

~~CONFIDENTIAL~~

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

ORIGINAL

API NO. 15- 155-21,252-0000

County Reno

C - NE - NW Sec. 13 Twp. 25S Rng. 9 X W

660 Feet from S (circle one) Line of Section

1980 Feet from E (circle one) Line of Section

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

Lease Name Hayes Well # 2-13

Field Name Langdon East

Producing Formation Mississippian

Elevation: Ground 1660' KB 1669'

Total Depth 3980 PSTD 3919

Amount of Surface Pipe Set and Cemented at 187 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 cat.

Drilling Fluid Management Plan 3-10-94
(Data must be collected from the Reserve Pit) B

Chloride content 14,000 ppm Fluid volume 1380 bbls

Dewatering method used haul/evaporate

Location of fluid disposal if hauled offsite: _____

Operator Name C & C Tank Service, Inc.

Lease Name Roach SWD License No. 30708

SW/4 Quarter Sec. 14 Twp. 23 Rng. 9 EW

County Reno Docket No. 22208

Operator: License # 5142

Name: STERLING DRILLING COMPANY

Address 6th and Cleveland

P. O. Box 129

City/State/Zip Sterling, Kansas 67579

Purchaser: TEXACO TRADING

Operator Contact Person: Steve E. McClain

Phone (316) 278-2131

Contractor: Name: STERLING DRILLING COMPANY

License: 5142

Wellsite Geologist: Wayne Lebsack

Designate Type of Completion

New Well Re-Entry Workover

Oil SWD SLOW Temp. Abd.

Gas ENHR SIGM

Dry Other (Core, MSW, 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 _____ PSTD

_____ Commingled _____ Docket No. _____

_____ Dual Completion _____ Docket No. _____

_____ Other (SWD or Inj?) _____ Docket No. _____

4-14-93 4-21-93 4-27-93

Spud Date Date Reached TD Completion Date

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.

STERLING DRILLING COMPANY

Signature Steve E. McClain

Title President Date 8-31-93

Subscribed and sworn to before me this 31st day of August

19 93.

Notary Public Cheryl R. Davis

Date Commission Expires _____

CHERYL R. DAVIS
State of Kansas
My Appt. Exp. Feb. 15, 1997

RECEIVED
STATE CORPORATION COMMISSION
9-2-93

K.C.C. OFFICE SEP 02 1993
F Letter of Confidentiality Attached
C Wireline Log Received
C Geologist Report Received
Wichita, Kansas
Distribution
 KCC SWD/Rep NGPA
 KGS Plug Other
(Specify)
9-2-93

P1

Operator Name STERLING DRILLING COMPANY Lease Name Hayes Well # 2-13

Sec. 13 Twp. 25S Rge. 9 East County Reno

West

ORIGINAL

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.)	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<input checked="" type="checkbox"/> Log	Formation (Top), Depth and Datum	<input type="checkbox"/> Sample
Samples Sent to Geological Survey	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Name	Top	Datum
Cores Taken	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Heebner Shale	3133	-1464
Electric Log Run (Submit Copy.)	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Brown Ls	3304	-1635
List All E. Logs Run:		Lansing	3337	-1668
SDL/DSN, DIL, FF-MXG, Microlog		BKC	3694	-2025
Coral		Cherokee Sh	3796	-2127
		Mississippian	3837	-2168
		Miss. Ls	3901	-2232
		Kinderhook Sh	3924	-2255

CASING RECORD <input type="checkbox"/> New <input checked="" 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 (New)	12 1/4	8 5/8"	20#	187	60/40 Pozmix	190	2% gel/3% cc
Production (Used)	7 7/8	5 1/2"	14#	3975	Lite	50	
					50/50 Pozmix	125	

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

Shots Per Foot	PERFORATION RECORD - Bridge Plugs Set/Type	Acid, Fracture, Shot, Cement Squeeze Record
	Specify Footage of Each Interval Perforated	(Amount and Kind of Material Used) Depth
4	3857 - 3861	Natural 3857-61

TUBING RECORD	Size <u>2 7/8</u>	Set At <u>3904</u>	Packer At <u>None</u>	Liner Run <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Date of First Resumed Production, SMD or Inj.	Producing Method <input type="checkbox"/> Flowing <input checked="" type="checkbox"/> Pumping <input type="checkbox"/> Gas Lift <input type="checkbox"/> Other (Explain)			
June 7, 1993				
Estimated Production Per 24 Hours	Oil Bbls. <u>.32</u>	Gas Mcf <u>95</u>	Water Bbls. <u>355</u>	Gas-Oil Ratio <u>2,969</u> Gravity <u>35.5</u>

Disposition of Gas: Vented Sold Used on Lease (If vented, submit ACO-18.)

METHOD OF COMPLETION: Open Hole Perf. Dually Comp. Commingled Other (Specify) _____

Production Interval: 3857-3861

DRILL STEM TESTS

ORIGINAL

No.	Interval	IFP/Time	ISIP/Time	FFP/Time	FSIP/Time	Irr-Frn	RECOVERY
1	3845-3860 Lower A i Upper B Mississippian 15' Anchor	298-488 blow bur. U to bot in 27' 30 min.	1199 See Chart 30 min.	325-318 Strong Blow 30 min.	1199 ⊗ See Chart 60 min.	1822- 1819	60' 100% Oil (36° Gravity) 30' 18% Oil 2% Gas 80% Mud <u>90'</u> Total Fluid
					⊗ p* = 1218		240' Gas in pipe. BHT = 111°F
2	3860-3870 Miss. B Zone 10' Anchor	396-929 GTS in 12 min. 20 min.	1170 See Chart 30 min.	1087-1183 60 min.	1191 ⊗ See Chart 60 min.	1854- 1847	120' 5% 35% 40% 20% 300' 25% 70% 5% - 360' 45% 55% - - 240' 18% 82% - - 240' 5% 2% 3% 90% 1380' - - - 100%
		Gas Flow Rates: IFP (end) 27 MCFD FFP 10 min 31 " 20 " 60 " 30 " 53 " 40 " 53 " 50 " 45 " 60 " 32 "			⊗ p* = 1196		240' Total Fluid (Dropped Bar) Oil Gravity = 34° Water Chlorides = 9BK Break Down of Fluid in Feet 298' Gas 651' Oil = 9 bbl Oil 70' Mud = 1 bbl Mud 1620' Water = 18 bbl H ₂ O 2670' Total Fluid = 28 bbl BHT = 112°F

REMARKS AND RECOMMENDATIONS: Due to the high ϕ & permeability of the Miss B Zone samples and the strong reservoir displayed in DST #2, 5 1/2" used casing was set to test for commercial production.

Wayne Lebsack supervised the geological wellsite work on this well for Sterling Drilling Company.

This sample log was completed by Steve McLean for SOC.

S. J. McLean

RECEIVED
STATE CORPORATION COMMISSION
AUG 13 1993

STERLING DRILLING COMPANY

COMPLETION REPORT

ORIGINAL

WELL NAME & NO. : Hayes 2-13
SDC LEASE # : K-2230
LOCATION : C NE NW, Sec. 13 25s-9w
Reno County, Kansas
ELEVATION : 1660' GL, 1669' KB
API # : 15-155-21,252

04-14-93 Ran 4 jts. new 8 5/8" 20#, 175.35' of pipe set at 187' KB. Cemented with 190 sacks of 60-40 poz mix with 2% gel and 3% CC. Plug down at 11:45 am by HOWCO with good returns to surface.

04-21-93 Ran 130 jts of 14# used, tested and drifted casing, 3966' set at 3975' KB. Cemented with 20 bbl of salt flush and 500 gal. of superflush ahead of 50 sacks of Howco light, followed with 125 sacks of F.G. Holl mix. Plug down at 10:00 pm by HOWCO. Centralizers on jts. 1-3-4 and 7. Cement basket on joint #7. Shoe joint is 11.48' long.

04-24-93 HLS CBL Logging truck hit bridge at 2880'. Gable Well Servicing, Inc. rigged up over hole. Cleaned out with sand pump. Scale and rust. HLS ran Acoustic Cement Bond Log, cement top at 2750' KB. TD at 3919'.

04-26-93 Swabbed hole dry, then loaded hole with Wildin 1-9 formation water. HLS perforated 4-holes/foot from 3857' - 3861'. Ran in 2 1/2" tubing (123 jts), 1' S.N. and 8' sub. into hole. Landed at 3904'. Ran swab, found fluid at 1200' from surface. Oil and gas showing on second pull. Swabbed 27 bbl/hour with a 8% oil cut. Tested 30 minutes and recovered 12 bbl fluid at a 20% oil cut. Shut-in.

04-27-93 T.P. 120 psig, C.P. 100 psig. 1500' down to fluid (2360' of fluid in the hole). 360' oil, 2000' water. Swab test for 3 hours:

1st hr	30 B.F. 13% oil, F.L. @ 1500'
2nd hr	31 B.F. 26% oil, F.L. @ 1500'
3rd hr	31 B.F. 30+%oil, F.L. @ 1700'

C.P. still 100 psig. Ran 2"x2 1/2"x14' insert traveling barrel, double valved pump and landed at 3888'. Ran in new rods. 61 - 7/8", 96 - 3/4" (157 total rods) plus 2' 3/4" pony rod, and a 6' and 8' 7/8" pony rod.

Shut-in well and wait for pumping unit and tanks. Will drop report until production begins.

Completed by Wayne Lebsack

RECEIVED
STATE CORPORATION COMMISSION
AUG 13 1993



BULK MATERIALS DELIVERY AND TICKET CONTINUATION

FOR INVOICE AND TICKET NO. 324694

DATE 04-14-93	CUSTOMER ORDER NO.	WELL NO. AND FARM 2-13 HAYES	COUNTY RENO	STATE KS
CHARGE TO STERLING DRILLING CO		OWNER SAME	CONTRACTOR CO TOOLS	
MAILING ADDRESS ORIGINAL		DELIVERED FROM PRATT, KS.	LOCATION CODE 25555	PREPARED BY DON PARADIS
		DELIVERED TO LOCATION	TRUCK NO. 3046/7488	RECEIVED BY CLM 04
No. B136856				

PRICE REFERENCE	SECONDARY REF. OR PART NO.	CODE		DESCRIPTION	UNITS 1		UNITS 2		UNIT PRICE	AMOUNT			
		L	D		QTY.	MEAS.	QTY.	MEAS.					
504-308	516.00261			STANDARD CEMENT BLENDED 60%	114	sk			6.76	770	64		
506-105	516.00286			POZMIX "A" BLENDED 40%	5168	lb			.055	284	24		
506-121	516.00259			HALLIBURTON GEL 2% ALLOWED	3	sk				N/C			
509-406	890.50812			CALCIUM CHLORIDE BLENDED 3%	5	sk			28.25	141	25		
THIS IS NOT AN INVOICE					Returned Mileage Charge		TOTAL WEIGHT		LOADED MILES		TON MILES		
					SERVICE CHARGE ON MATERIALS RETURNED		CU. FEET						
500-207				SERVICE CHARGE			CU. FEET 200		1.25				
500-306				Mileage Charge	16,602 TOTAL WEIGHT		36 LOADED MILES		298.836 TON MILES				
No. B 136856					CARRY FORWARD TO INVOICE					SUB-TOTAL		RECEIVED STATE CORPORATION COMMISSION AUG 13 1993 254 01 1700 14	

CUSTOMER



BULK MATERIALS DELIVERY AND TICKET CONTINUATION

FOR INVOICE AND
TICKET NO. _____

DATE 04-20-93	CUSTOMER ORDER NO.	WELL NO. AND FARM 2-13 HAYES 2-13	COUNTY RENO	STATE KS
CHARGE TO STERLING DRUG CO		OWNER SAME	CONTRACTOR CO TOOLS	
MAILING ADDRESS		DELIVERED FROM PRATT, KS.	LOCATION CODE 25555	PREPARED BY DON PARADIS
CITY & STATE		DELIVERED TO LOCATION	TRUCK NO. 3046/7488	RECEIVED BY

ORIGINAL

No. B136864

PRICE REFERENCE	SECONDARY REF. OR PART NO.	CODE		DESCRIPTION	UNITS 1		UNITS 2		UNIT PRICE	AMOUNT		
		L	D		QTY.	MEAS.	QTY.	MEAS.				
504-316				HALLIBURTON LITE CEMENT	75	sk			6.30	472	50	
504-308	516.00261			STANDARD CEMENT BLENDED 80%	63	sk			6.76	425	88	
506-105	516.00286			POZMLX "A" BLENDED 50%	4216	lb			.055	231	88	
506-121	516.00259			HALLIBURTON GEL 2% ALLOWED	2	sk				N/C		
509-968	516.00158			SALT BLENDED 18%	1150	lb			.13	149	50	
509-968	516.00158			SALT NOT MIXED	400	lb			.13	52	00	
507-153	516.00161			CFR-3 BLENDED .75%	76	lb			4.55	345	80	
507-210	890.50071			FLOCELE BLENDED 1/8#	16	lb			1.40	22	40	
508-291	516.00337			GILSONITE BLENDED 5#	650	lb			.40	260	00	
					Returned Mileage Charge	TOTAL WEIGHT		LOADED MILES	TON MILES			
					SERVICE CHARGE ON MATERIALS RETURNED			CU. FEET STATE CORPORATION COMMISSION				
500-207				SERVICE CHARGE			CU. FEET	231	1.25	288	75	
500-306				Mileage Charge	19,193	TOTAL WEIGHT	34	LOADED MILES	326.281	TON MILES	.85	
No. B 136864					CARRY FORWARD TO INVOICE					SUB-TOTAL		2526 05

THIS IS NOT AN INVOICE

RECEIVED
AUG 17 1993
STATE CORPORATION COMMISSION

CUSTOMER