ %gas %oil %water %mud

Rec. 120 Feet Of M-W %gas %oil 75 %water 25 %mud

Rec. ____ Feet Of ____ %gas %oil %water %mud

Rec. ____ Feet Of ____ %gas %oil %water %mud

BHT 122 °F Gravity ____ °API D@ ____ °F Corrected Gravity ____ °API

RW .120 @ 68 °F Chlorides 75,000 ppm Recovery Chlorides 2000 ppm System

(A) Initial Hydrostatic Mud	2645	2686	PSI	Recorder No.	3277	T-Started 11:45 am
(B) First Initial Flow Pressure	41	54	PSI	(depth)	5270	T-Open 2:26 pm
(C) First Final Flow Pressure	52	65	PSI	Recorder No.	10993	T-Pulled 7:11 pm
(D) Initial Shut-in Pressure	1580	1564	PSI	(depth)	5287	T-Out 10:15 pm
(E) Second Initial Flow Pressure	56	97	PSI	Recorder No.	____	
(F) Second Final Flow Pressure	104	119	PSI	(depth)	____	
(G) Final Shut-in Pressure	1598	1585	PSI	Initial Opening	30 min	Test ✓ Conventional 8-50
(H) Final Hydrostatic Mud	2582	2527	PSI	Initial Shut-in	60 min	Jars ✓ 200
	Alpha	Alt		Final Flow	75 min	Safety Joint ✓ 50
				Final Shut-in	120 min	Straddle ____
						Circ. Sub ✓ N/C
						Sampler ✓ 200
						Extra Packer ____
						Elect. Rec. ✓ 150
						Other ____

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 Eugene Galoga

TRILOBITE TESTING L.L.C.

OPERATOR : HRF. Explor. Prod. Inc. DATE 2-25-99
WELL NAME: Powell Farems #1 KB 2713.00 ft TICKET NO: 10954 DST #3
LOCATION : 22-33S-30W Meade co KS GR 2702.00 ft FORMATION: Morrow
INTERVAL : 5267.00 To 5290.00 ft TD 5290.00 ft TEST TYPE: CONVENTIONAL

RECORDER DATA

Mins		Field	1	2	3	4
PF 30	Rec.	10993	10993	3227		
SI 60	Range(Psi)	4250.0	4250.0	4995.0	0.0	0.0
SF 30	Clock(hrs)	12HR.	12HR.	Elet.		
FS 60	Depth(ft)	5287.0	5287.0	5270.0	0.0	0.0

TIME DATA----------
PF Fr. 1238 to 1308 hr
IS Fr. 1308 to 1408 hr
SF Fr. 1408 to 1438 hr
FS Fr. 1438 to 1538 hr

	Field	1	2	3	4
A. Init Hydro	2845.0	2815.0	2771.0	0.0	0.0
B. First Flow	163.0	178.0	111.0	0.0	0.0
B1. Final Flow	217.0	233.0	223.0	0.0	0.0
C. In Shut-in	97.0	98.0	64.0	0.0	0.0
D. Init Flow	54.0	68.0	15.0	0.0	0.0
E. Final Flow	54.0	61.0	19.0	0.0	0.0
F. Fl Shut-in	76.0	71.0	32.0	0.0	0.0
G. Final Hydro	2739.0	2718.0	2712.0	0.0	0.0
Inside/Outside	O	O	I		

T STARTED 1000 hr
T ON BOTM 1236 hr
T OPEN 1238 hr
T PULLED 1538 hr
T OUT 1815 hr

RECOVERY
Tot Fluid 2.00 ft of 2.00 ft in DC and 0.00 ft in DP
2.00 ft of 100% Drilling mud
0.00 ft of
0.00 ft of
0.00 ft of
0.00 ft of
0.00 ft of
0.00 ft of
SALINITY 0.00 P.P.M. A.P.I. Gravity 0.00

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

Tool Wt.	1800.00 lbs
Wt Set On Packer	25000.00 lbs
Wt Pulled Loose	90000.00 lbs
Initial Str Wt	80000.00 lbs
Unseated Str Wt	80000.00 lbs
Bot Choke	0.75 in
Hole Size	7.78 in
D Col. ID	2.25 in
D. Pipe ID	3.80 in
D.C. Length	244.00 ft
D.P. Length	5467.00 ft

BLOW DESCRIPTION
Initial Flow:
Weak blow throughout
Final Flow:
Weak blow built to .5" died in 20 min.

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

Mud Type	Chemical
Weight	9.10 lb/cf
Vis.	54.00 S/L
W.L.	8.80 in3
F.C.	0.00 in
Mud Drop Y	25.0 ft
Amt. of fill	0.00 ft
Btm. H. Temp.	127.00 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	Mike Colantonio
Co. Rep.	Eugene Saloga
Contr.	Murfin Drlg.
Rig #	20
Unit #	
Pump T.	

SAMPLES: no
SENT TO:

Test Successful: Y

*** TOOL DIAGRAM *** CONVENTIONAL

ELL NAME: Powell Farems #1

OCATION : 22-33S-30W Meade co KS

ICKET No. 10954 D.S.T. No. 3 DATE 2-25-99

OTAL TOOL TO BOTTOM OF TOP PACKERS 30

NTERVAL TOOL .....

OTTOM PACKERS AND ANCHOR 15

OTAL TOOL 45

RILL COLLAR ANCHOR IN INTERVAL .....

.C. ANCHOR STND.Stands Single Total

.P. ANCHOR STND.Stands Single 1 Total 31

OTAL ASSEMBLY .....

.C. ABOVE TOOLS.Stands4 Single Total 244

.P. ABOVE TOOLS.Stands90 Single 1 Total 5467

OTAL DRILL COLLARS DRILL PIPE & TOOLS .. 5756

OTAL DEPTH 5754

OTAL DRILL PIPE ABOVE K.B. 2ft

EMARKS:

SAMPLER DATA

000ml Muder

5 Psi

000ml Total

P.O. SUB 1ft	5678
C.O. SUB	
S.I. TOOL Sterling	5679
3ft Sampler	5687
HMV Sterling	5692
JARS Sterling	5697
SAFETY JOINT Bowens	5699
PACKER 5ft	5703
PACKER 5ft	5708
DEPTH	
STUBB 1ft	5709
ANCHOR	
2ft Perf	5711
Alpine Rec.	5711
T.C.	
DEPTH	
5ft P.U. Sub	5716
2Perf	5718
31ft Pipe	5749
1ft sub	5750
AK-1 Rec.	5751
BULLNOSE	
T.D. 4ft Bullplug	5754

TEST HISTORY

10954 DST #3 Powell Farms #1 HRF Exploration & Prod. Inc.

Flag Points

	t(Min.)	P(PSIg)
A:	0.00	2771.27
B:	0.00	111.46
C:	23.25	223.47
D:	66.25	64.27
E:	0.00	19.07
F:	59.75	32.89
Q:	0.00	2712.69

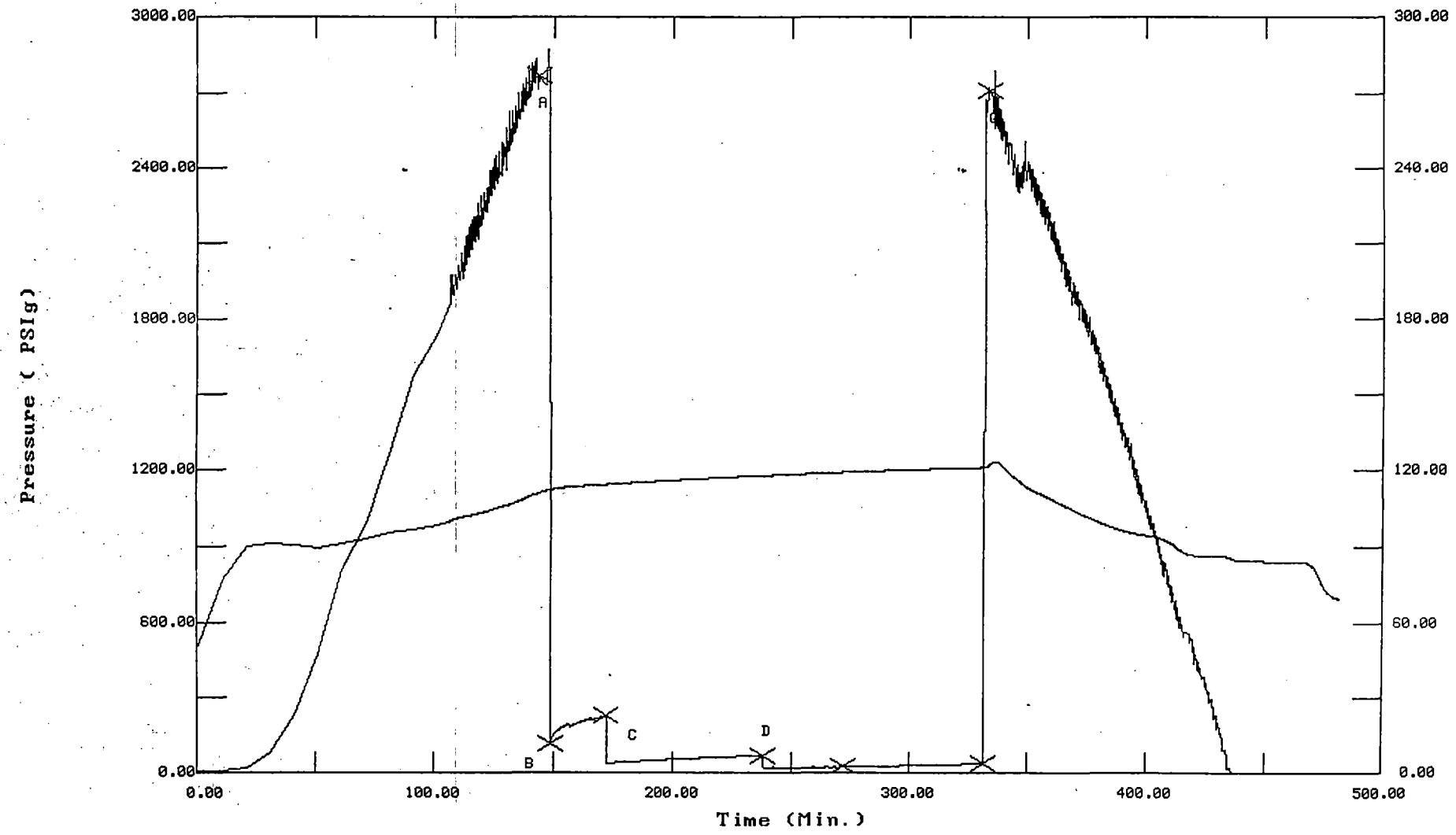
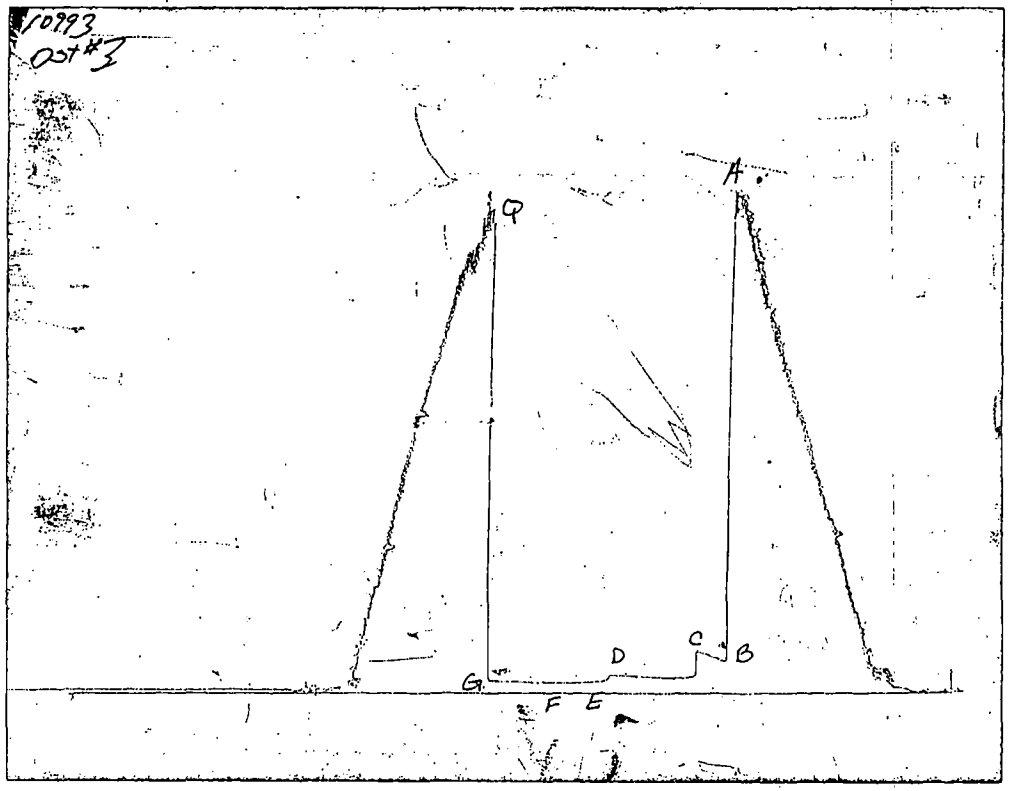


CHART PAGE



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

TRILOBITE TESTING L.L.C.

P.O. Box 362 • Hays, Kansas 67601

Test Ticket

№ 10954

Well Name & No. Powell Farms #1 Test No. #3 Date 2-25-99

Company HRE Exploration & Prod. Inc. Zone Tested Morrow

Address Michigan Elevation 2763 KB 2702 GL

Co. Rep / Geo. Jim Dilts Cont. Murfin #20 Est. Ft. of Pay ? Por. ? %

Location: Sec. 22 Twp. 33S Rge. 30W Co. Meade State Ks.

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

Interval Tested 5708 - 5754 Initial Str Wt./Lbs. 80000 Unseated Str Wt./Lbs. 80000

Anchor Length 46' Wt. Set Lbs. 25000 Wt. Pulled Loose/Lbs. 99000

Top Packer Depth 5703 Tool Weight 1800

Bottom Packer Depth 5708 Hole Size — 7 7/8" X Rubber Size — 6 3/4" X

Total Depth 5754 Wt. Pipe Run ____ Drill Collar Run 244'

Mud Wt. 9.1 LCM 2 Vis. 54 WL 8.8 Drill Pipe Size 4.5 XH Ft. Run 5467

Blow Description Weak Surface Blow throughout.

Ind. opening Weak Blow Built to 1/2" Died in 20 min

Recovery — Total Feet 2 GIP ____ Ft. in DC 2 Ft. in DP ____

Rec. 2 Feet Of Oily mud %gas %oil %water 100 %mud

Rec. ____ Feet Of ____ %gas %oil %water %mud

Rec. ____ Feet Of ____ %gas %oil %water %mud

Rec. ____ Feet Of ____ %gas %oil %water %mud

Rec. ____ Feet Of ____ %gas %oil %water %mud

BHT 127 °F Gravity ____ °API D@ ____ °F Corrected Gravity ____ °API

RW ____ @ ____ °F Chlorides ____ ppm Recovery Chlorides 3,000 ppm System

(A) Initial Hydrostatic Mud	2771 PSI	Recorder No.	3227	T-Started	10:00 Am.
(B) First Initial Flow Pressure	111 PSI	(depth)	5711	T-Open	12:38 pm
(C) First Final Flow Pressure	223 PSI	Recorder No.	10993	T-Pulled	3:38 pm.
(D) Initial Shut-in Pressure	64 PSI	(depth)	5751	T-Out	6:15 pm
(E) Second Initial Flow Pressure	15 PSI	Recorder No.	____		
(F) Second Final Flow Pressure	19 PSI	(depth)	____		
(G) Final Shut-in Pressure	32 PSI	Initial Opening	30 min	Test	✓ Conventional
(H) Final Hydrostatic Mud	2712 PSI	Initial Shut-in	60 min	Jars	✓
	Again	Final Flow	30 min	Safety Joint	✓
		Final Shut-in	60 min.	Straddle	____
				Circ. Sub	✓ N/C
				Sampler	✓
				Extra Packer	____
				Elect. Rec.	✓
				Other	____
				TOTAL PRICE $	____

Approved By James L. Dilts

Our Representative Mike Clarke

TRILOBITE TESTING L.L.C.

OPERATOR : HRF Explor. & Prod. CO. DATE 2-26-99
WELL NAME: Powell Farms #1 KB 2713.00 ft TICKET NO: 10955 DST #4
LOCATION : 22-33s-30w Meade co KS GR 2702.00 ft FORMATION: Chester
INTERVAL : 5738.00 To 5930.00 ft TD 5930.00 ft TEST TYPE: CONV

RECORDER DATA

Mins		Field	1	2	3	4
PF 30	Rec.	10993	10993	3227		
SI 60	Range(Psi)	4250.0	4250.0	4995.0	0.0	0.0
SF 60	Clock(hrs)	12	12	12		
FS 90	Depth(ft)	5927.0	5927.0	5741.0	0.0	0.0

TIME DATA
PF Fr. 1600 to 1630 hr
IS Fr. 1630 to 1730 hr
SF Fr. 1730 to 1830 hr
FS Fr. 1830 to 2000 hr

	Field	1	2	3	4
A. Init Hydro	3004.0	2951.0	2744.0	0.0	0.0
B. First Flow	184.0	177.0	54.0	0.0	0.0
B1. Final Flow	163.0	172.0	70.0	0.0	0.0
C. In Shut-in	1188.0	1366.0	1300.0	0.0	0.0
D. Init Flow	184.0	172.0	41.0	0.0	0.0
E. Final Flow	184.0	181.0	77.0	0.0	0.0
F. Fl Shut-in	1214.0	1341.0	1298.0	0.0	0.0
G. Final Hydro	2845.0	2813.0	2756.0	0.0	0.0
Inside/Outside	O	O	i		

T STARTED 1330 hr
T ON BOTM 1555 hr
T OPEN 1600 hr
T PULLED 2000 hr
T OUT 0000 hr

RECOVERY
Tot Fluid 130.00 ft of 130.00 ft in DC and 0.00 ft in DP
130.00 ft of Drilling mud
0.00 ft of
0.00 ft of
0.00 ft of
0.00 ft of
0.00 ft of
0.00 ft of
0.00 ft of
SALINITY 0.00 P.P.M. A.P.I. Gravity 0.00

TOOL DATA

Tool Wt.	2100.00 lbs
Wt Set On Packer	25000.00 lbs
Wt Pulled Loose	90000.00 lbs
Initial Str Wt	80000.00 lbs
Unseated Str Wt	80000.00 lbs
Bot Choke	0.75 in
Hole Size	7.88 in
D Col. ID	2.25 in
D. Pipe ID	3.80 in
D.C. Length	244.00 ft
D.P. Length	5624.00 ft

BLOW DESCRIPTION
Initial Flow:
Strong blow bottom of bucket in 1 min.
Final Flow:
Strong blow bottom of bucket as soon as open tool gas to surface in 6 mins.

MUD DATA

Mud Type	Chemical
Weight	9.10 lb/cf
Vis.	57.00 S/L
W.L.	7.20 in3
F.C.	0.00 in
Mud Drop	
Amt. of fill	0.00 ft
Btm. H. Temp.	129.00 F
Hole Condition	
% Porosity	0.00
Packer Size	6.75 in
No. of Packers	2
Cushion Amt.	0.00
Cushion Type	
Reversed Out	
Tool Chased	
Tester	Mike Colantonio
Co. Rep.	Jim Dilts
Contr.	Murfin
Rig #	20
Unit #	
Pump T.	

SAMPLES:
SENT TO:

Test Successful: Y

*** TOOL DIAGRAM *** CONV

WELL NAME: Powell Farms #1

LOCATION : 22-33s-30w Meade co KS

TICKET No. 10955 D.S.T. No. 4 DATE 2-26-99

TOTAL TOOL TO BOTTOM OF TOP PACKERS 30

INTERVAL TOOL .....

BOTTOM PACKERS AND ANCHOR 40

TOTAL TOOL 70

DRILL COLLAR ANCHOR IN INTERVAL .....

D.C. ANCHOR STND.Stands Single Total

D.P. ANCHOR STND.Stands 2 Single 1 Total 152

TOTAL ASSEMBLY 222

D.C. ABOVE TOOLS.Stands4 Single Total 244

D.P. ABOVE TOOLS.Stands89 Single Total 5472

TOTAL DRILL COLLARS DRILL PIPE & TOOLS .. 5938

TOTAL DEPTH 5930

TOTAL DRILL PIPE ABOVE K.B. 8

REMARKS:
Sampler Data

.9 Cubic feet gas
250 ml mud
100 PSI

P.O. SUB 1 ft	5708
C.O. SUB	
S.I. TOOL Sterling	5714
3 ft sampler	5717
HMV Sterling	5722
JARS Sterling	5727
SAFETY JOINT Bowens	5729
PACKER 5 ft	5733
PACKER 5 ft	5738
DEPTH	
STUBB 1 ft	5739
ANCHOR	
Alpine rec @	5741
3 ft P.U. sub	5744
T.C.	
DEPTH	
30 ft perfs	5774
A-K 1 rec @	5927
152 ft drill pipe	5926
BULLNOSE	
T.D. 4 ft bull plug	5930

GAS RECOVERY

COMPANY: HRF Explor. & Prod. CO. DATE: 2-26-99
WELL NAME: Powell Farms #1 KB Elev: 2713.00 ft TICKET #10955 DST #4
WELL LOCATION: 22-33s-30w Meade co KS GR Elev: 2702.00 ft FORMATION: Chester
INTERVAL Fr.: 5738.00 To 5930.00 T.D.: 5930.00 ft TEST TYPE: CONV

GAS RECOVERY MEASURED WITH Merla Gauge

***** GAS RATES FOR FLOW #2

Time (min)	Orifice (in)	Pressure (Psi)	H2O (in)	Rate (cf/d)
10	0.25	0	15	6550.0
20	0.25	0	20	7510.0
30	0.25	0	20	7510.0
40	0.25	0	19	7320.0
50	0.25	0	15	6550.0
60	0.25	0	15	6550.0

NATURAL GAS ANALYSIS REPORT

Sampled by:
Trilobite Testing, L. L. C.
Hays, Kansas
Scott City, Kansas
Phone: 800-728-5369
Fax: 913-625-5620

Analyzed by:
Caraway Analytical, Inc
P. O. Box 2137
Liberal, Kansas 67905
Phone: 316-624-5389
Fax: 316-626-7108

Lab Number:	990954	Analyzed:	03/02/99
Sample From:	Powell Farms #1 DST 4	Pressure:	
Producer:	HRC Exploration	Temperature:	
Date:		Location:	22-33-30
Time:		County:	Meade
Sampler:		State:	Kansas
Source:		Formation:	Chester

		Mole %	GPM
Helium	He:	0.130	0.000
Hydrogen	H2:	0.002	0.000
Oxygen	O2:	1.781	0.000
Nitrogen	N2:	13.019	0.000
Carbon Dioxide	CO2:	0.072	0.000
Methane	C1:	73.089	0.000
Ethane	C2:	5.816	1.555
Propane	C3:	3.656	1.007
Iso Butane	iC4:	0.463	0.151
Normal Butane	nC4:	0.939	0.296
Iso Pentane	iC5:	0.231	0.085
Normal Pentane	nC5:	0.265	0.096
Hexanes Plus	C6+:	0.537	0.234
	TOTAL:	100.000	3.425
	Z Fact:	0.9975	
	SP. GR.:	0.7277	
	BTU (SAT):	1013.2 @ 14.73 psia	
	BTU (DRY):	1031.1 @ 14.73 psia	
	OCTANE RATING:	106.3	

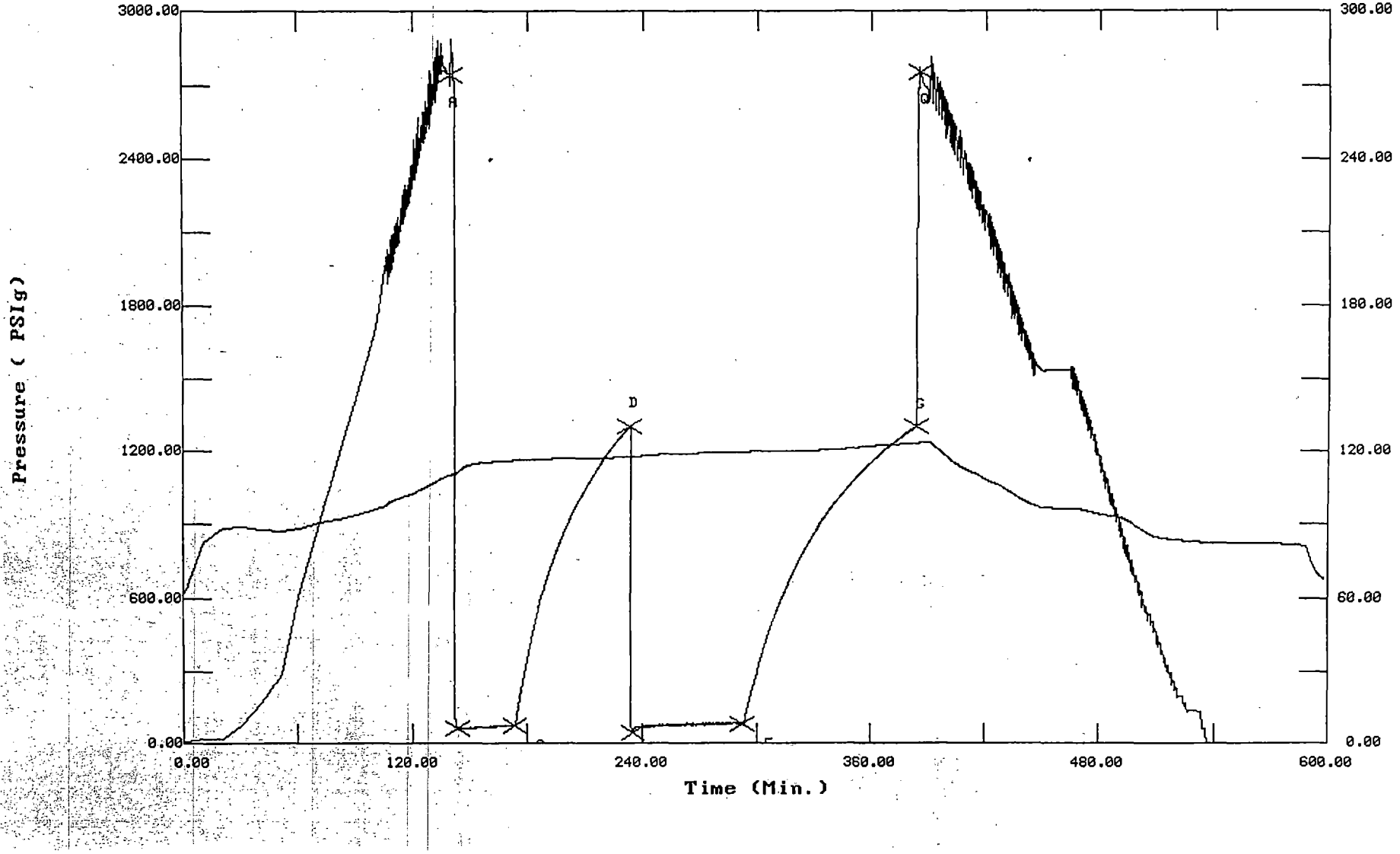
COMMENTS: 1.781

TEST HISTORY

10955 DST #4 Powell Farm #1 HRF Explor. Prod. Inc.

Flag Points

	t(Min.)	P(PSIg)
A:	0.00	2744.04
B:	0.00	54.74
C:	29.75	70.16
D:	60.00	1300.55
E:	0.00	41.78
F:	57.75	77.07
G:	90.25	1298.39
Q:	0.00	2756.97



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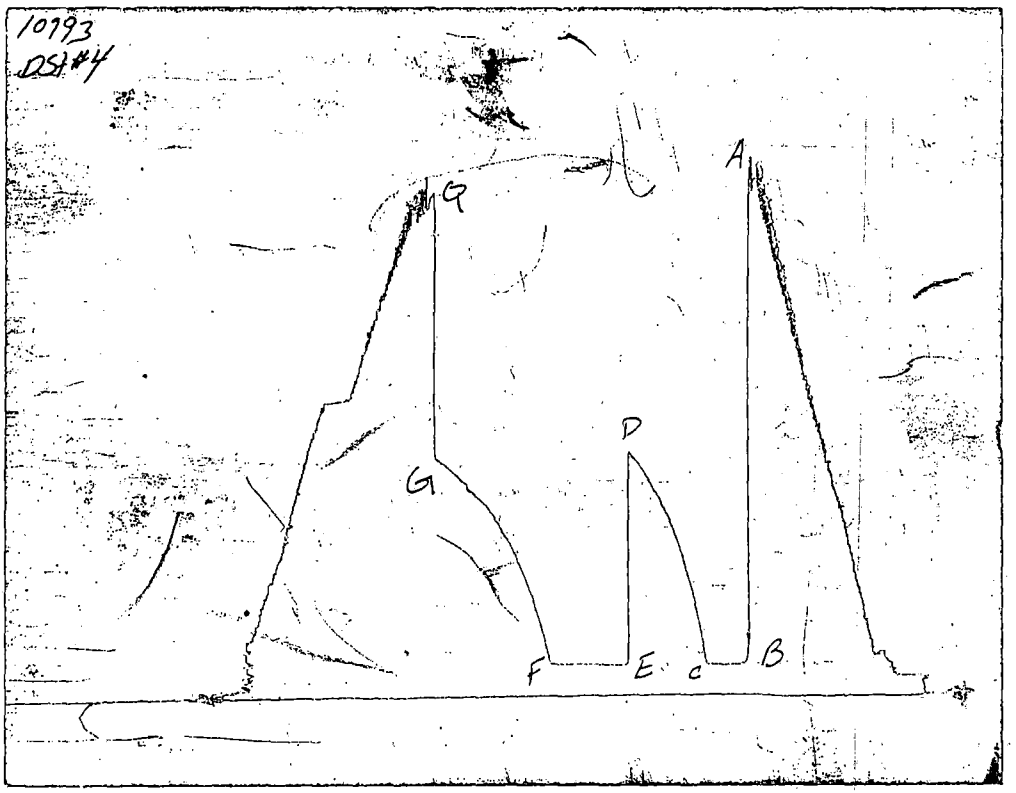


This is a photocopy of the actual AK-1 recorder chart

TRILOBITE TESTING L.L.C.
P.O. Box 362 • Hays, Kansas 67601 • (913) 625-4778

GAS VOLUME REPORT

MRP Explor. & Prod. Inc. — OPERATOR

Powell Farm #1 — WELL NAME AND NO.

#4 — DST NO.

2nd. Openings 5:36

Min.	Ins. of Water PSIG	Orifice Size	MCF/D	Min.	Ins. of Water PSIG	Orifice Size	MCF/D
				10	15	.250	6.55
				20	20	.250	7.51
				30	20	.250	7.51
				40	19	.250	7.32
				50	15	.250	6.55
				60	15	.250	6.55

Remarks: GAS Will Burn.

TRILOBITE TESTING L.L.C.

P.O. Box 362 • Hays, Kansas 67601

Test Ticket

№ 10955

Well Name & No. Powell Farms #1 Test No. #4 Date 2-26-99

Company H K F Explor. & Prod Inc. Zone Tested Chester

Address Michigan Elevation 2713 KB 2702 GL

Co. Rep / Geo. Jim Dilts Cont. Murfin #20 Est. Ft. of Pay 10 Por. 7 %

Location: Sec. 22 Twp. 33S Rge. 30W Co. Meade State KS.

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

Interval Tested 5738-5930 Initial Str Wt./Lbs. 80,000 Unseated Str Wt./Lbs. 80,000

Anchor Length 192' Wt. Set Lbs. 25,000 Wt. Pulled Loose/Lbs. 90,000

Top Packer Depth 5733 Tool Weight 2,100

Bottom Packer Depth 5738 Hole Size — 7 7/8" X Rubber Size — 6 3/4" X

Total Depth 5930 Wt. Pipe Run ____ Drill Collar Run 2¼

Mud Wt. 9.1 LCM 2# Vis. 52 WL 7.2 Drill Pipe Size 4.5X-D Ft. Run ~~562~~ 562

Blow Description Strong Blow B.O.B. in 1min

2nd. opening Strong Blow B.O.B. Soon as open Tool. GTS in 6 min. MCF@ 7.51

Recovery — Total Feet 130' GIP ____ Ft. in DC 130' Ft. in DP ____

Rec. 130	Feet Of Dlg Mud	%gas	%oil	%water 100	%mud	
Rec. ____	Feet Of ____	%gas	%oil	%water	%mud	
Rec. ____	Feet Of ____	%gas	%oil	%water	%mud	
Rec. ____	Feet Of ____	%gas	%oil	%water	%mud	
Rec. ____	Feet Of ____	%gas	%oil	%water	%mud	

BHT 125 °F Gravity ____ °API D@ ____ °F Corrected Gravity ____ °API

RW ____ @ ____ °F Chlorides ____ ppm Recovery Chlorides 3200 ppm System

(A) Initial Hydrostatic Mud	2870 PSI	Recorder No.	3207	T-Started	1:30 pm 1530
(B) First Initial Flow Pressure	55 PSI	(depth)	5741	T-Open	4:00 pm 11000
(C) First Final Flow Pressure	70 PSI	Recorder No.	10993	T-Pulled	8:00 pm 2000
(D) Initial Shut-in Pressure	1302 PSI	(depth)	5827	T-Out	11:00 am
(E) Second Initial Flow Pressure	44 PSI	Recorder No.	____		
(F) Second Final Flow Pressure	88 PSI	(depth)	____		
(G) Final Shut-in Pressure	1299 PSI	Initial Opening	30 min	Test	Conventional
(H) Final Hydrostatic Mud	2704 PSI	Initial Shut-in	60 min	Jars	✓
	Alpine	Final Flow	60 min	Safety Joint	✓
		Final Shut-in	90 min	Straddle	____
				Circ. Sub	✓ N/C
				Sampler	✓
				Extra Packer	____
				Elect. Rec.	✓
				Other	____
				TOTAL PRICE $	____

TRILOBIITE 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 Eugene Salaga

Our Representative [signature]

TRILOBITE TESTING L.L.C.

OPERATOR : HRF Explor. Prod. Inc. DATE 2-27-99
WELL NAME: Powell Farms #1 KB 2713.00 ft TICKET NO: 10956 DST #5
LOCATION : 22-33S-30W Meade co KS GR 2702.00 ft FORMATION: Lower Chester
INTERVAL : 5994.00 To 6101.00 ft TD 6101.00 ft TEST TYPE: CONVENTIONAL

RECORDER DATA

Mins		Field	1	2	3	4
PF 30	Rec.	10993	10993	3227		
SI 60	Range (Psi)	4250.0	4250.0	4995.0	0.0	0.0
SF 30	Clock (hrs)	12HR.	12HR.	Elet.		
FS 60	Depth (ft)	6098.0	6098.0	5999.0	0.0	0.0

TIME DATA----------
PF Fr. 1815 to 1845 hr
IS Fr. 1845 to 1945 hr
SF Fr. 1945 to 2015 hr
FS Fr. 2015 to 2115 hr

	Field	1	2	3	4
A. Init Hydro	3131.0	3138.0	3083.0	0.0	0.0
B. First Flow	97.0	132.0	31.0	0.0	0.0
B1. Final Flow	108.0	114.0	43.0	0.0	0.0
C. In Shut-in	119.0	144.0	83.0	0.0	0.0
D. Init Flow	141.0	135.0	47.0	0.0	0.0
E. Final Flow	141.0	135.0	52.0	0.0	0.0
F. Fl Shut-in	152.0	145.0	70.0	0.0	0.0
G. Final Hydro	2972.0	2983.0	2923.0	0.0	0.0
Inside/Outside	O	O	I		

T STARTED 1600 hr
T ON BOTM 1813 hr
T OPEN 1815 hr
T PULLED 2115 hr
T OUT 0030 hr

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

Tool Wt.	1800.00 lbs
Wt Set On Packer	25000.00 lbs
Wt Pulled Loose	100000.00 lbs
Initial Str Wt	80000.00 lbs
Unseated Str Wt	80000.00 lbs
Bot Choke	0.75 in
Hole Size	7.78 in
D Col. ID	2.25 in
D. Pipe ID	3.80 in
D.C. Length	244.00 ft
D.P. Length	5812.00 ft

RECOVERY
Tot Fluid 20.00 ft of 20.00 ft in DC and 0.00 ft in DP
20.00 ft of 100% Drilling mud
0.00 ft of
0.00 ft of
0.00 ft of
0.00 ft of
0.00 ft of
0.00 ft of
0.00 ft of
SALINITY 0.00 P.P.M. A.P.I. Gravity 0.00

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

Mud Type	Chemical
Weight	9.10 lb/cf
Vis.	67.00 S/L
W.L.	7.20 in3
F.C.	0.00 in
Mud Drop Y	25.0 ft
Amt. of fill	0.00 ft
Btm. H. Temp.	131.00 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	Mike Colantonio
Co. Rep.	Eugene Saloga
Contr.	Murfin
Rig #	20
Unit #	
Pump T.	

BLOW DESCRIPTION
Initial Flow:
Weak blow built to .250"
Final Flow:
Bubble then no blow

SAMPLES: NO
SENT TO:

Test Successful: Y

*** TOOL DIAGRAM *** CONVENTIONAL

WELL NAME: Powell Farms #1

LOCATION : 22-33S-30W Meade co KS

TICKET No. 10956 D.S.T. No. 5 DATE 2-27-99

TOTAL TOOL TO BOTTOM OF TOP PACKERS 30

INTERVAL TOOL .....

BOTTOM PACKERS AND ANCHOR 45

TOTAL TOOL 75

DRILL COLLAR ANCHOR IN INTERVAL .....

D.C. ANCHOR STND.Stands Single Total

D.P. ANCHOR STND.Stands 1 Single Total 62

TOTAL ASSEMBLY .....

D.C. ABOVE TOOLS.Stands4 Single Total 244

D.P. ABOVE TOOLS.Stands92 Single 1 Total 5747

TOTAL DRILL COLLARS DRILL PIPE & TOOLS .. 6128

TOTAL DEPTH 6101

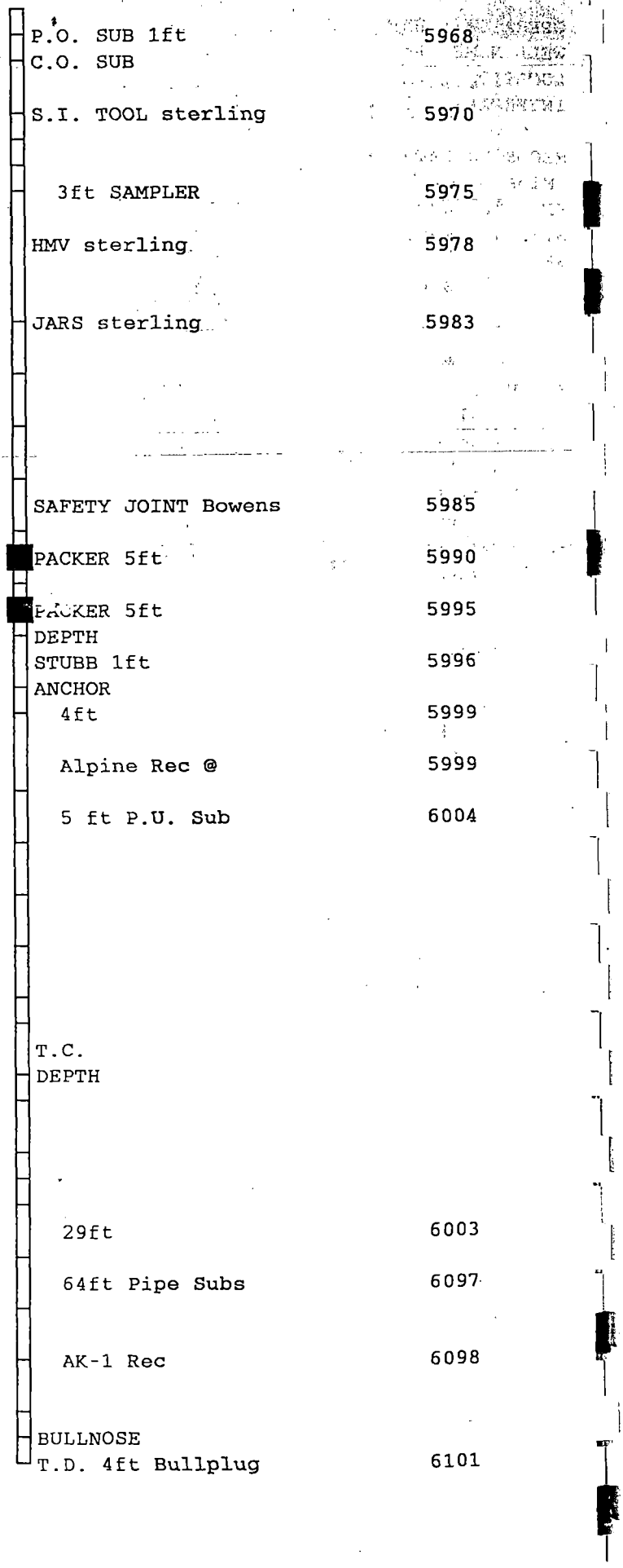
TOTAL DRILL PIPE ABOVE K.B. 27ft

REMARKS:
SAMPLER DATA

000ml Mud

0PSI

000Ml total

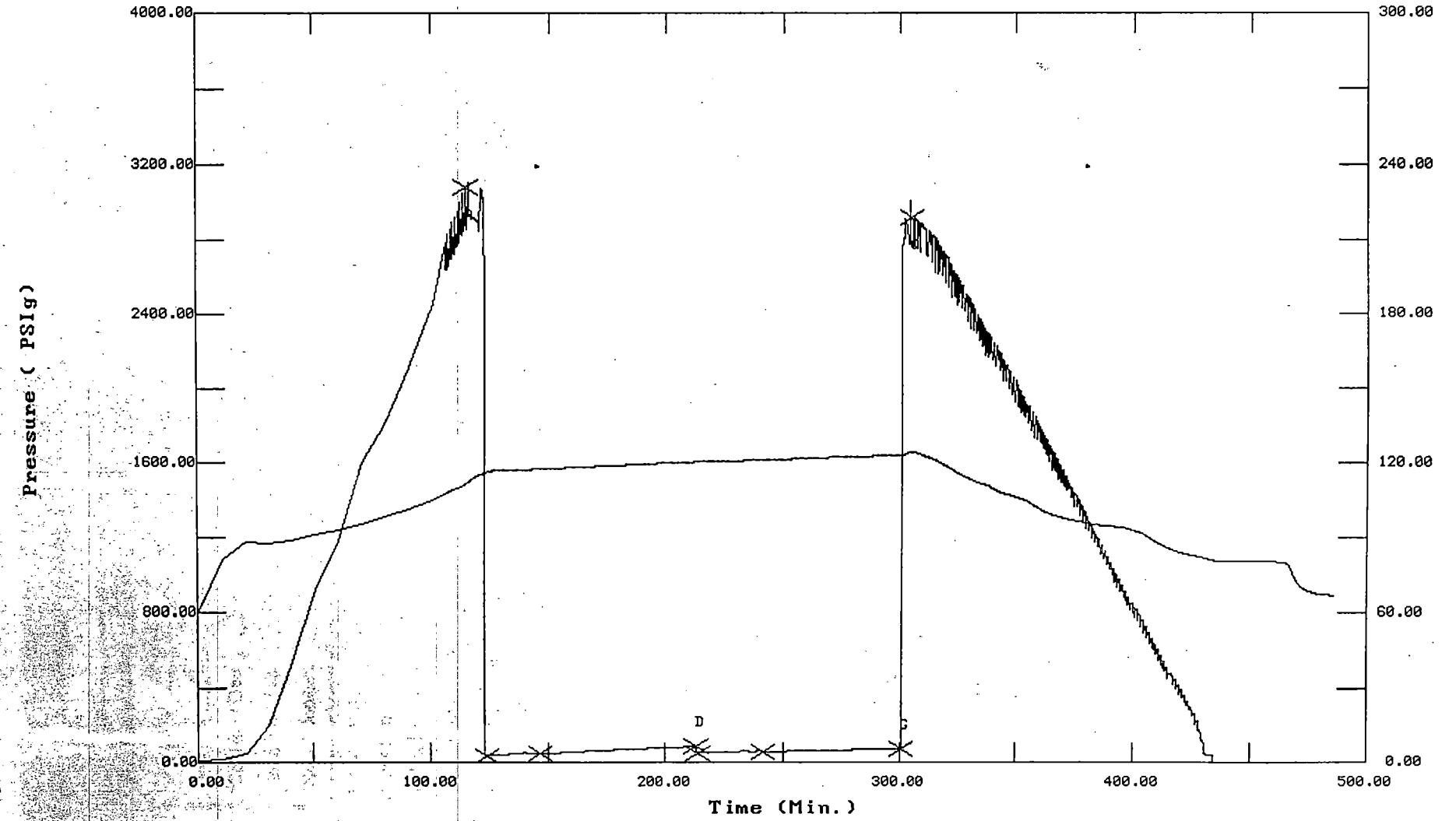


TEST HISTORY

10956 DST #5 Powell Farms #1 HRF Explor. Prod. Inc.

Flag Points

	t(Min.)	P(PSIg)
A:	0.00	3083.26
B:	0.00	31.21
C:	22.75	43.92
D:	67.00	83.64
E:	0.00	47.25
F:	27.50	52.96
G:	58.75	70.20
Q:	0.00	2923.82



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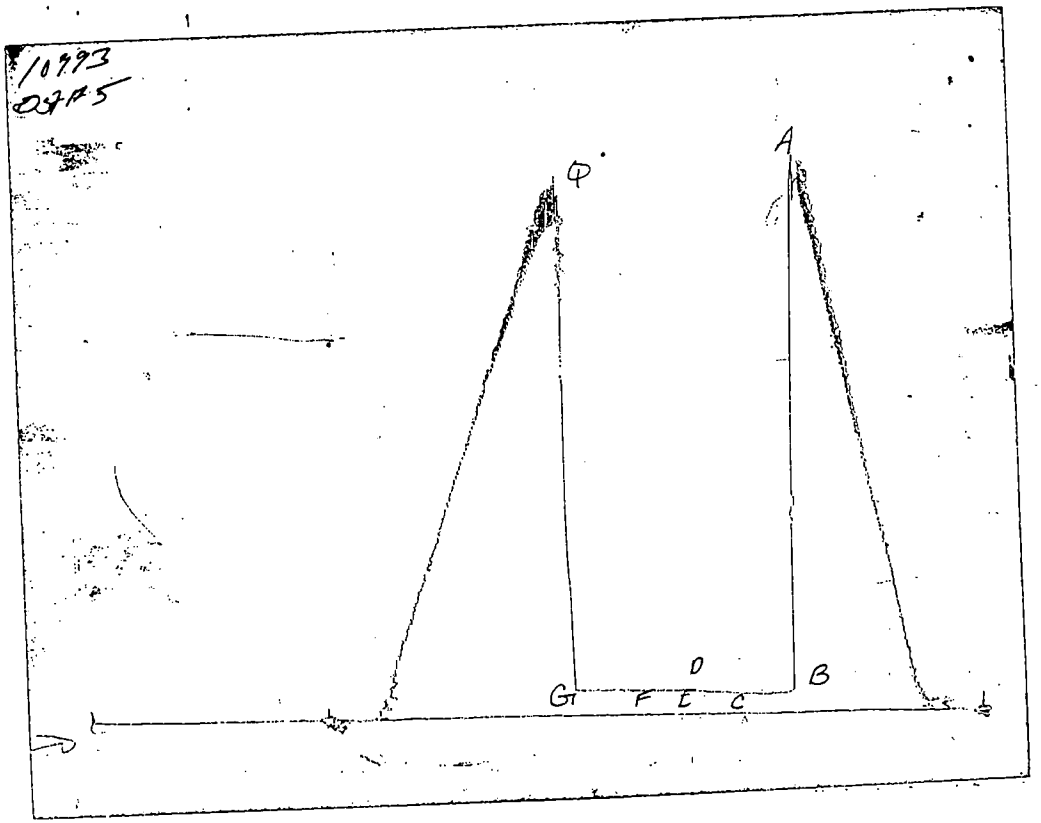

This is a photocopy of the actual AK-1 recorder chart

TRILOBITE TESTING, INC.
P.O. Box 362 • Hays, Kansas 67601

Test Ticket

№ 10956

Well Name & No. Powell Farm #1 Test No. #5 Date 2-27-99
Company HRF Explor. & Prod. Inc Zone Tested Lower Chester
Address Mich. Kan Elevation 2713 KB 2702 GL
Co. Rep / Geo. Jim Dilts Cont. Murfin #20 Est. Ft. of Pay 30 Por. ? %
Location: Sec. 22 Twp. 33S Rge. 30W Co. Meade State KS.
No. of Copies ____ Distribution Sheet (Y, N) ____ Turnkey (Y, N) ____ Evaluation (Y, N) ____

Interval Tested 5994-6101 Initial Str Wt./Lbs. 80,000 Unseated Str Wt./Lbs. 80,000
Anchor Length 107 Wt. Set Lbs. 25,000 Wt. Pulled Loose/Lbs. 100,000
Top Packer Depth 5989 Tool Weight 1,800
Bottom Packer Depth 5994 Hole Size — 7 7/8" X Rubber Size — 6 3/4" X
Total Depth 6101 Wt. Pipe Run ____ Drill Collar Run 244'
Mud Wt. 9.1 LCM 3 Vis. 67 WL 7.2 Drill Pipe Size 4.5 X-H Ft. Run 5812
Blow Description Weak 1/2 in Built to 4"

2nd opening Bubble then no Blow

Recovery — Total Feet 20 GIP ____ Ft. in DC ____ Ft. in DP ____
Rec. 20 Feet Of 0% mud %gas %oil %water 100 %mud
Rec. ____ Feet Of ____ %gas %oil %water %mud
Rec. ____ Feet Of ____ %gas %oil %water %mud
Rec. ____ Feet Of ____ %gas %oil %water %mud
Rec. ____ Feet Of ____ %gas %oil %water %mud
BHT 131 °F Gravity ____ °API D@ ____ °F Corrected Gravity ____ °API
RW ____ @ ____ °F Chlorides ____ ppm Recovery Chlorides 3,000 ppm System

(A) Initial Hydrostatic Mud	3083 PSI	Recorder No.	3227	T-Started	4:60 pm
(B) First Initial Flow Pressure	31 PSI	(depth)	5999	T-Open	6:15 pm
(C) First Final Flow Pressure	43 PSI	Recorder No.	10993	T-Pulled	9:15 pm
(D) Initial Shut-in Pressure	83 PSI	(depth)	6098	T-Out	12:30 am
(E) Second Initial Flow Pressure	47 PSI	Recorder No.			
(F) Second Final Flow Pressure	52 PSI	(depth)			
(G) Final Shut-in Pressure	70 PSI	Initial Opening	30 min	Test	Conventional
(H) Final Hydrostatic Mud	2923 PSI	Initial Shut-in	60 min	Jars	✓
		Final Flow	30 min	Safety Joint	✓
		Final Shut-in	60 min	Straddle	
				Circ. Sub	✓ N/C
				Sampler	✓
				Extra Packer	
				Elect. Rec.	✓
				Other	
				TOTAL PRICE $	

Approved By [signature]
Our Representative [signature]