

ORIGINAL

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

API NO. 15- 007-22,261 -00-00

County Barber

C E/2 SE Sec. 7 Twp. 35 Rge. 13 East West

1320 Ft. North from Southeast Corner of Section

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

Lease Name Sternberger Well # 4

Field Name Aetna Extension

Producing Formation Mississippi

Elevation: Ground 1575 KB 1583'

Total Depth 4994 PBDT 4967'

Operator: License # 3532

Name: CMX, Inc.

Address 1026 Union Center Bldg.

City/State/Zip Wichita, KS 67202

Purchaser: Vesta & Enron Oil Trading

Operator Contact Person: Doug McGinness II

Phone (316) 269-9052

Contractor: Name: Duke Drilling Co., Inc.

License: 5929

Wellsite Geologist: Douglas H. McGinness II

Designate Type of Completion

New Well Re-Entry Workover

Oil SWD Temp. Abd.

Gas Inj Delayed Comp.

Dry Other (Core, Water Supply, etc.)

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

Operator: _____

Well Name: _____

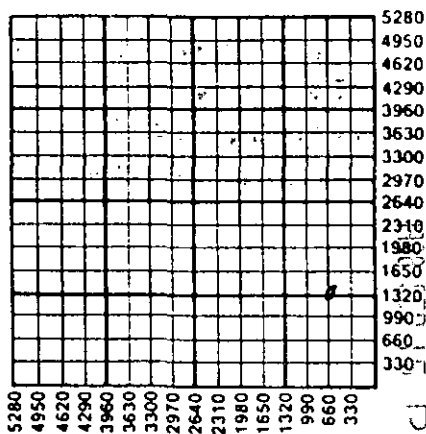
Comp. Date _____ Old Total Depth _____

Drilling Method:

Mud Rotary Air Rotary Cable

10-13-89 10-21-89 11-04-89

Spud Date Date Reached TD Completion Date



RECEIVED
KANSAS CORPORATION COMMISSION
ALT 1 JH
9-16-98

Amount of Surface Pipe Set and Cemented at 399' 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.

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 [Signature]

Title President Date 8/14/98

Subscribed and sworn to before me this 14 day of September, 19 98

Notary Public [Signature]

Date Commission Expires 2/7/2000

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)

DONNA L. JESPERSEN
Notary Public - State of Kansas
My Appt. Expires 2/7/2000

Operator Name CMX, Inc. Lease Name Sternberger Well # 4
 Sec. 7 Twp. 35 Rge. 13 East West
 County Barber

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.)
**DUAL SPACED NEUTRON
 CEMENT BOND
 DUAL INDUCTION
 COMPUTER ANALYZED**

Formation Description

Log Sample

Name _____ Top _____ Bottom _____

See Attached Sheet for Log Tops

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 1/2"	8-5/8"	24#	399'	60/40poz	260	2% gel 3% cc
Production	7-7/8"	4 1/2"	10 1/2#	4993'	Thixotropic	150	2% gel 8#Gilsonite

PERFORATION RECORD		Acid, Fracture, Shot, Cement Squeeze Record	
Shots Per Foot	Specify Footage of Each Interval Perforated	(Amount and Kind of Material Used)	Depth
2	4928' to 4940'	Treated all perfs with 1250 gallons of Fe Acid (15% HCl concentration), 3000 gallons of 15% Fe Acid Frac'd with 77,500 gallons of My-T gel & 150,000# sand.	1250 gallons
2	4898' to 4910'		

TUBING RECORD Size 2-3/8" Set At 4890' Packer At N/A Liner Run Yes No

Date of First Production 11-12-89 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 (If vented, submit ACO-18.)

METHOD OF COMPLETION

Open Hole Perforation Dually Completed Commingled

Other (Specify) _____

Production Interval
4928' - 4940'
& 4898' - 4910'

ORIGINAL

ACO-1 Side Two (Cont.)

API No.: 15-007-22,261
Operator: CMX, Inc. - License #03532
Lease: #4 Sternberger
Location: C E/2 SE/4 of 7-35S-13W
County: Barber

Drill Stem Tests:

Test #1: 4848'-4915', 30-45-45-60, strong blow throughout test. Recovered: 4200' GIP and 30' GCM.
ISIP: 215 psi, FSIP: 301 psi
IFP: 80-80 psi, FFP: 80-80 psi
IHP: 2455 psi, FHP: 2401 psi
BHT - 123 F.

Test #2: 4915'-4955', 30-48-45-60, strong blow throughout test, GTS during final shut-in. Recovered: 4955' GIP, 70' GCM, and 240' O&GCM (40% oil).
ISIP: 1712 psi, FSIP: 1732 psi
IFP: 80-84 psi, FFP: 147-147 psi
IHP: 2514 psi, FHP: 2480 psi
BHT: 125 F.

Log Tops: Log , Sample or Both?????

Wabaunsee Group	Not Logged	3032 (-1444)
Stotler Limestone	Not Logged	3168 (-1580)
Tarkio Limestone	Not Logged	3195 (-1607)
Kenwaka Shale	Not Logged	3789 (-2201)
Elgin Sandstone	Not Logged	3832 (-2244)
Heebner Shale	Not Logged	4022 (-2434)
Lansing/Kansas City	Not Logged	4212 (-2624)
Stark Shale	4686 (-3098)	4685 (-3097)
Hushpuckney Shale	4713 (-3125)	4713 (-3125)
Cherokee Shale	4871 (-3283)	4871 (-3283)
Mississippian	4879 (-3291)	4880 (-3292)
Total Depth	4995 (-3407)	4994 (-3406)



CMX, Inc.

MAIN OFFICE:
1026 UNION CENTER BLDG.
WICHITA, KS 67202
(316) 269-9052

ROCKY MOUNTAIN OFFICE:
2966 E. NICHOLS CIRCLE
LITTLETON, CO 80122
(303) 290-0630

DOUGLAS H. MCGINNESS II

ORIGINAL

CURTIS F. CLARK

15-007-22261

DAILY COMPLETION REPORT

#4 Sternberger
100' North of C E/2 SE
Section 7-35S-13W
Barber County, Kansas
Curtis F. Clark, Completion Foreman
Douglas H. McGinness II, Completion Foreman

10-30-89 HLS ran Acoustic Cement Bond Log with Gamma Ray and Collar Locator. PBD at 4967' and Top of Cement at 4152'. Excellent cement bond. Ran Dual Spaced Neutron Log, good porosity from 4928' to 4940', 4892' to 4894' and 4898' to 4910'. 10-31-89 Clarke Corporation moved in completion tools, rig #17. Casing swabbed hole down to 1500'. Shut down for night.

11-01-89 Finished swabbing hole down to 3760'. Rigged up HLS, ran in with 1st gun. Perforated Mississippian with 2 shots per foot from 4928' to 4940'. Ran in with 2nd gun, hit fluid at 3750', perforated Mississippian with 2 shots per foot from 4898' to 4910'. Casing swabbed hole below perfs. Rigged up Howco PPI treating packer. Ran packer on the end of 149 jts of new 2-3/8" API 4.7 ppf tubing. Loaded tubing and annulus. Set packer at 4891'. Pressure tested tubing to 2500 psi, released packer and dropped RFC valve. Spotted acid to bottom, treated perfs with 1250 gallons of Fe Acid, 15% HCl concentraton as follows:

<u>Depth</u>	<u>Volume Gallons</u>	<u>Breakdown Pressure</u>	<u>Treating Pressure</u>	<u>Rate BPM</u>
4940'-41'	50	800 psi	500 psi	1.5
4939'-40'	50	950 psi	750 psi	1.5
4938'-39'	50	725 psi	600 psi	1.5
4937'-38'	50	800 psi	650 psi	1.5
4936'-37'	50	700 psi	600 psi	1.5
4935'-36'	50	800 psi	625 psi	1.5
4934'-35'	50	650 psi	650 psi	1.5
4933'-34'	50	625 psi	600 psi	1.5

Daily Completion Report (Cont.)
 #4 Sternberger
 Barber County, Kansas
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11-01-89 (Cont)	Depth	Volume Gallons	Breakdown Pressure	Treating Pressure	Rate BPM
	4932'-33'	50	700 psi	500 psi	1.5
	4931'-32'	50	750 psi	550 psi	1.5
	4930'-31'	50	800 psi	600 psi	1.5
	4929'-30'	50	700 psi	650 psi	1.5
	4928'-29'	50	800 psi	600 psi	1.5
	4927'-28'	Blank	--- ---	--- ---	
	4926'-27'	Blank	--- ---	--- ---	
	4909'-10'	50	800 psi	800 psi	1.5
	4908'-09'	50	725 psi	650 psi	1.5
	4907'-08'	50	800 psi	650 psi	1.5
	4906'-07'	50	750 psi	600 psi	1.5
	4905'-06'	50	850 psi	700 psi	1.5
	4904'-05'	50	875 psi	650 psi	1.5
	4903'-04'	50	750 psi	725 psi	1.5
	4902'-03'	50	725 psi	725 psi	1.5
	4901'-02'	50	825 psi	700 psi	1.5
	4900'-01'	50	850 psi	750 psi	1.5
	4899'-4900'	50	800 psi	650 psi	1.5
	4898'-99'	50	800 psi	750 psi	1.5
	4897'-98'	Blank	--- ---	2500 psi	

50 bbls total load plus 52 bbls backside. Set packer at 4891'. Fished RFC valve and fluid plug. Tubing swabbed on well until too dark to see "flag". Shut down for night.

11-02-89 270 psi SITP in 14 hours. Ran tubing swab, fluid 1600' down from surface. Swabbed with good gas blow and show of oil. Pulled tubing and packer. Ran casing swab, swabbed back total of 98 bbls of load. Rigged up Howco. Acidized down casing with 3000 gallons of 15% Fe Acid, 4,200 gallons overflush. Treated at 30 BPM at 1000 psi, ISIP 250 psi. Casing swabbed 125 bbls back of the 172 bbls load with very good gas blow. Rigged up Howco. Frac'd well down casing as follows:

Rate	Volume (Gals)	Pressure (Casing)	Description
20 BPM	0	0 psi	Start 5,000 gal MY-T-GELL PAP
30 BPM	2550	900 psi	Hole load establish rate
30 BPM	5000	830 psi	Start 10,000 gal Gel with 1.5#/gal 100 mesh

Daily Completion Report (Cont.)
 #4 Sternberger
 Barber County, Kansas
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11-02-89 (Cont)	Rate	Volume (Gals)	Pressure (Casing)	Description
	30 BPM	15,000	780 psi	Start 5,000 gal Gel with 1#/gal 100 mesh
	30 BPM	23,000	760 psi	Start 4,000 gal Gel with 1#/gal 20/40 sand
	30 BPM	26,300	700 psi	1#/gal 20/40 sand on bottom
	30 BPM	27,000	700 psi	Start 4,000 gal Gel with 2#/gal 20/40 sand
	30 BPM	31,000	670 psi	Start 6,000 gal Gel with 2.5#/gal 20/40 sand
	30 BPM	37,000	680 psi	Start 9,000 gal Gel with 3#/gal 20/40 sand
	30 BPM	46,000	530 psi	Start 6,000 gal Gel with 3#/gal 12/20 sand
	30 BPM	52,000	500 psi	Start 8,000 gal Gel with 3.5#/gal 12/20 sand
	30 BPM	60,000	530 psi	Start 13,000 gal Gel 4# to 4.5#/gal 12/20 sand
	30 BPM	73,000	600 psi	Sand in, start 4,000 gal Flush
	30 BPM	76,800	1130 psi	Sand Clear
	30 BPM	77,500	1130 psi	Flush in

ISIP 400 psi, 5 minutes SIP 180 psi, 15 minutes SIP 120 psi. Closed manifold. 77,500 gallons of My-T-Gel frac volume (1845 bbls), 10,000# of 100 mesh sand, 54,000# of 20/40 sand and 86,000# of 12/20 sand, totaling 150,000# of sand. Shut down for night.

11-03-89 Well on vacuum. Ran in 149 jts of 2-3/8" tubing, seating nipple 1 jt up. Set at 4890'. Rigged up tubing swab, found fluid at surface. Swabbed on well, swabbed back 100 bbls of fluid. Fluid standing 1000' from surface, showing oil with gas blow after swab. Swabbed back 205 total bbls of load. Well kicked off and flowed at 3:00 pm, flowed 80 BFPH with good show of oil, 70 psi FTP. Estimated 350 bbls of load back with 80 BO. Flowing through 1" orifice, 350 to 500 psi FTP, 700 psi FCP at 10:00 pm. Well flowed 40 to 50 BFPH, 25% to 30% oil estimated.

Daily Completion Report (Cont.)
#4 Sternberger
Barber County, Kansas
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- 11-04-89 475 psi FTP & 1260 psi FCP in 18 hours. Well flowing 40 BFPH, estimated 600 bbls load back, 250 BO produced. Shut well in to put on variable choke and hook up test separator, 925 psi SITP & 1460 SICP in 5 hours. Opened well, flowing 34 BFPH, estimated 30% to 60% oil and 1,200 MCFG per day. 100 psi back pressure on separator, 360 psi FTP, 1200 psi FCP, 24/64" choke. Closed well, prepared to hook up surface equipment and lay lead/gas lines. Estimate initial potential of 1,200 MCFGPD and 350 BOPD!
- 11-06-89 1100 psi SITP & 1460 psi SICP.

Complete Geological Services
Drig. & Comp. Supervision

DOUGLAS H. MCGINNESS II
CERTIFIED PETROLEUM GEOLOGIST

ORIGINAL

AAPG # 3962
KGS
SIPES



October 25, 1989

CMX, Inc.
1026 Union Center Building
Wichita, Kansas 67202

RE: #4 Sternberger
100' North of C E/2 SE
Section 7-35S-13W
Barber County, Kansas

GEOLOGICAL COMPLETION REPORT

Operator: CMX, Inc.
Contractor: Duke Drilling Company - Rig #2
Commencement: October 13, 1989
Completion: October 22, 1989
Surface Casing: 8-5/8" x 24 ppf set at 399' with 260 sx
Production Casing: 4-1/2" x 10-1/2 ppf set at 4993' with 150 sx
Elevations: 1580' GL, 1588' KB (measurements from KB)
Total Depth: 4994' RTD, 4995' LTD
DSTs: 2 - Western Testing
Well Logs: HLS - DIGL/SP/GR/RXO/RT; detailed to only
4590' because of hole problems
Reference Well: CMX, Inc. #3 Sternberger, C SE NE of
7-35S-13W, Barber County, Kansas

A 1' drilling time log and 10' samples were saved and examined from 2200' to Rotary Total Depth. The samples from 4500' to RTD were delivered to the Kansas Geological Survey Library in Wichita, Kansas. An unmanned Baroid gas detector was on location from 2200' to Rotary Total Depth. Geological and drilling supervision by Douglas H. McGinness II from spud to the release of the rig.

FORMATION TOPS

<u>Formation</u>	<u>Well Log (Datum)</u>	<u>Sample (Datum)</u>	<u>S.C.</u>
Wabaunsee Group	Not Logged	3032 (-1444)	-6'
Stotler Limestone	Not Logged	3168 (-1580)	-6'
Tarkio Limestone	Not Logged	3195 (-1607)	-9'
Kenwaka Shale	Not Logged	3789 (-2201)	+1'
Elgin Sandstone	Not Logged	3832 (-2244)	N.D.
Heebner Shale	Not Logged	4022 (-2434)	-10'
Lansing/Kansas City	Not Logged	4212 (-2624)	-10'
Stark Shale	4686 (-3098)	4685 (-3097)	-10'
Hushpuckney Shale	4713 (-3125)	4713 (-3125)	-10'
Cherokee Shale	4871 (-3283)	4871 (-3283)	-11'
Mississippian	4879 (-3291)	4880 (-3292)	-13'
Total Depth	4995 (-3407)	4994 (-3406)	---

DESCRIPTION OF ZONES OF INTEREST

Mississippian - 4879' -to 4911' (HLS):

Chert, light blue to white to brown, opaque to subtranslucent, fresh to slightly weathered, 40% weathered, fractured porosity in fresh pieces, fair pinpoint to vuggy porosity, good show of gas bubbles on break, fair show of live oil on break, some free oil in sample tray, dark saturation and staining, fair to strong odor, bright gold fluorescence.

DST #1: 4848'-4915', 30-45-45-60, strong blow throughout test. Recovered: 4200' gas in pipe and 30' gas cut mud.
 ISIP: 215 psi, FSIP: 301 psi
 IFP: 80-80 psi, FFP: 80-80 psi
 IHP: 2455 psi, FHP: 2401 psi
 BHT - 123 Fahrenheit.

Mississippian - 4914' to 4924 (HLS):

Limestone, tan to gray, very chert, siliceous, fine crystalline to dense, fair pinpoint and intercrystalline porosity, good show of gas bubbles on break, slight show of live oil on break, scattered medium to dark staining and saturation, fair odor.

Mississippian - 4925' to 4954' (HLS):

Chert, white to brown, fresh to slightly weathered, fractured porosity, fair pinpoint to vuggy porosity, good show of gas bubbles on break, fair to good show of live oil on break, some free oil in sample tray, dark stain and saturation, fair to strong odor, bright gold fluorescence.

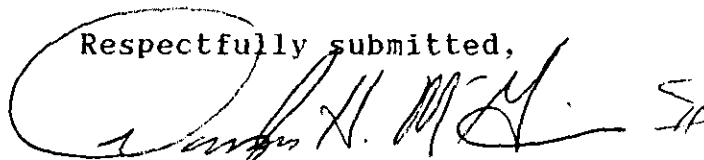
DST #2: 4915'-4955', 30-48-45-60, strong blow throughout test, gas to surface during final shut-in. Recovered: 4955' gas in pipe, 70' gas cut mud and 240' oil & gas cut mud (40% oil).
ISIP: 1712 psi, FSIP: 1732 psi
IFP: 80-84 psi, FFP: 147-147 psi
IHP: 2514 psi, FHP: 2480 psi
BHT: 125 Fahrenheit

REMARKS & RECOMMENDATIONS

Structurally the #4 Sternberger ran regionally low to the reference well throughout the drilling phase. The Mississippian was encountered 13' structurally low to the reference well. Drill stem test #1 covered the upper section of the Mississippi; however, the results were non-commercial. A 25' chert section was encountered from 4925' to 4950'. This zone had good shows of oil and gas in the drill cuttings and was drill stem tested with favorable results. A complex log suite was attempted, but because of hole problems relating to fluid loss, it was necessary to cancel most of the open hole logging program.

Based upon the results of DST #2, geological and petrophysical analysis, it was recommended that production casing be set 1' off bottom and the Mississippian, 4925' to 4950' (HLS), be perforated and treated as necessary to obtain commercial production.

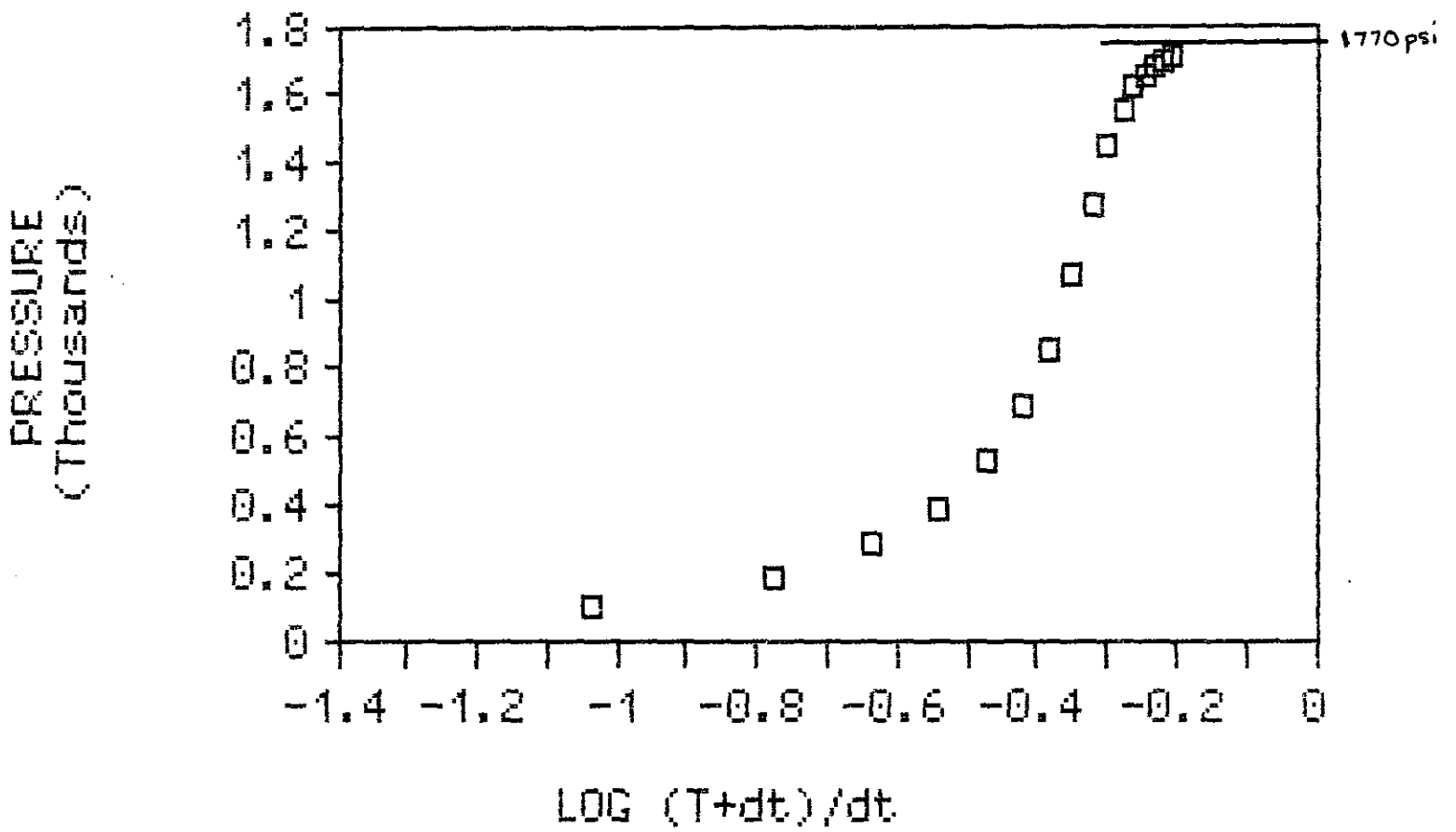
Respectfully submitted,



Douglas H. McGinness II
Certified Petroleum Geologist
AAPG #3692
SIPES #1964

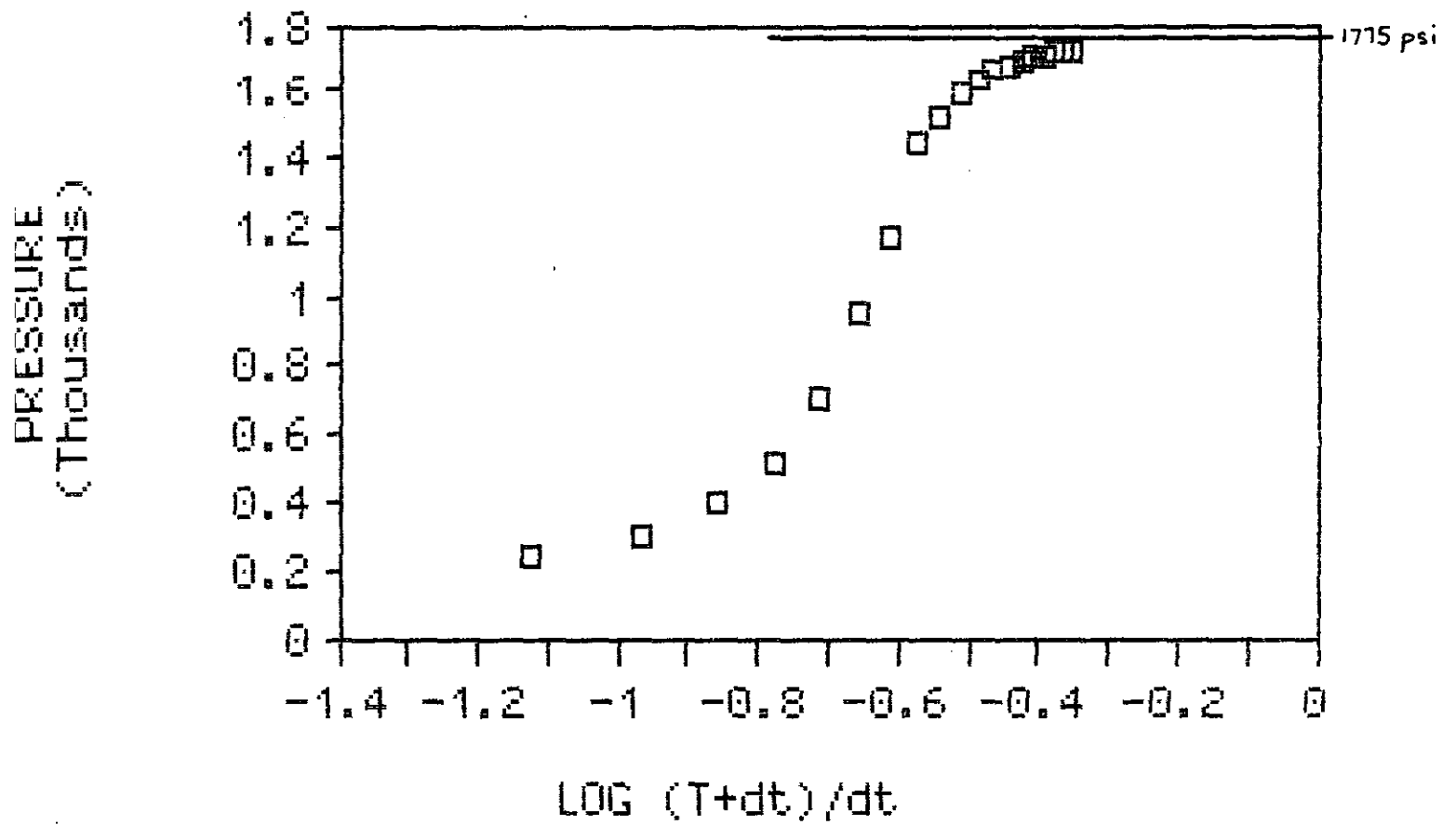
ORIGINAL

HORNER PLOT
INITIAL SHUT-IN



ORIGINAL

HORNER PLOT
FINAL SHUT-IN





ORIGINAL

DAILY DRILLING REPORT

#4 Sternberger

100' North of C E/2 SE of 7-35S-13W

Barber County, Kansas

Douglas H. McGinness II, Drilling Supervisor

15-007-22261

- 10-12-89 Duke Drilling Company moved in Rig #2, rigged up and shut down for the night.
- 10-13-89 Spud 12-1/4" hole at 9:45 am. Drilled 12-1/4" hole to 408', 2-1/2 hours rotating. Dropped straight hole test, pulled bit. 1/2 vertical deviation at 408'. Tripped in with 7-7/8" Smith Tool Company re-tooth bit, drilled 7-7/8" hole to 1000', no loss of fluid encountered. Dropped straight hole test, pulled bit. 3/4 vertical deviation at 998'. Trip in with S-3J 12-1/4" bit, washed/reamed to 408', circulated for 15 minutes, pulled bit. Ran in 9 jts of 8-5/8" x 24# new API surface casing (tallied 389') with HOWCO centralizer at 160'. Landed casing with Duke landing joint at 7:40 pm, set casing at 399'. Hooked up HOWCO head and circulated with rig pump for 10 minutes, hooked up to pump truck at 7:55 pm. Pumped 5 bbls of water pre-flush. Mixed 260 sx of poz mix (60% Class A Common & 40% Pozzolan) with 2% gel & 3% CaCl₂. Slurry volume totaled 59 bbls, slurry density was 14.3 ppg of cement mixed. Released plug at 8:08 pm. Started displacement, cement detected in cellar after 13 bbls of displacement pumped. Circulated 12 bbls of cement to pit, plug down at 8:13 pm. 25 bbls total displacement volume. Closed manifold at 8:15 pm.
- 10-14-89 7:00 am Depth ~ 1185', drilling ahead. Hooked up Dombar unmanned gas detector at 4:00 pm at 1835'.
- 10-15-89 7:00 am Depth ~ 2375', drilling ahead.
- 10-16-89 7:00 am Depth ~ 3062', drilling ahead.

Daily Drilling Report (Cont.)
#4 Sternberger
Barber County, Kansas
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10-17-89 7:00 am Depth ~ 3745', drilling ahead. Displaced mud system at 3375', viscosity 40 sec/qt, mud weight 9.1 ppg, water loss 11.8, PH 10, PV/YP 6/14, and gel strength 5/8. Cumulative mud cost - \$2,600.00

10-18-89 7:00 am Depth ~ 4157', drilling ahead. Drilling at 4360' at 4:00 pm. Mud check at 4193', viscosity 45 sec/qt, mud weight 9.4 ppg, PH 9.0, PV/YP 14/18, gel strength 14/32, filtrate 16.8 CM³/30", cake thickness 2/32nds, and chlorides 10,600 ppm. Cumulative mud cost - \$3,088.00. Sample Top as follows:

Lansing/Kansas City 4212 (-2624)

The Lansing/Kansas City is 10' low to the #3 Sternberger.

10-19-89 7:00 am Depth ~ 4625', drilling ahead. Mud check at 4650', viscosity 42 sec/qt, mud weight 9.4 ppg, PH 9.5, PV/YP 14/16, gel strength 10/22, filtrate 9.6 CM³/30", cake thickness 2/32nds, and chlorides 6,100 ppm. Cumulative mud cost \$4,018.00. Sample Top as follows:

Top Stark Shale 4685 (-3097)

The Stark Shale is 10' low to the #3 Sternberger and 7' high to TXO's #2-A Sternberger.

10-20-89 7:00 am Depth ~ 4915', testing. Pipe strap 0.83' long, no correction, vertical deviation at 4915' - 1. DST #1 from 4848' to 4915' (see Geological Report for test results). Mud check at 4915', viscosity 42 sec/qt, mud weight 9.4 ppg, PH 9.5, PV/YP 12/16, gel strength 10/22, filtrate 11.2 CM³/30", cake thickness 2/32nds, and chlorides 4,100 ppm. Cumulative mud cost \$4,275.00. DST #2 from 4915' to 4955' (see Geological Report for test results).

10-21-89 7:00 am Depth ~ 4984', drilling ahead. Lost circulation at 4994'. Pulled 4 strands and mixed mud, returns back. Lost returns, mixed mud, full returns, go back to bottom and circulated to clean hole. Lost returns, mixed mud, full returns at 12:45 pm, circulated to clean hole until 2:15 pm. Mud check at 4984', viscosity 46 sec/qt, mud weight 9.2 ppg, PH 9.0, PV/YP 14/10, gel strength 10/22, filtrate 12.0 CM³/30", cake thickness 2/32nds, chlorides 5,500 ppm, and 7#/bbl loss circulation material. Cumulative mud cost \$5,050.00. Tripped out for logs at 2:15 pm, out of hole at 4:30 pm. Rigged up HLS, ran in with DIGL/SP/GR/RXO/RT, LTD at 4995', tool stuck at 4596', pulled to 4000#, work

Daily Drilling Report (Cont.)

#4 Sternberger
Barber County, Kansas
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- 10-21-89
(Cont) tool free. cancelled additional logs, go back to bottom, on bottom at 8:40 pm, breaking circulation 3 times. Circulated to clean hole with full returns until 9:40 pm. Laid down drill pipe, jetted cellar, hooked up braden head, started running casing at 3:30 am. Ran in 18.39' shoe joint, HOWCO cement basket on top of shoe joint. Ran in 125 jts of used 4-1/2" x 10-1/2 ppf casing (drifted & tested), centralizers on top of 2nd, 4th, 6th, and 9th jts. Casing on bottom at 5:15 am. Hooked up to rig pump, circulated for 30 minutes, picked casing up 1' off bottom at 4893' (KB). Hooked up to HOWCO pump truck at 5:45 am. Pumped 5 bbls fresh water pre-flush, pumped 12 bbls of Super-flush at 250 psi. Mixed 150 sx of Thixotropic cement containing 2% gel, 8# gilsonite per sx, 5# cal-seal per sx and 1/2# flocele per sx, slurry density 14.2 ppg. Started cement, pumped 42.5 bbls of cement, rate 7 BPM at 400 psi. Released plug and washed out lines. Started displacement at 5:58 am. Displaced cement with plug to 4872' with 79.2 bbls of fresh water, pumped Plug down with 1500 psi at 6:08 am, released pressure, float held. Note: good circulation throughout job.
- 10-22-89 Released Duke Drilling Rig #2.
- 10-25-89 Ordered HLS Dual Spaced Neutron Log and Cement Bond Log to be run on October 30, 1989.



TICKET NO. **851413-2**
ORIGINAL

FORM 1906 R-11

WELL NO. - FARM OR LEASE NAME 1 JENABURGER	COUNTY BADGER	STATE KS	CITY / OFFSHORE LOCATION	DATE 10-22-82
CHARGE TO CMX INC.	OWNER SONNE	TICKET TYPE (CHECK ONE) SERVICE <input checked="" type="checkbox"/> SALES <input type="checkbox"/>		NITROGEN JOB YES <input type="checkbox"/> NO <input type="checkbox"/>
ADDRESS	CONTRACTOR DUNE OIL CO	1 LOCATION 1700 N	CODE 7000	
CITY, STATE, ZIP	SHIPPED VIA 50120	FREIGHT CHARGES <input type="checkbox"/> PPD <input type="checkbox"/> COLLECT	2 LOCATION CT 50120	CODE 50120
WELL TYPE	WELL CATEGORY	WELL PERMIT NO.	3 LOCATION	CODE
TYPE AND PURPOSE OF JOB 2 1/2" 3" 4" 5" 6" 7" 8" 9" 10" 11" 12" 13" 14" 15" 16" 17" 18" 19" 20" 21" 22" 23" 24" 25" 26" 27" 28" 29" 30" 31" 32" 33" 34" 35" 36" 37" 38" 39" 40" 41" 42" 43" 44" 45" 46" 47" 48" 49" 50" 51" 52" 53" 54" 55" 56" 57" 58" 59" 60" 61" 62" 63" 64" 65" 66" 67" 68" 69" 70" 71" 72" 73" 74" 75" 76" 77" 78" 79" 80" 81" 82" 83" 84" 85" 86" 87" 88" 89" 90" 91" 92" 93" 94" 95" 96" 97" 98" 99" 100"	ORDER NO. LOCAL 101	REFERRAL LOCATION	B- 866404	

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 materials. 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 cause 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		
000-112		1		MILEAGE	30.00				2.30	69.00
001-016		1		PUMP CHARGE	1.00	4224.00				4224.00
020-503		1		SW PUMP	1.00	4.00				4.00
120	825-201	1		GRAND SMOKE	1.00					82.00
210	815-1200	1		INSURANCE	1.00					28.00
25	815-1203	1		FULL UP PUMP	1.00					20.00
70	800-2200	1		CENTRIFUGAL	1.00				14.00	14.00
320	800-2221	1		CENTRIFUGAL	1.00					8.00

THIS IS NOT AN INVOICE

AS PER ATTACHED BULK MATERIAL DELIVERY TICKET NO. **B- 866404** 1217 82

WAS JOB SATISFACTORILY COMPLETED? _____

WAS OPERATION OF EQUIPMENT SATISFACTORY? _____

WAS PERFORMANCE OF PERSONNEL SATISFACTORY? _____

X **Paul Maginnis**
 CUSTOMER OR HIS AGENT (PLEASE PRINT)

X **Paul Maginnis**
 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.

Donald Maginnis
 HALLIBURTON OPERATOR

HALLIBURTON APPROVAL _____

CUSTOMER

SUB TOTAL _____

APPLICABLE TAXES WILL BE ADDED ON INVOICE.



**BULK MATERIALS DELIVERY
 AND
 TICKET CONTINUATION**

ORIGINAL
 FOR INVOICE AND
 TICKET NO. 866474

DATE 10-24-89	CUSTOMER ORDER NO.	WELL NO. AND FARM Sternberger #4	COUNTY Barber	STATE Ks.
CHARGE TO C.M.X.	OWNER Soma	CONTRACTOR Duke Drig.		No. B 866474
MAILING ADDRESS	DELIVERED FROM Great Bend, Ks.	LOCATION CODE 50320	PREPARED BY D. L. Ramsey	
CITY & STATE	DELIVERED TO Location	TRUCK NO. 4604-8206	RECEIVED BY <i>[Signature]</i>	

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	2	B	Standard Cement	150	sk			5.35	802.50	
507-277	516.00259	2	B	3 Halliburton Gel 2% Add	3	sk			13.00	39.00	
508-291	70.15573	2	B	Gilsonite Blended 8# w/150	1200	lb.			.35	420.00	
508-127	890.50131	2	B	Cal Seal Blended 5# w/150	8	sk			14.60	116.80	
507-210	890.50071	2	B	Floccle Blended 1/2# w/150	75	lb.			1.21	90.75	
<p align="center">ORIGINAL</p> <p align="center" style="font-size: 2em; opacity: 0.5; transform: rotate(-45deg);">THIS IS NOT AN INVOICE</p>											
				Returned Mileage Charge	TOTAL WEIGHT	LOADED MILES	TON MILES				
				SERVICE CHARGE ON MATERIALS RETURNED			CU. FEET				
500-207		2	B	SERVICE CHARGE			CU. FEET	185	.95	175.75	
500-306		2	B	Mileage Charge	164.57 TOTAL WEIGHT	30 LOADED MILES	TON MILES	246.86	.70	172.80	
No. B 866474		CARRY FORWARD TO INVOICE					SUB-TOTAL				1817.60

FORM 1911 - 86 REV. 8-85

CUSTOMER

HALLIBURTON SERVICES
JOB LOG

WELL NO. 4 LEASE Stenberg TICKET NO. 816138
 OPER. CMX, Inc PAGE NO. 1
 JOB TYPE 8 1/2" Surface Pk DATE October 13, 1989

ORIGINAL

FORM 2013 R-2

CHART NO.	TIME	RATE (BPM)	VOLUME (BBL)	PUMPS		PRESSURE (PSI)		DESCRIPTION OF OPERATION AND MATERIALS
				T	C	TUBING	CASING	
	1700							on location by pulling drill pipe
	1730							by running short pipe
	1940							Casing on bottom - cement on top
	1942							hook up tool
	1945							Circulate mud with rig pump
	1955							hook up to pump truck
	1957		0		X	380		Start pulling water
	1959		5		X	380		Finish pulling
	1959		0		X	420		Start mixing cement
	2002		50		X	380		Finish cement
	2008							release plug
	2009		0		X	200		Start displacement
	2013		25		X	400		plug down - circulated ± 12 bbl cement
	2015		25		X	0		Close manifold
								job complete
								Thank You

ORIGINAL

CUSTOMER



TICKET ORIGINAL NO. 816138-4

FORM 1906 R-11

WELL NO. - FARM OR LEASE NAME 4 Stenberg		COUNTY Carter	STATE Kansas	CITY / OFFSHORE LOCATION	DATE October 13, 1987
CHARGE TO L Max Inc		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 Duke Drilling Co. T. #2		LOCATION 1	CODE S-2300
CITY, STATE, ZIP		SHIPPED VIA DOW	FREIGHT CHARGES <input type="checkbox"/> PPD <input type="checkbox"/> COLLECT	LOCATION 2	CODE S-2300
WELL TYPE OIL OIL	WELL CATEGORY OIL Development	WELL PERMIT NO.	DELIVERED TO Location	LOCATION 3	CODE
TYPE AND PURPOSE OF JOB OIL Cement 8 1/2" casing		ORDER NO. B-862452		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 materials. 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 exclusion, in any cause 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 hereby 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		
010-117		1		MILEAGE	2.00				2.00	6.60
011-011		1		Pump Charge	4.00	14	11.14		2.75	4.35
020-003		1		Wood Top Plug	1.00		2 1/2 in		5.80	5.80
40	001 93059	1		8-4 Casedriller	1.00		3 1/2 in		5.30	5.30

THIS IS NOT AN INVOICE ORIGINAL

AS PER ATTACHED BULK MATERIAL DELIVERY TICKET NO. B-862452 1,812.67

WAS JOB SATISFACTORILY COMPLETED?
 WAS OPERATION OF EQUIPMENT SATISFACTORY?
 WAS PERFORMANCE OF PERSONNEL SATISFACTORY?
 CUSTOMER OR HIS AGENT (PLEASE PRINT)
 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.
 HALLIBURTON OPERATOR
 HALLIBURTON APPROVAL
 CUSTOMER

SUB TOTAL
APPLICABLE TAXES WILL BE ADDED ON INVOICE.



HALLIBURTON SERVICES

JOB SUMM. RY

HALLIBURTON DIVISION Wichita, Kansas
HALLIBURTON LOCATION Pratt, Kansas

BILLED ON TICKET NO. 816158

ORIGINAL

WELL DATA

FIELD _____ SEC. 6 TWP. 35 RND. 13W COUNTY Butler STATE Kansas

FORMATION NAME _____ TYPE _____

FORMATION THICKNESS _____ FROM _____ TO _____

INITIAL PROD: OIL _____ SPD. WATER _____ SPD. GAS _____ MCFD

PRESENT PROD: OIL _____ SPD. WATER _____ SPD. GAS _____ MCFD

COMPLETION DATE _____ MUD TYPE _____ MUD WT. _____

PACKER TYPE _____ SET AT _____

BOTTOM HOLE TEMP. _____ PRESSURE _____

MISC. DATA 404' 1 1/2" pipe TOTAL DEPTH 1000'

	NEW USED	WEIGHT	SIZE	FROM	TO	MAXIMUM PSI ALLOWABLE
CASING	N	24 7/8	2 1/2"	K ₁	400'	
LINER						
TUBING						
OPEN HOLE			7 7/8	400'	1000'	SHOTS/FT.
PERFORATIONS						
PERFORATIONS						
PERFORATIONS						

JOB DATA

TOOLS AND ACCESSORIES

TYPE AND SIZE	QTY.	MAKE
FLOAT COLLAR		
FLOAT SHOE		
GUIDE SHOE		
CENTRALIZERS	1	Halliburton
BOTTOM PLUG		
TOP PLUG	1	"
HEAD	1	"
PACKER		
OTHER		

PERSONNEL AND SERVICE UNITS

NAME	UNIT NO. & TYPE	LOCATION
Frank Snyder	35769	Pratt, K
John Williams	35769	Pratt, K
Bill Mowat	35769	Pratt, K

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 _____

DEPARTMENT Cement

DESCRIPTION OF JOB Cement 2 1/2" 1000' pipe

JOB DONE THRU: TUBING CASING ANNULUS B.C. JANN.

CUSTOMER REPRESENTATIVE [Signature]

HALLIBURTON OPERATOR [Signature] COPIES REQUESTED _____

CEMENT DATA

STAGE	NUMBER OF SACKS	TYPE	BRAND	BULK SACKED	ADDITIVES	YIELD CU.FT./SK.	MIXED LBS./GAL.
	20	40/60	Waco	5	2 1/2" pipe, 1000'	1.17	14.1

PRESSURES IN PSI

CIRCULATING _____ DISPLACEMENT _____

BREAKDOWN _____ MAXIMUM _____

AVERAGE _____ FRACTURE GRADIENT _____

SHUT-IN: INSTANT _____ 5-MIN. _____ 15-MIN. _____

ORDERED _____ AVAILABLE _____ USED _____

TREATING _____ DISPL. _____ OVERALL _____

HYDRAULIC HORSEPOWER

CEMENT LEFT IN PIPE

REASON requested

SUMMARY

VOLUMES

FRESHEN: BBL-GAL. _____ TYPE _____

LOAD & SKDN: BBL-GAL. _____ PADI BBL-GAL. _____

TREATMENT: BBL-GAL. _____ DISPL: BBL-GAL. _____

CEMENT SLURRY: BBL-GAL. _____

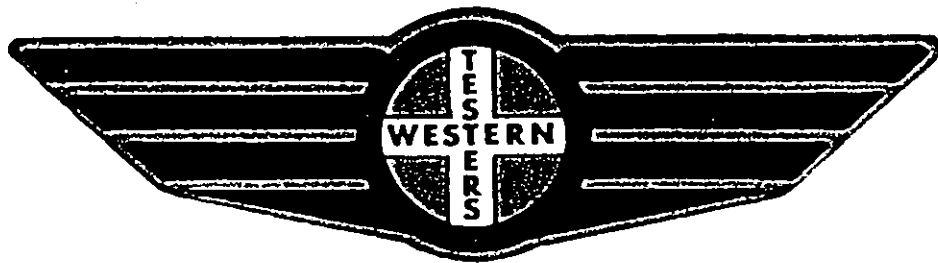
TOTAL VOLUME: BBL-GAL. _____

REMARKS

FORMATION

TEST ORIGINAL

REPORT



Home Office:

Wichita, Kansas 67201

P.O. Box 1599

Phone (316) 262-5861

COMPANY CMX, INC. 15-001-2-2-2
LEASE & WELL NO. STERMBERGER #4 SEC 7 TWP 35S RGE 13W TEST # 1 DATE 10/20/89

WESTERN TESTING CO. INC.
SUBSURFACE PRESSURE SURVEY

DATE : 10/20/89 TICKET : 13919
CUSTOMER : CMX INC. LEASE : STERNBERGER
WELL : #4 TEST: 1 GEOLOGIST : MCGINNESS
ELEVATION : 1588 KB FORMATION : MISSISSIPPI
SECTION : 7 TOWNSHIP : 35S
RANGE : 13W COUNTY : BARBER STATE : KANSAS
GAUGE SN# : 1051 RANGE : 4250 CLOCK : 12

INTERVAL FROM : 4848 TO : 4915 TOTAL DEPTH : 4915
DEPTH OF SELECTIVE ZONE :
PACKER DEPTH : 4843 SIZE : 6.63
PACKER DEPTH : 4848 SIZE : 6.63
PACKER DEPTH : SIZE :
PACKER DEPTH : SIZE :

DRILLING CON. : DUKE DRILLING RIG #2
MUD TYPE : CHEMICAL VISCOSITY : 46
WEIGHT : 9.3 WATER LOSS (CC) : 9.6
CHLORIDES (PPM) : 6100
JARS-MAKE : WTC SERIAL NUMBER : 421
DID WELL FLOW ? : NO REVERSED OUT ? : NO

DRILL COLLAR LENGTH : 0 FT I.D. inch : 0.00
WEIGHT PIPE LENGTH : 288 FT I.D. inch : 2.20
DRILL PIPE LENGTH : 4532 FT I.D. inch : 3.80
TEST TOOL LENGTH : 28 FT TOOL SIZE : 5.50
ANCHOR LENGTH : 67 FT ANCHOR SIZE : 5.50
SURFACE CHOKE SIZE : .75 IN BOTTOM CHOKE SIZE : .75
MAIN HOLE SIZE : 7.875 IN TOOL JOINT SIZE : 4.5 XH

BLOW COMMENT #1 : INITIAL FLOW PERIOD-STRONG BLOW IN 3 MINUTES
BLOW COMMENT #2 : FINAL FLOW PERIOD-STRONG BLOW-NO GAS TO SURFACE
BLOW COMMENT #3 :
BLOW COMMENT #4 :

RECOVERED : 30 FT OF: GAS CUT MUD

Total Barrels Fluid = 0.14
Total Fluid Prod Rate = 2.71 BFPD
Indicated Wtr Rate = 0.03 BWPD

REMARK 1 :
REMARK 2 : 4200 FT GAS ABOVE FLUID
REMARK 3 :
REMARK 4 :

SET PACKER(S) :	7:20 AM	TIME STARTED OFF BOTTOM :	10:20 AM
WELL TEMPERATURE :	123		
INITIAL HYDROSTATIC PRESSURE		(A)	2485
INITIAL FLOW PERIOD MIN:	30	(B)	89 PSI TO (C) : 89
INITIAL CLOSED IN PERIOD MIN:	45	(D)	185
FINAL FLOW PERIOD MIN:	45	(E)	85 PSI TO (F) : 85
FINAL CLOSED IN PERIOD MIN:	63	(G)	292
FINAL HYDROSTATIC PRESSURE		(H)	2410

WESTERN TESTING CO. INC.
WICHITA-KANSAS

Pressure Transient Report

COMPANY : CMX INC.
RIG : BARBER-KANSAS
FIELD : STERNBERGER
WELL : #4
DATE : 10/20/89
GAUGE NO : 1051

OPERATIONAL COMMENTS

4200 FT GAS ABOVE FLUID

COMPANY : CMX INC.
 WELL : #4
 GAUGE # : 1051
 DATE : 20/10/89

FIELD : STERNBERGER
 JOB # : 13919
 DEPTH : 4915
 TEST :

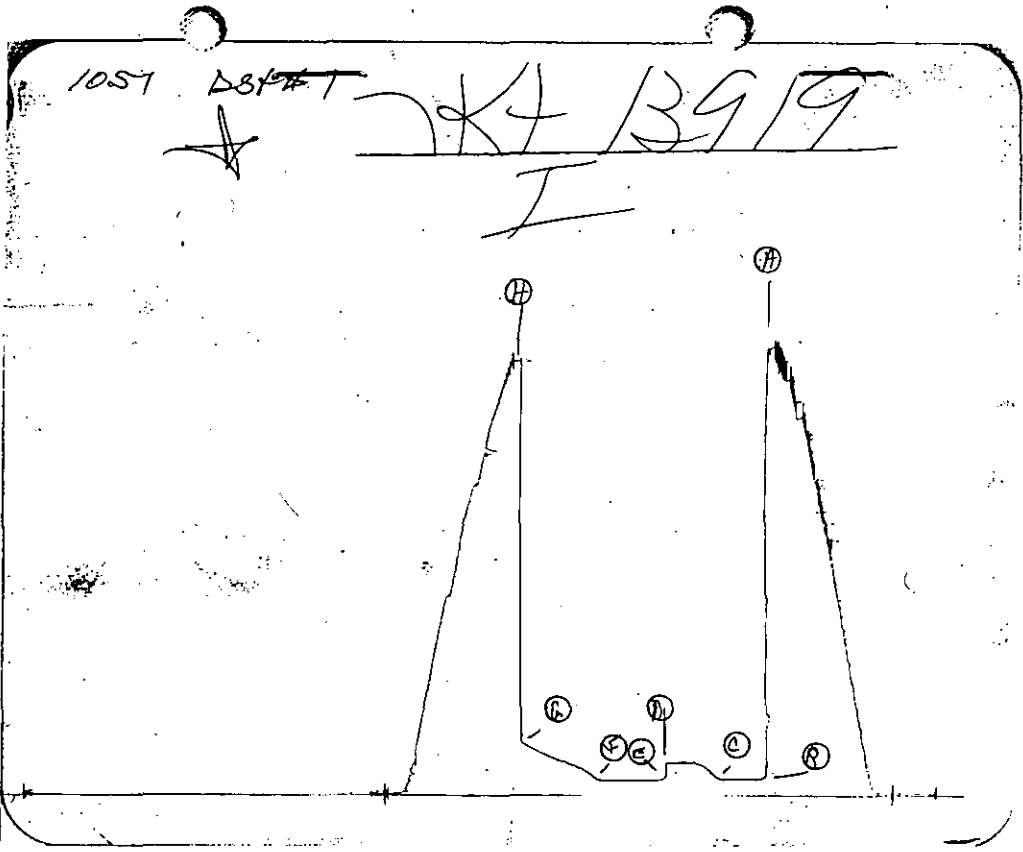
DATA No.	REAL TIME HR:MN:SS	ELAPSE TIME DELTA HOURS	PRESSURE PSIG	TEMP DEG F	DELTA P Pi-P(i-1)
INITIAL FLOW PERIOD					
2	7:20: 0	0.000	89.000	123.00	0.000
3	7:24:59	0.083	89.000	123.00	0.000
4	7:30: 0	0.167	89.000	123.00	0.000
5	7:35: 0	0.250	89.000	123.00	0.000
6	7:39:59	0.333	89.000	123.00	0.000
7	7:45: 0	0.417	89.000	123.00	0.000
8	7:50: 0	0.500	89.000	123.00	0.000
INITIAL SHUT-IN PERIOD					
9	7:53: 0	0.550	89.000	123.00	0.000
10	7:56: 0	0.600	99.000	123.00	10.000
11	7:59: 0	0.650	120.000	123.00	21.000
12	8: 2: 0	0.700	140.000	123.00	20.000
13	8: 5: 0	0.750	155.000	123.00	15.000
14	8: 8: 0	0.800	168.000	123.00	13.000
15	8:11: 0	0.850	174.000	123.00	6.000
16	8:14: 0	0.900	183.000	123.00	9.000
17	8:17: 0	0.950	185.000	123.00	2.000
18	8:20: 0	1.000	185.000	123.00	0.000
19	8:23: 0	1.050	185.000	123.00	0.000
20	8:26: 0	1.100	185.000	123.00	0.000
21	8:29: 0	1.150	185.000	123.00	0.000
22	8:32: 0	1.200	185.000	123.00	0.000
23	8:35: 0	1.250	185.000	123.00	0.000
FINAL FLOW PERIOD					
24	8:36: 0	1.267	85.000	123.00	-100.000
25	8:39:59	1.333	85.000	123.00	0.000
26	8:45: 0	1.417	85.000	123.00	0.000
27	8:50: 0	1.500	85.000	123.00	0.000
28	8:54:59	1.583	85.000	123.00	0.000
29	9: 0: 0	1.667	85.000	123.00	0.000
30	9: 5: 0	1.750	85.000	123.00	0.000
31	9: 9:59	1.833	85.000	123.00	0.000
32	9:15: 0	1.917	85.000	123.00	0.000
33	9:20: 0	2.000	85.000	123.00	0.000
FINAL SHUT-IN PERIOD					
34	9:23: 0	2.050	86.000	123.00	1.000
35	9:26: 0	2.100	90.000	123.00	4.000
36	9:29: 0	2.150	107.000	123.00	17.000
37	9:32: 0	2.200	124.000	123.00	17.000
38	9:35: 0	2.250	137.000	123.00	13.000
39	9:38: 0	2.300	151.000	123.00	14.000
40	9:41: 0	2.350	156.000	123.00	5.000
41	9:44: 0	2.400	167.000	123.00	11.000
42	9:47: 0	2.450	172.000	123.00	5.000
43	9:50: 0	2.500	186.000	123.00	14.000
44	9:53: 0	2.550	188.000	123.00	2.000
45	9:56: 0	2.600	198.000	123.00	10.000
46	9:59: 0	2.650	208.000	123.00	10.000
47	10: 2: 0	2.700	214.000	123.00	6.000
48	10: 5: 0	2.750	223.000	123.00	9.000

COMPANY : CMX INC.
WELL : #4
GAUGE # : 1051
DATE : 20/10/89

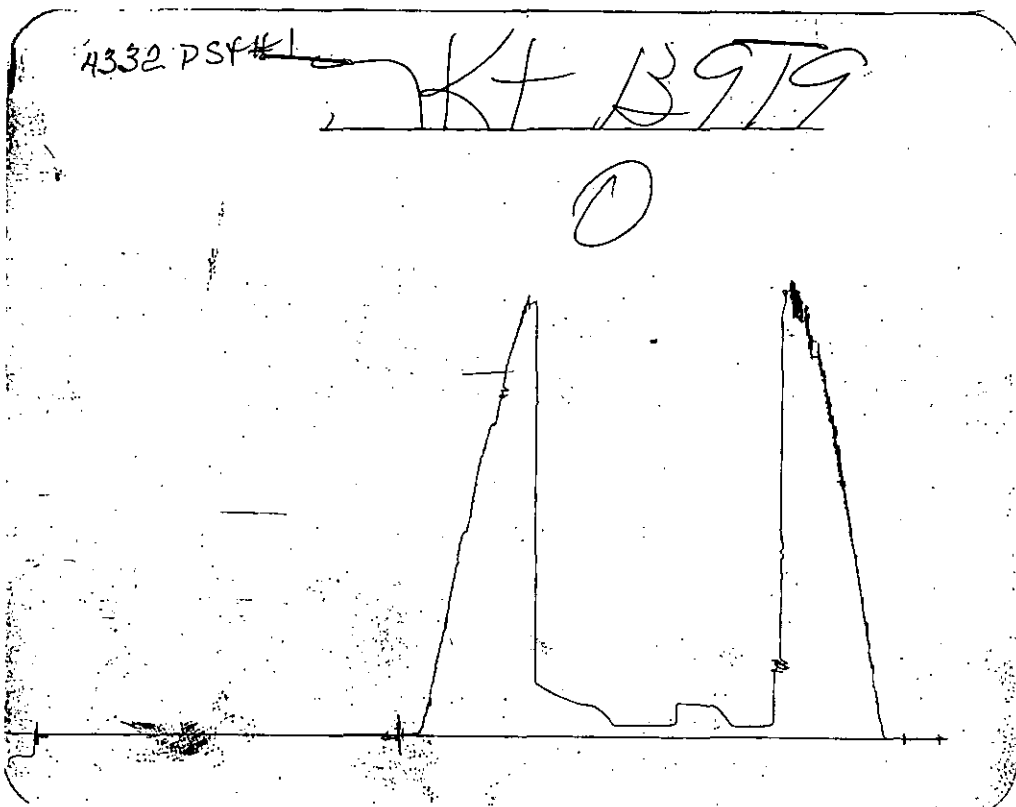
FIELD : STERNBERGER
JOB # : 13919
DEPTH : 4915
TEST :

DATA No.	REAL TIME HR:MN:SS	ELAPSE TIME DELTA HOURS	PRESSURE PSIG	TEMP DEG F	DELTA P Pi-P(i-1)
49	10: 8: 0	2.800	234.000	123.00	11.000
50	10:11: 0	2.850	244.000	123.00	10.000
51	10:14: 0	2.900	258.000	123.00	14.000
52	10:17: 0	2.950	268.000	123.00	10.000
53	10:20: 0	3.000	279.000	123.00	11.000
54	10:23: 0	3.050	292.000	123.00	13.000

WESTERN TESTING CO. INC.



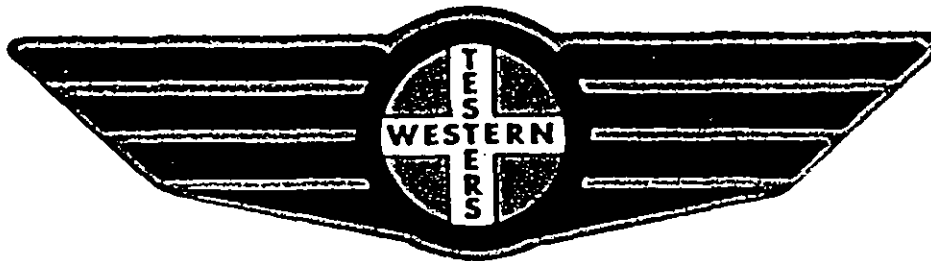
Inside Recorder



Outside Recorder

FORMATION TEST REPORT

ORIGINAL



Home Office:

Wichita, Kansas 67201

P.O. Box 1599

Phone (316) 262-5861

COMPANY CMX, INC. 15-001-10001
LEASE & WELL NO. STERNBERGER #4 SEC 7 TWP 35S RGE 13W TEST # 2 DATE 10/20/89

WESTERN TESTING CO. INC.
SUBSURFACE PRESSURE SURVEY

DATE : 10/20/89 TICKET : 13920
CUSTOMER : CMX INC. LEASE : STERNBERGER
WELL : #4 TEST: 2 GEOLOGIST : MCGINNES
ELEVATION : 1588 KB FORMATION : MISSISSIPPI
SECTION : 7 TOWNSHIP : 35S
RANGE : 13W COUNTY : BARBER STATE : KANSAS
GAUGE SN# : 1051 RANGE : 4250 CLOCK : 12

INTERVAL FROM : 4915 TO : 4955 TOTAL DEPTH : 4955
DEPTH OF SELECTIVE ZONE :
PACKER DEPTH : 4910 SIZE : 6.63
PACKER DEPTH : 4915 SIZE : 6.63
PACKER DEPTH : SIZE :
PACKER DEPTH : SIZE :

DRILLING CON. : DUKE DRILLING RIG #2
MUD TYPE : CHEMICAL VISCOSITY : 43
WEIGHT : 9.3 WATER LOSS (CC) : 11.2
CHLORIDES (PPM) : 4100
JARS-MAKE : WTC SERIAL NUMBER : 421
DID WELL FLOW ? : NO REVERSED OUT ? : NO

DRILL COLLAR LENGTH : 0 FT I.D. inch : 0.00
WEIGHT PIPE LENGTH : 288 FT I.D. inch : 2.50
DRILL PIPE LENGTH : 4599 FT I.D. inch : 3.80
TEST TOOL LENGTH : 28 FT TOOL SIZE : 5.50
ANCHOR LENGTH : 40 FT ANCHOR SIZE : 5.50
SURFACE CHOKE SIZE : .75 IN BOTTOM CHOKE SIZE : .75
MAIN HOLE SIZE : 7.875 IN TOOL JOINT SIZE : 4.5 XH

BLOW COMMENT #1 : INITIAL FLOW PERIOD-STRONG BLOW IN 3 MINUTES
BLOW COMMENT #2 : FINAL FLOW PERIOD-NO GAS TO SURFACE
BLOW COMMENT #3 :
BLOW COMMENT #4 :

RECOVERED : 240 FT OF: GAS & OIL CUT MUD 10% GAS 40% OIL
RECOVERED : 0 FT OF: 50% MUD

Total Barrels Fluid = 1.46
Total Fluid Prod Rate = 27.97 BFPD
Indicated Oil Rate = 11.19 BOPD
Indicated Wtr Rate = 0.28 BWPD
Corrected Oil Rate = 20.84 BOPD
Corrected Wtr Rate = 0.52 BWPD

REMARK 1 :
REMARK 2 : 70 FT GAS ABOVE FLUID
REMARK 3 :
REMARK 4 :

SET PACKER(S) : 10:05 PM TIME STARTED OFF BOTTOM : 1:05 AM
WELL TEMPERATURE : 125
INITIAL HYDROSTATIC PRESSURE (A) 2514
INITIAL FLOW PERIOD MIN: 30 (B) 80 PSI TO (C) : 84
INITIAL CLOSED IN PERIOD MIN: 48 (D) 1712
FINAL FLOW PERIOD MIN: 45 (E) 147 PSI TO (F) : 147
FINAL CLOSED IN PERIOD MIN: 60 (G) 1732
FINAL HYDROSTATIC PRESSURE (H) 2480

WESTERN TESTING CO. INC.
WICHITA-KANSAS

Pressure Transient Report

COMPANY : CMX INC.
RIG : BARBER-KANSAS
FIELD : STERNBERGER
WELL : #4
DATE : 10/20/89
GAUGE NO : 1051

OPERATIONAL COMMENTS

70 FT GAS ABOVE FLUID

COMPANY : CMX INC.
 WELL : #4
 GAUGE # : 1051
 DATE : 20/10/89

FIELD : STERNBERGER
 JOB # : 13920
 DEPTH : 4955
 TEST :

DATA No.	REAL TIME HR:MN:SS	ELAPSE TIME DELTA HOURS	PRESSURE PSIG	TEMP DEG F	DELTA P Pi-P(i-1)
INITIAL FLOW PERIOD					
2	10: 5: 0	0.000	80.000	125.00	0.000
3	10: 9:59	0.083	80.000	125.00	0.000
4	10:15: 0	0.167	80.000	125.00	0.000
5	10:20: 0	0.250	80.000	125.00	0.000
6	10:24:59	0.333	81.000	125.00	1.000
7	10:30: 0	0.417	82.000	125.00	1.000
8	10:35: 0	0.500	84.000	125.00	2.000
INITIAL SHUT-IN PERIOD					
9	10:38: 0	0.550	108.000	125.00	24.000
10	10:41: 0	0.600	194.000	125.00	86.000
11	10:44: 0	0.650	297.000	125.00	103.000
12	10:47: 0	0.700	397.000	125.00	100.000
13	10:50: 0	0.750	541.000	125.00	144.000
14	10:53: 0	0.800	692.000	125.00	151.000
15	10:56: 0	0.850	863.000	125.00	171.000
16	10:59: 0	0.900	1068.000	125.00	205.000
17	11: 2: 0	0.950	1280.000	125.00	212.000
18	11: 5: 0	1.000	1454.000	125.00	174.000
19	11: 8: 0	1.050	1560.000	125.00	106.000
20	11:11: 0	1.100	1628.000	125.00	68.000
21	11:14: 0	1.150	1657.000	125.00	29.000
22	11:17: 0	1.200	1680.000	125.00	23.000
23	11:20: 0	1.250	1698.000	125.00	18.000
24	11:23: 0	1.300	1712.000	125.00	14.000
FINAL FLOW PERIOD					
25	11:24: 0	1.317	147.000	125.00	-1565.000
26	11:27:59	1.383	147.000	125.00	0.000
27	11:33: 0	1.467	147.000	125.00	0.000
28	11:38: 0	1.550	147.000	125.00	0.000
29	11:42:59	1.633	147.000	125.00	0.000
30	11:48: 0	1.717	147.000	125.00	0.000
31	11:53: 0	1.800	147.000	125.00	0.000
32	11:57:59	1.883	147.000	125.00	0.000
33	12: 3: 0	1.967	147.000	125.00	0.000
34	12: 8: 0	2.050	147.000	125.00	0.000
FINAL SHUT-IN PERIOD					
35	12:11: 0	2.100	171.000	125.00	24.000
36	12:13:59	2.150	241.000	125.00	70.000
37	12:17: 0	2.200	310.000	125.00	69.000
38	12:20: 0	2.250	402.000	125.00	92.000
39	12:23: 0	2.300	525.000	125.00	123.000
40	12:26: 0	2.350	717.000	125.00	192.000
41	12:28:59	2.400	953.000	125.00	236.000
42	12:32: 0	2.450	1174.000	125.00	221.000
43	12:35: 0	2.500	1457.000	125.00	283.000
44	12:38: 0	2.550	1526.000	125.00	69.000
45	12:41: 0	2.600	1599.000	125.00	73.000
46	12:44: 0	2.650	1641.000	125.00	42.000
47	12:46:59	2.700	1665.000	125.00	24.000
48	12:50: 0	2.750	1682.000	125.00	17.000

COMPANY : CMX INC.
WELL : #4
GAUGE # : 1051
DATE : 20/10/89

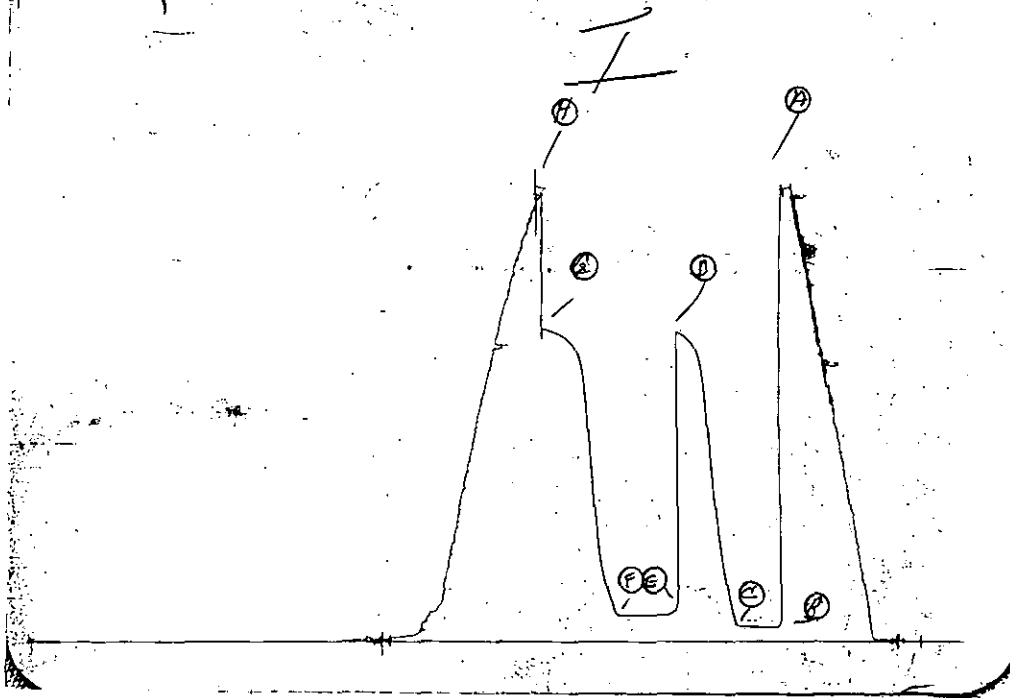
FIELD : STERNBERGER
JOB # : 13920
DEPTH : 4955
TEST :

DATA No.	REAL TIME HR:MN:SS	ELAPSE TIME DELTA HOURS	PRESSURE PSIG	TEMP DEG F	DELTA P Pi-P(i-1)
49	12:53: 0	2.800	1695.000	125.00	13.000
50	12:56: 0	2.850	1708.000	125.00	13.000
51	12:59: 0	2.900	1717.000	125.00	9.000
52	13: 1:59	2.950	1721.000	125.00	4.000
53	13: 5: 0	3.000	1727.000	125.00	6.000
54	13: 8: 0	3.050	1732.000	125.00	5.000

WESTERN TESTING CO. INC.

1057 DST#2

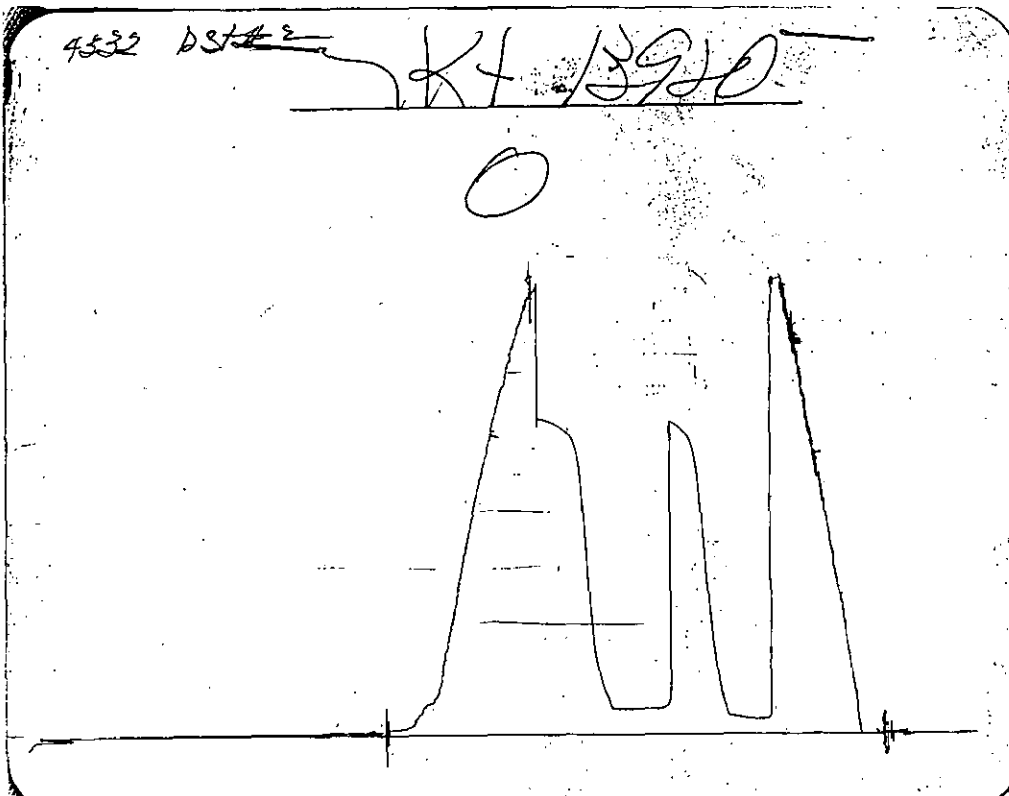
KT 13920



Inside Recorder

4332 DST#2

KT 13920



Outside Recorder