

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

API NO. 15- 175-21,348-0600 **CONFIDENTIAL**
County Seward
AL - SW - SW - NW Sec. 31 Twp. 31S Rge. 31 X E

Operator: License # 04782
Name: Ensign Operating Co.
Address P.O. BOX 2161
City/State/Zip Liberal, Kansas 67905

2310' Feet from S/W (circle one) Line of Section
990' Feet from E/W (circle one) Line of Section
Footages Calculated from Nearest Outside Section Corner:
NE, SE, SW or SW (circle one)

Purchaser: _____
Operator Contact Person: Reed Wacker
Phone (316) 626-8131

Lease Name Felan Well # 1-31
Field Name Wildcat

Contractor: Name: Murfin Drilling Co., Inc. **KCC**
License: 6033
Wellsite Geologist: Duane Moredock **NOV 24**

Producing Formation D & A
Elevation: Ground 2836' KB 2845'
Total Depth 5950' PBTD ----

Designate Type of Completion
 New Well Re-Entry Workover
 Oil SWD SIDW Temp. Abd.
 Gas ENHR SIGW
 Dry Other (Core, MSW, Expl., Cathodic, etc)

Amount of Surface Pipe Set and Cemented at 1731' Feet
Multiple Stage Cementing Collar Used? Yes No
yes, show depth set _____ Feet

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 _____ PBTD
 Commingled _____ Docket No. _____
 Dual Completion _____ Docket No. _____
 Other (SWD or Inj?) _____ Docket No. _____
11/9/93 11/18/93 P&A 11/19/93
Spud Date Date Reached TD Completion Date

If Alternate II completion, cement circulated from _____
feet depth to _____ w/ _____ sx cmt.

Drilling Fluid Management Plan
(Data must be collected from the Reserve Pit)
Chloride content 2200 ppm Fluid volume 4500 bbls
Dewatering method used Evaporation
Location of fluid disposal if hauled offsite: _____

Operator Name N/A
Lease Name _____ License No. _____
Quarter Sec. DEC 2 Twp. 31 S Rng. _____ E/W
County _____ **FROM CONFIDENTIAL**

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.

Signature Reed Wacker
Title Prod Supt. Date 12/1/93
Subscribed and sworn to before me this 1 day of DECEMBER, 19 93.
Notary Public Herb Brady
Date Commission Expires _____

NOTARY PUBLIC, State of Kansas
HERB BRADY
My Appt. Exp. 9/14/97

RECEIVED
STATE CORPORATION COMMISSION
K.C.C. OFFICE USE ONLY
Letter of Confidentiality Attached
Wireline Log Received
Geologist Report Received
DISTRIBUTION
SWD/Rep _____ NGPA
Plug _____ Other _____ (Specify)
KGS

Operator Name Ensign Operating Co. Lease Name Felan Well # 1-31
 Sec. 31 Twp. 31 Rge. 31 East County Seward
 West

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.)

Log Formation (Top), Depth and Datum Sample
 Name Top Datum

List All E.Logs Run:
 See attached

See attached

CONFIDENTIAL

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#	1731'	HLC Class C	575 150	2%CC 1/4#Floc 3% CC

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				
<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

TUBING RECORD		Size	Set At	Packer At	Liner Run	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Date of First, Resumed Production: <u>SWD on in] D & A 11/19/93</u>	Producing Method		<input type="checkbox"/> Flowing	<input type="checkbox"/> Pumping	<input type="checkbox"/> Gas Lift	<input type="checkbox"/> 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 (If vented, submit ACO-18.)

METHOD OF COMPLETION: Open Hole Perf. Dually Comp. Commingled Other

Production Interval

CONFIDENTIAL

FORMATION TOPS

Ensign Operating Co.

No. 1-31 Felan

SE SW NW Sec. 31, T31S, R31W

Seward County, Kansas

	G.L. 2836' K.B. 2845'	Comparison Well E/2 NW 36-31S-32W K.B. 2850'	Drill Time And Samples	Wire Line Geophysical Logs
Tertiary		Surface +2841	Surface +2836'	Surface +2836'
Cretaceous				
Albian				
Kiowa	NL		541' +2304'	542' +2303'
Cheyenne	NL		651' +2194'	652' +2193'
Permian				
Glaudalupian				
White Horse	NL		790' +2055'	795' +2050'
Leonardian				
Nipewalla Gr.				
Blaine	NL		1056' +1789'	1058' +1787'
Flower Pot	NL		1145' +1700'	1148' +1697'
Cedar Hills	NL		1190' +1655'	1190' +1655'
Sumner Gr.				
Stone Corral	NL		1622' +1223'	1625' +1220'
Ninnescah	NL		1751' +1094'	1754' +1091'
Wellington	NL		2146' +699'	2150' +695'
Hutchinson	NL		2228' +617'	2225' +620'
Wolfcampian				
Chase Gr.				
Herington	NL		2654' +191'	2650' +195'
Krider	NL		2715' +130'	2713' +132'
Winfield	NL		2759' +86'	2760' +85'
Towanda	NL		2815' +30'	2810' +35'
Fort Riley	NL		2866' -21'	2860' -15'
Wreford	NL		2973' -128'	2968' -123'
Council Grove Gr.	NL		3067' -222'	3062' -223'
Admire Gr.	NL		3307' -462'	3308' -463'
Pennsylvanian				
Virgilian				
Wabaunsee Gr.	NL		3381' -536'	3376' -531'
Shawnee Gr.				
Topeka	NL		3805' -960'	3796' -951'

G.L. 2836' K.B. 2845	Comparison Well E/2 NW 36-31S-31W K.B. 2850'	Drill Time And Samples	Wire Line Geophysical Logs
Pennsylvanian			
Virgilian			
Douglas Gr.			
Base Heebner	4230' -1380'	4245' -1400'	4242' -1397'
Toronto	4238' -1388'	4254' -1409'	4250' -1405'
Missourian			
Lansing Gr.	4328' -1478'	4335' -1490'	4332' -1487'
Demoinesian			
Marmaton Gr.	4950' -2100'	4973' -2128'	4972' -2127'
Cherokee Gr.	5130' -2280'	5154' -2309'	5152' -2307'
Atokian	5277' -2427'	5281' -2436'	5276' -2431'
Morrowian			
U. Morrow Sd	5516' -2666'	NP	NP
M. Morrow Unc.	5528' -2678'	5539' -2694'	5538' -2693'
Terra Rossa	5664' -2814'	5670' -2825'	5670' -2825'
Mississippian			
Mermeccian			
Ste. Genevieve	5710' -2860'	5716' -2871'	5714' -2869'
Total Depth	5916' -3016'	5950' -3105'	5949' -3104'

ORIGINAL

TRILOBITE TESTING, L.L.C.

P.O. Box 362 • Hays, Kansas 67601

CONFIDENTIAL

Drill-Stem Test Data

API#15-175-21348

Well Name FELAN #1-31 Test No. 1 Date 11/17/93
 Company ENSIGN OPERATING COMPANY Zone MORROW
 Address 621 17th ST #1800 DENVER CO 80293 Elevation 2845
 Co. Rep./Geo. DUANE MOREDOCK Cont. MURFIN DRLG RIG #21 Est. Ft. of Pay 11
 Location: Sec. 31 Twp. 31S Rge. 31W Co. SEWARD State KS

Interval Tested 5478-5583 Drill Pipe Size 4.5" XH
 Anchor Length 105 Wt. Pipe I.D. - 2.7 Ft. Run _____
 Top Packer Depth 5473 Drill Collar - 2.25 Ft. Run 518
 Bottom Packer Depth 5478 Mud Wt. 9 lb/Gal.
 Total Depth 5583 Viscosity 43 Filtrate 9.2

Tool Open @ 4:15 AM Initial Blow FAIR BLOW BUILT TO 7" **KCS**

Final Blow WEAK SURFACE BLOW BUILT TO 3" **NOV 24**
FSI: WEAK BLOW BACK BUILT TO 2" **CONFIDENTIAL**

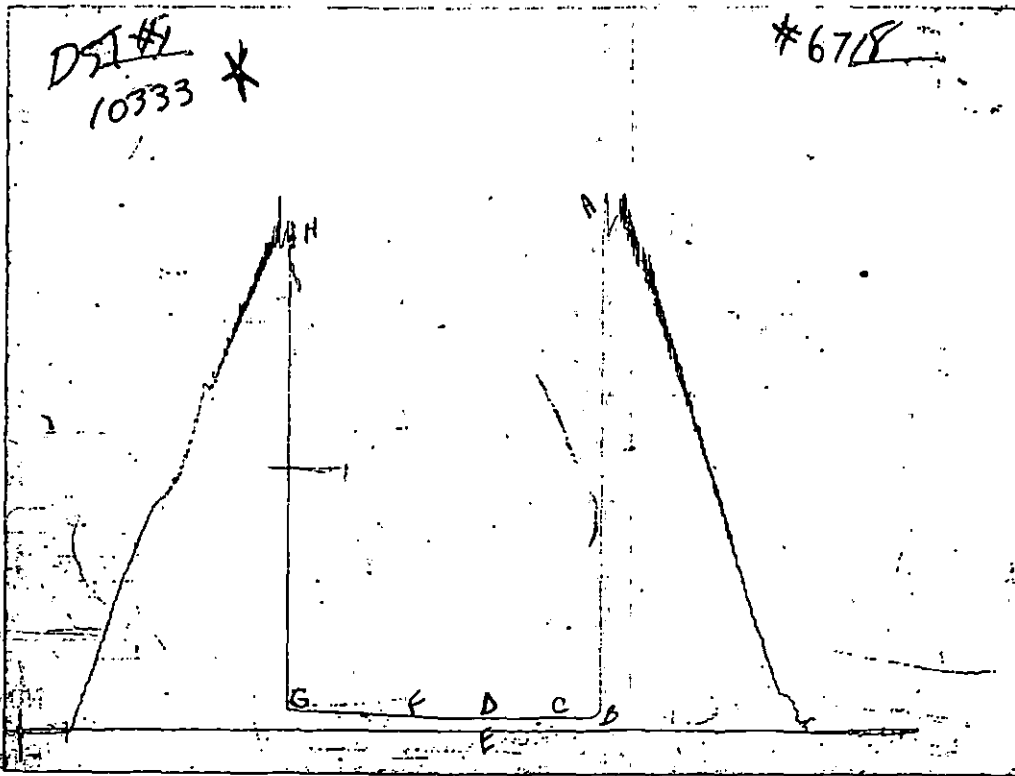
Recovery - Total Feet 60 Flush Tool? NO

Rec. 60 Feet of DRILLING MUD **RELEASED**
 Rec. _____ Feet of _____
 Rec. _____ Feet of _____ **DEC 22 1994**
 Rec. _____ Feet of _____ **FROM CONFIDENTIAL**

BHT 120 °F Gravity _____ °API @ _____ °F Corrected Gravity _____ °API
 RW _____ @ _____ °F Chlorides _____ ppm Recovery Chlorides 1900 ppm System

(A) Initial Hydrostatic Mud 2633.1 PSI AK1 Recorder No. 13337 Range 3975
 (B) First Initial Flow Pressure 65.3 PSI @ (depth) 5481 w / Clock No. 27573
 (C) First Final Flow Pressure 74.2 PSI AK1 Recorder No. 10333 Range 4050
 (D) Initial Shut-in Pressure 64.2 PSI @ (depth) 5580 w / Clock No. 25810
 (E) Second Initial Flow Pressure 64.2 PSI AK1 Recorder No. _____ Range _____
 (F) Second Final Flow Pressure 64.2 PSI @ (depth) _____ w / Clock No. _____
 (G) Final Shut-in Pressure 105.3 PSI Initial Opening 15 Final Flow 60
 (H) Final Hydrostatic Mud 2605.3 PSI Initial Shut-in 30 Final Shut-in 120

Our Representative ROBERT COLLINS



This is an actual photograph of recorder chart
REPRODUCED

NOV 5 9 1977

SALVADORENCO MOPEL

	FIELD READING	OFFICE READING
(A) INITIAL HYDROSTATIC MUD	2630	2633.1
(B) FIRST INITIAL FLOW PRESSURE	60	65.3
(C) FIRST FINAL FLOW PRESSURE	71	74.2
(D) INITIAL CLOSED-IN PRESSURE	60	64.2
(E) SECOND INITIAL FLOW PRESSURE	60	64.2
(F) SECOND FINAL FLOW PRESSURE	60	64.2
(G) FINAL CLOSED-IN PRESSURE	101	105.3
(H) FINAL HYDROSTATIC MUD	2600	2605.3

FLUID SAMPLER DATA

ORIGINAL

KCS

CONFIDENTIAL

NOV 24

CONFIDENTIAL

Ticket No.: 6718

Date: 11/17/93

Company: ENSIGN OPERATING COMPANY

Lease: FELAN #1-31

Test No.: 1

County: SEWARD

Sec.: 31

Twp.: 31S

Rng.: 31W

SAMPLER RECOVERY

Gas 1000

Oil

Mud 3000

Water

Other

Pressure 50

TOTAL 4000

SAMPLER ANALYSIS

Resistivity ohms@ F

Chlorides ppm.

Gravity corrected @60F

PIT MUD ANALYSIS

Chlorides 1900

Resistivity 4.5 ohms@ 74 F

Viscosity 43

Mud Wt. 9

Filtrate 9.2

Other

RELEASED

DEC 22 1994

FROM CONFIDENTIAL

PIPE RECOVERY

TOP

Resistivity ohms@ F

Chlorides ppm

MIDDLE

Resistivity ohms@ F

Chlorides ppm

BOTTOM

Resistivity ohms@ F

Chlorides ppm