

Unruh #2

ORIGINAL

SIDE ONE

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

API NO. 15- 185-22,736-0000

County Stafford County, KS.

N/2 SE NW Sec. 4 Twp. 22S Rge. 14  East West

1815 Ft. North from Southeast Corner of Section

4290 Ft. West from Southeast Corner of Section

(NOTE: Locate well in section plat below.)

Lease Name Unruh Well # 2

Field Name Radium Township

Producing Formation Arbuckle

Elevation: Ground 1942 KB 1947

Total Depth 3950 PBSD

Operator: License # 9705

Name: M.A.H.

Address 114 E Ave North

City/State/Zip Lynn KS 67554

Purchaser:

Operator Contact Person: Kerry Davison

Phone (316) 257-5111

Contractor: Name: Woodman & Lannitti Drilling Co.

License: 5122

Wellsite Geologist: Don DeBoer

Designate Type of Completion

- New Well  Re-Entry  Workover
- Oil  SWD  Temp. Abd.
- Gas  Inj  Delayed Comp.
- Dry  Other (Core, Water Supply, etc.)

If CMO: old well info as follows:

Operator:

Well Name:

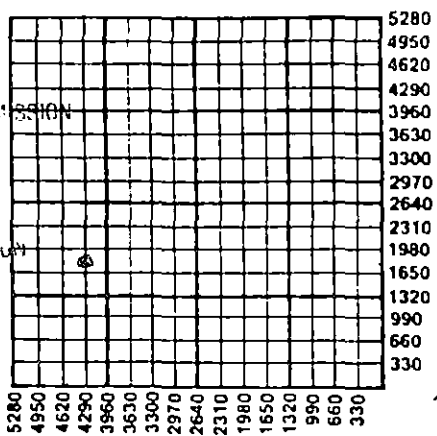
Comp. Date            Old Total Depth           

Drilling Method:

- Mud Rotary  Air Rotary  Cable

Spud Date 11/19/90 Date Reached TD 11/26/90 Completion Date 1/9/91

RECEIVED  
JUL 23 1991  
STATE CORPORATION COMMISSION



Amount of Surface Pipe Set and Cemented at 453 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 7-19-91

Subscribed and sworn to before me this 22 day of July, 1991.

Notary Public **MICHELLE TAYLOR**  
NOTARY PUBLIC  
STATE OF KANSAS  
My App. Exp. 2/2/95

Michelle Taylor

**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)

**SIDE TWO**

Operator Name MAHI Lease Name Unruh Well # 2  
 Sec. 4 Twp. 22S Rge. 14  East  West  
 County Stafford, KS

**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.)

FORMATION DESCRIPTION		
FORMATION TOPS	LOG	SAMPLES
Anhydrite	860. (+1087)	866. (+1081)
Base/Anhydrite	884. (+1063)	887. (+1060)
Heekner	3322. (-1375)	3323. (-1376)
Toronto	3348. (-1401)	3350. (-1403)
Douglas	3364. (-1417)	3363. (-1416)
Brown Lime	3444. (-1497)	3442. (-1495)
Lansing	3454. (-1507)	3454. (-1507)
Base/KC	3682. (-1735)	3682. (-1735)
Viola	3749. (-1801)	3748. (-1801)
Simpson	3787. (-1840)	3786. (-1839)
Arbuckle	3834. (-1887)	3834. (-1887)

**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 1/4	8 5/8	20	453 ft	Standard/Poz A	287	2% Gel / An. Chlor
Production	7 7/8	5 1/2 in	14	3950	40/60 Poz	100	Salt/Gilsonite

Shots Per Foot	PERFORATION RECORD Specify Footage of Each Interval Perforated	Acid, Fracture, Shot, Cement Squeeze Record (Amount and Kind of Material Used)	Depth
	3862-66		
	3848 1/2 - 541 1/2	squeezed	
	3836-44		
	reperf. 3836-40 + 3841-43		

**TUBING RECORD** Size 2 7/8 Set At None Packer At None Liner Run  Yes  No

Date of First Production 1/17/91 Producing Method  Flowing  Pumping  Gas Lift  Other (Explain)  
 Estimated Production Per 24 Hours: Oil 30 BOPD Bbls. Gas 0 Mcf Water 0 Bbls. Gas-Oil Ratio 31 Gravity 31

Disposition of Gas:  Vented  Sold  Used on Lease (If vented, submit ACO-18.)  
 METHOD OF COMPLETION:  Open Hole  Perforation  Dually Completed  Commingled  
 Other (Specify) \_\_\_\_\_

## J.C. MUSGROVE

Certified Petroleum Geologist #1627

P.O. Box 1162

Great Bend, Kansas 67530

Office (316) 792-7716

Res. (316) 793-9152

COMPLETION REPORTMid-American Hydrocarbon  
UNRUH #2Section 4-22S-14W  
Stafford County, Kansas12-8-90

Run H.L.S. acoustic cement bond, collar log.

12-12-90

Level location and road into Unruh #2.

12-13-90

Move in Kizzar double drum unit. Swab hole down and test dry. Perforate by H.L.S. 3862-3866 feet (ARB.), with "side-winder" jets, 2 shots per foot, (36 gram/shot). Good show oil on gun. Run swab in 15 minutes, 800 foot fill-up. Ran swab into fluid 250 feet. All oil. Shut in for night.

12-14-90

3050 feet fluid in hole, 750 feet oil, 2300 feet water. Swab two (2) hours at 10 barrels oil per hour. Did not pull swab long enough to recover water. Rig up H.L.S. Run drillable bridge, to set at 3858 1/2 feet. Plug hanging up in casing (scale), could not go below 3820 feet or pull higher than 3795 feet. Set plug at 3799 1/2 feet.

12-17-90

Dump 40 barrels water in hole with 5 1/2" wire line drill. Knock and drive plug to bottom. Run H.L.S. gauge ring to bottom. Casing I.D. is okay. T.D. is 3897 feet. Perforate (Arbuckle) 3848 1/2 - 3854 1/2 with "side-winder" jets (36 gram), 2 shots per foot. Set drillable plug at 3858 1/2 feet. Run swab, fluid at 1600 feet. Shut in for night.

12-18-90

Fluid 850 feet from surface, 900 feet oil on top fluid. Test at rate of 10 barrels per hour 50% oil. Fluid fill-up and swab test, indicates either plug is leaking or zones at (3862-3866) and (3348 1/2-3854 1/2) feet are communicated. Rig up H.L.S. perforate (Arbuckle) 3836-3844 feet. Set drillable bridge plug at 3846 feet. Shut in for night.

12-19-90

Fluid 850 feet from surface. 850 feet oil on top fluid. Swab down and test. One (1) barrel oil per hour, 100% oil.

12-20-90

Rig up for tubing and run 131 joints 2 7/8" E.U.E. tubing, (1) 15' x 2 7/8" perforated mud anchor, and (1) 2 7/8" x 1' seating nipple. Tubing set 6 feet off bottom. Hydro-Test to 5000 pounds. Hook up Halliburton, spot 300 gallons 15% D.S.Fe. acid, over perforations. Stop and go rate to 500 pounds. Finish treatment at injection rate of 1/2 barrel per minute at 150 pounds. I.S.I.P. 0 pounds, vacuum in 1 minute.

RECEIVED  
STATE CORPORATION COMMISSION

JUL 23 1991

CONSERVATION DIVISION  
Wichita, Kansas

Mid-American Hydrocarbon  
UNRUH #2  
Section 4-22S-14W  
Stafford County, Kansas

Page Two

12-21 through 12-25-90

Shut down due to weather and Christmas.

12-26-90

Fluid at 500 feet. Swab down and test. Swab 5 hours at 14 barrels fluid per hour, 8% oil. Zones are communicated. Pull 2 7/8" tubing and prepare to squeeze perforations.

12-27-90

Shut down, could not get "wire line drill", to knock out plug.

12-28-90

Pick up Elder Fishing Tools "wire line drill". Re-set rope socket. Dump 40 barrels Arbuckle water down 5 1/2" casing, in hole with drill at 10:50 a.m. Fluid at 300 feet. Drill and push plug to total depth of 3853 feet. Rig up for tubing and run 2 7/8" E.U.E., 8 rd. tubing, 5 1/2" Halliburton R.T.T.S. packer in hole. Haul 80 barrels Arbuckle water to swab tank.

12-31-90

Set R.T.T.S. packer at 3798 feet. Pack off tubing head. Hook up Halliburton and squeeze well with 50 sacks common cement with 1% Halad-9, and 25 sacks common cement. Stage cement to 2500 pounds, approximately 40 sacks cement into channel. Release pressure, no flow back. Pull 7 joints 2 7/8" tubing. Busted hydraulic hose. Re-set packer and pressure up to 500 pounds, shut in.

1-1-91

New Years Day.

1-2-91

Repair Hydraulic hose. Pull 2 7/8" tubing and R.T.T.S. out of hole. Run 2 7/8" E.U.E. tubing and 4 7/8" rock bit. Start drilling cement at 3:15 p.m. Drill medium firm to hard cement to 3854 feet. Circulate hole clean. Rig down and move out Allen Drilling power swivel.

1-3-91

Pull 2 7/8" E.U.E. tubing and 4 7/8" rock bit out of hole. Swab hole to 2250 feet. Rig up H.L.S. and re-perforate (w/side-winder jets) Arbuckle 3836-3840 feet. Swab hole down. No fluid.

1-4-91

Run swab, no fluid in hole. Rig up H.L.S. perforate 3841-3843 feet with "side-winder" jets (36 gram), 4 shots per foot. Good show oil on gun. Run swab, recover very slight show oil and mud. Hook up Halliburton and treat Arbuckle perforations with 300 gallons D.S.Fe. acid (15%). Stop and go rate to 750 pounds. Treating at 1/4 barrel per minute at 750 pounds, 1 barrel over flush at 725 pounds. I.S.I.P. 675 pounds, vacuum in 10 minutes, shut in for one hour.

Mid-American Hydrocarbon  
UNRUH #2  
Section 4-22S-14W  
Stafford County, Kansas

Page Three

Load to recover is 102 barrels. Swab hole down to 3400 feet. Load back, test 1st 30 minutes at 4 1/2 barrels oil, 2nd 30 minutes at 7 1/2 barrels oil (100%), 450 feet off bottom. Recover load, plus 12 barrels.

1-7-91

2650 feet fluid in hole, 50 feet acid water and 2600 feet oil. Rig up and run (1) 15' perforated mud anchor, (1) 2 7/8" x 1' seating nipple, and 131 joints 2 7/8" E.U.E. tubing, (2) 2 7/8" x 10' tubing subs. Tubing set 4 feet off bottom. Run (1) 2 1/2" x 2" x 12' B.H.D. pump, with 6 foot gas anchor, (1) 3/4" x 2' sub, (151) 3/4" x 25" sucker rods, (1) 3/4" x 10', (1) 8' x 3/4", and (1) 3/4" x 4' rod subs, and (1) 1 1/4 x 16' polish rod with liner. Clamp well off. Tear down Double Drum unit.

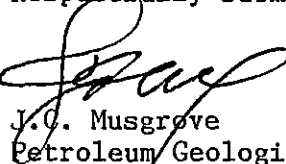
1-8-91

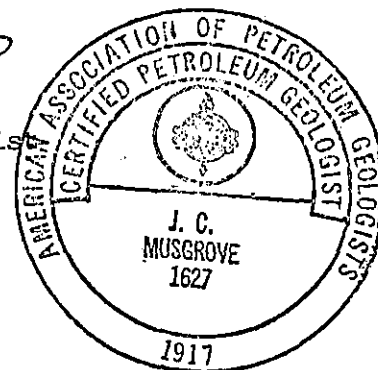
Move Double Drum unit to Unruh #1 to test for tubing leak. Start setting surface equipment on Unruh #2. Ditcher broke down while digging ditch for electric line.

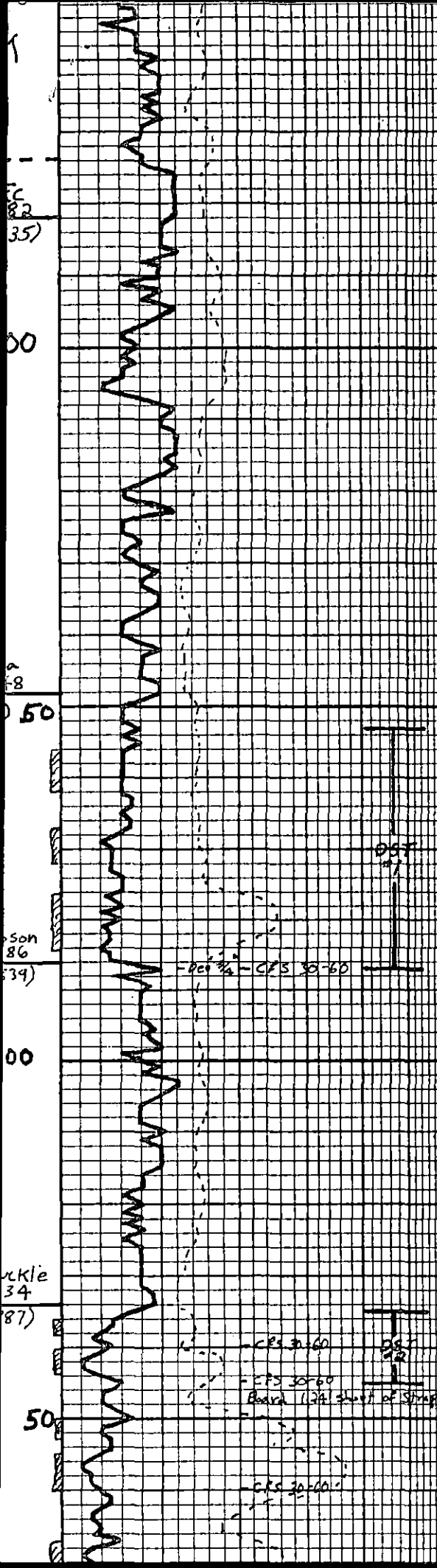
1-9-91

Finish setting 120 Happy pumping unit on sanded grade. Finish well head connections, lead line (2 1/2 P.V.C.) and electric lines. Hook up and wait on pumpers.

Respectfully submitted,

  
J.C. Musgrove  
Petroleum Geologist





LS. sil. occ. red. chd.  
p - or intxl p.

LS. sil. occ. chd. p intxl p.  
N.S.

LS. lty. med. mixl.  
occ. chd. occ. red. p intxl p.  
occ. p intxl p. N.S.

SH. gysen - mss.  
occ. red. silty.

LS. lty. - crm. med. mixl.  
occ. chd. p intxl p.  
N.S.

**DST #1 3753-87 VIOLA**  
30-30-30-30

1st Open: wk blow died in 12 min.  
2nd Open: No blow

Rec - 5' mud

Pressures: IH: 1876#  
IFP: 43-29#/30  
ISIP: 29#/30  
FFP: 29-25#/30  
FSIP: 29#/30  
FH: 1855#  
BHT: 106°

LS. lty. occ. crm. m-wind. mixl.  
occ. chd. occ. chd. p intxl p.  
N.S.

LS. sil. p intxl p. N.S.

SH. gysen - mss.

SH. gysen - mss. occ. red - brn.  
occ. silty. chd.

LS. lty. med. mixl.  
p intxl p. Occ. chd.

SH. gysen - mss. occ. red brn.

SH. gysen - mss. occ. red brn.  
occ. chd. silty.

LS. chl. wh. m-wind. p intxl p.  
occ. sp. p. in cut about 200 ft  
m. sil. klt. d. klt. sil. dull. yel.  
flor. G. n. k. gel. strong. cuts. U.P.S. P.O.  
No odor

chd. ls. sil. occ. red. poss.  
Fract. p. about 1/4" - d. klt. sil.  
U.P.S. P.O. dull. yel. flor. - No Flor.  
Good white gel. strong - milky d. p  
cuts. No odor

chd. klt. sil. p. p. p. occ. fract. p.  
about 1/4" - d. klt. sil. some sat.  
dull. m. yel. flor. weak strong -  
d. p. cuts. No odor. U.S.I.  
Show F.O.

11/24/90  
**DST #2 3835-45 Arbuckle**  
30-60-30-60

1st Open: Bottom of bucket in 12 min.  
2nd Open: Bottom of bucket in 18 min.

Rec - 300' GIP. 300' alg oil.  
20' HOBGM. (Grav. 33°)

Pressures:  
IH: 1905#  
IFP: 50-58#/30  
ISIP: 1051#/60  
FFP: 79-115#/30  
FSIP: 1036#/60  
FH: 1891#  
BHT: 109°

Vis 43  
wt. 9.2  
WL 10.4

SH. gysen - dky. red - red brn.  
occ. silty. occ. wh. chd. w/  
wh. sil. sil.

SH. sil. occ. dky. occ.  
carb. silty.

SH. gysen. red brn. shaly  
occ. wh. brn. ss clusters. some  
occ. klt. - d. klt.

SH. sil. red brn. silty.  
shaly chd.

SH. gysen. gum. occ. red - red brn.  
occ. wh. sil. ss clusters. carb.  
shaly. occ. chd. var. colored.  
Less red sh. than above

11/25/90

Dol. crm - lty. occ. tan. m-wind.  
f-m xl. suc. occ. chd. fr-g.  
intxl p. occ. red. occ. silty. fr-g.  
Dol. E.S.P.O. Sp. lly. then sil. Good  
yel. strong - d. p. cuts. D. klt. yel. Flor.  
Dol. sil. suc. mixl. fr-g. intxl  
p. G. odor. G.S.P.O. Sp. lly. - sat. sil.  
Good yel. strong. cuts. some d. p. cuts.  
Good white gel. Flor. occ. sil. clusters  
U.S.P.O.

Dol. crm - lty. m-wind. f-m xl. suc.  
chd. fr-g. intxl p. fr. odor. E-S.P.O.  
Sp. lly. - sat. sil. for a yellow strong - d. p.  
cuts. some white yel. Flor.

SH. gysen - mss. occ. red brn.  
shaly. occ. silty.

Dol. sil. f. intxl p. occ. red. p.  
E.S.P.O. fr. odor. sat. silty.

Vis 44  
wt. 9.2  
WL 5.6