

WELL COMPLETION FORM
WELL HISTORY - DESCRIPTION OF WELL & LEASE

10/29/08

Operator: License # 5208

Name: ExxonMobil Oil Corporation

Address P.O. Box 4358

City/State/Zip Houston TX 77210-4358

Purchaser: _____

Operator Contact Person: Amelia G. Garcia

Phone (281) 654-1914

Contractor: Name: Key Energy Services, Inc.

License: 165133

Wellsite Geologist: _____

Designate Type of Completion

- New Well
- Re-Entry
- SWD
- SLOW
- Temp. Abd.
- Gas
- ENHR
- SIGW
- Dry
- Other (Core, WSW, Expl., Cathodic, etc.)

If Workover/Reentry: Old Well Info as follows:

Operator: Mobil Oil Corp.

Well Name: Hickok Plant Well #1 SWD

Original Comp. Date 11/17/94 Original Total Depth 4156

Deepening Re-perf. Conv. to Enhr./SWD

Plug Back Plug Back Total Depth

Commingled Docket No. _____

Dual Completion Docket No. _____

Other (SWD or Enhr?) Docket No. D 27. 023

02/15/08 11/16/94 02/28/08

Spud Date or Recompletion Date Date Reached TD Completion Date or Recompletion Date

API NO. 15- 067-21310-0001

County Grant

NE SE SW Sec. 31 Twp. 28 S. R. 35 E W

875 826 Feet from SN (circle one) Line of Section

2828 2933 Feet from EW (circle one) Line of Section

Distances Calculated from Nearest Outside Section Corner:

(circle one) NE SE NW SW

Lease Name Hickok Plant Well # 1 SWD

Field Name Hugoton

Producing Formation Topeka (permitted) SWD only no productn

Elevation: Ground 3052 Kelley Bushing 3063

Total Depth 4210 Plug Back Total Depth 4201

Amount of Surface Pipe Set and Cemented at _____ Feet

Multiple Stage Cementing Collar Used? Yes No

If yes, show depth set _____ Feet

If Alternate II completion, cement circulated from _____

feet depth to _____ w/ _____ sx cmt.

Drilling Fluid Management Plan OWWO-AI-I NR
(Data must be collected from the Reserve Pit) 3-10-09

Chloride content _____ ppm Fluid volume _____ bbls

Dewatering method used _____

Location of fluid disposal if hauled offsite: _____

Operator Name _____

Lease Name _____ License No. _____

Quarter _____ Sec. _____ Twp. _____ S. R. _____ E W

County _____ Docket No. _____

INSTRUCTIONS: An original and two copies of this form shall be filed with the Kansas Corporation Commission, 130 S. MarkeT - Room 2078, Wichita, Kansas 67202, within 120 days of the spud date, recompletion, workover or conversion of a well. Rule 82-3-130, 82-3-106 and 82-3-107 apply. Information on side two of this form will be held confidential for a period of 12 months if requested in writing and submitted with the form (see rule 82-3-107 for confidentiality in excess of 12 months). One copy of all wireline logs and geologist well report shall be attached with this form. ALL CEMENTING TICKETS MUST BE ATTACHED. Submit CP-4 form with all plugged wells. Submit CP-111 form with all temporarily abandoned wells.

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

Signature Amelia Garcia
Title Contract Regulatory Specialist Date 10/27/08

Subscribed and sworn to before me this 6th day of February

Notary Public [Signature]

Date Commission Expires _____ My Commission Expires 09/27/2009



KCC Office Use ONLY

Letter of Confidentiality Attached
if Denied, Yes Date: _____

Wireline Log Received

Geologist Report Received

UIC Distribution

Operator Name Esso Mobil Corporation Lease Name Hickok Plant Well # 1 SWD

Sec. 31 Twp. 28 S.R. 35 East West County Grant

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 all Electric Wireline Logs surveyed. Attach final geological well site report.

NOTE: ANSWERS S/BE PERTINENT TO WORKOVER ONLY!

Drill Stem Tests Taken (Attach Additional Sheets.) Yes No Log Formation (Top), Depth and Datums Sample

Samples Sent to Geological Survey Yes No Name Top Datum

Cores Taken Yes No

Electric Log Run (Submit Copy.) Yes No **N/A**

List All E.Logs Run:

10/29/88

CASING RECORD New Used

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

Purpose of String	Size Hole Drilled	Size Casing Set (In O.D.)	Weight Lbs./Ft.	Setting Depth	Type of Cement	# Sacks Used	Type and Percent Additives
Surface	12.250	8.625	24#	703	Class C	420	50:50 poz
Production	7.875	5.500	14#	4210	Class C	300	3% D79
					Class C	350	2% CACL2

ADDITIONAL CEMENTING/SQUEEZE RECORD

Purpose	Depth Top Bottom	Type of Cement	#Sacks Used	Type and Percent Additives
Perforate				
Protect Casing				
Plug Back TD				
Plug Off Zone				

Shots Per Foot	PERFORATION RECORD - Bridge Plugs Set/Type - Specify Footage of Each Interval Perforated	Acid, Fracture, Shot, Cement Squeeze Record (Amount and Kind of Material Used)	Depth
	3790-3998 12/1/94 <i>de 7 to 000 recd</i>		
	<i>Op</i> Csg 1k @ 3502-3660; perfs 3654-3658 2/28/08	Squ'd w/28 bbls Cmt	

TUBING RECORD Size 2- 7/8 Set At 3728 Packer At 3728 Liner Run Yes No

Date of First, Resumed Production, SWD or Enhr. Producing Method Flowing Pumping Gas Lift Other (Explain)

Estimated Production Per 24 Hours Oil Bbls. Gas Mcf Water Bbls. Gas-Oil Ratio Gravity

Disposition of Gas: Vented Sold Used on Lease Open Hole Perforation Dually Comp. Commingled

(If vented, submit ACO-18.) Other (Specify) _____

ExxonMobil Production Company
P.O. Box 4358
Houston, Texas 77210

February 6, 2009

Kansas Corporation Commission
Conservation Division
Attention: Marjorie Marcotte
130 S. Market, Room 2078
Wichita, KS 67202-3802

ExxonMobil
Production

RE: Your Letter dated 1/08/2008
API Well No. 15-067-21310-00-01
Hickok Plant F SWDW
NESESW, 31-28S-35W
GRANT County, Kansas

Dear Ms. Marcotte:

Please excuse the delay, but we spoke to "Steve" in your office on January 20, 2009 and advised we needed more time to research the information you required. Enclosed is your original letter as instructed and two copies of the ACO-1. Also enclosed are the following documents:

Corrected notarized ACO-1 for completion date 2/08/08.
We have also corrected items that "Maggie" pointed out via phone conversation. Not all items that were highlighted required corrections as per her phone call. There were no drill stem tests.

We have also enclosed what data we were able to find in connection with cementing tickets etc. going back to the original well filings. Since this data goes back to December 1994, before ExxonMobil took over operation of this well, some data is not available.

If you still require copies of logs, please advise. Since logs were not pertinent to this completion we are reporting, we did not include them.

Please call if you require any additional information please call at 281-654-1914.

Sincerely,



Amelia G. Garcia
Contract Regulatory Specialist
USP - RSO - Permitting

RECEIVED
KANSAS CORPORATION COMMISSION

FEB 09 2009

CONSERVATION DIVISION
WICHITA, KS

DOWELL SCHLUMBERGER INCORPORATED

CUSTOMER

P.O. BOX 4378 HOUSTON, TEXAS 77210

OILFIELD SERVICES

DSI SERVICE ORDER RECEIPT AND INVOICE NO. 03 12 6620		CUSTOMER NUMBER		CUSTOMER P.O. NUMBER		DSI SERVICE LOCATION NAME AND NUMBER ULY6SES, KANSAS 03 12	
CUSTOMER'S NAME Mobil Oil		ADDRESS		CITY, STATE AND ZIP CODE		TYPE SERVICE CODE 271	
RECEIVED KANSAS CORPORATION COMMISSION		DATE FEB 09 2009		WORKOVER NEW WELL <input checked="" type="checkbox"/> OTHER <input type="checkbox"/>		BUSINESS CODES API OR IC NUMBER	

IMPORTANT: SEE OTHER SIDE FOR TERMS & CONDITIONS

ARRIVE LOCATION	MO.	DAY	YR.	TIME
	11	12	94	12:00

DSI will furnish and Customer shall purchase materials and services required for the completion of the following SERVICE INSTRUCTIONS in accordance with the general terms and conditions printed on the reverse side of this service order and/or attached to this service order. This service order is subject to alternative dispute resolution.

CONSERVATION DIVISION

SAFETY CEMENT 732.6 FT OF 8 5/8" CASING WITH 220 SXS OF LEAD AND 200 SXS OF TAIL CEMENT IS DIRECTED BY CUSTOMER.

SIGNATURE OF CUSTOMER OR AUTHORIZED REPRESENTATIVE
[Signature]

JOB COMPLETION: MO. 11 DAY 12 YR. 94 TIME 18:50

SIGNATURE OF CUSTOMER OR AUTHORIZED REPRESENTATIVE
[Signature]

STATE KANSAS	CODE	COUNTY / PARISH GRANT	CODE	CITY
WELL NAME AND NUMBER / JOB SITE SWD		LOCATION AND POOL / PLANT ADDRESS SEC. 31-285-35W		SHIPPED VIA Dowell

ITEM/PRICE REF. NO.	MATERIAL, EQUIPMENT AND SERVICES USED	UNIT	QUANTITY	UNIT PRICE	\$ AMOUNT
MATERIALS					
04-003 000	D903 CLASS C CEMENT	CFT	210	9.06	1902.60
045008 000	D35 LITEROS 3	CFT	211	4.39	926.29
045004 050	D44 GRANULATED SALT	LB	1133	0.13	147.29
045014 050	D20 BENTONITE EXTENDER	LB	1300	0.17	221.00
067005 100	S1 CALCIUM CHLORIDE	LB	336	0.40	134.40
044003 025	D29 CELLULOSE FLAKES	LB	160	1.77	283.20
SERVICES					
102671 010	PUMP	EA	1	840.00	840.00
048601 000	CEMENT HEAD	EA	1	70.00	N/C
049102 000	DELIVERY CHARGE	TR	191	1.00	191.00
049100 000	SERVICE CHARGE	CET	465	1.36	632.40
059107 000	DRR RECORDER	EA	1	159.00	159.00
059100 002	MILEAGE (PUMP)	MI	10	2.95	29.50
048501 055	8 5/8" CASING HARDWARE TOP PLUG (WOODEN)	EA	1	106.00	106.00

DISCOUNT 34%

FIELD ESTIMATE \$ 5572.68 w/ discount \$3677.97

SUB TOTAL

LICENSE/REIMBURSEMENT FEE

REMARKS: **Thank you for using Dowell !!**

STATE: _____ % TAX ON \$

COUNTY: _____ % TAX ON \$

CITY: _____ % TAX ON \$

SIGNATURE OF DSI REPRESENTATIVE: *[Signature]* TOTAL \$

CEMENTING SERVICE REPORT

Schlumberger
Dowell

DOWELL SCHLUMBERGER INCORPORATED.

TREATMENT NUMBER 05 12 6020 DATE 11/12/94

STAGE DS DISTRICT ULYSSES, KANSAS

DS-496A PRINTED IN U.S.A.

WELL NAME AND NO: **SWD**
 LOCATION (LEGAL): **SEC. 31-285-35W**
 FIELD-POOL: **HUGOTON**
 FORMATION: **SURFACE**
 COUNTY/PARISH: **GRANT**
 STATE: **KANSAS** APT. NO.:
 NAME: **Hobil Oil**
 AND: **RECEIVED KANSAS CORPORATION COMMISSION**
 ADDRESS: **FEB 09 2009**

RIG NAME: **Cherokee # 2**

WELL DATA:		BOTTOM		TOP	
BIT SIZE 12 1/4"	CSG/Liner Size 8 3/8"				
TOTAL DEPTH	WEIGHT 24#				
DROT □ CABLE	FOOTAGE 77# 732.6				
MUD TYPE WB	GRADE				
□ BHST □ BHCT	THREAD 8id				
MUD DENSITY 9	LEGS FOOTAGE (SHOE JOINTS) 44.5				188.1 TOTAL
MUD VISC.	Disp. Capacity 16470 188.1				16470

NOTE: Include Footage From Ground Level To Head In Disp. Capacity

SPECIAL INSTRUCTIONS: **72.6 CONSERVATION DIVISION WICHITA KS**
SAFELY CEMENT 204 FT OF 8 3/8" WITH 220 SXS OF LEAD AND 200 SXS OF TAIL CEMENT AS DIRECTED BY CUSTOMER.

IS CASING/TUBING SECURED? YES NO
 LIFT PRESSURE **694 25** PSI CASING WEIGHT + SURFACE AREA (3.14 x H)
 PRESSURE LIMIT **7500** PSI BUMP PLUG TO **2250** PSI
 ROTATE **8** RPM RECIPROCATE **2** FT No. of Centralizers **5**

SIDE	TYPE	DEPTH	TYPE	DEPTH
Autofill INSERT		72.6		
CMT NOSE GUIDE		77# 732.6		

Head & Plugs: Double Single Swage Knockoff

TOOL JOBS: TBG D.P. SQUEEZE JOB

TUBING VOLUME: NEW USED

JOB SCHEDULED FOR TIME: 12:00 DATE: 11/12/94 ARRIVE ON LOCATION TIME: 12:00 DATE: 11/12/94 LEFT LOCATION TIME: 19:40 DATE: 11/12/94

TIME	PRESSURE		VOLUME PUMPED gal		INJECT RATE	FLUID TYPE	FLUID DENSITY	SERVICE LOG DETAIL
	TBG OR D.P.	CASING	INCREMENT	CUM				
0001 to 2400								PRE-JOB SAFETY MEETING
18:00	200	25	-	5.7	H ₂ O	8.33	START Job	
18:05	300	86	25	5.7	CMT	12.2	START WATER ahead. BILKAR CIRCULATION	
18:19	300	42	111	5.7	CMT	14.8	START LEAD SWARM	
18:27			153				START TAIL SWARM	
18:34	A	43.8	153	5.5	H ₂ O	8.33	SHUTDOWN DROP TOP PLUG	
18:42			186	2	H ₂ O	8.33	START DISPLACEMENT	
18:49	500		197				Lower PUMP RATE	
18:50							BUMP TOP PLUG	
							Release Press & CHECK FLWT	
							FLWT Did NOT Hold.	
							SHUT IN HEATING MANIFOLD	
							AP PUMP To Bump Plug @ 2500 psi.	
							Pressure on Packer NOT working. Monitored Job w/ MASTIN DEVICES	

REMARKS

SYSTEM CODE	NO. OF BAGS	YIELD CU. FT/SK	COMPOSITION OF CEMENTING SYSTEMS				SLURRY MIXED	
			BLS	DENSITY	BLS	DENSITY		
1.	220	2.2	50/50 C/P02 + 6% D20 + 5% D44 (BUBOW) + 1/2 pps D29	86.20	12.2			
2.	200	1.2	50/50 C/P02 + 0.75% D20 + 2% S2 + 1/4 pps D29	42.74	14.8			

BREAKDOWN FLUID TYPE: **N/A** VOLUME: **N/A** DENSITY: **N/A** PRESSURE: **MAX 1100 MIN 320**

□ HESITATION SQ. RUNNING SQ. CIRCULATION LOST YES NO Cement Circulated To Surf. YES NO **320** Bbls.

BREAKDOWN PSI FINAL: **143.85 4200** Bbls

Washed Thru Ports YES NO TO: **FT.** MEASURED DISPLACEMENT WIRELINE

PERFORATIONS TO: TO: CUSTOMER REPRESENTATIVE: **MR. DAVID Neal** DS SUPERVISOR: **MR. DAVID R. SALVER**

Mobil Tubular Tally Sheet

Midland Division

Well Name & No: #1 SWDW
 Field/Lease Name: HUGOTON
 County, State: GRANT, KANSAS
 Drig. Supervisor: D.A. NEAL

AFE No: _____
 Loc. Code: 25820
 Depth Set @: 703'
 Date: 11/12/94

Tubular Size: 8.625"
 Weight: 24.00
 Grade: US50
 Connection: STC

LAND. JT.: 13.00'
 BTM. PERF.: _____
 T. D.: 708'

Jt. No.	Jts. Run	Item Length	Left Out	Depth to Top of Item	Total Ftg of Tblrs Run	Jt. No.	Jts. Run	Joint Length	Left Out	Depth to Top of Item	Total Ftg of Tblrs Run
		1.00		702.12'	1.00'						
1	1	43.45		658.67'	44.45'						
2	2	43.66		615.01'	88.11'						
3	3	43.52		571.49'	131.63'						
4	4	41.20		530.29'	172.83'						
5	5	42.85		487.44'	215.68'						
6	6	43.33		444.11'	259.01'						
7	7	43.29		400.82'	302.30'						
8	8	42.38		358.44'	344.68'						
9	9	43.67		314.77'	388.35'						
10	10	43.55		271.22'	431.90'						
11	11	43.35		227.87'	475.25'						
12	12	43.66		184.21'	518.91'						
13	13	42.17		142.04'	561.08'						
14	14	43.35		98.69'	604.43'						
15	15	43.38		55.31'	647.81'						
16	16	43.31		12.00'	691.12'						
17		41.43	X								
		13.00		-1.00'	704.12'						
					41.47						
					5						
					691.12						
					41.47						
					732.63						

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 FEB 09 2009
 CONSERVATION DIVISION
 WICHITA, KS

Sub Total: 703.12

Total Feet of Casing: 690' 16 Joints

Sub Total:

Shoe @: 703' Btm. Perf - Float: 659'
 Float @: 659'

**MIKE'S
PIPE INSPECTION COMPANY**

Phone 316-624-9245
P.O. Box 2853
Liberal, Kansas 67905



EXPERIENCED
FULLY INSURED

CASING & TURN-4 INSPECTION
COLLAR INSPECTION
HOT SHOT SERVICE

BUSINESS PHONE 316-624-9246

SHOP PHONE 316-624-1317

DATE 11-12-94

LEASE _____ WELL NO. _____

COUNTY Grant STATE KS

PIPE TALLY

SIZE 8 5/8 WT. 24# GRD. VSS-50 TYPE JT. STC NO. JTS. 17 SIZE _____ WT. _____ GRD. _____ TYPE JT. _____ NO. JTS. _____
 SIZE _____ WT. _____ GRD. _____ TYPE JT. _____ NO. JTS. _____ SIZE _____ WT. _____ GRD. _____ TYPE JT. _____ NO. JTS. _____

NO.	LENGTH		NO.	LENGTH		NO.	LENGTH		NO.	LENGTH		NO.	LENGTH		NO.	LENGTH		
	FT.	HDS.		FT.	HDS.		FT.	HDS.		FT.	HDS.		FT.	HDS.		FT.	HDS.	
1	43	45	37			73			109			145			181			217
2	43	66	38			74			110			146			182			218
3	43	52	39			75			111			147			183			219
4	41	20	40			76			112			148			184			220
5	42	85	41			77			113			149			185			221
6	43	33	42			78			114			150			186			222
7	43	29	43			79			115			151			187			223
8	42	38	44			80			116			152			188			224
9	43	67	45			81			117			153			189			225
10	43	55	46			82			118			154			190			226
11	43	35	47			83			119			155			191			227
12	43	66	48			84			120			156			192			228
13	42	17	49			85			121			157			193			229
14	43	35	50			86			122			158			194			230
15	43	38	51			87			123			159			195			231
16	43	31	52			88			124			160			196			232
17	41	43	53			89			125			161			197			233
18			54			90			126			162			198			234
19			55			91			127			163			199			235
20			56			92			128			164			200			236
21			57			93			129			165			201			237
22			58			94			130			166			202			238
23			59			95			131			167			203			239
24			60			96			132			168			204			240
25			61			97			133			169			205			241
26			62			98			134			170			206			242
27			63			99			135			171			207			243
28			64			100			136			172			208			244
29			65			101			137			173			209			245
30			66			102			138			174			210			245
31			67			103			139			175			211			247
32			68			104			140			176			212			248
33			69			105			141			177			213			249
34			70			106			142			178			214			250
35			71			107			143			179			215			251
36			72			108			144			180			216			252
TOTAL	731	59																

NO. JTS. DELIVERED 17 NET FOOTAGE 731.59 TO: _____
 NO. JTS. RUN _____ NET FOOTAGE _____ REPRESENTATIVE Mike RECEIVED
 NO. JTS. NOT RUN* _____ GROSS FOOTAGE _____ KANSAS CORPORATION COMMISSION

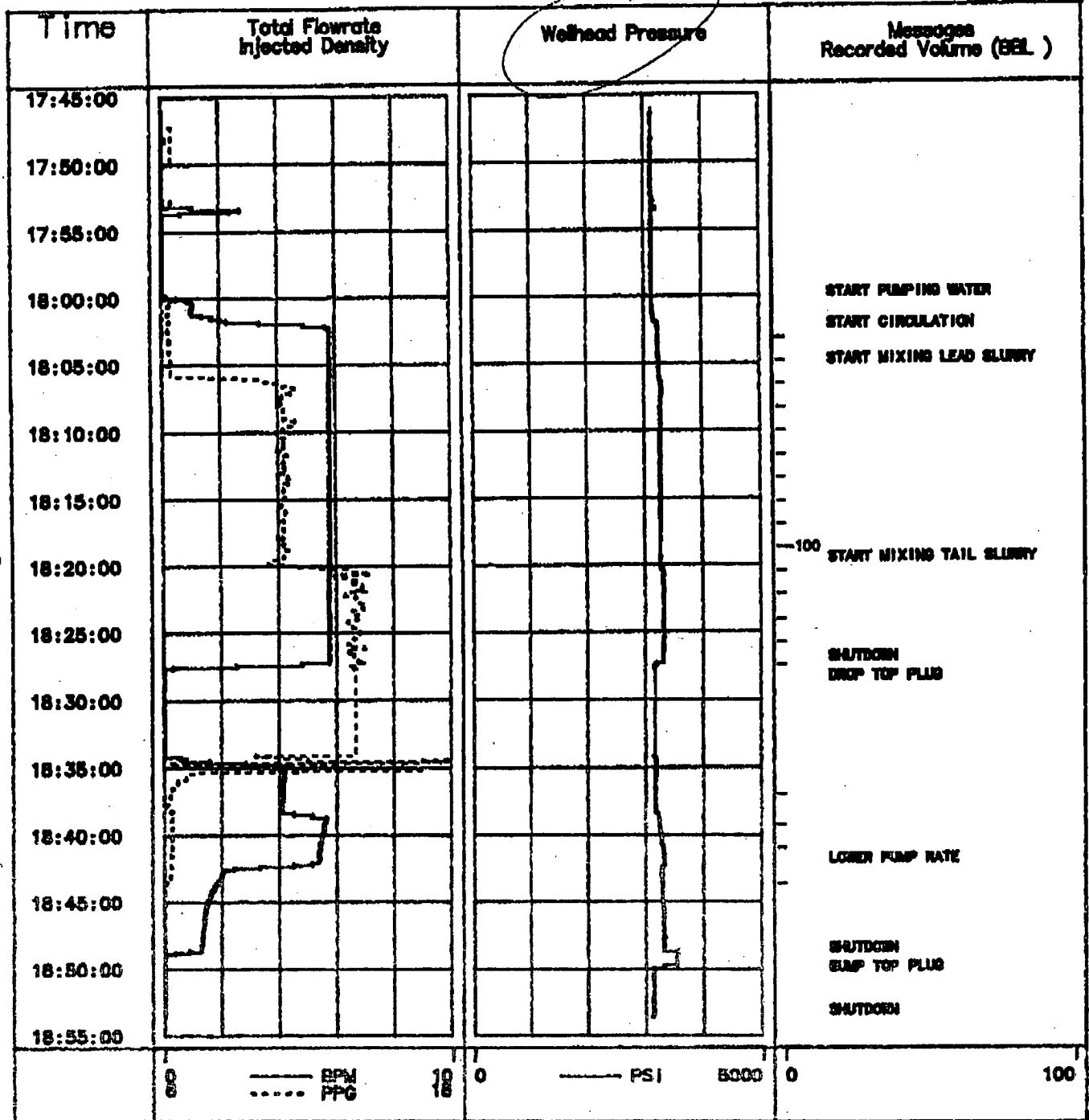
REMARKS: _____

Cementing Job Report

WELL : SWD
 FIELD : HUGOTON
 CLIENT : MOBIL OIL
 COUNTRY : USA
 JOB DATE : 11-12-84

EXECUTION SUMMARY

Incorrect Pressure



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CONSERVATION DIVISION
 WICHITA, KS



1994 Dowell 111 Bell /cm/berger
 4:40
 12/20/07/1624
 Dowell 2.00

II. SERVICES AND EQUIPMENT

<u>SERVICE/EQUIP</u>	<u>COMPANY</u>	<u>CONTACT</u>	<u>LOCATION</u>	<u>TELEPHONE</u>
Drlg Contractor	Cheyenne	A. J. Jaques Owner	Liberal Office	316-277-2062
Rig #3	Damasco Castillo	272-1602(rig) Toolpusher	Cellular Home	316-272-1393 316-355-7422
Mud	M-I Drilling Fl.	Dennis Thompson	Liberal Home Mobile	316-624-0122 316-626-8737 316-629-0360
Cement	Dowell	Lee Ramsey	Midland Beeper	915-688-2332 915-563-7696
O. H. Logging	BPB	Mike Diehl	Liberal	316-624-9324
Wellhead	ERC	Frank	Odessa	915-550-0661
Float Equipment	GEMOCO	Ricky	Odessa	915-332-5233

898 LAND Jt. 13'
 5 1/2 LAND Jt. 11
 KB
 water

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CONSERVATION DIVISION
 WICHITA, KS

III. LOCATION INFORMATION

Location directions for each well can be obtained from well map. The drilling foreman will have a map and one will be housed in the rig doghouse.

VI. WELL OBJECTIVES

The objective of the program is to drill a disposal well for the Hickock area.

V. SPECIAL DRILLING CONSIDERATIONS

A. General

1. Notify the Kansas Corporation Commission District Office 24 hours prior to spud and 12 hours prior to running any string of casing or 12 hours prior to setting any plug. The contact should be documented on the IADC Drilling Report and on the Mobil Daily Drilling Report.
2. 8 5/8" Slip-on-weld-on head will be used. Verify starting head elevation with each respective Production Foreman prior to spud.
3. An annular preventer is acceptable well control per Superintendent.
4. **KEEP HOLE FULL AT ALL TIMES.**

B. Surface

1. Surface pipe will be set 50' below bottom of useable water level as defined by the KCC.

C. Production

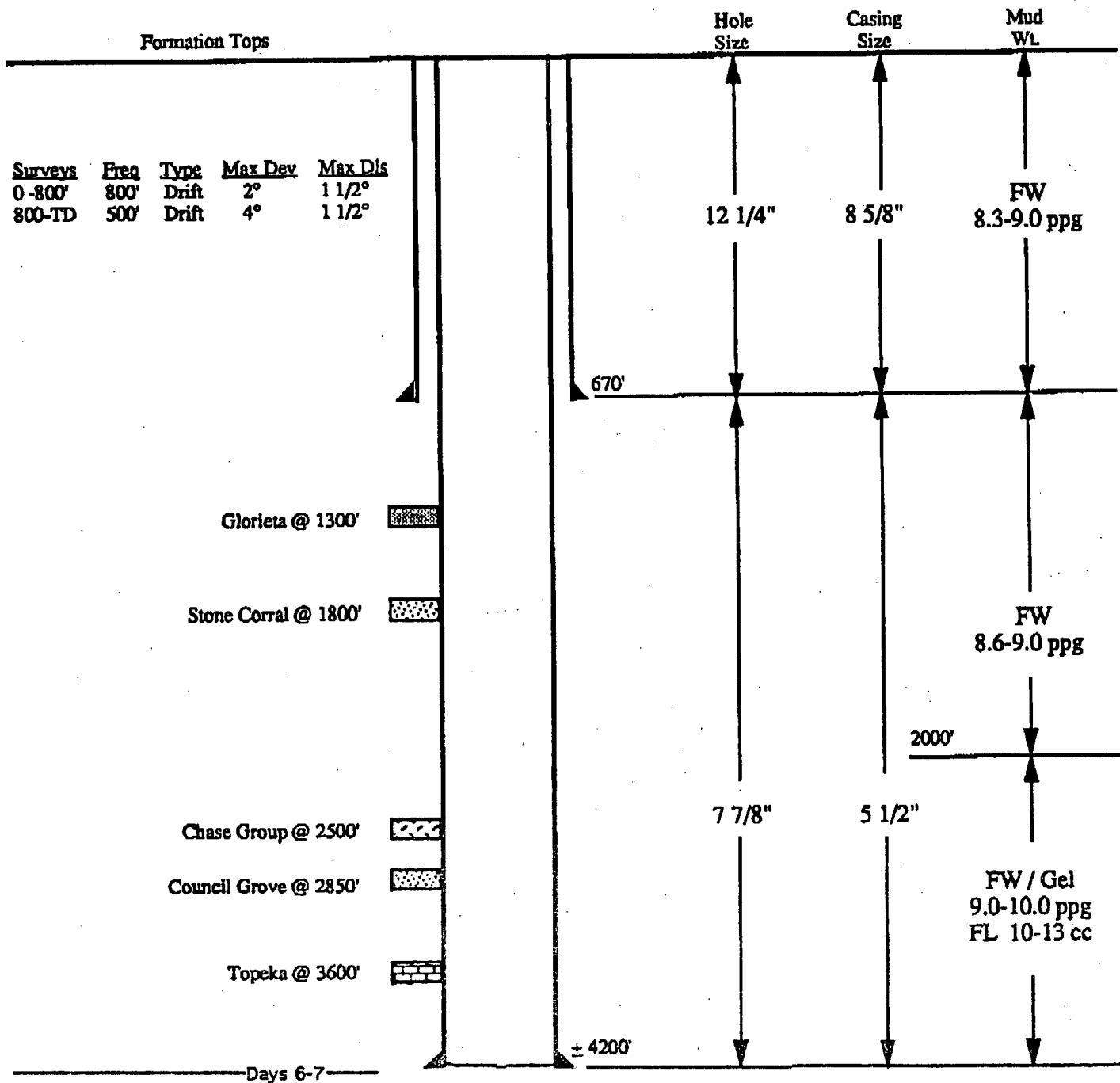
1. The major problem over this interval is expected to be salt contamination from the Stone Corral anhydrite (1800') and other possible stringers. Lost circulation is also expected in the Glorietta (1300'). Extra care to prevent surging and swabbing on trips is necessary to minimize lost circulation. Additionally, controlled drilling at 60'/hr and drilling with 2 to 4 ppb LCM in the system has shown to be an effective way to control the lost circulation.
2. On the bit trip @ $\pm 1850'$, stop and circulate 15-20 min at the top of the Glorietta ($\pm 1300'$).
3. When tripping in hole with new bit before reaching TD, **DO NOT PUT FLOAT IN DRILL STRING.** This will eliminate surging on the wellbore. Stop and circulate 15-20 min at the top of the Glorietta ($\pm 1300'$) and at the top of the Chase ($\pm 2500'$).
4. Run casing in hole at 20-30 sec/jt to maintain wellbore integrity.

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LIBERAL DRILLING PROJECT KANSAS CORPORATION COMMISSION
PAGE 6

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WICHITA, KS

HICKOCK PLANT #1 SWDW DRILLING SUMMARY



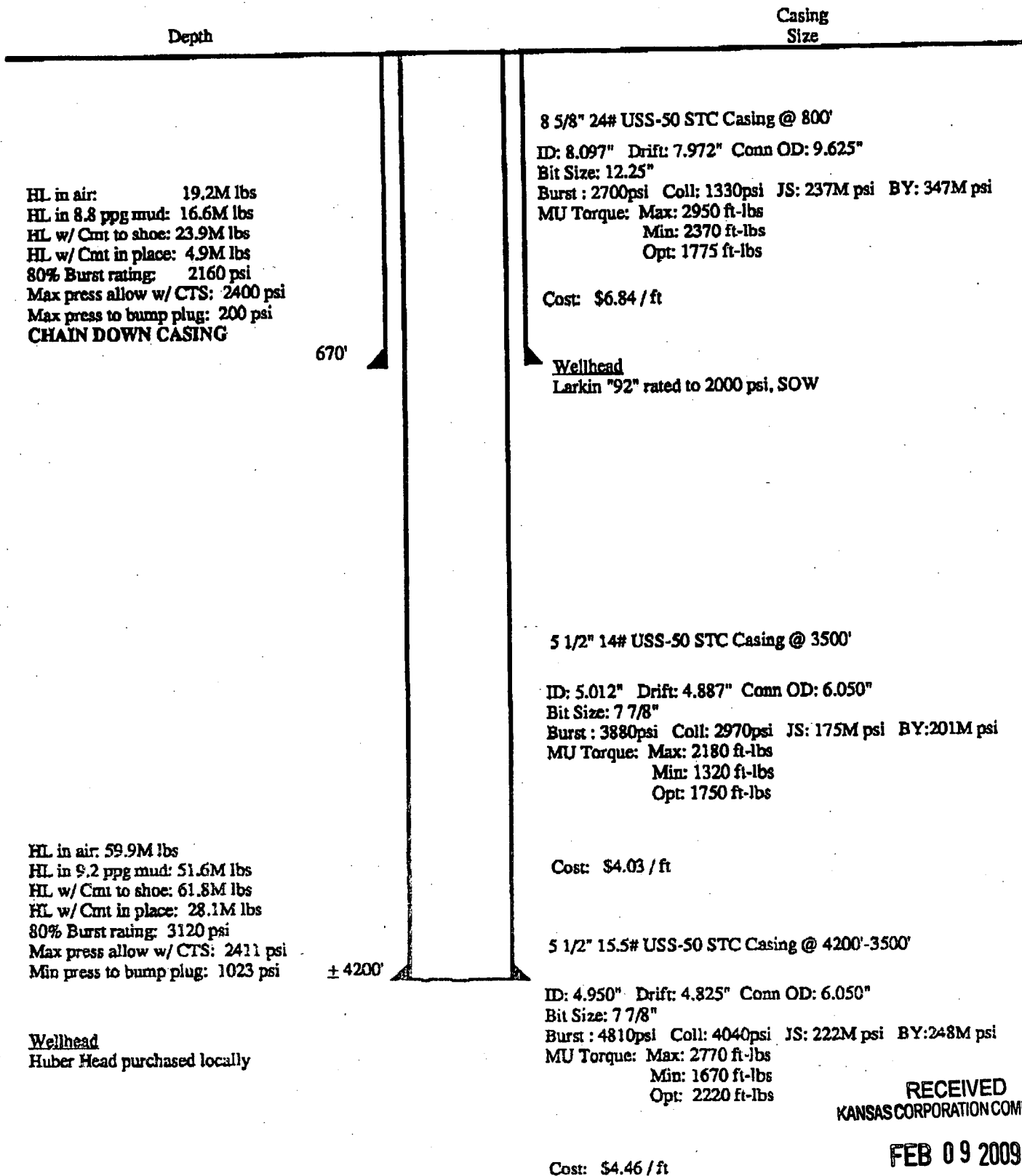
Log Type	Interval
GR-DIL-CAL	4200-Surf
NDL-Spectral GR	4200-Surf
MLL	4200-2000

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WICHITA, KS

HICROCK PLANT #1 SWD CASING DIAGRAM



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CONSERVATION DIVISION
WICHITA, KS

HICKOCK PLANT #1 SWDW CEMENTING DETAIL

SURFACE

8 5/8" 24# USS-50 STC Casing @ 670'

Casing Running Order

- Guide Shoe
- 1 jt 8 5/8" casing
- Autofill Insert Float (Thread Lock from FC down)

Centralizers:

- 1 - 5' above shoe
- 1 - every fourth collar to Surface'
- Total: 5 centralizers
- 1 stop collars

Surface

Spacer: 25 bbls FW
 *Lead: 200 sx 50:50 (Poz:C) + 6%D20 + 5% D44 + .25 pps D29
 *Tail: 175 sx 50:50 (Poz:C) + 2% S1 + .75% D20 + 25 pps D29

	Lead	Tail
Weight (ppg)	12.2	14.8
Yield (cf/sx)	2.19	1.20
Mix Water (gps)	12.37	5.28
Thick Time (hrs:min)	≥ 4:00	≥ 4:00
Free Water (cc/30 min)	≤ 1%	≤ 1%
Fluid Loss (cc's)	NC	NC
12 Hr Comp Strength	≤ 500	≥ 500
72 Hr Comp Strength	≥ 500	≥ 1500
Top of Cement	0	500'

* Est. volumes based on gauge hole + 100% excess. Run fluid or mechanical caliper to determine exact volumes.

- 1) Chain Down Casing
- 2) Circ. one hole vol. prior to cementing.
- 3) Displace cement w/ FW @ 6-7 bpm. **DO NOT OVERDISPLACE**
- 4) If cement does not circ. to surface, contact Drlg. Supt. and the KCC.
- 5) Test casing to 500 psi.
- 6) **WAIT MIN 4 HRS PRIOR TO DRILL OUT**

PRODUCTION

5 1/2" 14# USS-50 STC Casing @ 3500'
 5 1/2" 15.5# USS-50 STC @ 3500'-4200'

Casing Running Order

- Guide Shoe
- 1 jt 5 1/2" casing
- Autofill insert float (Thread Lock from FC down)

Centralizers:

- 1 - 5' above shoe
- 1 - every third collar to 1200'
- Total: 22 centralizers
- 1 stop collars

Production

Spacer: 25 bbls FW
 **Lead: 250 sx "C" + 3% D79 + 2% D46 + .25 #/sx Celloflake
 **Tail: 300 sx "C" + 2% B28 + 2% S1 + .6% D60

	Lead	Tail
Weight (ppg)	11.5	14.8
Yield (cf/sx)	2.7	1.47
Mix Water (gps)	16.6	6.72
Thick Time (hrs:min)	≥ 6:00	≥ 2:20
Free Water (cc/30 min)	≤ 1%	≤ 1%
Fluid Loss (cc's)	NC	NC
12 Hr Comp Strength	≥ 125	≥ ***
72 Hr Comp Strength	≥ ***	≥ ***
Top of Cement	0	2150'

** Est volumes based on gauged hole size or 50% excess. Run log caliper for actual volumes. Use 25% excess for open hole x 5 1/2" casing annulus.

- 1) Reciprocate casing 15'-20' while conditioning hole
- 2) Circ. one hole vol. prior to cementing.
- 3) Displace cement w/ FW @ 4-6 bpm. **DO NOT OVERDISPLACE**
- 4) If cement does not circ. to surface, contact Drlg. Supt. and the KCC.
- 5) ND BOP & cut casing 1' above top of starter head. Loosing coupling for production to install tubing head. Tubing head should be approx. 24" above GL.

RECEIVED
 KANSAS CORPORATION COMMISSION

FEB 09 2009

CONSERVATION DIVISION
 WICHITA, KS