

**WELL COMPLETION FORM**  
**WELL HISTORY - DESCRIPTION OF WELL & LEASE**

OPERATOR: License # 9855  
 Name: Grand Mesa Operating Company  
 Address 1: 1700 N WATERFRONT PKWY BLDG 600  
 Address 2: \_\_\_\_\_  
 City: WICHITA State: KS Zip: 67206 + 5514  
 Contact Person: Ronald N. Sinclair  
 Phone: ( 316 ) 265-3000  
 CONTRACTOR: License # 30606  
 Name: Murfin Drilling Co., Inc.  
 Wellsite Geologist: Macklin G. Armstrong  
 Purchaser: NCRA

Designate Type of Completion:

New Well       Re-Entry       Workover

Oil       WSW       SWD       SIOW  
 Gas       D&A       ENHR       SIGW  
 OG       GSW       Temp. Abd.  
 CM (Coal Bed Methane)  
 Cathodic       Other (Core, Expl., etc.): \_\_\_\_\_

If Workover/Re-entry: Old Well Info as follows:

Operator: \_\_\_\_\_  
 Well Name: \_\_\_\_\_  
 Original Comp. Date: \_\_\_\_\_ Original Total Depth: \_\_\_\_\_  
 Deepening       Re-perf.       Conv. to ENHR       Conv. to SWD  
 Conv. to GSW  
 Plug Back: \_\_\_\_\_ Plug Back Total Depth  
 Commingled      Permit #: \_\_\_\_\_  
 Dual Completion      Permit #: \_\_\_\_\_  
 SWD      Permit #: \_\_\_\_\_  
 ENHR      Permit #: \_\_\_\_\_  
 GSW      Permit #: \_\_\_\_\_

<u>08/02/2010</u>	<u>08/10/2010</u>	<u>09/09/2010</u>
Spud Date or Recompletion Date	Date Reached TD	Completion Date or Recompletion Date

API No. 15 - 15-063-21858-00-00  
 Spot Description: 2004' FNL & 1141' FWL  
NE SE SW NW Sec. 16 Twp. 14 S. R. 31  East  West  
2004 Feet from  North /  South Line of Section  
1141 Feet from  East /  West Line of Section  
 Footages Calculated from Nearest Outside Section Corner:  
 NE  NW  SE  SW  
 County: Gove  
 Lease Name: Hess Well #: 1-16  
 Field Name: Wildcat  
 Producing Formation: Johnson  
 Elevation: Ground: 2885 Kelly Bushing: 2890  
 Total Depth: 4750 Plug Back Total Depth: 4705  
 Amount of Surface Pipe Set and Cemented at: 217 Feet  
 Multiple Stage Cementing Collar Used?  Yes  No  
 If yes, show depth set: 2405 Feet  
 If Alternate II completion, cement circulated from: 2405  
 feet depth to: 0 w/ 270 sx cmt.

**Drilling Fluid Management Plan**  
*(Data must be collected from the Reserve Pit)*

Chloride content: 6700 ppm Fluid volume: 800 bbls  
 Dewatering method used: Evaporated  
 Location of fluid disposal if hauled offsite:  
 Operator Name: \_\_\_\_\_  
 Lease Name: \_\_\_\_\_ License #: \_\_\_\_\_  
 Quarter \_\_\_\_\_ Sec. \_\_\_\_\_ Twp. \_\_\_\_\_ S. R. \_\_\_\_\_  East  West  
 County: \_\_\_\_\_ Permit #: \_\_\_\_\_

**AFFIDAVIT**

I am the affiant and I hereby certify that 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.

Submitted Electronically

**KCC Office Use ONLY**

Letter of Confidentiality Received  
 Date: 10/01/2010

Confidential Release Date: 10/10/2012

Wireline Log Received

Geologist Report Received

UIC Distribution

ALT  I  II  III Approved by: NAOMI JAMES Date: 10/04/2010

1044964

Operator Name: Grand Mesa Operating Company Lease Name: Hess Well #: 1-16

Sec. 16 Twp. 14 S. R. 31  East  West County: Gove

**INSTRUCTIONS:** Show important tops and base of formations penetrated. Detail all cores. Report all final copies of drill stems 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 test, along with final chart(s). Attach extra sheet if more space is needed. Attach complete copy of all Electric Wire-line Logs surveyed. Attach final geological well site report.

Drill Stem Tests Taken <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <i>(Attach Additional Sheets)</i>  Samples Sent to Geological Survey <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No  Cores Taken <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Electric Log Run <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No Electric Log Submitted Electronically <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <i>(If no, Submit Copy)</i>  List All E. Logs Run: Log Al Shallow Foc. Elect Log; Compact Photo Den Comp. Neut; Micro Res.; Comp. Sonic; Dual Rec. Cement Bond Log	<input checked="" type="checkbox"/> Log Formation (Top), Depth and Datum <input type="checkbox"/> Sample  Name Top Datum Attached Attached Attached
---	--

CASING RECORD <input checked="" type="checkbox"/> New <input type="checkbox"/> Used							
Report all strings set-conductor, surface, intermediate, production, etc.							
Purpose of String	Size Hole Drilled	Size Casing Set (In O.D.)	Weight Lbs. / Ft.	Setting Depth	Type of Cement	# Sacks Used	Type and Percent Additives
Surface	12.25	8.625	23	217	Common		3%CC; 2% Gel
Production	7.875	5.50	16	4725	EA-2	175	

ADDITIONAL CEMENTING / SQUEEZE RECORD				
Purpose:	Depth Top Bottom	Type of Cement	# Sacks Used	Type and Percent Additives
<input type="checkbox"/> Perforate <input checked="" type="checkbox"/> Protect Casing <input type="checkbox"/> Plug Back TD <input type="checkbox"/> Plug Off Zone	0-2405	SMD	270	

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	4530-4538'	400 Gals 15% MCA Acid	4530-38'
4	4518-4522'	200 Gals 15% MCA Acid	4518-22'

TUBING RECORD: Size: <u>2.875</u> Set At: <u>4514</u> Packer At: _____		Liner Run: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
Date of First, Resumed Production, SWD or ENHR. <u>09/09/2010</u>		Producing Method: <input type="checkbox"/> Flowing <input checked="" type="checkbox"/> Pumping <input type="checkbox"/> Gas Lift <input type="checkbox"/> Other (Explain) _____	
Estimated Production Per 24 Hours	Oil Bbls. <u>38</u>	Gas Mcf <u>0</u>	Water Bbls. <u>0</u> Gas-Oil Ratio _____ Gravity <u>32</u>

DISPOSITION OF GAS: <input type="checkbox"/> Vented <input type="checkbox"/> Sold <input type="checkbox"/> Used on Lease <i>(If vented, Submit ACO-18.)</i>	METHOD OF COMPLETION: <input type="checkbox"/> Open Hole <input checked="" type="checkbox"/> Perf. <input type="checkbox"/> Dually Comp. <input type="checkbox"/> Commingled <i>(Submit ACO-5)</i> <i>(Submit ACO-4)</i> <input type="checkbox"/> Other (Specify) _____	PRODUCTION INTERVAL: <u>4530-38'</u> <u>4518-22'</u>
---	--	--

Form	ACO1 - Well Completion
Operator	Grand Mesa Operating Company
Well Name	Hess 1-16
Doc ID	1044964

Tops

Bs/Stone Corral	2391	+ 499
Heebner	3914	-1024
Lansing	3952	-1062
Muncie Creek	4102	-1212
Hushpuckney	4228	-1338
Marmaton	4298	-1408
Upper Ft. Scott	4390	-1500
Johnson	4515	-1625
Morrow	4547	-1657
Mississippian	4566	-1676
LTD	4748	



Mark Parkinson, Governor  
Thomas E. Wright, Chairman  
Joseph F. Harkins, Commissioner  
Ward Loyd, Commissioner

September 30, 2010

Ronald N. Sinclair  
Grand Mesa Operating Company  
1700 N WATERFRONT PKWY BLDG 600  
WICHITA, KS 67206-5514

Re: ACO1  
API 15-063-21858-00-00  
Hess 1-16  
NW/4 Sec.16-14S-31W  
Gove County, Kansas

Dear Production Department:

We are herewith requesting that the Well Completion Form ACO-1 and attached information for the subject well be held confidential for a period of two years.

Should you have any questions or need additional information regarding subject well, please contact our office.

Respectfully,  
Ronald N. Sinclair

CONSERVATION DIVISION

Finney State Office Building, 130 S. Market, Room 2078, Wichita, KS 67202-3802

(316) 337-6200 • Fax: (316) 337-6211 • <http://kcc.ks.gov/>



SUPERIOR  
Hays,  
Kansas

# DUAL RECEIVER CEMENT BOND LOG

Company GRAND MESA OPERATING  
Well HESS #1-16  
Field  
County GOVE State KANSAS

Location: 2004' FNL & 1141' FWL  
API #: 15-063-21858-0000  
Other Services: PREF  
SEC 16 TWP 14S RGE 31W  
Elevation  
Permanent Datum GROUND LEVEL Elevation 2885  
Log Measured From KELLY BUSHING 5' A.G.L. K.B. 2890  
Drilling Measured From KELLY BUSHING D.F. 2888  
G.L. 2885

Well HESS #1-16  
Field  
County GOVE  
State KANSAS

Log Date	8/24/10
Log Number	ONE
Drill Bit	4750
Log Logger	4697
Bottom Logged Interval	4696
Log Interval	3540
Log Hole Size	7 7/8
Log Fluid	WATER
Log Viscosity / Viscosity	
Log Recorded Temp.	
Log Cemented Cement Top	3656
Log Well Ready	
Log Logger on Bottom	
Log Equipment Number	747
Log Location	HAYS, KANSAS
Log Recorded By	R. SMITH
Log Checked By	JOHN JOHNSON

Borehole Record				Tubing Record			
Log Number	Bit	From	To	Size	Weight	From	To

Log Record	Size	Wgt/Ft	Top	Bottom
Log Face String	8 5/8		0	219
Log String				
Log Junction String	5 1/2			
Log				

<<< Fold Here >>>

All interpretations are opinions based on inferences from electrical or other measurements and we cannot and do not guarantee the accuracy or correctness of any interpretation, and we shall not, except in the case of gross or willful negligence on our part, be liable or responsible for any loss, costs, damages, or expenses incurred or sustained by anyone resulting from any interpretation made by any of our officers, agents or employees. These interpretations are also subject to our general terms and conditions set out in our current Price Schedule.

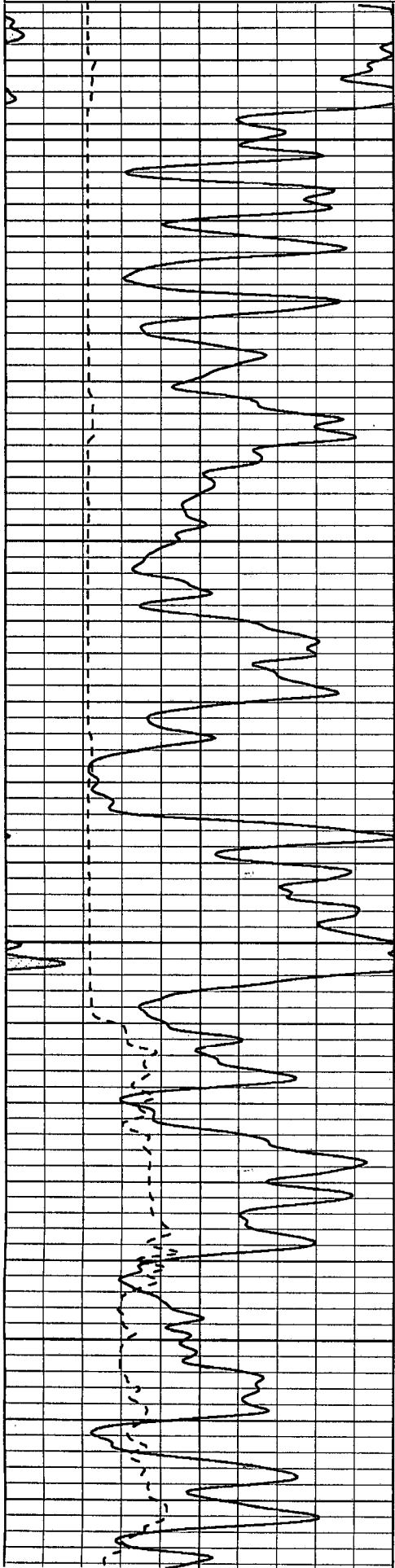
Comments

THANK YOU FOR USING SUPERIOR WELL SERVICE HAYS, KANSAS (785) 628-6395  
DIRECTIONS  
OAKLEY, KS. S TO JAYHAWK RD. (MONUMENT ROCK SIGN  
4 E TO T., 1/2 N., EAST INTO

200	115 (usec)	1000
0	Gamma Ray (GAPI)	150

0	Amplified Amplitude (mV)	20
0	AMPLITUDE (mV)	100
9	Collar Locator	-1

Variable Density 10

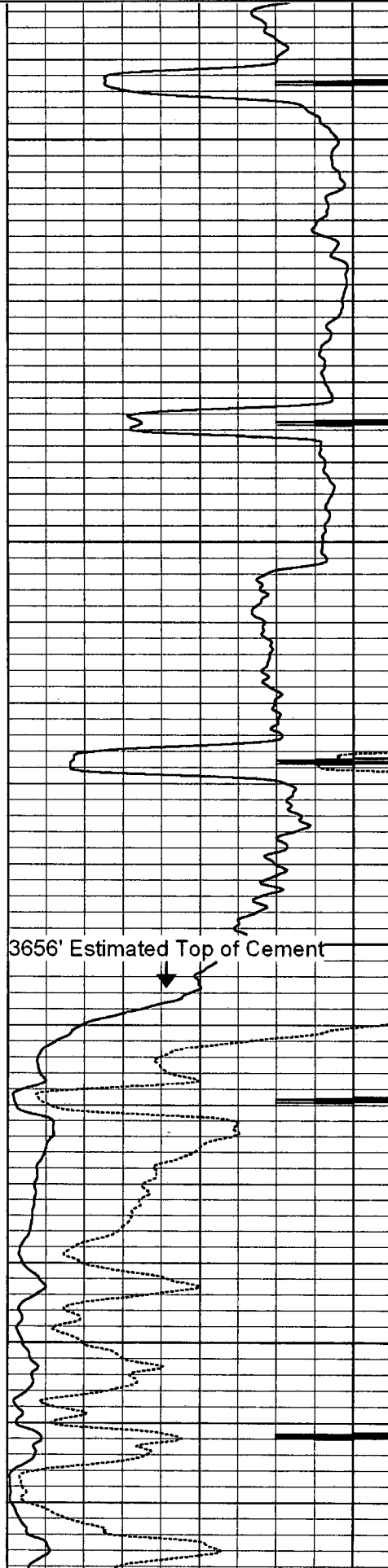


3550

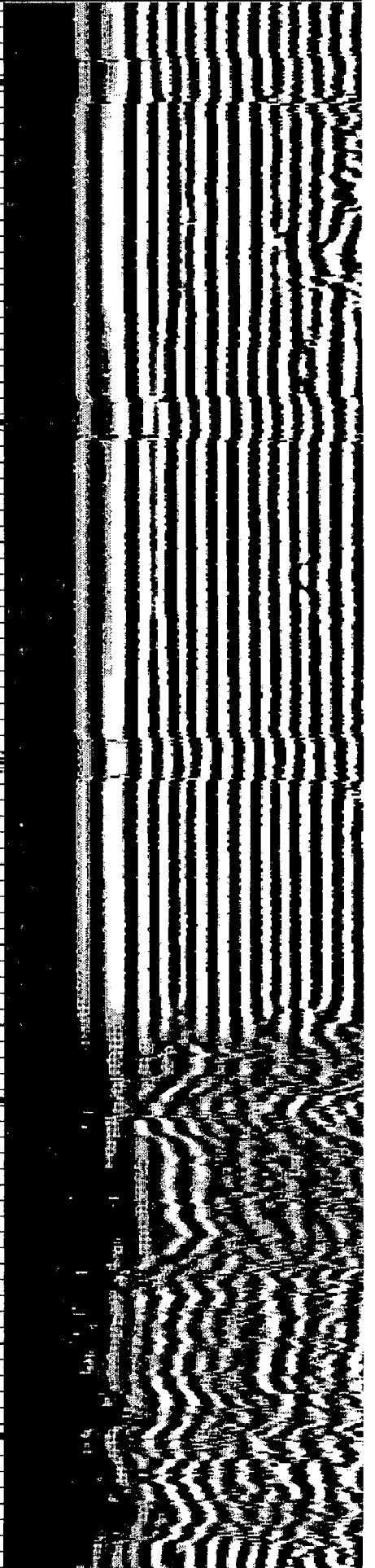
3600

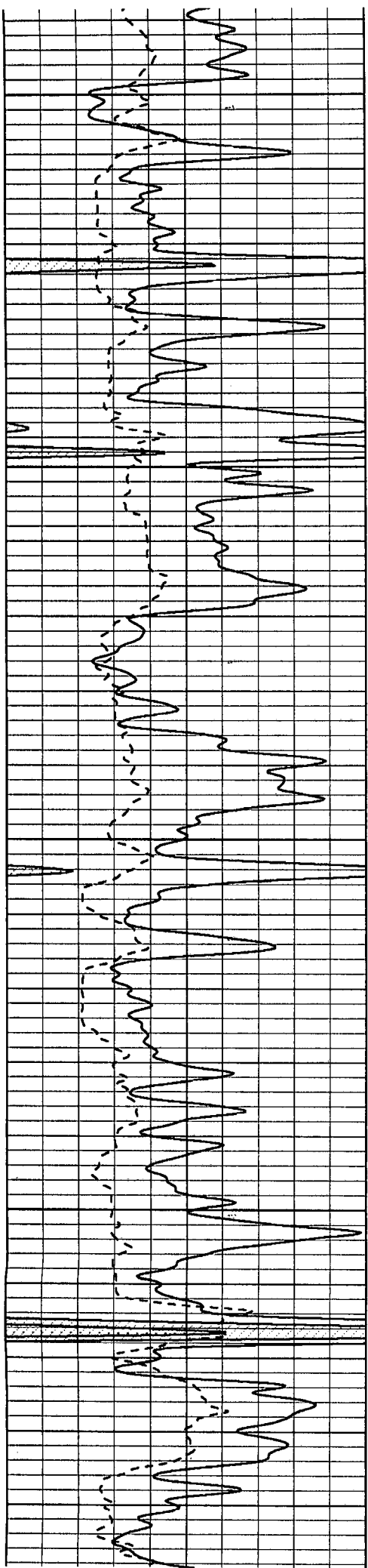
3650

3700



3656' Estimated Top of Cement



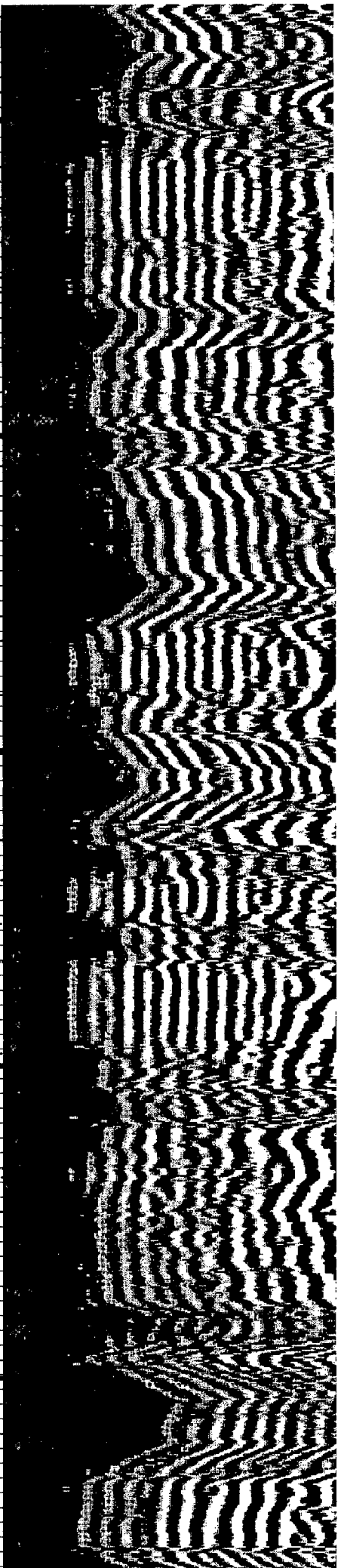
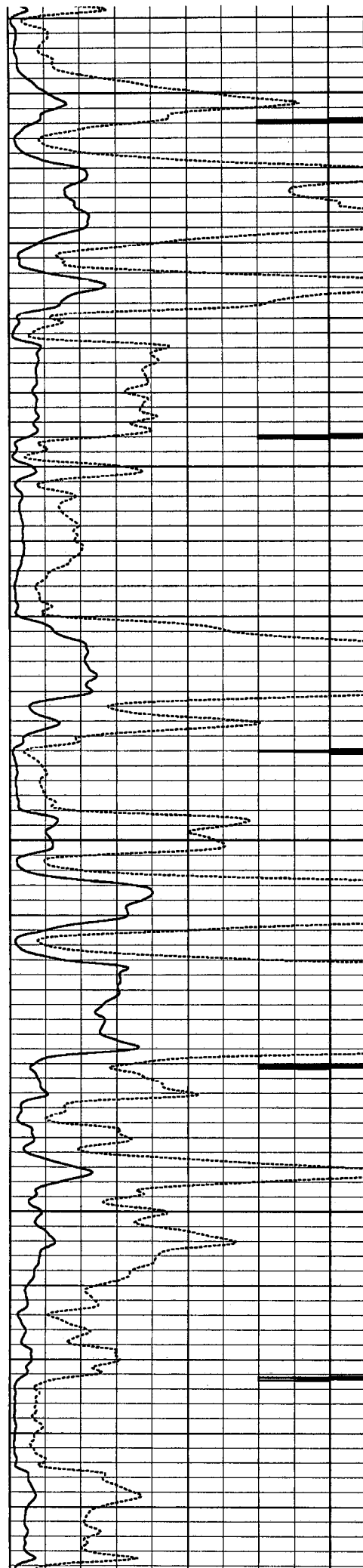


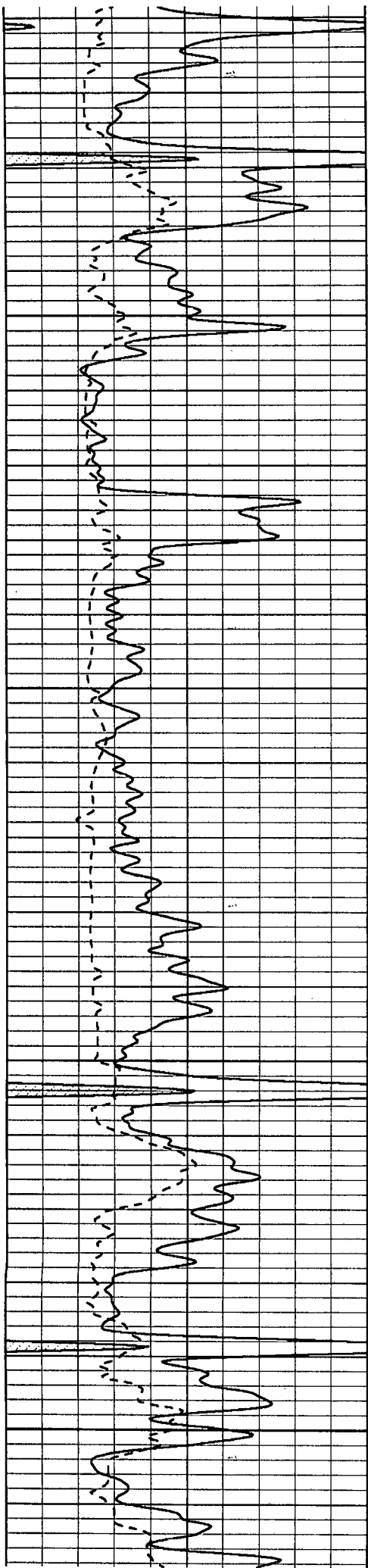
3750

3800

3850

3900



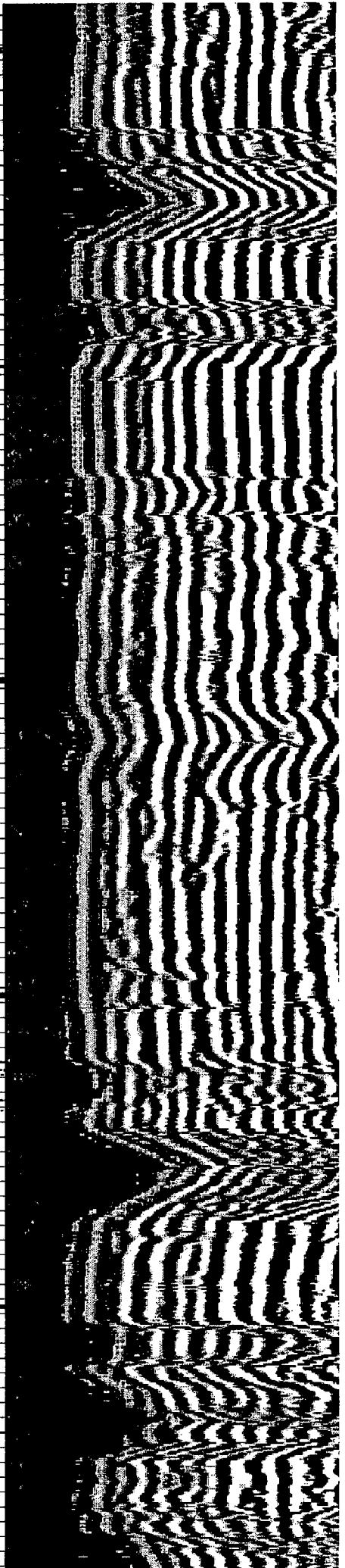
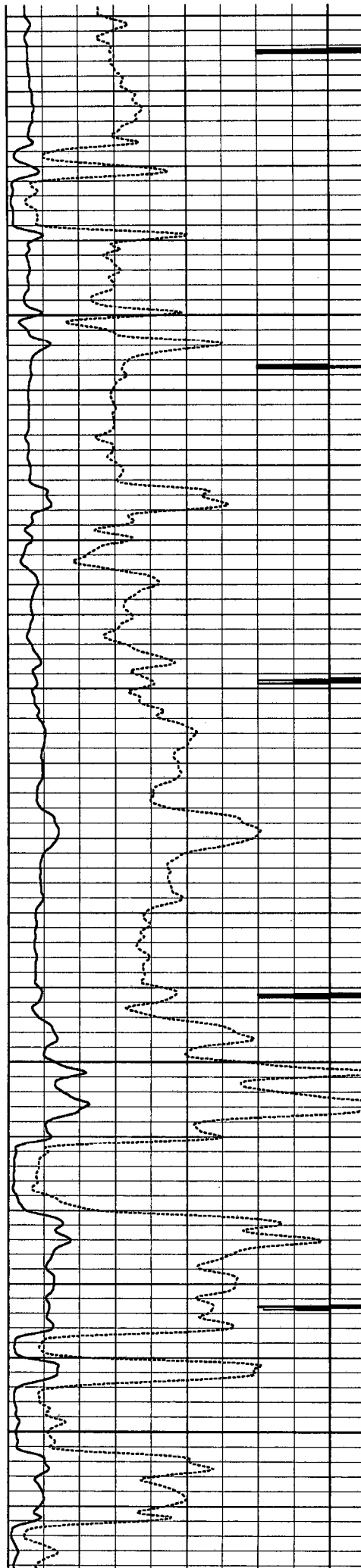


4000

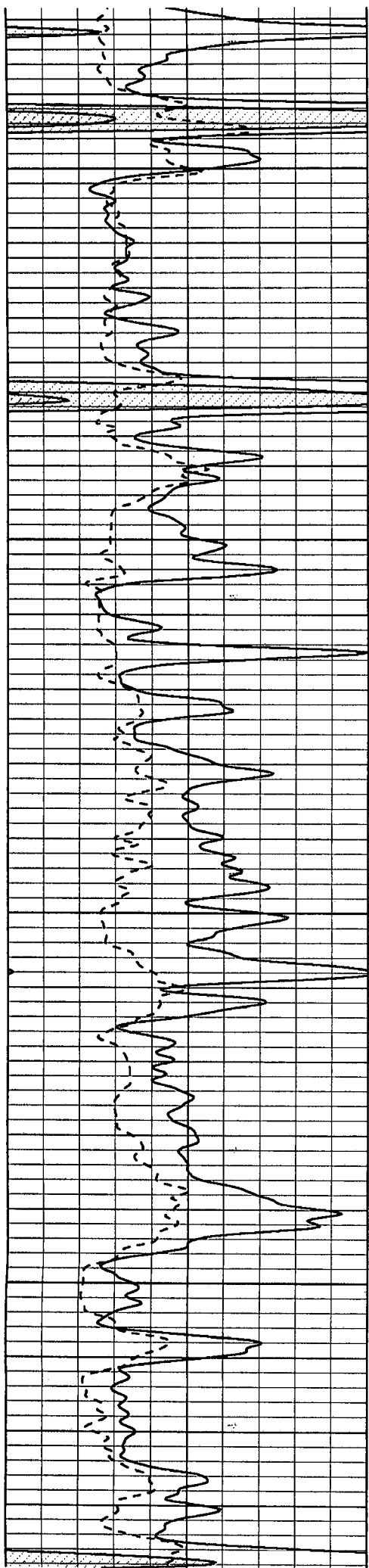
4050

4100

4150





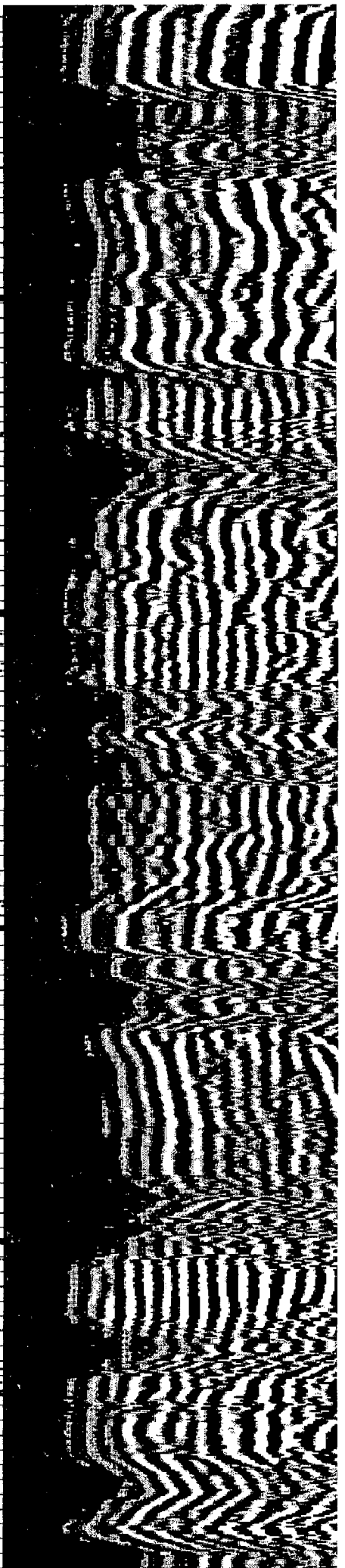
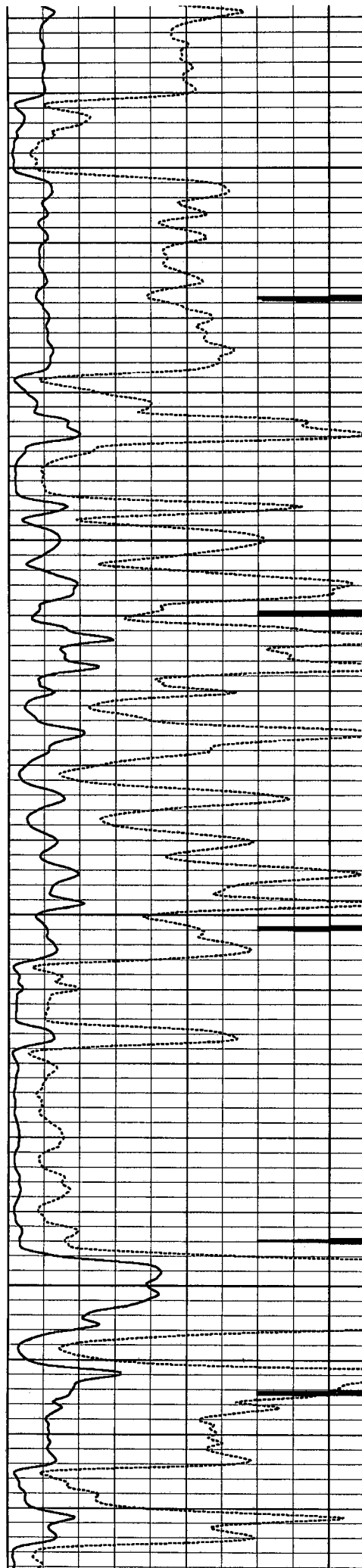


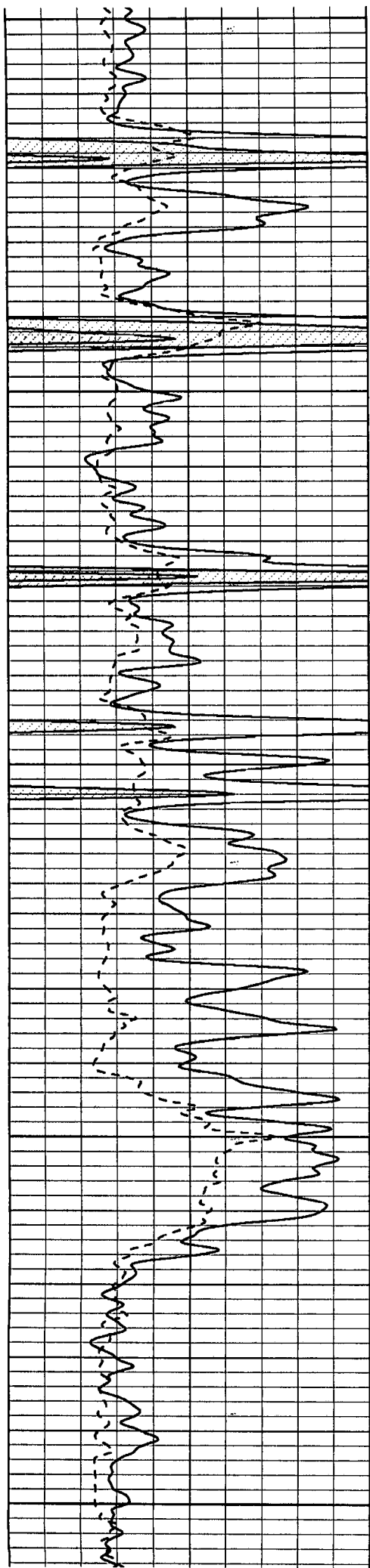
4200

4250

4300

4350





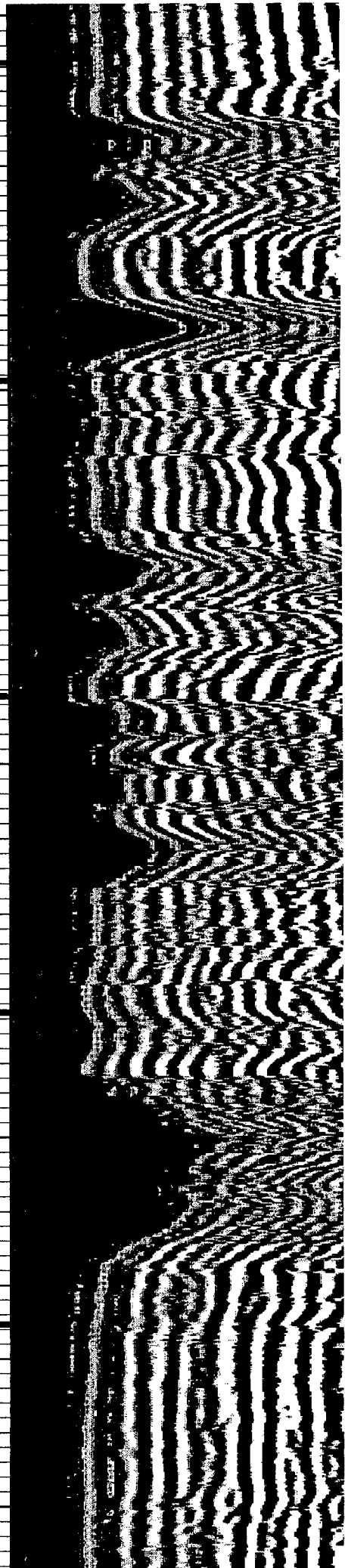
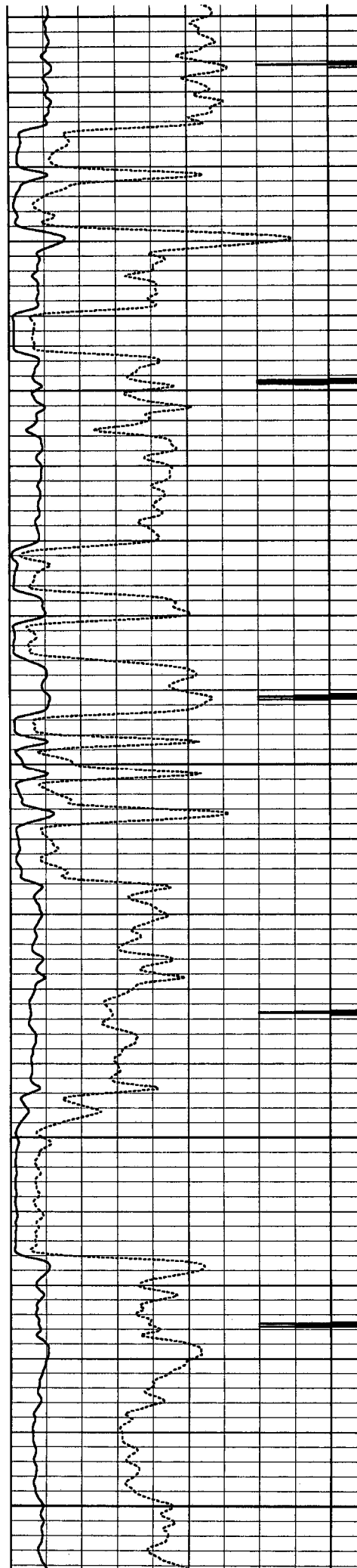
4400

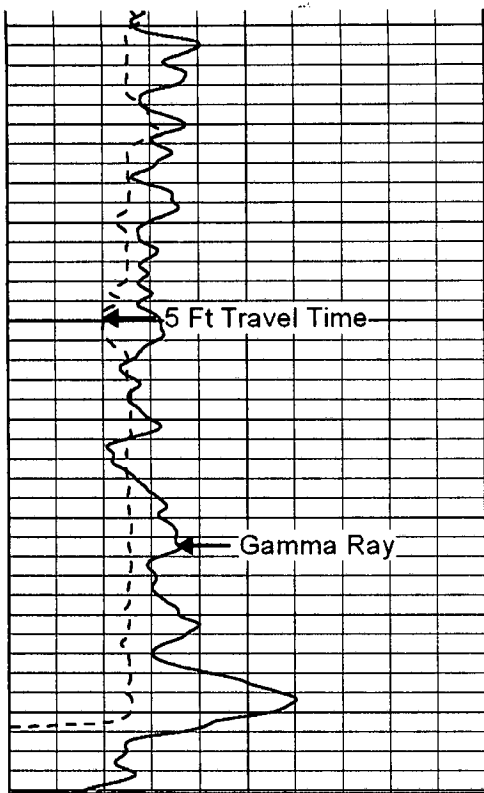
4450

4500

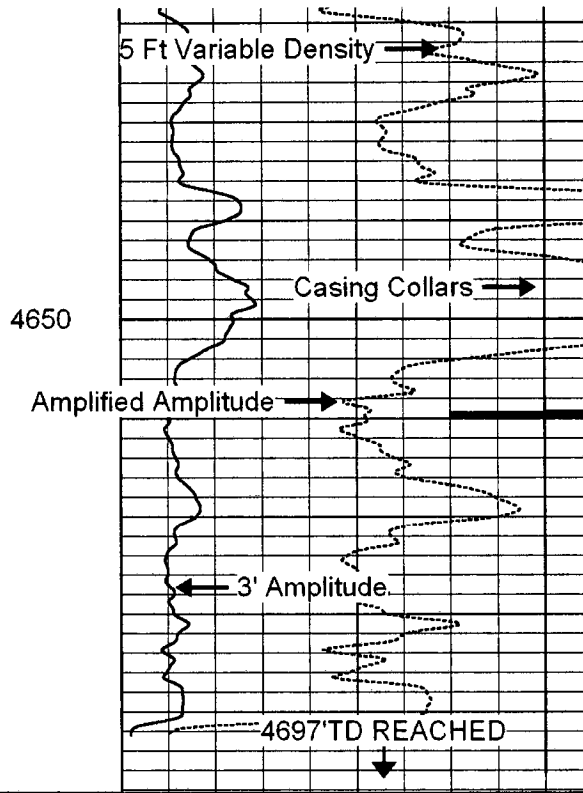
4550

4600

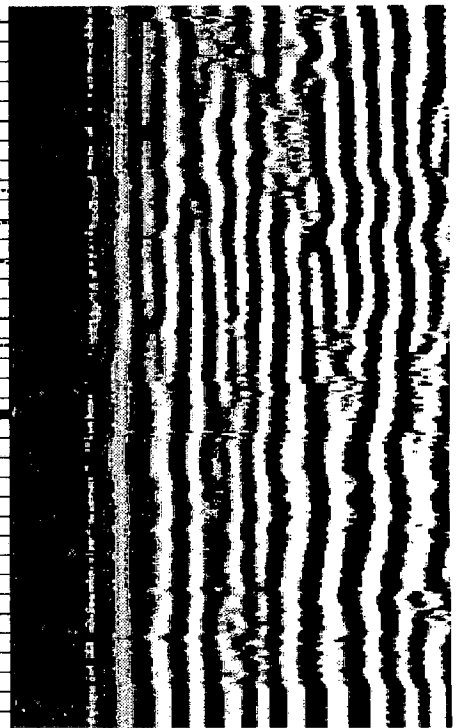




200	TT5 (usec)	1000
0	Gamma Ray (GAPI)	150



0	Amplified Amplitude (mV)	20
0	AMPLITUDE (mV)	100
9	Collar Locator	-1



200	Variable Density	10
-----	------------------	----

# ALLIED CEMENTING CO., LLC. 035102/A

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

SERVICE POINT:  
DAKLEY

DATE <u>8-2-10</u>	SEC. <u>16</u>	TWP. <u>14S</u>	RANGE <u>31W</u>	CALLED OUT	ON LOCATION <u>3:45 PM</u>	JOB START <u>6:00 PM</u>	JOB FINISH <u>6:30 PM</u>
LEASE <u>Hess</u>	WELL # <u>1-16</u>	LOCATION <u>DAKLEY 20S-4E-1/2N-E</u>			COUNTY <u>GOVE</u>	STATE <u>KS</u>	
OLD OR <u>NEW</u> (Circle one)			<u>INTO</u>				

CONTRACTOR MURPHY DRG REG # 24

TYPE OF JOB SURFACE

HOLE SIZE 12 1/4" T.D. 217'

CASING SIZE 8 5/8" DEPTH 217'

TUBING SIZE DEPTH

DRILL PIPE DEPTH

TOOL DEPTH

PRES. MAX MINIMUM

MEAS. LINE SHOE JOINT

CEMENT LEFT IN CSG. 15

PERFS.

DISPLACEMENT 13 BBL

OWNER SAME

CEMENT AMOUNT ORDERED 165 SKS COM 380CC 280 PEI

COMMON	<u>165 SKS @ 15.45</u>	<u>2549.25</u>
POZMIX	@	
GEL	<u>3 SKS @ 20.80</u>	<u>62.40</u>
CHLORIDE	<u>6 SKS @ 58.20</u>	<u>349.20</u>
ASC	@	
	@	
	@	
	@	
	@	
	@	
	@	
HANDLING	<u>174 SKS @ 2.40</u>	<u>417.60</u>
MILEAGE	<u>10.4 PCL SK / MILE</u>	<u>348.20</u>
TOTAL		<u>3726.45</u>

**EQUIPMENT**

PUMP TRUCK CEMENTER TERRY

# A22 HELPER WAYNE

BULK TRUCK

# 394 DRIVER DARRIN

BULK TRUCK

# DRIVER

**REMARKS:**

CEMENT DIED CERC.

THANK YOU

CHARGE TO: GRAND MESA OPERATING CO.

STREET

CITY STATE ZIP

**SERVICE**

DEPTH OF JOB	<u>217'</u>	
PUMP TRUCK CHARGE		<u>1018.25</u>
EXTRA FOOTAGE	@	
MILEAGE	<u>20.00 @ 7.00</u>	<u>140.00</u>
MANIFOLD	@	
	@	
TOTAL		<u>1158.25</u>

**PLUG & FLOAT EQUIPMENT**

	@	
	@	
	@	
	@	

To Allied Cementing Co., LLC.  
You are hereby requested to rent cementing equipment

JOB LOG

SWIFT Services, Inc.

DATE 8-10-10 PAGE NO. 2

CUSTOMER *Carroll Mess* WELL NO. *#1-16* LEASE *Hess* JOB TYPE *2-stage* TICKET NO. *18202*

CHART NO.	TIME	RATE (BPM)	VOLUME (BBL) (GAL)	PUMPS		PRESSURE (PSI)		DESCRIPTION OF OPERATION AND MATERIALS
				T	C	TUBING	CASING	
	0800							on loc w/FE
								RTD 4750'
								5 1/2" x 15.5" x 4730' x 20'
								Cent. 2, 4, 6, 8, 10, 12, 14, 55
								Baskets 2, 55
								D.V. 55 @ 2405'
	0920							start FE
	1140							Break Circ.
	1155	4.5	0			200		Start PreFlushes <sup>500 gal Mud Flush</sup> 20 bbl KCL flush
	1202	5.5	32/0			250		Start Cement 175 sks EA-2
	1209		42					End Cement
								Wash Pk / Drop LD Plug
	1213	6.5	0			100		Start Displacement intr
	1222	6.5	60			100		start mud
	1225	5	78			200		Catch Cement
	1231		112			400/ 1400		Land Plug
								Release Pressure
								Float Hold
								Drop Opening Plug
								<del>Plug</del>
	1245					1000		Open D.V. Tool
								Enter
	1435	2.5	7					Plug RT 30 sks SMD
	1440	4.5	0			100		Start KCL Flush
		6	20/0			150		Start Cement 270 sks SMD
	1510		150					End Cement
								Drop Closing Plug
	1513	6	0			100		Start Displacement / Circ cement
		5	20			200		End Cement catch Pres
	1525		57			450		Land Plug
						1500		Close D.V. Tool
								Release Press. / pu closed
								1170 80 sks to p <sup>+</sup> with Mike
								John A. [Signature]
								Thank you Nick, Sush Fi, Shane

JOB LOG

SWIFT Services, Inc.

DATE 24 AUG 10 PAGE NO. 1

CUSTOMER GRAND MESA WELL NO. LEASE HESS 1-16 JOB TYPE ACIDIZE FORMATION TICKET NO. 18933

CHART NO.	TIME	RATE (BPM)	VOLUME (BBL) (GAL)	PUMPS		PRESSURE (PSI)		DESCRIPTION OF OPERATION AND MATERIALS
				T	C	TUBING	CASING	
<del>1500</del>	1500							ON LOCATION
<del>15</del>	1510	3		✓				START AND DOWN WELL
		3	9½	✓				START FLUSH
	1518	Ø	27	✓				TUBING LOADED
	1520			✓		300		STAGING.
	1525			✓		600		" "
	1535			✓		700		" "
	1542			✓		800		" "
	1620			✓		800		RELEASE PRESSURE
								RACK TRUCK UP.
								TREAT WITH 250 gal 15% MCA
								PERFS @ 4530-38
								PACKER @ 4502
	1630							JOB COMPLETE.
								THANKS #110
								JASON & JEFF

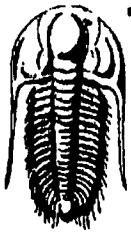
JOB LOG

SWIFT Services, Inc.

DATE 25 AUG 10 PAGE NO.

CUSTOMER **GRAND MESA** WELL NO. LEASE **HESS 1-16** JOB TYPE **ACIDIZE FORMATION** TICKET NO. **18934**

CHART NO.	TIME	RATE (BPM)	VOLUME (BBL) (GAL)	PUMPS		PRESSURE (PSI)		DESCRIPTION OF OPERATION AND MATERIALS
				T	C	TUBING	CASING	
	1200							ON LOCATION
	1209	1		✓				SPOT ACID ON BOTTOM
								MOVE PACKER UP SET PACKER
	1222	4		✓				START ACID DOWN WELL
		4	5	✓				START FLUSH
	1234	Ø	27½	✓				TUBING LOADED 1 BBL LATE
	1238			✓		300		STAGING.
	1242			✓		400		
	1247			✓		500		
	1252			✓		600		
	1308			✓		800		
	1320	½	29½	✓		800		TREATING
	1324	Ø	31½	✓		800		ISIP
						VAL.		1 min 15 sec - VAL
								TREAT WITH 200 gal 15% MCA.
								PERFS @ 4518-22
								PACKER @ 4502
	1345							JOB COMPLETE.
								THANKS #110
								JASON & JEFF



**TRILOBITE  
TESTING, INC**

# DRILL STEM TEST REPORT

Grand Mesa Operating  
1700 N Waterfront Pkwy Blvd  
BLDG 600  
Wichita Ks 67206  
ATTN: Macklin Armstrong

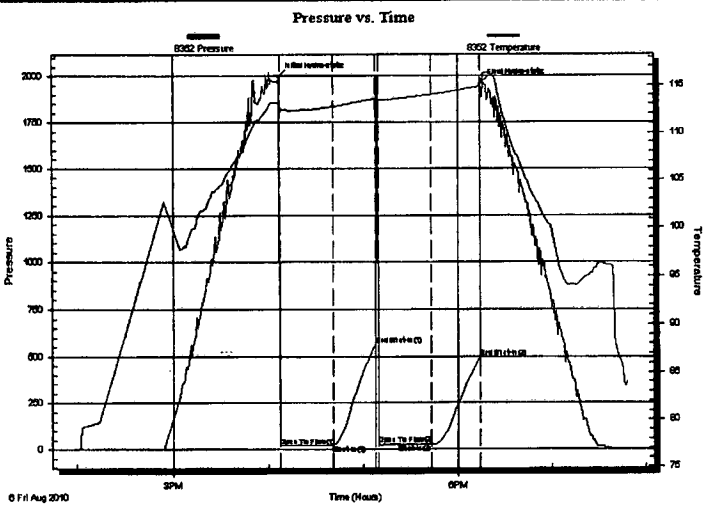
**Hess 1-16**  
**16-14s-31w Gove KS**  
Job Ticket: 039978      **DST#: 1**  
Test Start: 2010.08.06 @ 14:02:05

### GENERAL INFORMATION:

Formation: **LKC "H"**  
Deviated: **No** Whipstock:                      ft (KB)  
Time Tool Opened: 16:07:10  
Time Test Ended: 19:48:09  
Interval: **4094.00 ft (KB) To 4138.00 ft (KB) (TVD)**  
Total Depth: **4138.00 ft (KB) (TVD)**  
Hole Diameter: **7.88 inches** Hole Condition: **Fair**  
Test Type: **Conventional Bottom Hole**  
Tester: **Andy Carreira**  
Unit No: **31**  
Reference Elevations: **2890.00 ft (KB)**  
**2885.00 ft (CF)**  
KB to GR/CF: **5.00 ft**

**Serial #: 8352      Outside**  
Press@RunDepth: **24.59 psig @ 4101.00 ft (KB)**      Capacity: **8000.00 psig**  
Start Date: **2010.08.06**      End Date: **2010.08.06**      Last Calib.: **2010.08.06**  
Start Time: **14:02:05**      End Time: **19:48:10**      Time On Btm: **2010.08.06 @ 16:06:30**  
Time Off Btm: **2010.08.06 @ 18:14:30**

**TEST COMMENT:** IF: Weak, died in 1 min.  
IS: No return  
FF: No blow, Flushed tool, surge, no blow  
FS: No return



### PRESSURE SUMMARY

Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	1998.10	113.11	Initial Hydro-static
1	19.02	111.84	Open To Flow (1)
35	23.77	112.71	Shut-in(1)
61	561.48	113.56	End Shut-in(1)
63	24.55	112.73	Open To Flow (2)
97	24.59	114.00	Shut-in(2)
128	491.56	114.86	End Shut-in(2)
128	1959.84	115.17	Final Hydro-static

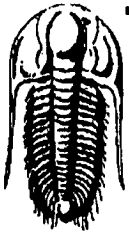
### Recovery

Length (ft)	Description	Volume (bbl)
5.00	M m=100%	0.02

### Gas Rates

Choke (Inches)	Pressure (psig)	Gas Rate (Mcf/d)





**TRILOBITE  
TESTING, INC**

**DRILL STEM TEST REPORT**

**FLUID SUMMARY**

Grand Mesa Operating

**Hess 1-16**

1700 N Waterfront Pkwy Blvd  
BLDG 600  
Wichita Ks 67206  
ATTN: Mackin Armstrong

**16-14s-31w Gove KS**

Job Ticket: 039978

**DST#: 1**

Test Start: 2010.08.06 @ 14:02:05

**Mud and Cushion Information**

Mud Type: Gel Chem  
Mud Weight: 9.00 lb/gal  
Viscosity: 47.00 sec/qt  
Water Loss: 9.52 in<sup>3</sup>  
Resistivity: ohm.m  
Salinity: 2000.00 ppm  
Filter Cake: inches

Cushion Type:  
Cushion Length: ft  
Cushion Volume: bbl  
Gas Cushion Type:  
Gas Cushion Pressure: psig

Oil API: deg API  
Water Salinity: ppm

**Recovery Information**

Recovery Table

Length ft	Description	Volume bbl
5.00	M m=100%	0.025

Total Length: 5.00 ft      Total Volume: 0.025 bbl

Num Fluid Samples: 0

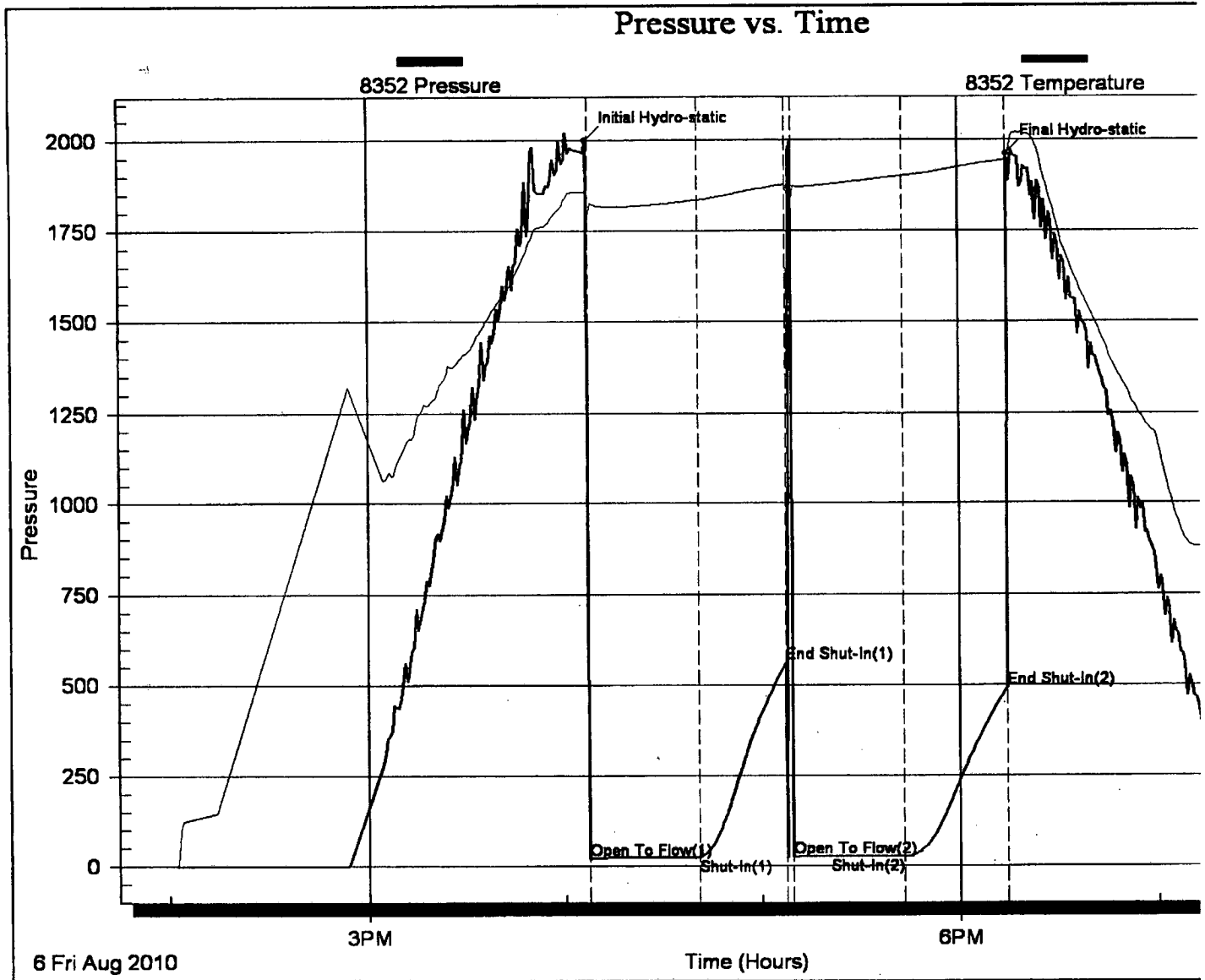
Num Gas Bombs: 0

Serial #:

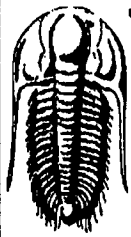
Laboratory Name:

Laboratory Location:

Recovery Comments:







**TRILOBITE  
TESTING, INC**

**DRILL STEM TEST REPORT**

**FLUID SUMMARY**

Grand Mesa Operating

**Hess 1-16**

1700 N Waterfront Pkwy Blvd  
BLDG 600  
Wichita Ks 67206  
ATTN: Macklin Armstrong

**16-14s-31w Gove KS**

Job Ticket: 039979

**DST#: 2**

Test Start: 2010.08.07 @ 05:20:05

**Mud and Cushion Information**

Mud Type: Gel Chem  
Mud Weight: 9.00 lb/gal  
Viscosity: 50.00 sec/qt  
Water Loss: 7.95 in<sup>3</sup>  
Resistivity: ohm.m  
Salinity: 3000.00 ppm  
Filter Cake: inches

Cushion Type:  
Cushion Length: ft  
Cushion Volume: bbl  
Gas Cushion Type:  
Gas Cushion Pressure: psig

Oil API: deg API  
Water Salinity: ppm

**Recovery Information**

Recovery Table

Length ft	Description	Volume bbl
150.00	MW	1.004
3.00	O	0.042

Total Length: 153.00 ft      Total Volume: 1.046 bbl

Num Fluid Samples: 0

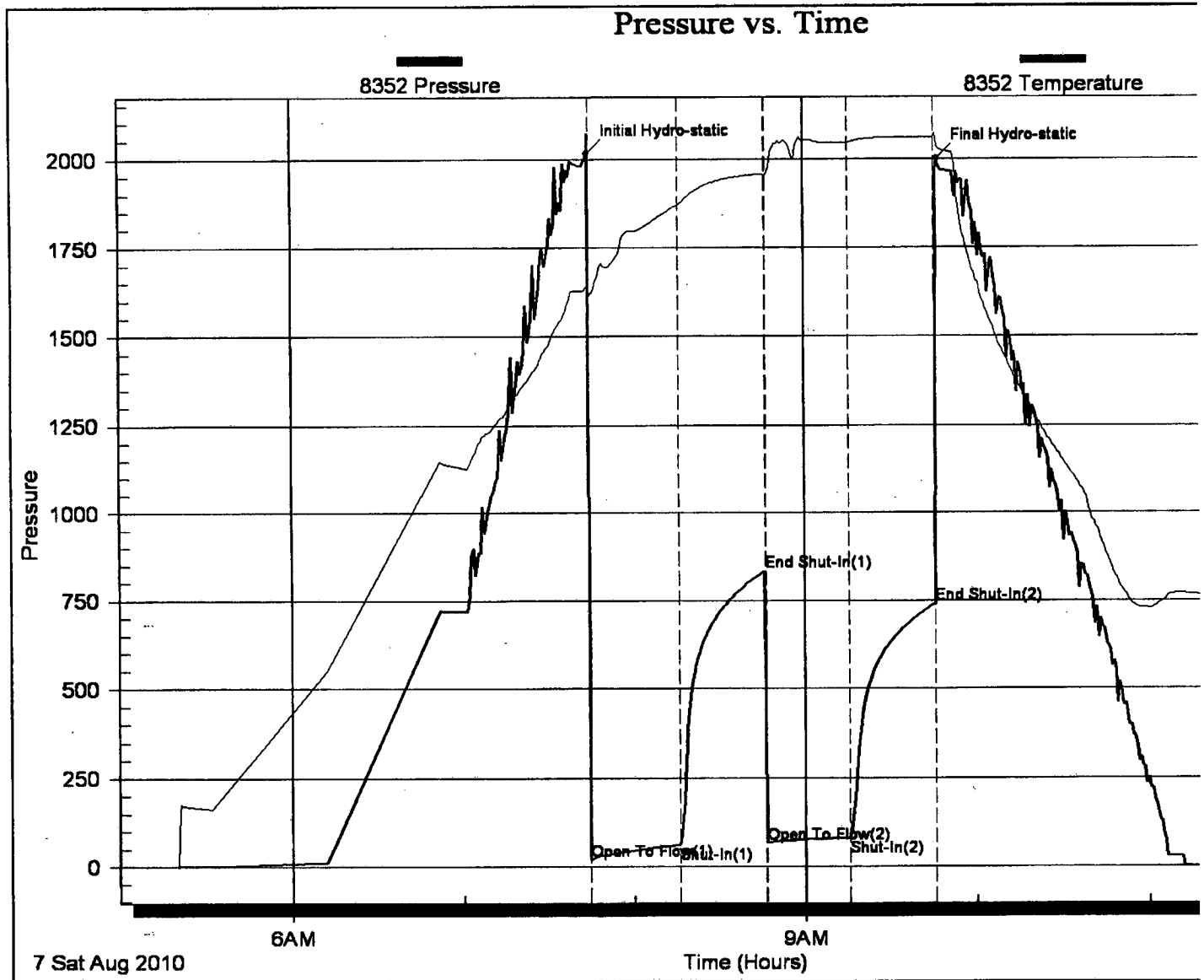
Num Gas Bombs: 0

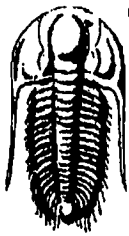
Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:





**TRILOBITE  
TESTING, INC.**

# DRILL STEM TEST REPORT

Grand Mesa Operating  
1700 N Waterfront Pkwy Blvd  
BLDG 600  
Wichita Ks 67206  
ATTN: Macklin Armstrong

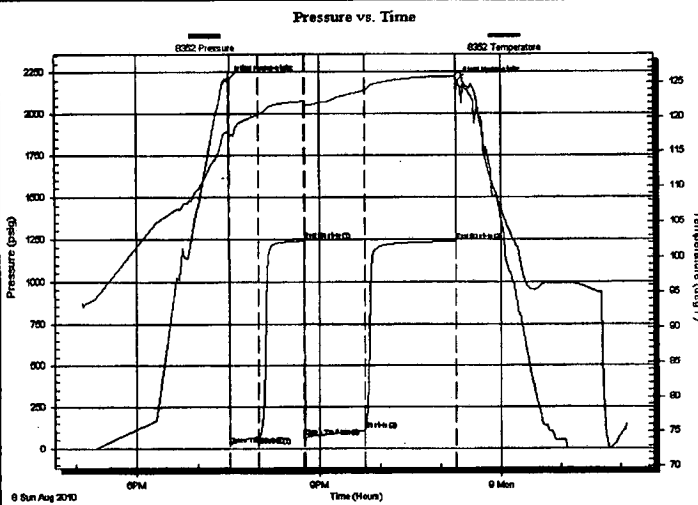
**Hess 1-16**  
**16-14s-31w Gove KS**  
Job Ticket: 039980      **DST#: 3**  
Test Start: 2010.08.08 @ 17:07:05

## GENERAL INFORMATION:

Formation: **Johnson**  
Deviated: **No** Whipstock:                      ft (KB)  
Time Tool Opened: 19:31:30  
Time Test Ended: 02:05:50  
Interval: **4495.00 ft (KB) To 4546.00 ft (KB) (TVD)**  
Total Depth: **4138.00 ft (KB) (TVD)**  
Hole Diameter: **7.88 inches** Hole Condition: Fair  
Test Type: **Conventional Bottom Hole**  
Tester: **Andy Carreira**  
Unit No: **31**  
Reference Elevations: **2890.00 ft (KB)**  
**2885.00 ft (CF)**  
KB to GR/CF: **5.00 ft**

**Serial #: 8352**      **Outside**  
Press@RunDepth: **110.27 psig @ 4507.00 ft (KB)**      Capacity: **8000.00 psig**  
Start Date: **2010.08.08**      End Date: **2010.08.09**      Last Calib.: **2010.08.09**  
Start Time: **17:07:05**      End Time: **02:05:50**      Time On Btrn: **2010.08.08 @ 19:30:20**  
Time Off Btrn: **2010.08.08 @ 23:16:29**

**TEST COMMENT:** IF: Strong, building to 10 inches  
IS: No return  
FF: BOB, 22 min  
FS: No return



## PRESSURE SUMMARY

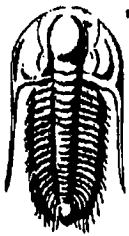
Time (Min.)	Pressure (psig)	Temp (deg F)	Annotation
0	2206.21	117.80	Initial Hydro-static
2	24.63	116.68	Open To Flow (1)
31	68.79	120.43	Shut-In(1)
75	1241.07	122.30	End Shut-In(1)
76	71.48	121.90	Open To Flow (2)
135	110.27	123.94	Shut-In(2)
225	1237.02	125.88	End Shut-In(2)
227	2191.50	126.36	Final Hydro-static

## Recovery

Length (ft)	Description	Volume (bbl)
226.00	MGO g=15% m=20% o=65%	2.07
0.00	GIP= 620ft	0.00

## Gas Rates

Choke (inches)	Pressure (psig)	Gas Rate (Mcf/d)



**TRILOBITE  
TESTING, INC**

**DRILL STEM TEST REPORT**

**FLUID SUMMARY**

Grand Mesa Operating

**Hess 1-16**

1700 N Waterfront Pkw y Blvd  
BLDG 600  
Wichita Ks 67206  
ATTN: Macklin Armstrong

**16-14s-31w Gove KS**

Job Ticket: 039980

**DST#: 3**

Test Start: 2010.08.08 @ 17:07:05

**Mud and Cushion Information**

Mud Type: Gel Chem	Cushion Type:	Oil API:	deg API
Mud Weight: 9.00 lb/gal	Cushion Length: ft	Water Salinity:	ppm
Viscosity: 57.00 sec/qt	Cushion Volume: bbl		
Water Loss: 8.76 in <sup>3</sup>	Gas Cushion Type:		
Resistivity: ohm.m	Gas Cushion Pressure: psig		
Salinity: 3400.00 ppm			
Filter Cake: inches			

**Recovery Information**

Recovery Table

Length ft	Description	Volume bbl
226.00	MCGO g=15% m=20% o=65%	2.070
0.00	GIP= 620ft	0.000

Total Length: 226.00 ft      Total Volume: 2.070 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:





330 SOUTH TYLER ROAD, NO. 811  
WICHITA, KANSAS 67209

PHONE  
316-440-8858

0  
16

COMPANY GRAND MESA OPERATING COMPANY

WELL HESS NO. 1-16

FIELD WILDCAT

COUNTY GOVE STATE KANSAS

LOCATION:

2004'FNL and 1141'FWL

Elevations

KB 2890

DF

GL 2885

SEC 16 TWP 14S RGE 31W

Logging by:  
WEATHERFORD

- |                            |                     |
|----------------------------|---------------------|
| 1. <u>DIL-GR-SP</u>        | 4. <u>SONIC LOG</u> |
| 2. <u>CN/COL-GR-PE-CAL</u> | 5. _____            |
| 3. <u>MICRO LOG</u>        | 6. _____            |

Contractor MURFIN DRILLING COMPANY RIG 24

Commenced 8-2-10

Completed 8-10-10

RTD 4750

LTD 4748

Surface Casing 8 5/8" 23# @ 217'

Production Casing 5 1/2" 15.5# @ 4748

Drilling Time 3600-TD

Samples 3800-TD

Daily Penetration Rate @ 7am

Date	Depth	Activity	Date	Depth	Activity
8-2-10	SPUD				
8-3-10	554	DRILLING			
8-4-10	2739	DRILLING			
8-5-10	3645	DRILLING			
8-6-10	4120	DRILLING			
8-7-10	4186	DST NO.2			
8-8-10	4436	DRILLING			
8-9-10	4580	DRILLING			
8-10-10	4750	SET 5 1/2" CASING			

BIT RECORD

REMARKS PIPE WAS SET TO FURTHER TEST THE JOHNSON ZONE.

*Respectfully Submitted,  
Muelbin M. Amstrong*

Formation	Sample	Log	Datum	Formation	Sample	Log	Datum
ANYORITE	2371	2369	+537				-16
B/ANHYDRITE	2394	2391	+515				-16
HEEBNER	3910	3915	-1025				-7
TORONTO	3984	3935	-1045				-9
LANSING	3984	3952	-1062				-8
MUNICIPAL CREEK	4106	4102	-1212				-3
STARK	4195	4192	-1302				-3
HUSHPICKNEY	4232	4229	-1339				-6
B/KANSAS	4282	4280	-1390				-12
MARMATON	4301	4298	-1408				-2
PAWNEE	4362	4360	-1470				+6
FORT SCOTT	4393	4390	-1500				+8
CHEROKEE SHALE	4476	4472	-1582				+10
JOHNSON	4518	4515	-1625				+10
MORROW	4548	4544	-1654				+8
MISSISSIPPI	4568	4564	-1674				+22
TOTAL DEPTH	4750	4748	-1858				

Make & Type	Serial No.	Nozzles	Depth In	Depth Out
7 3/4" SM J42071	M1616	15-15-15	217	3614
7 3/4" SM F271	PP9026	15-15-15	3614	4750