

ORIGINAL

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

Operator: License # 06414

Name: Union Pacific Resources Company

Address PO Box 7, MS 3006

City/State/Zip Fort Worth, TX 76101

Purchaser: Koch

Operator Contact Person: Mary Curliss Patton

Phone (817) 877-7958

Contractor: Name: Val Energy, Inc.

License: 5822

Wellsite Geologist: Lamb

Designate Type of Completion

New Well Re-Entry Workover

Oil SWD SLOW Temp. Abd.
 Gas ENHR SIGW
 Dry Other (Core, WSW, Expl., Cathodic, etc)

If Workover:

Operator: _____

Well Name: _____

Comp. Date _____ Old Total Depth _____

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

06/11/97 06/20/97 07/12/97
Spud Date Date Reached TD Completion Date

API NO. 15- 055-21,528-000

County Finney

SE - SE - SE - 34 Sec. 12 Twp. 26 S Rge. 30 XX E

330 Feet from (S)N (circle one) Line of Section

330 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 Barker Well # 5

Field Name Hugoton

Producing Formation Mississippian

Elevation: Ground 29156 KB _____

Total Depth 5350' PBDT 5295'

Amount of Surface Pipe Set and Cemented at 1891 Feet

Multiple Stage Cementing Collar Used? XX Yes No

If yes, show depth set 3090 Feet

If Alternate II completion, cement circulated from _____

feet depth to _____ w/ _____ sx cmt.

Drilling Fluid Management Plan ALT 1 97 8-26-97
(Data must be collected from the Reserve Pit)

Chloride content 0 ppm Fluid volume 0 bbls

Dewatering method used Natural evaporation

Location of fluid disposal if hauled offsite: not leaving location

Operator Name RELEASED

Lease Name _____ License No. _____

OCT Quarter 6 1998 Sec. 12 Twp. 26 S Rng. 30 E/W

County FROM CONFIDENTIAL 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 Mary Curliss Patton

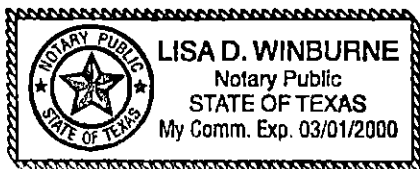
Title Regulatory Analyst Date 07/21/97

Subscribed and sworn to before me this 21st day of July, 19 97.

Notary Public Lisa D. Winburne

Date Commission Expires 3-1-2000

K.C.C. OFFICE USE ONLY		
F	<input checked="" type="checkbox"/>	Letter of Confidentiality Attached
C	<input checked="" type="checkbox"/>	Wireline Log Received
C	<input checked="" type="checkbox"/>	Geologist Report Received
Distribution		
<input checked="" type="checkbox"/>	KCC	<input type="checkbox"/> SWD/Rep
<input type="checkbox"/>	KGS	<input type="checkbox"/> Plug
		<input type="checkbox"/> NGPA
		<input type="checkbox"/> Other
		(Specify)



SIDE TWO

Operator Name Union Pacific Resources Company Lease Name Barker Well # 5
 Sec. 12 Twp. 26 S Rge. 34 East West
 County Finney

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 Yes No (Attach Additional Sheets.)
 Samples Sent to Geological Survey Yes No
 Cores Taken Yes No
 Electric Log Run Yes No (Submit Copy.)
 List All E.Logs Run:
 DIFL/CN-ZDL-ML
 +
 CEMENT BOND

Name	Top	Datum
CHASE	2560	+ 356
COUNCIL GROVE <i>See attached</i>	2796	+120
HEEBNER	3882	-966
TORONTO	3909	-993
LANSING	3934	-1018
MARMATON	4511	-1595
PAWNEE	4588	-1672
FT. SCOTT	4626	-1710
CHEROKEE	4639	-1723
ATOKA	4830	-1914
MORROW SAND	4954	-2038

CASING RECORD <input 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 1/4"	8 5/8"	24	1891	65:35 POZ Class A	700 150	3% CaCl 3% CaCl + 2% gel
Production	7 7/8"	5 1/2"	15.5	5344	Class H	240	10% Gyp + 10% NaCl + 1PPS KO Seal + .45% FL

ADDITIONAL CEMENTING/SQUEEZE RECORD

Purpose:	Depth Top Bottom	Type of Cement	#Sacks Used	Type and Percent Additives
<input checked="" type="checkbox"/> Perforate				
<input checked="" type="checkbox"/> Protect Casing Plug Back TD	1650 3090	35:65 POZ H	250	35:65 POZ + 6% gel + 3% Salt + 1PPS KO Seal
<input type="checkbox"/> Plug Off Zone	(Tail)	Class C	130	+ 1% CaCl ₂

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	
43PF	5114- 5126' (12') CIBP @ 5102'	1000' gal 15% MCA acid	5114-26'
45PF	5070- 5075' (5')	1000' gal 15% HCL acid	5070-5'
		Frac w/ 75# Delta Frac	5070-5'

TUBING RECORD	Size	Set At	Packer At	Liner Run <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
	2 3/8"	5076	NA	
Date of First, Resumed Production, SWD or Inj. 07/12/97		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	Dil 91	Bbls.	Gas 11 Mcf	Water 103 Bbls. Gas-Oil Ratio 121 Gravity

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: 5070-5075'

ORIGINAL

15-055-21528-0000

Formation (Top), Depth, and Datums		
Name	Top	Datum
Chase	2560	356
Council Grove	2796	120
Heebner	3882	-966
Toronton	3909	-993
Lnasing	3934	-1018
Maramaton	4511	-1595
Pawnee	4588	-1672
Ft. Scott	4626	-1710
Cherokee	4639	-1723
Atoka	4830	-1914
Morrow Shale	4877	-1961
Morrow Sand	4954	-2038
Miss LS	5004	-2088
Chester	5171	-2255

RELEASED
OCT 6 1998
FROM CONFIDENTIAL

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KANSAS CORP CORP
1997 JUL 23 A 11: 22

STATE OF KANSAS - CORPORATION COMMISSION PRODUCTION TEST & GOR REPORT

Conservation Division

Form C-5 Revised

TYPE TEST: (Initial) Annual Workover Reclassification TEST DATE: 7-19-97

Company Union Pacific Resources Barker Lease Well No. 5-12

County Finney Location 330' FEL-330' FSL Section 12 Township 26 S Range 34 W Acres

Field Tuanhoe North West Ext. Reservoir Rock Pipeline Connection

Completion Date 6-27-97 Type Completion (Describe) Chester Oil Plug Back T.D. 5102 Packer Set At

Production Method: Flowing Pumping Gas Lift Type Fluid Production Oil + Water API Gravity of Liquid/Oil 25.0

Casing Size 5 1/2" Weight 15 1/2 # I.D. Set At 5336' Perforations 5070' To 5075'

Tubing Size 2 3/8" Weight 4.7 # I.D. Set At 5092' Perforations 5077' To 5081'

Pretest: Starting Date 7-16-97 Time Ending Date 7-17-97 Time Duration Hrs. 24

Test: Starting Date 7-17-97 Time Ending Date 7-18-97 Time Duration Hrs. 24

OIL PRODUCTION OBSERVED DATA

Producing Wellhead Pressure Separator Pressure Choke Size

Casing: 1.4" Tubing: 4" 12.2 X 72 X 1/2"

Bbls./In.	Tank		Starting Gauge			Ending Gauge			Net Prod. Bbls.	
	Size	Number	Feet	Inches	Barrels	Feet	Inches	Barrels	Water	Oil
Pretest:	500								131	83
Test:	500		5'	8 1/2"	268.05	9	5 1/2"	462.65	103	91
Test:										

GAS PRODUCTION OBSERVED DATA

Orifice Meter Connections Orifice Meter Range

Pipe Taps: Flange Taps: Differential: Static Pressure:

Measuring Device	Run-Prover-Tester Size	Orifice Size	Meter-Prover-Tester Pressure			Diff. Press. (hw) or (hd)	Gravity Gas (Gg)	Flowing Temp. (t)
			In. Water	In. Merc.	Psig or (Pd)			
Orifice Meter						RELEASED		
Critical Flow Prover						OCT 6 1998		
Orifice Well Tester	2"	1/4"			1.4" FROM CONFIDEN	100	100	

GAS FLOW RATE CALCULATIONS (R)

Coeff. (Fb)	MCFD (Fp)	Meter-Prover Press. (Psa)	Extension (Pm)	Gravity Factor (Fg)	Flowing Temp. Factor (Ft)	Deviation Factor (Fpv)	Chart Factor (Pd)

Gas Prod. MCFD Flow Rate (R): 11 MCF Oil Prod. Bbls./Day: 91 Gas/Oil Ratio (GOR) = 121 Cubic Ft per Bbl.

The undersigned authority, on behalf of the Company, states that he is duly authorized to make the above report and that he has knowledge of the facts stated therein, and that said report is true and correct. Executed this the 18th day of July 1997

Kenneth D. ...
For State

David Meyer
For Company

For Offset Operator

For State

For Company

CEMENT JOB REPORT

ORIGINAL

Page of

CUSTOMER UPRC	DATE 6-21-97	F.R.# 076	SERV. SUPV. Halpern
LEASE & WELL NAME-OCSSG Backer #5	LOCATION Sec 12 P1K 26.5 30W	COUNTY-PARISH-BLOCK Finney Kansas	
DISTRICT Perrinton TX	DRILLING CONTRACTOR RIG # Allen Drilling	TYPE OF JOB 2 stage Long String	

SIZE & TYPE OF PLUGS		LIST-CSG-HARDWARE	PHYSICAL SLURRY PROPERTIES					
TOP	BTM		SLURRY WGT PPG	SLURRY YLD FT ³	WATER OPS	PUMP TIME H:MIN	BN SLURRY	BN MIX WATER

MATERIALS FURNISHED BY BJ								
240 sks "H" 10% Gypsum + 10% salt +			14.9	1.50	6 1/2%	3:30	64	39
1 #/sk Kal Seal + .45% FI-52 (360 FT ³)								
250 sks 35.65 pot H + 6% gel + 3% salt			125	1.99	10% / 1056	5:00	39	65
+ 1 #/sk Kal Seal (498 FT ³)								
130 SK C + 1% CAcl ₂ (173 FT ³)			14.8	1.33	5% / 632	2:00	31	20
Available Mix Water 500 Bbl.		Available Displ. Fluid 376 Bbl.		TOTAL			184	124

HOLE			TBG-CSG-D.P.				TBG-CSG-D.P.				COLLAR DEPTHS		
SIZE	DEPTH	DEPTH	SIZE	WGT	TYPE	DEPTH	SIZE	WGT	TYPE	DEPTH	GRADE	PCAT	STAGE
7 7/8	5356	5 1/2	155	K-55	5335	—	—	—	—	—	4227	5293	

LAST CASING				PKR-CMT RET-BR PL-LINER		PERF. DEPTH		TOP CONN		WELL FLUID	
SIZE	WGT	TYPE	DEPTH	BRAND & TYPE	DEPTH	TOP	BTM	SIZE	THREAD	TYPE	WGT.
8 5/8	24	K-55	—	—	—	—	—	5 1/2	8rd	mud	9:0

CAL DISPL VOL-Bbl.				CAL PSI	CAL MAX PSI	OP. MAX	MAX TBG PSI		MAX CSG PSI		DISPL FLUID		WATER SOURCE
TBG	CSG	CSG	TOTAL	BUMP PLUG	TO REV.	62 PSI	RATED	OP.	RATED	OP.	TYPE	WGT.	
—	126	74. and	126	—	—	—	—	—	—	—	mud	9.0	
											H ₂ O.	8.34	rig

EXPLANATION: TROUBLE SETTING TOOL, RUNNING CSG, ETC, PRIOR TO CEMENTING:

PRESSURE/RATE DETAIL						EXPLANATION	
TIME HR: MIN.	PRESSURE-PSI		RATE BPM	BBL FLUID PUMPED	FLUID TYPE	SAFETY MEETING: BJ CREW <input checked="" type="checkbox"/> CO. REP. <input checked="" type="checkbox"/>	
	PIPE	ANNULUS				TEST LINES	PSI
10:00							CIRCULATING WELL-RIG <input checked="" type="checkbox"/> BJ <input type="checkbox"/>
							Active on loc. Spot Equipment, Safety on Lay line to rig
1:00					mud		Hook rig to circ
3:13	2000						FROM CONFIDENTIAL
3:14	200						Hook Pump to casing / Pressure Test
3:19	100		5	50	H ₂ O		Start H ₂ O Ahead
4:06	250		5:25	64	Slurry		Start Slurry
5:59							finish cement
3:54	200		5:6	60	H ₂ O		Wash pumps and lines
4:24	500		2	116	Mud		Drop plug / Start Displacement
4:29	1400		2	126	mud		26. rate
4:35							Dump Plug / test Float
4:45	1400		2	60	mud		Drop bomb
							Open tool
							hook rig to circulate

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JUL 29 1997

BUMPED PLUG	PSI TO BUMP PLUG	TEST FLOAT EQUIP.	DW. CMT RETURNS/ REVERSED	TOTAL Bbl. PUMPED	PSI LEFT ON CSG	SPOT TOP CEMENT	SERV. SUPV. Erik Halpern
<input checked="" type="checkbox"/> N	1200	<input checked="" type="checkbox"/> N	—	126	0		

CONSERVATION DIVISION
WICHITA, KS

ALLIED CEMENTING CO., INC. 5096

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

ORIGINAL

SERVICE POINT: Oakley

DATE <u>6-13-97</u>	SEC. <u>15</u>	TWP. <u>26s</u>	RANGE <u>34w</u>	CALLED OUT	ON LOCATION <u>1:15 AM</u>	JOB START <u>6:00 AM</u>	JOB FINISH <u>7:00 AM</u>
LEASE <u>Barker</u>	WELL # <u>5</u>	LOCATION <u>1/2 S 6W 2 1/2 S Gardner City</u>			COUNTY <u>Finney</u>	STATE <u>KS</u>	

OLD OR NEW (Circle one)

CONTRACTOR Val Data Rig 1

TYPE OF JOB Long Surface

HOLE SIZE 12 1/4 T.D. 1876'

CASING SIZE 9 1/8 DEPTH 1875'

TUBING SIZE DEPTH

DRILL PIPE DEPTH

TOOL DEPTH

PRES. MAX MINIMUM

MEAS. LINE SHOE JOINT 43'

CEMENT LEFT IN CSG.

PERFS.

OWNER UPRC

CEMENT 65#/35 P02

AMOUNT ORDERED 700 sk line 32 cc 10" 110
150 sk CIA 30 cc 2 3/4 GEL

COMMON @ 1.34 tail

POZMTX @

GEL @

CHLORIDE @

RELEASED @

HANDLING @

MILEAGE 6 1998

EQUIPMENT

PUMP TRUCK CEMENTER Dean

300 HELPER Wayne

BULK TRUCK

Rev 257 DRIVER Randic

BULK TRUCK

246 DRIVER Jobs

FROM CONFIDENTIAL

TOTAL

REMARKS:

SERVICE

Cement did circulate

Ran 700 sk line followed w/ 150 sk CIA

float did hold since 2 3/4 GEL

displaced w/ 120 1/2 P.B.L.C

lifting pressure was 500 psi

landed plug at 700 ft

DEPTH OF JOB 1895'

PUMP TRUCK CHARGE

EXTRA FOOTAGE @

MILEAGE @

PLUG Rubber 450' @

Thank You

TOTAL

CHARGE TO: Val Energy Inc

STREET

CITY STATE ZIP

FLOAT EQUIPMENT

Insert @

Guard shoe @

3 centralizers @

1 Basket @

Box Baker Jack @

TOTAL

TAX

TOTAL CHARGE

DISCOUNT IF PAID IN 30 DAYS

To Allied Cementing Co., Inc.
You are hereby requested to rent cementing equipment and furnish cementer and helper to assist owner or contractor to do work as is listed. The above work was done to satisfaction and supervision of owner agent or contractor. I have read & understand the "TERMS AND CONDITIONS" listed on the reverse side.

SIGNATURE _____

RECEIVED
KANSAS CORPORATION COMMISSION

JUL 29 1997

CONSERVATION DIVISION
WICHITA, KS

ORIGINAL

RESUME

Operator: Union Pacific Resources

Well Name and Number: Barker #5

15-055-21528

Field: Ivanhoe

Location: SE SE SE (330' FSL & 330 FEL) T-26S, R-34W

County and State: Finney, Kansas

Elevation: GL: 2915'; KB: 2920'

Spud Date: June 11, 1997

RELEASED

Completion Date: June 21, 1997

OCT 6 1998

Hole Sizes: 12 1/4": 60-1896'

FROM CONFIDENTIAL

Casing Data: 8 5/8": 0-1892'

Logging Data: DIFL/GR, ZDL/CN/ML/CAL/GR, Western Atlas; Woodward, Oklahoma

Development Geologist: Beverly B. Dejarnett

Drilling Foreman: John C. Lamb

Wellsite Geologist: John C. Lamb

Contractor: Val Energy, Rig 1

Tool Pusher: Skip Smith

Mud Type: Fresh Water-Gel

Mud Company: Service Mud; Reid Atkins

Drilling Days: 10

Rotating Hours: 137.25

Bottom Formation: Mississippian Limestone

Status: To attempt completion as an oil well

FORMATION TOPS AND CORRELATION

	UPR BARKER #5 SE SE SE 12 28S 34W Finney Co., Ks. KB 2920'	UPR Barker #4 NE SE 12 26S 34W Finney Co., Ks. KB 2927
HUTCHINSON SALT	✓ 2315(605)	2331(604)
CHASE	✓ 2534(386)	2549(378)
COUNCIL GROVE	✓ 2837(83)	2806(121)
HEEBNER	2892(-972)	3909(-982)
TORONTO	2915(-995)	3930(-1003)
LANSING	2941(-1021)	3959(-1032)
MARMATON	✓ 4513(-1593)	4532(-1605)
Pawnee Member	✓ 4595(-1675)	4609(-1682)
Fort Scott Member	✓ 4630(-1710)	4647(-1720)
CHEROKEE	✓ 4643(-1723)	4660(-1733)
ATOKA	✓ 4834(-1914)	4849(-1927)
MORROW	4892(-1972)	4908(-1981)
MORROW SANDSTONE	✓ 4957(-2037)	5001(-2074)
MISSISSIPPIAN LS	5001(-2081)	5038(-2111)
CHESTER SANDSTONE	✓ 5070(-2150)	5104(-2177)
TOTAL DEPTH	5357	5316

BIT RECORD

BIT #	SIZE	MAKE	TYPE	IN	OUT	FOOTAGE	HOURS	JETS
1	12 1/4"	W-M	11F	60'	1896'	1946'	27.5	14-14-14
2	7 7/8"	W-M	52CH	1892'	4922'	3026'	87.25	12-12-12
3	7 7/8"	Reed	HP52	4922'	5350'	428'	22.5	11-12-11

SURVEYS

651 1/2	1896 1	3674 1	4922 1
964 1/2	2416 1/2	4019 1	5350 1
1580 1/2	3153 3/4	4677 1	

DAILY CHRONOLOGY

DAYS OVER HOLE	DATE	05.00 CDT DEPTH	24 HOUR FOOTAGE	DAILY ACTIVITY (Previous 24 Hrs)
1	June 12	860'	860'	MIRU, spudded at 19.00, drlg
2	June 13	1896'	1146'	Drlg, circ, TOH for csg, run sfc csg
3	June 14	2550'	654'	Circ and cem sfc csg, WOC, NU, drlg
4	June 15	3100'	550'	Drlg, rig repair, drlg, trip into csg for rig repair, drlg, rig repair, drlg
5	June 16	3770'	670'	Drlg, trip for hole in pipe, drlg
6	June 17	4335'	565'	Drlg, stuck pipe on connection, spotted 80 bbl, pulled loose, drlg
7	June 18	4780'	445'	Drlg
8	June 19	5115'	335'	Drlg, TFB, drlg
9	June 20	5350'	235'	Drlg, circ, ST, TOH for logs, logging
10	June 21	5350'	0'	Logging, TIH, circ, LD DP & DC, run & cem csg
11	June 22	5350'	0'	Cement casing, set slips & release rig

LOST CIRCULATION INTERVALS

No mud was lost during drilling operations.

MUD REPORTS

Date	6-14	6-17	6-18	6-19	6-20	6-21
Depth	2556	3316	3892	4469	4900	5190
Weight	9.1	9.3	8.6	9.0	9.1	9.4
Funnel Viscosity	29	30	45	43	45	45
Plastic Viscosity			8	14	11	12
Yield Point			13	13	15	17
Gel Strengths			7/15	8/16	10/20	11/23
pH	7.0	7.0	11.0	10.5	10.5	10.5
Water Loss			10.4	7.2	8.0	7.2
Filter Cake	/32	1/32	1/32	1/32	1/32	1/32
Alkalinity Pf			.9	.6	.7	.6
Chlorides	10000	6000	4000	1500	1200	1200
Calcium	840	820	80	40	40	40
Sand	tr	tr	tr	tr	tr	tr
Solids	5.6	6.7	1.8	4.7	5.6	7.4
LCM	0	0	0	0	0	0

DRILL STEM TESTS

No tests were conducted.

SUMMARY

The Barker #5 was drilled as development well at the Ivanhoe Field. The location was selected upon the basis of geologic interpretation of sub-surface well control. The primary objectives were the Chester Sandstone which is oil productive at the Barker #3 & #4 locations as well as the potentially oil productive Morrow Sandstone.

Sample examination commenced at 500', during drilling of the surface hole, to look for shows in sands identified in the Barker #4 by PDK log analysis. No hydrocarbon shows were noted. Also, no background gas increases were recorded. Please refer to the following section and the accompanying strip log for detailed lithological analysis.

The Chester Sandstone was encountered at this location (5070-5089'). However, the sand was thinner and as compared to the aforementioned Barker #3 & 4, poorly developed. A maximum of five percent sandstone clusters was present in the samples. The clusters were described as light grayish brown to light brown, predominately very fine grain, well consolidated with a very tight appearance and fine spotty tarry oil stain, faint gold fluorescence with a poor milky greenish cut. A trace amount of clusters were noted: medium brown, upper fine grain, sub angular to sub round, well sorted, very poorly consolidated, friable, even brown oil staining with spotty tarry stain associated with pore throats, dull gold fluorescence, immediate greenish cut, with subsequent streaming cut.

A Morrow Sandstone was encountered (4957-4981') at this location. However, it was also poorly developed. The sandstone was well represented in the samples, up to 60% of the samples being clusters of sandstone. The sandstone was initially (4947-56' lag depth) described as: (10% of sample) light brown to brownish grey, lower to upper fine grain, sub round, poor to fair sorted, well consolidated with siliceous cement, hard to slightly brittle, non friable, no visible porosity, even brown oil stain, dull gold fluorescence, immediate greenish cut, subsequently slow milky cut. Subsequent samples (5980' lag depth) were described as: clusters, (60% of sample) very light brownish translucent, lower to upper fine grain, sub round, fair to good sorted, generally poorly consolidated, brittle to very friable, predominately with even medium to dark brown oil stain, spotty tarry stain associated with pore throats, heavy trace dark brown stain with bleeding oil and gas, dull to moderately bright gold fluorescence, immediate greenish cut becoming slow to occasionally fast streaming. A twelve unit increase over a ten unit background was recorded over the sandstone interval.

The above described Sandstone correlates to a tight sandstone in the Barker #4, which overlies the primary objective, a potentially oil productive sandstone. Within the correlative interval of the primary objective, no sandstone was deposited. The Morrow Clastic Interval was thinner as compared to the Barker #4, being one hundred and nine feet thick as compared to one hundred and thirty feet thick.

At 3892', the drill string became differentially stuck during a connection. Eighty barrels of lease crude was spotted to free the string. Background gas levels subsequently reached 800 plus units and the gas detection equipment until reaching the Atoka Formation, when the level of contamination resulted in approximately 160 units. Levels subsequently decreased to twenty units by the time the Morrow Sandstone was penetrated. Due to the amount of oil in the mud, much of the porous and permeable cuttings were contaminated with oil (in amounts that decreased with depth) until approximately 4700'.

No shows other than the above referenced shows were noted during the examination of samples. Production casing was set to near total depth to attempt a completion as an oil well.

SAMPLE DESCRIPTIONS Unlagged Sample Depths and Log Tops

530	Ss uncon fros pnk yel vcg sb ang-sb rnd fr-g srt'd com kspar
560	Ss AA
590	Ss cont'd uncon /chng: freq u.fg sb rnd-sb ang bec pr-vpr srt'd
620	Sh tr m gy flky fn-sli slty txt sft-sli frm
650	Sh lrg incr lt-m gy flky fn-slty txt bec freq pyr-vpyr
680	Sh AA
710	Ss lrg incr uncon fros-trnsl-pnk-yel u.cg-l.mg sb ang-sb rnd vpr-pr srt'd
740	Ss cont'd incr gen AA /def decr mg & l.cg bec fr-g srt'd
770	Sh incr lt-m gy flky sb blkly fnly sdy slty freq pyr
800	Ss incr uncon fros-trnsl-orng u.mg-l.cg occ u.cg vpr srt'd occ clus u.mg pyr cem
830	Ss decr amt uncon AA Sh incr rd-orng flky-plty sli slty sft
860	Ss incr fros-smi trnsl yel pnk cg-u.cg sb Sh decr amt AA
890	Ss uncon fros-opq-pnk yel u.cg-u.mg sb ang-sb rnd freq kspar

- 920 Sh incr rdsh bn & orng flky-plty fn-sli slty ppty-flky sft
950 Sh cont'd AA
980 Sh orng pty sft sli sdy fn txt
1010 Sh decr Ss uncon cg AA
1040 Sh AA SS 20% AA
1070 Sh orng pty fn sli slty sft-frm Ss AA Anhy tr rdsh wh micxl dns
1100 Sh & Ss AA
1130 No sample
1160 Sh & Ss AA
1190 Sh def incr pred orng pty-slty sdy /occ m gy flky-plty fn-sli slty txt Ss decr
1220 Sh & Ss cont'd AA
1250 Ss uncon /chng: orng fg sb ang sft-sli brit arg mtx
1280 Ss uncon AA incr clus orng fg-u.vfg sb ang rnd pr-fr srted pr cons /non calc cem sft-sli
frm sli brit i.p. arg mtx
1310 Ss cont'd Anhy wh chlky micxl brit cln
1340 Anhy incr wh-buf-lt ros chlky-micxl brit cln vsli arg loc sdy tr /salt cast
1370 Anhy cont'd AA Sh & Ss cont'd
1400 Sh incr orng m gy ochre flky-plty vfn-slty sdy txt sft-sli frm
1430 Sh orng pty-flky fn-vfn txt freq m gy flky rgh-sdy txt /occ ochre lt gn sb wxy Ss &
Anhy cont'd decr.
1460 Sh AA
1490 Sh pred orng flky-plty vfn txt loc vsly vsdy
1520 Sh AA Ls tr lt bnsh gy vfxl vfrm dns cln
2030 Sh orng fn-sdy Anhy clr-lt rose dns brit frm
2060 Sh & Anhy AA Ss freq amt uncon trnsf u.fg sb rnd
2090 Ss Sh Anhy AA
2120 Sh orng lt gn flky sft vfn txt
2150 Sh orng lt gn AA
2180 Sh orng lt gn cont'd
2210 Sh orng lt gn flky fn sft txt
2240 Sh chng: rdsh bn flky frm fn txt Dol lt gysh wh-tn vfxl brit cln
2270 Sh AA /def chng: freq m-dk gy sb flky sb pty fn txt frm-vfrm sli carb gen dolie Dol
lt tn-lt gy fxl dns arg i.p.
2300 Sh gy & orng
2330 Sh gy flky fn txt vfrm sli dolie orng flky vfn txt
HUTCHINSON EVAPORITE 2315'
2360 Anhy lt gy mass brit vfrm
2390 Anhy lt gy-wh mass cxl
2420 Anhy decr Sh incr orng lt gn lt gy
2450 Sh & Anhy AA
2510 Sh & Anhy AA /incr Anhy wh-lt gy cxl mass Dol tr lt gy vfxl dns sli calc
CHASE 2534'
2540 Dol lt gysh tn fxl-vfxl vsli arg sli carg
2570 Dol lt tn fxl rthy txt i.p. sb gran i.p. vsli carb freq sli sdy gen brit fr-g vfn vis poro mod
bri yel flor NSOC
2600 Dol tn-gysh wh sb gran mxl vbrit freq/vis pporo & flor AA NSOC
2630 Dol cont'd AA /def amt Sh incr orng lt gysh gn flky vfn txt

- 4330 Ls wh fxl brit-fri vcln
4340 Ls off wh-wh fxl-mxl fri cln
4350 Ls tn-off wh vfxl-micxl dns-vdns cln fos
4360 Ls AA
4370 Ls tn vfxl dns-vdns rrly fos
4380 Ls cont'd AA Sh sm amt orng gn
4390 Sh chng: def incr blk vcarb
4400 Ls lt-dk tn vfxl dns sparry scat fr moldic poro
4410 Ls off wh-tn vfxl-fxl dns i.p. rthy i.p. Chrt freq amt opq wh shardy fos
4420 Sh def incr blk vcarb lt gy lt gn
4430 Ls tn fxl ool Pkst & Wkst brit Sh decr
4440 Chrt vhyv amt opq wh & opq dk gy
4450 Ls chng: lt-m gy vfxl-Mdst sil arg Chrt decr
4460 Ls gy AA /sm incr tn fxl-vfxl
4470 Ls dk tn fxl-vfxl sli rthy gen indist fos Wkst
4480 Ls lt-dk tn fos
4490 Ls sli mot lt-dk tn vfxl vfos
4500 Ls lt tn vfxl sli rthy vfos Sh sm amt m gy flky-pty
4510 Ls & Sh AA
4520 Sh incr vlt gy-gn flk /tr blk vcarb Ls dk tn-off wh vfxl-fxl-micxl rthy vdns i.p.
MARMATON 4513'
4530 Sh cont'd amt vlt gysh gn flky vfn txt Ls chng: wh vfxl-micxl vdns vcln vfos
4540 Ls AA bec off wh-buf Sh chng: incr vlt gy vfn txt flky
4550 Sh & Ls cont'd AA
4560 Dol wh fxl vfrm-hd cln sli calc
4570 Dol decr Ls incr wh-off wh-buf fxl-vfxl-micxl frm-hd vdns cln fos
4580 Ls chng: lt bnsh wh micxl vdns hd
4590 Ls cont'd lt bnsh wh-off wh micxl sparry fos vdns
4600 Ls lt-m bn micxl vdns hd Sh sm amt lt gn flky vfn txt vdk gy pty fn txt mod-vcarb
4610 Ls lt-m bn micxl vdns hd Sh incr lt-m-dk gy
Pawnee Member 4595'
4620 Sh blk dk gy pty flky vcarb sli amt dism Ls wh fxl-vfxl rthy dns frm fos gen vcln
4630 Sh sli decr Ls off wh-buf vfxl-micxl vdns sli sil fos
4640 Sh incr lt-m gy gn pty flky /vdk gy-blk vcarb Ls buf-lt gysh wh vfxl-micxl vdns
4650 Ls & Sh cont'd AA
CHEROKEE 4643'
4660 Sh incr blk vcarb Ls lt bn-off wh lt gy vfxl-micxl-fxl gen vdns loc rthy
4670 Ls off wh micxl vfxl vsparry vfos /abdt fos frags
4680 Ls chng: lt gysh micxl dns-vdns Sh freq amt m gy pty fn txt
4690 Ls off wh-lt gysh wh vfxl-micxl sli fos Sh decr
4700 Ls AA Sh incr lt gn lt-m gy flky-pty fn txt
4710 Sh chng: /def incr m-dk gy pty fn txt occ blk vcarb
4720 Sh decr gy /incr lt gn Ls AA
4730 Ls & Sh cont'd AA
4740 Ls off wh-lt gy vfxl dns arg i.p. Sh cont'd lt gy gn
4750 Sh def incr m-dk gy pty fn txt mod carb
4760 Sh m-dk gy & blk Ls lt bn-lt gy vfxl-micxl dns

- 4770 Sh decr Ls chng: sme off wh-wh fxl-vfxl rthy chky vcln
 4780 Ls cont'd AA
 4790 Ls off wh-vlt gysh wh fxl-vfxl-micxl rthy-dns gen cln app
 4800 Sh sm incr vdk gy -blk vcarb /lt gn Ls chng: sli mot lt gysh-bnsh wh vfxl dns rryly sli carb
 4810 No sample
 4820 Ls lt-dk tn vfxl-micxl dns-vdns gen cln mod sparry fos i.p.
 4830 Chrt hvy amt sli mot smi trnsl gy Ls chng: lt gysh-gysh wh fxl-vfxl pred /rthy app
 ATOKA 4834'
 4840 Ls chng: vsli mot lt gy Mdst vfxl Sh sm amt lt-lt gysh wh
 4850 Ls mot gy vfxl-Mdst Sh def incr m-dk gy flky fn txt
 4860 Ls chng: lt tn vfxl-micxl vdns vcln
 4870 Ls cont'd AA Sh incr lt gn flky fn txt /blk vcarb
 4880 Ls mot gy vfxl Sh lt gn flky fn txt /sm amt blk vcarb
 4890 Ls sli mot dk gy fos Mdst-vfxl Sh sm amt vdk gy flky fn txt
 4900 Ls cont'd AA Sh chng: lt bn-lt gy sb wxy flky-splnt occ /carb debr
 4910 Ls lt-dk gy vfxl vfos dolie i.p. Sh lt gn dk gy flky fn txt sm amt mot bn splnt wxy carb
 Dol tr clr-lt gy cxl gran

MORROW SHALE 4892'

- 4920 Sh lrg incr lt gn plty-flky Ls chng: off wh-buf fos Pkst vcln
 4930 Ls decr Sh decr gn incr lt gy lt bn sb blk sb wxy occ carb debr
 4940 Sh cont'd lt gn lt gy lt bn /m gy flky
 4950 Sh incr m gy flky-plty fn txt
 4960 Sh gy-lt gy flky freq sdy glau /stks Ss lt gysh wh l.fg-vfg sb ang arg mtz scat vfn glau
 grns Ls sm amt gnsh wh fos Wkst arg glau
 4970 Sh chng: mot gn-gy flky fn txt Ss decr tr hvy tr

Morrow Sandstone 4957'

- 4980 Ss def incr clus lt bn-bnsh gy l.-u.fg sb rnd pr-fr srted w cons /sil cem vsli dolie hd-sli
 brit non fri no vis poro even bn oil stn dull gd flor immed gnsh flash /slo mlky sb ct
 4990 Ss def incr clus vlt-bnsh trnsl l.-u. fg sb rnd fr-g srted bec gen pr cons brit-vfri fr vis poro
 i.p. mod odor even m-dk bn oil stn spotty tarry in pore throats i.p. tr bldg oil dull-mod
 bri gd flor immed gnsh ct bec slo strg ct occ f strg ct
 5000 Ss cont'd incr gen /even lt bn stn occ hvy dk bn stn /bldg oil gen incr amt /spotty tarry
 stn in pore throats
 5010 Ss def decr amt Sh incr lt gn m gy flky-plty fn-vfn txt

MISS. CHESTER LIMESTONE 5001'

- 5020 Ls def sm incr off wh-buf fxl brit sli sft Sh incr m-dk gy flky fn-rgh txt lt gn flky vfn
 txt
 5030 Ls lrg incr off wh fxl-vfxl pred /vsli rthy app sft-sli frm dns cln
 5040 Ls off wh-vlt gysh wh vfxl gen incrly dns cont'd cln
 5050 Ls bec pred lt gy vfxl-micxl vdns hd
 5060 Ls AA
 5070 Ls lt-m gy vfxl-micxl gen vdns cln-vsli arg i.p.
 5080 Ls cont'd Sh sm amt m-dk gy flky fn txt

CHESTER SANDSTONE 5070'

- 5090 Ss sm incr 5% clus: lt gysh bn-lt bn pred vfg /vtight app /fn spotty live oil stn fnt gd flor
 pr mlky gnsh ct tr m bn u.fg sb ang-sb rnd w srted vpr cons fri even m bn stn /spotty live

oil in pores dull gn flor immed gnsh ct /subsequent stmgSh def incr m-dk gy flky fn txt
occ /fn-m carb frags Ls lt-m gy AA

5100 Ls AA Sh m-dk gy AA /lt gy & lt gn plty-sb blkly vfn-wxy txt Ss 5% clus: m bn l.-u.fg
fr-g srt'd vpr cons even m bn stn /immed & stmg gnsh ct

5110 Ls sm incr wh vfxl vsdy & ool Sh def decr Ss cont'd sm amt

5120 Ss incr gen incr 10% gen tight clus /pr show AA

5130 Ls incr 30% Sh pos incr Ss decr

5140 Ls wh brit vvsdy mic ool grds to ool Ss

5150 Ls cont'd wh vvsdy

5160 Ls chng: wh micxl-vfxl vool sli-mod sdy

5170 Ls incr wh fxl dns frm-brit vcln-sli ool sli sdy

5180 Ls wh fxl pred vool

5190 Ls wh-off wh vfxl ool-vool sli sdy i.p.

5200 Ls chng: wh-off wh fxl vbrit sft ool NSFOC

5210 Ls off wh-vlt tn vfxl dns cln sli ool

5220 Ls whh vfxl vcln sli ool

5230 Ls off wh-tn vfxl sparry ool sdy sm amt tn fxl sft-sli fri dolie vcln

5240 Ls off wh-tn bec incrly dns sil Chrt wh smi trnsf-opq shardy

5250 Ls wh-off wh vfxl sparry ool rry sdy gen incrly cln app

5260 Ls tn-off wh fxl-micxl vdns sparry ool

5270 Ls AA /stks sdy-vsdy

5280 Ls off wh-tn micxl-vfxl vdns ool i.p.

5290 Ls dk tn micxl-lith vdns Chrt vfreq amt wh smi trnsf Dol off wh fxl sft-sli fri vcln sli
calc

5300 Ls dk tn micxl-lith vdns hd cln Chrt cont'd

5310 Sh sm incr dk gy flky rgh txt Ls dk tn micxl-vfxl dns brit-hd cln Chrt incr smi trnsf wh

5320 Ls lt-dk tn micxl-vfxl dns-vdns /chng: wh vfxl-fxl frm

5330 Dol vlt bnsh tn fxl dns Chrt incr opq mot vlt bnsh wh Ls lt-dk tn vfxl-micxl vdns

5340 Dol decr Ls chng: lty-dk tn micxl-vfxl dns-dns sil sli arg

5350 Ls off wh-dk tn vfxl-micxl freq rthy txt gen fos