

ORIGINAL
SIDE ONE

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

Operator: License # 8362

Name: Held By Production, Inc.

Address Box 1600
Houston, Texas 77251

City/State/Zip _____

Purchaser: Oxy-Kansas Gas Supply

Operator Contact Person: R. B. Einhorn

Phone (713) 651-8910

Contractor: Name: Trans Pac Drilling, Inc.

License: 5841

Wellsite Geologist: Douglas V. Davis, Jr.

Designate Type of Completion

New Well Re-Entry Workover

Oil SWD Temp. Abd.
 Gas Inj Delayed Comp.
 Dry Other (Core, Water Supply, etc.)

If **OMMO**: old well info as follows:

Operator: _____

Well Name: _____

Comp. Date _____ Old Total Depth _____

Drilling Method:

Mud Rotary Air Rotary Cable

1/15/91 1/25/91 2/25/91

Spud Date Date Reached TD Completion Date

API NO. 15- 033-20,805-00-00

County Comanche

N/2 N/2 N/2 Sec. 22 Twp. 31 Rge. 17 East West

5180 Ft. North from Southeast Corner of Section

2640 Ft. West from Southeast Corner of Section
(NOTE: Locate well in section plat below.)

Lease Name Ferrin Well # 2

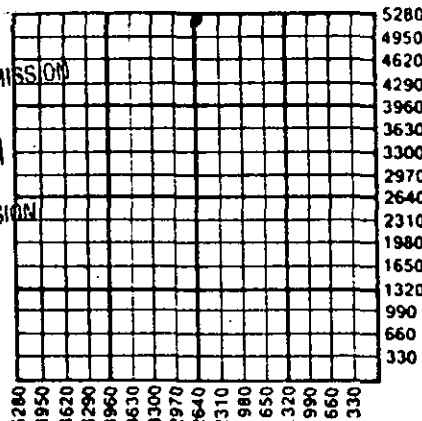
Field Name Wilmore Extension

Producing Formation Mississippian

Elevation: Ground 2062 KB 2070

Total Depth 5100 P8TD 5032

RECEIVED
STATE CORPORATION COMMISSION
MAR 18 1991
CONSERVATION DIVISION
Wichita, Kansas



Amount of Surface Pipe Set and Cemented at 608 Feet

Multiple Stage Cementing Collar Used? Yes No

If yes, show depth set _____ Feet

If Alternate II completion, cement circulated from 608

feet depth to surface w/ 350 sx cmt.

INSTRUCTIONS: This form shall be completed in triplicate and filed with the Kansas Corporation Commission, 200 Colorado Derby Building, Wichita, Kansas 67202, within 120 days of the spud date of any well. Rule 82-3-130, 82-3-107 and 82-3-106 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 drillers time log 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. Any recompletion, workover or conversion of a well requires filing of ACO-2 within 120 days from commencement date of such work.

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 R B Einhorn

Title Vice Pres. Date 3-13-91

Subscribed and sworn to before me this 13 day of March, 1991.

Notary Public Mauro B. Smother

Date Commission Expires 4-28-93

K.C.C. OFFICE USE ONLY
F Letter of Confidentiality Attached
C Wireline Log Received
C Drillers Timelog Received
Distribution
 KCC SWD/Rep NGPA
 KGS Plug Other
(Specify)

P1



HALLIBURTON SERVICES
Duncan, Oklahoma 73836

ORIGINAL

A Division of Halliburton Company

TICKET

NO. 042010-1

FORM 1906 R-11

WELL NO. - FARM OR LEASE NAME # 2 FERKIN		COUNTY COMANCHE	STATE KS	CITY / OFFSHORE LOCATION	DATE 1-26-91
CHARGE TO HARDEN PRODUCTIONS		OWNER SAME	TICKET TYPE (CHECK ONE) SERVICE <input checked="" type="checkbox"/> SALES <input type="checkbox"/>		NITROGEN JOB YES <input type="checkbox"/> NO <input checked="" type="checkbox"/>
ADDRESS		CONTRACTOR TERRY-PAK DRILLING	LOCATION 1 - 12 - KS		CODE 25555
CITY, STATE, ZIP		SHIPPED VIA 50120	FREIGHT CHARGES PPD <input type="checkbox"/> COLLECT <input type="checkbox"/>	LOCATION 2 - 12 - KS	CODE 25520
WELL TYPE O2-	WELL CATEGORY O1	WELL PERMIT NO.	DELIVERED TO LOCATION	LOCATION 3	CODE
TYPE AND PURPOSE OF JOB O35 - 4 1/2" LOGGING		B- 917734	ORDER NO.	REFERRAL LOCATION	

As consideration, the above-named Customer agrees to pay Halliburton in accord with the rates and terms stated in Halliburton's current price lists. Invoices payable NET by the 20th of the following month after date of invoice. Upon Customer's default in payment of Customer's account by the last day of the month following the month in which the invoice is dated, Customer agrees to pay interest thereon after default at the highest lawful contract rate applicable, but never to exceed 18% per annum. In the event it becomes necessary to employ an attorney to enforce collection of said account, Customer agrees to pay all collection costs and attorney fees in the amount of 20% of the amount of the unpaid account. These terms and conditions shall be governed by the law of the state where services are performed or equipment or materials are furnished.

Halliburton warrants only title to the products, supplies and materials, and that the same are free from defects in workmanship and material. THERE ARE NO WARRANTIES, EXPRESS OR IMPLIED, OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE OR OTHERWISE WHICH EXTEND BEYOND THOSE STATED IN THE IMMEDIATELY PRECEDING SENTENCE. Halliburton's liability and customer's exclusive remedy in any claim of action (whether in contract, tort, product liability, breach of warranty or otherwise) arising out of the sale or use of any products, supplies or materials is expressly limited to the replacement of such products, supplies or materials on their return to Halliburton or, at Halliburton's option, to the allowance to the customer of credit for the cost of such items. In no event shall Halliburton be liable for special, incidental, indirect, punitive or consequential damages.

PRICE REFERENCE	SECONDARY REF OR PART NO.	L O C.	ACCOUNT	DESCRIPTION	UNITS 1		UNITS 2		UNIT PRICE	AMOUNT
					QTY	MEAS	QTY	MEAS		
050-117		1		MILEAGE	44	MI			235	103.40
050-118		1		MILEAGE SURCHARGE	44	MI			.40	17.60
011-016		1		PUMP CHARGE	511	BT			255	1325.00
030-016		1		TOP PLUG	1	EA	4 1/2	IN	32	32.00
015-317		1		GRIND HEAD	12	EA			74.8	898.00
124	825-201	1		RED GRIND SURE	1	EA	4 1/2	IN	32	32.00
244	815-14101	1		TOP PLUG	1	EA	4 1/2	IN	73	73.00
27	815-14113	1		FEED UP ASSEMBLY	1	EA	4 1/2	IN	292	292.00
40	804-6214	1		GRIND HEAD	6	EA	4 1/2	IN	41	246.00
56	501-3003	1		COILS GRINDERS	7	EA	4 1/2	IN	25	175.00
314-163		1		CLAY EX II	7	EA			20	140.00

RECEIVED
STATE CORPORATION COMMISSION

MAR 18 1991

CONSERVATION DIVISION
Wichita, Kansas

AS PER ATTACHED BULK MATERIAL DELIVERY TICKET NO.

B- 917734

1796.23

WAS JOB SATISFACTORILY COMPLETED? _____

WAS OPERATION OF EQUIPMENT SATISFACTORY? _____

WAS PERFORMANCE OF PERSONNEL SATISFACTORY? _____

X CUSTOMER OR HIS AGENT (PLEASE PRINT)

X *[Signature]* CUSTOMER OR HIS AGENT (SIGNATURE)

WE CERTIFY THAT THE FAIR LABOR STANDARDS ACT OF 1938, AS AMENDED HAS BEEN COMPLIED WITH IN THE PRODUCTION OF GOODS AND OR WITH RESPECT TO SERVICES FURNISHED UNDER THIS CONTRACT.

[Signature]
HALLIBURTON OPERATOR

HALLIBURTON APPROVAL

CUSTOMER

SUB TOTAL
APPLICABLE TAXES WILL BE ADDED ON INVOICE.

JOB LOG

WELL NO. # 2 LEASE FERRON TICKET NO. 042010
 CUSTOMER HELD BY PRODUCTIONS PAGE NO. _____
 JOB TYPE 4 1/2" LONGSTRENGTH DATE 1-26-91

FORM 2013 R-2

ORIGINAL

CHART NO.	TIME	RATE (BPM)	VOLUME (BBL) (GAL)	PUMPS		PRESSURE (PSI)		DESCRIPTION OF OPERATION AND MATERIALS
				T	C	TUBING	CASING	
1-25	1700 2400							COILED OUT - READY @ 2400 ON LOC - REG LAYING DOWN DP - DUCK TIRE ON LOC - SET UP
1-26	0130 0230 0450							DRILL PIPE LAYED DOWN - REG UP TO PUMP C/S START C/S TO HOSE C/S ON HOSE - MOVE UP & BACK C/S W/ REG PUMP
	0612	5.0	5	✓	✓			500 RUN WATER HEAD
	0613	4.0	12	✓	✓			500 RUN SUPERFLUSH
	0616	5.0	5	✓	✓			600 RUN SPACER
	0617	6.5	33.4	✓	✓			1000 ALEX CEMENT
	0622			✓				FRESH MIXING - RELEASE PLUG - WASH OUT PUMP & CONES
	0626	10	79.7	✓	✓			1200 DISPLACE PLUG
	0634			✓				2000 PLUG DOWN - KICKING PUMP FROM HEADS - WASH UP
	0720							JOB COMPLETE - DUCK TIRE RECOVERED

THANKS
REG

WELL DATA

FIELD _____ SEC. 22 TWP. 31 RNG. 17W COUNTY COMANCHE STATE KS

FORMATION NAME ORIGINAL
 FORMATION THICKNESS _____
 INITIAL PROD. OIL _____ BPD. WATER _____ BPD. GAS _____ MCFD
 PRESENT PROD. OIL _____ BPD. WATER _____ BPD. GAS _____ MCFD
 COMPLETION DATE _____ MUD TYPE _____ MUD WT. _____
 PACKER TYPE _____ SET AT _____
 BOTTOM HOLE TEMP. _____ PRESSURE _____
 MISC. DATA _____ TOTAL DEPTH 5180'

	NEW USED	WEIGHT	SIZE	FROM	TO	MAXIMUM PSI ALLOWABLE
CASING	11640	10.5	4 1/2	LS	5098	
LINER		11.6				
TUBING						
OPEN HOLE						SHOTS/FT.
PERFORATIONS						
PERFORATIONS						
PERFORATIONS						

JOB DATA

TOOLS AND ACCESSORIES

TYPE AND SIZE	QTY.	MAKE
FLOAT COLLAR <u>JIF 4 1/2</u>	<u>1</u>	<u>HercO</u>
GUIDE SHOE <u>MSP</u>	<u>1</u>	<u>"</u>
CENTRALIZERS <u>S-4</u>	<u>1</u>	<u>"</u>
BOTTOM PLUG		
TOP PLUG <u>S-W</u>	<u>1</u>	<u>"</u>
HEAD <u>DL</u>	<u>1</u>	<u>"</u>
PACKER		
OTHER <u>1/2" JIF SEARCHERS</u>	<u>7</u>	<u>"</u>

CALLED OUT	ON LOCATION	JOB STARTED	JOB COMPLETED
DATE <u>1-25</u>	DATE <u>1-25</u>	DATE <u>1-26</u>	DATE <u>1-26</u>
TIME <u>1700</u>	TIME <u>2400</u>	TIME <u>0450</u>	TIME <u>0720</u>

PERSONNEL AND SERVICE UNITS

NAME	UNIT NO. & TYPE	LOCATION
<u>D. RENO</u>	<u>50233</u>	<u>5020 (P) Peart, KS</u>
<u>D. ZIGLER</u>	<u>01690</u>	<u>PEARTAR (P) Peart, KS</u>
<u>A. OLLER</u>	<u>E021</u>	<u>7656-6605 Bulk Co. Peart, KS</u>

MATERIALS

TREAT. FLUID _____ DENSITY _____ LB/GAL API
 DISPL. FLUID _____ DENSITY _____ LB/GAL API
 PROP. TYPE _____ SIZE _____ LB.
 ACID TYPE _____ GAL _____ %
 SURFACTANT TYPE _____ GAL _____ IN.
 NE AGENT TYPE _____ GAL _____ IN.
 FLUID LOSS ADD. TYPE _____ GAL-LB _____ IN.
 GELLING AGENT TYPE _____ GAL-LB _____ IN.
 FRIC. RED. AGENT TYPE _____ GAL-LB _____ IN.
 BREAKER TYPE _____ GAL-LB _____ IN.
 BLOCKING AGENT TYPE _____ GAL-LB _____ IN.
 PERFPAC BALLS TYPE _____ QTY. _____
 OTHER _____
 OTHER _____

DEPARTMENT CEMENT
 DESCRIPTION OF JOB 4 1/2" RESTORATION
 JOB DONE THRU: TUBING CASING ANNULUS TBG/ANN.

CUSTOMER REPRESENTATIVE X
 HALLIBURTON OPERATOR Wendy Peart COPIES REQUESTED _____

CEMENT DATA

STAGE	NUMBER OF SACKS	CEMENT	BRAND	BULK SACKED	ADDITIVES	YIELD CU.FT./SK.	MIXED LBS/GAL
	<u>125</u>	<u>5/50 160</u>	<u>HercO</u>	<u>Bulk</u>	<u>11% Salt, 11% Cellulose, 5% C-23</u>	<u>1.50</u>	<u>13.6</u>

PRESSURES IN PSI

SUMMARY

VOLUMES

CIRCULATING _____ DISPLACEMENT _____ PRESLUSH: BBL-GAL 12 TYPE SUPERDISH
 BREAKDOWN _____ MAXIMUM _____ LOAD & BKDN: BBL-GAL _____ PAD: BBL-GAL _____
 AVERAGE _____ FRACTURE GRADIENT _____ TREATMENT: BBL-GAL _____ DISPL: BBL-GAL 79.7
 SHUT-IN: INSTANT _____ 5-MIN _____ 15-MIN _____ CEMENT SLURRY: BBL-GAL 33.4
 ORDERED _____ AVAILABLE _____ USED _____ TOTAL VOLUME: BBL-GAL _____
 AVERAGE RATES IN BPM _____ REMARKS See Job Log
 TREATING _____ DISPL. CEMENT LEFT IN PIPE _____ OVERALL _____
 FEET 33 REASON JIF THANKS Reda

WORK ORDER CONTRACT
AND PRE-TREATMENT DATA

FORM 7978 R-7

ATTACH TO INVOICE & TICKET NO. 042010

DISTRICT PRATT, ORIGINAL

DATE 1-26-91

TO: HALLIBURTON SERVICES YOU ARE HEREBY REQUESTED TO FURNISH EQUIPMENT AND SERVICEMEN TO DELIVER AND OPERATE THE SAME AS AN INDEPENDENT CONTRACTOR TO: HELD BY PRODUCTION (CUSTOMER) AND DELIVER AND SELL PRODUCTS, SUPPLIES, AND MATERIALS FOR THE PURPOSE OF SERVICING

WELL NO. # 2 LEASE FERLIN SEC. 22 TWP. 31 RANGE 17W

FIELD _____ COUNTY COMANCHE STATE KS OWNED BY _____

THE FOLLOWING INFORMATION WAS FURNISHED BY THE CUSTOMER OR HIS AGENT

FORMATION NAME _____ TYPE _____
FORMATION THICKNESS _____ FROM _____ TO _____
PACKER: TYPE _____ SET AT _____
TOTAL DEPTH 5100' MUD WEIGHT _____
BORE HOLE 7 7/8"
INITIAL PROD: OIL _____ BPD, H₂O _____ BPD, GAS _____ MCF
PRESENT PROD: OIL _____ BPD, H₂O _____ BPD, GAS _____ MCF

	NEW USED	WEIGHT	SIZE	FROM	TO	MAX. ALLOW. P.S.I.
CASING	<u>USED</u>	<u>10.5"</u>	<u>4 1/2</u>	<u>KB</u>	<u>5098'</u>	
LINER		<u>11.6"</u>				
TUBING						
OPEN HOLE						SHOTS/FT.
PERFORATIONS						
PERFORATIONS						
PERFORATIONS						

PREVIOUS TREATMENT: DATE _____ TYPE _____ MATERIALS _____

TREATMENT INSTRUCTIONS: TREAT THRU TUBING ANNULUS CASING TUBING/ANNULUS HYDRAULIC HORSEPOWER ORDERED _____
CEMENT 4 1/2" PRODUCTION CASING WITH 125 SACS OF 50-50 FOR
CONTAINING 10% SALT, 10" GELSPHERE / SEC @ 1.576 CFB-3, WELL
RUN 500 GAC SUPERFRESH AHEAD OF CEMENT & WELL DISPLACE
WITH WATER CONTAINING 2 GAC / 1100 PPM FEX #.

CUSTOMER OR HIS AGENT WARRANTS THE WELL IS IN PROPER CONDITION TO RECEIVE THE PRODUCTS, SUPPLIES, MATERIALS, AND SERVICES

- As consideration for the above-named Customer agrees THIS CONTRACT MUST BE SIGNED BEFORE WORK IS COMMENCED
- To pay Halliburton in accordance with the rates and terms stated in Halliburton's current price list. Invoices are payable NET by on 20th of the following month after date of invoice. Upon Customer's default in payment of Customer's account by the 15th day of the month following the month in which the invoice is dated Customer agrees to pay interest thereon after default at the highest credit contract rate applicable but never to exceed 18% per annum. In the event it becomes necessary to employ attorneys to enforce collection of said account, Customer agrees to pay all collection costs and attorney fees in the amount of 20% of the amount of the unpaid account.
 - To defend, indemnify, release and hold harmless Halliburton, its divisions, subsidiaries, parent and affiliated companies and the officers, directors, employees, agents and servants or all of them from and against any claims, liability, expenses, attorneys fees and costs of defense to the extent permitted by law for:
 - Damage to property owned by, in the possession of, or leased by Customer and/or the well owner (if different from Customer), including but not limited to surface and subsurface damage. The term "well owner" shall include working and royalty interest owners.
 - Reservoir formation or wellbore or damage, subsurface trespass or any action of the nature thereof.
 - Personal injury or death or property damage (including but not limited to damage to the reservoir, formation or well, or any damages whatsoever growing out of or in any way connected with or resulting from pollution, subsurface pressure, loss of control of the well and/or a well blowout or the use of radioactive material).
- The defense, indemnity, release and hold harmless obligations of Customer provided for in this Section of and Section of below, shall apply to claims or liability ever if caused or contributed to by Halliburton's negligence, strict liability or the unforeseen negligence of any vessel owned, operated or furnished by Halliburton or any aspect of the data, products, supplies, materials or equipment of Halliburton, whether in the direct course of design, manufacture, distribution or marketing thereof or from a tortious act or act to which any person of such district, state, province, territory, release and hold harmless obligations of Customer shall not apply, where the claims or liability are caused by the gross negligence or willful misconduct of Halliburton. The term "Halliburton" as used in said Sections of and of shall mean Halliburton, its divisions, subsidiaries, parent and affiliated companies and the officers, directors, employees, agents and servants of all of them.
- That 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 products, supplies or materials or the results of any treatment or service nor the accuracy of any chart, interpretation, research, analysis, log recommendation or other data furnished by Halliburton. Halliburton personnel will use their best efforts in gathering such information and their best judgment in interpreting it, but Customer agrees that Halliburton shall not be liable for and Customer shall indemnify Halliburton against any damages arising from the use of such information.
 - That Halliburton warrants only title to the products, supplies and materials and that the same are free from defects in workmanship and materials. THERE ARE NO WARRANTIES EXPRESS OR IMPLIED OF MERCHANTABILITY, FITNESS OR OTHERWISE WHICH EXTEND BEYOND THOSE STATED IN THE IMMEDIATELY PRECEDING SENTENCE. Halliburton's 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 or use of any products, supplies or materials is expressly limited to the replacement of such products, supplies or materials or their return to Halliburton or at Halliburton's option, to the allowance to the Customer of credit for the cost of such items. In no event shall Halliburton be liable for special, incidental, indirect, punitive or consequential damages.
 - That Customer shall at its risk and expense, attempt to recover any Halliburton equipment, tools or instruments which are lost in the well and if such equipment, tools or instruments are not recovered, Customer shall pay Halliburton its replacement cost unless such loss is due to the sole negligence of Halliburton. If Halliburton equipment, tools or instruments are damaged in the well, Customer shall pay Halliburton the lesser of its replacement cost or the cost of repairs unless such damage is caused by the sole negligence of Halliburton. In the case of equipment, tools or instruments for marine operations, Customer shall, in addition to the foregoing, be fully responsible for loss of or damage to any of Halliburton's equipment, tools or instruments which occurs at any time after delivery to Customer at the landing until returned to the landing unless such loss or damage is caused by the sole negligence of Halliburton.
 - To waive the provisions of the Deceptive Trade Practices - Consumer Protection Act to the extent permitted by law.
 - That this contract shall be governed by the law of the state where services are performed or materials are furnished.
 - That Halliburton shall not be bound by any changes or modifications in this contract, except where such change or modification is made in writing by a duly authorized executive officer of Halliburton.

I HAVE READ AND UNDERSTAND THIS CONTRACT AND REPRESENT THAT I AM AUTHORIZED TO SIGN THE SAME AS CUSTOMER'S AGENT.

SIGNED [Signature] CUSTOMER
DATE JAN 26, 1991
TIME 6:00 P.M.

We certify that the Fair Labor Standards Act of 1938, as amended, has been complied with in the production of goods and/or with respect to services furnished under this contract.

CUSTOMER



BULK MATERIALS DELIVERY AND TICKET CONTINUATION

FOR INVOICE AND
TICKET NO. 042010

ORIGINAL

DATE 1-25-91	CUSTOMER ORDER NO.	WELL NO. AND FARM Ferrin #2	COUNTY Comanche	STATE Ks.
CHARGE TO Held-By Production		OWNER Held-By Production	CONTRACTOR Trans Pac	
MAILING ADDRESS		DELIVERED FROM Great Bend, Ks.	LOCATION CODE 25520	PREPARED BY S.C. Henry
CITY & STATE		DELIVERED TO Location	TRUCK NO. 2656-6605	RECEIVED BY R 16 2400

No. **B 917734**

PRICE REFERENCE	SECONDARY REF. OR PART NO.	CODE		DESCRIPTION	UNITS 1		UNITS 2		UNIT PRICE	AMOUNT
		L	D		QTY.	MEAS.	QTY.	MEAS.		
				125 50/50 Pozmix Cement						
504-308	516.00261	2	B	standard Cement	63	sk			5.35	337.05
506-105	516.00286	2	B	Pozmix A	62	sk			2.79	172.98
506-121	516.00259	2	B	2 Halliburton Gel 2% Allowed						NC
509-968	516.00315	2	B	salt Blended 10%W/125	650	lb.			.10	65.00
508-292	70.15573	2	B	Gilsonite Blended 10#	1250	lb			.47	587.50
507-153	516.00161	2	B	CFR-3 Blended .5%W/125	53	lb.			4.00	212.00
500-307		2	B	SURCHARGE	278.59				.10	27.86
				Returned Mileage Charge						
				TOTAL WEIGHT	LOADED MILES	TON MILES				
				SERVICE CHARGE ON MATERIALS RETURNED						
500-207		2	B	SERVICE CHARGE				CU. FEET 159	1.10	174.90
500-306		2	B	Mileage Charge	12,663	44	278.59		.75	208.94
				TOTAL WEIGHT	LOADED MILES	TON MILES				
No. B 917734						CARRY FORWARD TO INVOICE		SUB-TOTAL		1786.23

THIS IS NOT AN INVOICE

CUSTOMER

HELD BY PRODUCTION - FERRIN No. 2
ORIGINAL
SEC 22, T 31S, R 17W
Comanche Co.
FORMATION TOPS

<u>Formation</u>	<u>E-log Datum Sample</u>		
Heebner Shale	4178	-2108	4177
Douglas Group	4220	-2150	4220
Lansing Group	4372	-2301	4366
Marmaton Group	4808	-2738	4808
Cherokee Group	4932	-2862	4930
Erosional Miss.	4980	-2910	4982
Miss. Warsaw	4990	-2920	4987
Miss. Osage	5025	-2955	5025

TESTS

DST #1 4955-5024' Misrun packers failed
DST #2 4904-5024' " " "
DST #3 4906-5024' Mississippian Warsaw 30"-60"-15"-30"
IHP NA FHP 2454#
IFP 351-303# FFP 283-313#
ISIP 1128# FSIP 1118#
Rec- GTS/5" 1st open 814-1080MCF
2nd open 1205 MCF
360' Mud

GEOLOGICAL COMMENTS

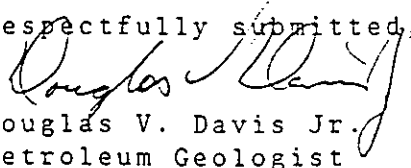
There were no shows observed in any samples throughout the Douglas, Lansing, Kansas City, Marmaton, or Cherokee Groups.

The Mississippian Warsaw log top was chosen at 4990 (-2920). This would be 15 feet low to the HBP #1 Ferrin "A" and 14 feet high to the Oxy #1 Pepperd "A" and flat to the Sidwell # 1 Pepperd.

Samples, from 4994 to 5024, were tan to brown, sucrosic, glauc-onitic cherty dolomite, with fair to good inter-crystalline porosity. There was some brown staining, with good fluorescence and cut, but no free oil (see the results of DST #3).

It was recommended that 4½" production casing be run so as to further evaluate the Mississippian Warsaw section.

Respectfully submitted,


Douglas V. Davis Jr.
Petroleum Geologist

ORIGINAL

DRILLERS WELL LOG

Ferrin # 2
Section 22-31S-17W
Comanche County Kansas

Held By Production, Inc
Commenced: Jan. 15, 1991
Completed: Jan. 26, 1991

0- 19'	Sand and shale
194'-316'	Red Beds
316'-725'	Sand and Shale
725'-1555'	Shale
1555'-2285'	Shale
2285'-2900'	Shale
2900'-3645'	Shale and Lime
3645'-4295'	Shale and Lime
4295'-4810'	Lime and shale
4810'-5100'	Lime and Shale

Surface Casing: Set 14 jts, 8 5/8" x 24# @ 608'. Cemented w 200 sx HLC and 150 sx 60/40 Pozmix 2% gel 3% cc.

Production Casing: Set 130 jts 4½ x 10.5# @ 5098". Cemented w 120 sx 50/50 Pozmix 10% salt 10# Gilsonite.

AFFIDAVIT

STATE OF KANSAS

SS

COUNTY OF SEDGWICK

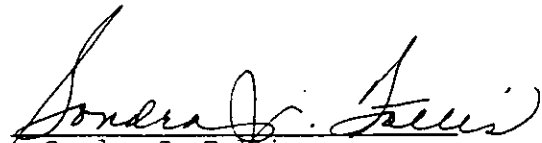
Alan D. Banta of lawful age does swear and state that the facts and statements herein are true and correct to the best of his knowledge.


Alan D. Banta

Subscribed and sworn to before me this 13TH day of FEBRUARY 1991.

My commission Expires:

May 13, 1991


Sondra J. Follis
Notary Public

