

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- 193-20,490A-0001

County Thomas

N/2 No Se Sec. 26 Twp. 9 Rge. 32 X East West

2310' Ft. North from Southeast Corner of Section

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

Lease Name Howard Trust Well # I-6 1-26  
KCC RT

Field Name un-named

Producing Formation LKC

Elevation: Ground 3041 KB 3049

Total Depth 4501 PBD 4438'

Operator: License # 30075

Name: Shamrock Resources Inc.

Address 100 N. Main #802

City/State/Zip Wichita, Ks. 67202

Purchaser: KOCH

Operator Contact Person: Patrick J. Deenihan

Phone (316) 262-7106

Contractor: Name: Mallard J.V. Inc.

License: 4958

Wellsite Geologist: Kevin L. Howard

Designate Type of Completion  
 New Well  Re-Entry  Workover

Oil  SMD  Temp. Abd. CONSERVATION DIVISION  
 Gas  Inj  Delayed Comp. Wichita, Kansas  
 Dry  Other (Core, Water Supply, etc.)

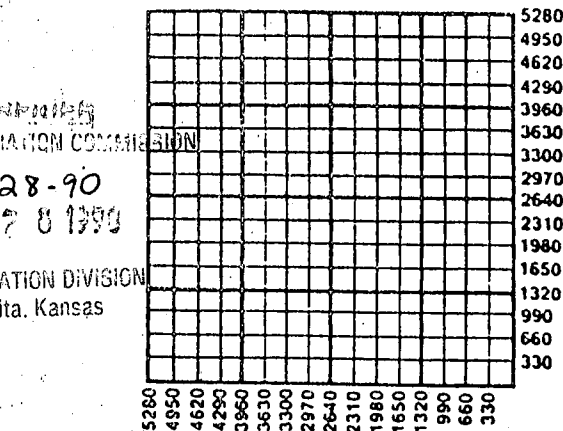
If OWMO: old well info as follows:  
Operator: Raymond Oil Company Inc.

Well Name: Howard Trust #1

Comp. Date 12-2-89 Old Total Depth 4699

Drilling Method:  
 Mud Rotary  Air Rotary  Cable

9-2-90 9-6-90 10-31-90  
Spud Date Date Reached TD Completion Date



Amount of Surface Pipe Set and Cemented at 260' Feet

Multiple Stage Cementing Collar Used?  Yes  No

If yes, show depth set 2645' Feet

If Alternate II completion, cement circulated from 2100 Casing parted  
see completion report.  
feet depth to 726 w/ 2100 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 Patrick J. Deenihan

Title President Date 11-20-90

Subscribed and sworn to before me this 20<sup>th</sup> day of November, 1990.

Notary Public Michelle E. Caldwell

Date Commission Expires March 8, 1993

MICHELLE E. CALDWELL  
NOTARY PUBLIC  
STATE OF KANSAS  
My Appl. Exp. 3-8-93

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

Operator Name Shamrock Resources Inc. Lease Name Howard Trust Well # 1-6  
 Sec. 26 Twp. 9 Rge. 32  East County Thomas Co. Ks.  
 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 (Attach Additional Sheets.) <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Samples Sent to Geological Survey <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Cores Taken <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Electric Log Run (Submit Copy.) <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<table border="1" style="width:100%; border-collapse: collapse;"> <thead> <tr> <th colspan="3">Formation Description</th> </tr> <tr> <th></th> <th style="text-align: center;"><input checked="" type="checkbox"/> Log</th> <th style="text-align: center;"><input type="checkbox"/> Sample</th> </tr> <tr> <th style="text-align: left;">Name</th> <th style="text-align: center;">Top</th> <th style="text-align: center;">Bottom</th> </tr> </thead> <tbody> <tr> <td>Anhy.</td> <td style="text-align: center;">2617</td> <td style="text-align: center;">2647</td> </tr> <tr> <td>Lansing</td> <td style="text-align: center;">4064</td> <td></td> </tr> <tr> <td>Cherokee Sh.</td> <td style="text-align: center;">4560</td> <td></td> </tr> <tr> <td>Miss.</td> <td style="text-align: center;">4640</td> <td></td> </tr> </tbody> </table>	Formation Description				<input checked="" type="checkbox"/> Log	<input type="checkbox"/> Sample	Name	Top	Bottom	Anhy.	2617	2647	Lansing	4064		Cherokee Sh.	4560		Miss.	4640	
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**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		260'	?	?	?
Production	7 7/8	4 1/2	10.5	4438	EA-2	310	3Zcc, 4/10Z H322

Shots Per Foot	Specify Footage of Each Interval Perforated	Acid, Fracture, Shot, Cement Squeeze Record (Amount and Kind of Material Used)	Depth
3/foot	4322-4330	300 gal of 15% MCA	
	4322-4330	1000 Gal of 15% NE.	
3/ft	4254-4260	300 gal of 15% MGA	

**TUBING RECORD** Size 2 3/8 Set At 4293.12 Packer At NA Liner Run  Yes  No BP at 4315

Date of First Production 11-5-90 Producing Method  Flowing  Pumping  Gas Lift  Other (Explain)

Estimated Production Per. 24 Hours	Oil Bbls.	Gas Mcf	Water Bbls.	Gas-Oil Ratio	Gravity
	90	noe	80		39

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 \_\_\_\_\_

James R. Line

PETROLEUM AND NATURAL GAS CONSULTANT

PHONES:

Office: 913-483-4092  
Home: 913-483-4780  
Mobil: 913-483-5206

29 OBER  
RUSSELL, KANSAS 67665

Shamrock Resources, Inc.  
Howard Trust # 1  
Sec 26-9-23w  
Thomas County, Kansas

9-8-90 Information on the well as follows:

Howard Trust # 1 was drilled and plugged as a dry hole without running a long casing string. The well was reentered by Shamrock Resources, Inc. and cleaned out to 4,699'. 4 1/2" 10.5 #/ft st&c, limited service casing was set at 4,438'. A stage collar was at 2,645', insert float at 4,407', and wall scratchers used for rotating the casing during cementing. While rotating the casing with 15 barrels of cement in the casing, the slips turned loose allowing the casing to drop 2'. The casing was reset and the cementing finished with 110 sacks of EA-2 cement. Pump pressure declined from 500 psig to 150 psig after resuming cementing. Flushed cement with 81 barrels of water which was 11 barrels over casing capacity to the insert float. Lost circulation at the surface with 50 barrels of water displacement in the casing. Had 200 psig on the casing at end of the job and it would back flow. Shut-in casing. The casing was picked up in the elevators with 16,000-18,000 # weight and then reset. From this data, there is a good possibility that the casing is parted.

Rigged up Log-Tech with a portable mast and ran a collar locator to 1,388' and hit a bridge. Ran a gamma ray-collar log tool ( 3 1/8" diameter ) to 1,987' and hit a soft bottom. Ran a gamma ray-collar log-bond-tool ( 3 1/2" diameter ) to 1,987' and hit a soft bottom. Logged to surface and found an apparent separation in the 4 1/2" casing at 1,388'-1,390', good bonded cement from 726'-1,190', and the fluid level in the casing at 418' from the surface. The rest of the casing was in good shape.

9-13-90 Drove to Hays to pick up a junk basket at Log-Tech. Talked with Halliburton Services about a tool to align the two parted pieces of casing and keep them aligned during cementing. Will have the tool fabricated at New Age in Norton, Kansas. Had General Roustabout truck load 89 joints ( 2,536' ) of 2 3/8" tubing at Midwestern Pipe Works and 71 joints at the Kingry # 1, and haul the tubing to the Howard Trust # 1.

9-17-90 Moved in and rigged up Cheyenne Well Service unit to the south of the well. Moved in swab tank and filled it with 100 barrels of salt water. Rigged up Log Tech and ran a Baker junk basket ( 3.80" O.D. ) to 1,338'. Stuck junk basket, but worked it loose. Could not get deeper than 1,388'. Ran a casing gun ( 3 3/8" + O.D. ) and went through parted casing at 1,388'. Ran a Bolt cast iron bridge plug ( 3 1/2" O.D. ) on Log Tech line and set plug at 1,930'. Ran Halliburton EZ Drill retainer with a 12' aluminum alignment tool ( 3.80" O.D. ) on 2" tubing. Correlated depth setting with Log Tech 1 11/16" gamma ray tool. Set retainer at 1,382' and alignment

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tool from 1,383'-1,395'. Pressured casing above the retainer from surface to 1,382' to 300 psig. Pressure bled off slowly. Might have a collar leak. Pumped down tubing at 2 BPM at 200 psig. Had no blow from the casing annulus. Mixed 150 sacks of Halliburton Lite cement with  $\frac{1}{2}$  # of Flocele per sack followed by 50 sacks of common cement, 3 % calcium chloride and 4/10 % H-322. Displaced cement in stages for 1  $\frac{1}{3}$  hours with total of 5 barrels of flush water. Held 125 psig. Pulled out of retainer and laid down 3 joints of tubing. Circulated casing and tubing clean. Pulled tubing and setting tool.

9-18-90 Shut-down to allow cement to strengthen. Moved in Cheyenne swivel and pump and filled tank with water.

9-19-90 Ran a 3  $\frac{7}{8}$ " Walker tricone bit on 49 joints of 2" tubing. Tagged bottom at 1,381' by tubing measurement. Circulated 1' of soft cement to pit and drilled up Halliburton retainer in 4 hours to 1,383'. Drilled 13' of cement and alignment tool to 1,396' in 5 hours and ran bit to 1,576'. Circulated casing clean. Pulled bit to 1,548' and shut-in.

9-20-90 Pulled 3  $\frac{7}{8}$ " bit and 55 joints of tubing to check bit. Bearings were loose. Ran a 3  $\frac{7}{8}$ " Varel tricone bit on 2" tubing. Tagged bottom at 1,928' by tubing measurement. Circulated clean and drilled on bridge plug at 1,930' for 1  $\frac{1}{2}$  hours. Bridge plug fell free. Pushed bridge plug to 1,973' and had a tight spot in casing. Bit plugging using reverse circulation. Switched circulation down the tubing. Pushed plug to 1,987' and drilled for 2 hours. Not making any progress. Bit bouncing on bottom. Getting a few pieces of metal in return circulation. Reciprocated tubing on bottom but bottom is solid. Pulled bit and left 2 cones in hole.

9-21-90 Ordered fishing tools from Homco in Plainville. Met Homco in Hays and loaded an impression block, magnet, flat bottom mill, and cross-over subs. Ran 3  $\frac{1}{2}$ " Magnet on sand line to 1,987'. Made 10 runs and picked up pieces of metal, mostly fine cuttings. Could not recover bit cones. Checked depth at 1,993' with a depthometer. Shut down. Drove to Plainville to discuss situation with Homco and Leon's Cable Tool. No cable tool units were loose until later in the week. Decided to try to mill the cones up with a flat bottom mill on Monday.

9-24-90 Ran a 3  $\frac{7}{8}$ " flat bottom mill on 2" tubing to 1,987'. Rigged up Homco swivel and pump. Milled 4 hours and made 3' from 1,987'-1,990'. Recovered pieces of cast iron from the bridge plug, pieces of steel from the bit cones, and pieces of rubber. Circulating down the tubing. Mill fell free in the casing at 1,990'. Getting large chunks of rubber just before mill fell through. Ran to 2,003' and circulated casing clean. Ran mill to 4,406', and hit total depth. Insert float is at 4,407'. Pulled mill and tubing. Talked with Log Tech and Halliburton Services.

9-25-90 Rigged up Log Tech and ran gamma ray-collar log from 4,000'-4,409'. Correlated to the gamma ray on the open hole log. Perforated two 3/8" jet holes at 4,400'. Mud from behind the casing stuck the gun. Worked but could not free gun. Pulled perforating line free at the rope socket.

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Called Homco for overshot to fish gun. Ran 3 1/8" overshot with a 3 7/8" skirt and a bumper sub to catch the collar locator on top of the gun. Could not get through casing part at 1,388'. Pulled overshot. Also could feel several casing joints which were probably over torqued. Reran 2" tubing with 1 7/16" overshot with a 3 3/4" skirt to catch the rope socket on top of the gun. Caught fish and pulled tubing wet. Had mud in tubing from 1,400' -bottom. Ran perforating gun and it started floating in heavy mud at 4,200'. Shot two 3/8" jet holes at 4,140'.

9-26-90 Ran 3 7/8" tricone bit on tubing to 4,406'. Circulated down tubing to clean out drilling mud. Waited 20 minutes and reverse circulated down casing. No mud in returns. Pulled tubing and bit. Ran Halliburton EV-SV retainer on 2" tubing and set at 4,385'. Pumped down tubing into perforations at 4,400' at 1 1/2 BPM at 1,000 psig. No circulation to the surface. Switched to casing and pumped at 1 BPM at 350 psig into perforations at 4,140' and had full circulation to surface. Switched back to tubing and pumped at 1 1/2 BPM at 550 psig. Had good circulation to surface. Mixed 75 sacks of common cement with 1 % calcium chloride and 2/10 % Halad 322. Started losing circulation 5 minutes after the start of mixing cement and had sporadic circulation after that. Flushed cement into perforations at 4,400' at 1/2 BPM. Pressure increased to 850 psig and slowly declined to 400 psig. Pulled out of the retainer at 4,385' and reverse circulated casing clean of cement. Had 1 sack of cement in tubing but no sign of cement in the casing at 4,140'. Pulled tubing.

9-27-90 Rigged up Log Tech to check cement placement behind the casing. Found fluid level in the casing at 600' from the surface and the retainer at 4,384'. Ran a cement bond log from 3,620'-4,380'. Had fair cement bonding. Ran upper bond log from 1,150'-2,250' to check cement where the 4 1/2" casing was parted at 1,388'-1,390'. Had excellent cement bond log from 1,258'-1,448' and scattered bonding down to 2,194'. Shut-down to allow cement to strengthen. 

10-2-90 Checked bottom cement from 3,620'-4,380' and had no change in bond log. Fluid level at 900' from the surface. Log Tech perforated the 'L' zone of the Kansas City formation from 4,322'-4,330' with 3 jets per foot ( 23 gram charges ). Ran 2" tubing with RTTS packer and PPI adapter to 4,330'. Circulated down tubing and spotted 300 gallons of 15 % MCA on perforations 4,322'-4,330'. Had no drilling mud in the casing. Pulled packer to 4,294' and set packer. Pressured acid to 700 psig in stages for 15 minutes and started into perforations. Treated as follows:

150 gal acid	700-400 psig	1/2 - 1/2 BPM
150 gal acid	500-475 psig	1 BPM
300 gal acid		

Instant shut-in pressure was 300 psig and pressure declined to 0 psig in 12 minutes. Total load to recover is 25 barrels. Ran tubing swab. Swabbed down and recovered 15.51 barrels of flush water. No show of oil. Tested as follows:

1 hour 1.06 barrels of water, ~~no oil show~~, 2 swab runs

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Total recovery since acid treatment is 16.57 barrels. Dropped dart and RFC valve down tubing to actuate PPI tool. Retreated perforations 4,322'-4,330' with 1,000 gallons of 15 % non emulsion acid using 125 gallons per foot as follows:

Interval	Gallons	Break	Rate	Average	Shut-in
4,329-30'	125	1,700 psi	1 BPM	1,300-1,000 psi	600 psi
4,328-29	"	1,350 psi	"	1,000-1,025 psi	600 psi
4,327-28'	"	1,200 psi	"	875-1,000 psi	550 psi
4,326-27'	"	1,325 psi	"	1,000 psi	650 psi
4,325-26'	"	1,350 psi	"	1,080 psi	600 psi
4,324-25'	"	1,300 psi	"	1,125 psi	700 psi
4,323-24'	"	1,350 psi	"	1,175-1,150 psi	650 psi
4,322-23'	"	1,375 psi	"	1,100 psi	650 psi
	1,000 gal				

Total load to recover is 42 barrels. Swabbed tubing down and recovered 15.86 barrels of load water. Tested as follows:

1 hour 3.88 barrels water, no show oil 2 swab runs

Total recovery since acid treatment is 19.74 barrels.

10-3-90 Fluid level in the tubing at 2,800' from the surface. Swabbed tubing down and recovered 3.87 barrels of water with no show of oil. Total recovery is 23.62 barrels. Pulled tubing and packer. Crimped 3 joints of tbg. with the hydraulic tongs. Log Tech set a Bolt bridge plug at 4,315'. Fluid level in the casing at 1,300' from the surface. Perforated the 'J' zone of the Kansas City formation from 4,254'-4,260' with 3 jets per foot ( 23 gram charges ). Reran 2" tubing with packer to 4,265'. Circulated down tubing and spotted acid on perforations 4,254'-4,260'. Set packer at 4,240' and treated perforations with 300 gallons of 15 % MCA acid as follows:

300 gal acid 0 psig 1 BPM

Had casing valve open during treatment and had no blow from it. Total load to recover is 25 barrels. Ran tubing swab and swab stopped at 1,115'. Pulled tubing and checked the inside diameter of it with a gauge ring. Found 16 joints more with crimps that would stop the swab. Replaced 19 bad tubing with spare tubing on location. Reran tubing and packer. Tagged bridge plug at 4,315' and picked up to 4,223' to set packer. Fluid level in casing at 2,350' from surface. Have 20 barrels of water out of casing annulus to recover now. Total load 45 barrels. Swabbed tubing for 1 hour as follows:

1 hour 27.49 bbls 2 1/2 % oil fl at 2,950' down

10-4-90 Fluid level in the tubing at 2,650' from the surface. Made 1 swab run from seating nipple and recovered 5.28 barrels of water with 15 gallons of oil on top. Tested as follows:

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Wichita, Kansas

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ORIGINAL

1 hour	17.61 barrels	18 % oil	fl 3,100' down
1 hour	11.28 barrels	20 % oil	fl 3,150' down

Total recovery since acid retreatment is 62 barrels. Still getting some mud out of formation. Gear box on Cheyenne Well Service pulling unit had bearing failure. Shut-down.

10-5-90 Cheyenne Well Service took gear box to Pampa, Texas for repair work.

10-6-90 Shut Down

10-7-90 Found Fluid at 2,600' from surface, swab down-Rec. 5.28 BF 33% Oil.

1st Hr.	11.28 Barrels	24% Oil	3100'	Down to fluid
2nd Hr.	15.51 Barrels	30% Oil	3200'	Down to fluid
3rd Hr.	13.75 Barrels	29% Oil	3250'	Down to fluid

Ran mud anchor & tubing- Shut down

10-8-90 Shut down

10-9-90 Shut down

10-10-90 Shut down

10-11-90 Building tank battery & pumping unit pad

10-12-90 moving saltwater tank to lease

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Wichita, Kansas

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HALLIBURTON SERVICES

# JOB SUMMARY

HALLIBURTON DIVISION Oklahoma City  
HALLIBURTON LOCATION Oberlin, Ks

15-193-20190-0000  
BILLED ON 904230-3  
TICKET NO.

WELL DATA  
SEC. 26 TWP. 9s RNG. 32w COUNTY Thomas STATE Ks

FORMATION NAME \_\_\_\_\_ TYPE \_\_\_\_\_  
FORMATION THICKNESS \_\_\_\_\_ FROM \_\_\_\_\_ TO \_\_\_\_\_  
INITIAL PROD: OIL \_\_\_\_\_ BPD. WATER \_\_\_\_\_ BPD. GAS \_\_\_\_\_ MCFD \_\_\_\_\_  
PRESENT PROD: OIL \_\_\_\_\_ BPD. WATER \_\_\_\_\_ BPD. GAS \_\_\_\_\_ MCFD \_\_\_\_\_  
COMPLETION DATE \_\_\_\_\_ MUD TYPE \_\_\_\_\_ MUD WT. \_\_\_\_\_  
PACKER TYPE E2 Drill @ 1382' CIBP SET AT 1930  
BOTTOM HOLE TEMP \_\_\_\_\_ PRESSURE \_\_\_\_\_  
MISC. DATA 7 1/8" Hole TOTAL DEPTH \_\_\_\_\_

	NEW USED	WEIGHT	SIZE	FROM	TO	MAXIMUM PSI ALLOWABLE
CASING	U		4 1/2"	K8		
LINER						
TUBING	U	47	2 3/8"	K0	1382'	
OPEN HOLE						SHOTS/FT.
PERFORATIONS						
PERFORATIONS						
PERFORATIONS						

### JOB DATA

TOOLS AND ACCESSORIES

TYPE AND SIZE	QTY.	MAKE
FLOAT COLLAR		
FLOAT SHOE		
GUIDE SHOE		
CENTRALIZERS		
BOTTOM PLUG		
E2 Drill Setting Tool	1 ea	Howo
HEAD Stripper 4 1/2"	"	"
PACKER E2 Drill 4 1/2"	"	"
OTHER Alignment Tool 4 1/2"	"	"

PERSONNEL AND SERVICE UNITS

NAME	UNIT NO. & TYPE	LOCATION
S. Doka	3665 of Tool P.U.	Oberlin Ks
J. Alstrom	2571 Rcm HT-400	"
K. Hegg	4718 Bulk	"
T.O. Garrison	Field Sup	"

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

STATE OF KANSAS  
NOV 28 1990  
CONSERVATION DIVISION  
WICHITA, KANSAS  
DEPARTMENT  
DESCRIPTION OF JOB  
Run 4 1/2" E2 Drill / Alignment Tool  
Squeeze Separation in Casing  
JOB DONE THRU: TUBING  CASING  ANNULUS  TBG/ANN.   
CUSTOMER REPRESENTATIVE  
HALLIBURTON OPERATOR  
COPIES REQUESTED

### CEMENT DATA

STAGE	NUMBER OF SACKS	CEMENT	BRAND	BULK SACKED	ADDITIVES	YIELD CU.FT/SK	MIXED LBS/GAL
1	150	M/C	Std. P2	B	1/4 lb Flocele	1.84	12.7
	50	Reg	Std	B	3% CC - 4% H-322	1.18	15.6

### PRESSURES IN PSI

### SUMMARY

### VOLUMES

CIRCULATING \_\_\_\_\_ DISPLACEMENT Res out  
BREAKDOWN \_\_\_\_\_ MAXIMUM \_\_\_\_\_  
AVERAGE \_\_\_\_\_ FRACTURE GRADIENT \_\_\_\_\_  
SHUT-IN: INSTANT \_\_\_\_\_ 5-MIN. \_\_\_\_\_ 15-MIN. \_\_\_\_\_  
HYDRAULIC HORSEPOWER \_\_\_\_\_  
ORDERED \_\_\_\_\_ AVAILABLE \_\_\_\_\_ USED \_\_\_\_\_  
AVERAGE RATES IN BPM \_\_\_\_\_  
TREATING \_\_\_\_\_ DISPL \_\_\_\_\_ CEMENT LEFT IN PIPE \_\_\_\_\_  
FEET \_\_\_\_\_ REASON \_\_\_\_\_  
LOAD & BKDN \_\_\_\_\_ TUBING \_\_\_\_\_  
TREATMENT: BBL-GAL \_\_\_\_\_  
CEMENT SLURRY \_\_\_\_\_  
TOTAL VOLUME \_\_\_\_\_  
REMARKS  
See Job log & Chart  
Thank You Scott, Kent, Jerry & Terry

CUSTOMER Shamrock Resources Inc. LEASE Howard Trust  
JOB NO. 15-193-20190-0000  
JOB TYPE Tool-Squeeze  
DATE 9/17/90



START NO.	TIME	RATE (BPM)	VOLUME (BBL) (GAL)	PUMPS		PRESSURE (PSI)		DESCRIPTION OF OPERATION AND MATERIALS
				T	C	TUBING	CASING	
	1100							On loc, Make up Setting Tool, Make Dummy Runs. Make up 4 1/2" E2-Drill 4 1/2" Alignment Tool - Start Tbg / Tools in hole
	1200							Tools @ 1344-14 - Corrodate Tools with hogging Trk Strip over head, Run 1 3/4" Tbg + 4' Sub,
	1300							Set E2-Drill - MR = 1382'
	1326		3 1/4 H <sub>2</sub> O			300		head Ann. 300 lb. Slow back
		2				300		Press up - Slow back
			6 1/2 H <sub>2</sub> O					Take any Rate - Tbg - Ann. Open
	1340	2				300		Shut Down - No Blow on Ann
								Start 150 sts Hhc - 50 sts Std. Ann. Open
		2 1/2	14 Cmt			600		Press + Rate
		1 1/2	30 Cmt			600		" " "
		13/4	57 Cmt			200		" " "
	1420		59 1/2 Cmt					Fin Cmt - Shut Down - Wash out Pump thines
	1422					Vac		Open Displ. Tank - Tbg on Vac
	1424	1/2	1 1/2 H <sub>2</sub> O			50		St Displ - Took 1 1/2 on Vac
	1428		3 H <sub>2</sub> O			300		Shut Down - Slow Bleed off - Close in Tbg Wash up Trk
	1440	1/4				800		St Displ. - Press Brake off
			4 H <sub>2</sub> O			400		Shut Down - Slow Bleed off
	1455	1/4				75		St Displ.
			4 1/4 H <sub>2</sub> O					Shut Down - Slow Bleed off
	1512	1/4				75		St Displ.
			4 3/4 H <sub>2</sub> O			125		Shut Down - Slow Bleed off
	1540		5 H <sub>2</sub> O			125		Press up - Pull out of Tool - Pull 3 3/4" Tbg
	1550	1/4				100		Rev. out
	1606		20 H <sub>2</sub> O					Shut Down - Pull Tbg / Setting Tool Tbg / Tool out - Job Complete
								Thank You
								Scott, Terry, Jerry + Kent

NOV 28 1990

**WORK ORDER CONTRACT  
 AND PRE-TREATMENT DATA**

ATTACH TO INVOICE & TICKET NO. 904231

DISTRICT Oberlin, Ks DATE 9-11-90

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

WELL NO. #1 LEASE Howard Trust SEC. 26 TWP. 9S RANGE 32W  
 FIELD \_\_\_\_\_ COUNTY Thomas STATE Ks OWNED BY Shamrock Resources Inc

**THE FOLLOWING INFORMATION WAS FURNISHED BY THE CUSTOMER OR HIS AGENT**

FORMATION NAME \_\_\_\_\_ TYPE \_\_\_\_\_  
 FORMATION THICKNESS \_\_\_\_\_ FROM \_\_\_\_\_ TO \_\_\_\_\_  
 PACKER: TYPE E2 Drill 1382', CIBP SET AT 1930'  
 TOTAL DEPTH \_\_\_\_\_ MUD WEIGHT \_\_\_\_\_  
 BORE HOLE 7 7/8"  
 INITIAL PROD: OIL \_\_\_\_\_ BPD, H<sub>2</sub>O \_\_\_\_\_ BPD, GAS \_\_\_\_\_ MCF  
 PRESENT PROD: OIL \_\_\_\_\_ BPD, H<sub>2</sub>O \_\_\_\_\_ BPD, GAS \_\_\_\_\_ MCF

	NEW USED	WEIGHT	SIZE	FROM	TO	MAX. ALLOW. P.S.I.
CASING	u		4 1/2"	KB		
LINER						
TUBING	u	4.7	2 3/8"	KB	1382'	
OPEN HOLE						SHOTS/FT.
PERFORATIONS						
PERFORATIONS						
PERFORATIONS						

PREVIOUS TREATMENT: DATE \_\_\_\_\_ TYPE \_\_\_\_\_ MATERIALS \_\_\_\_\_

TREATMENT INSTRUCTIONS: TREAT THRU TUBING  ANNULUS  CASING  TUBING/ANNULUS  HYDRAULIC HORSEPOWER ORDERED  
Squeeze Separation in Casing thru E2-Drill 1 1/2" 150 sts  
HLC 1/4 lb Flocc, 50 sts Std. 3/8 CC - 4% H-322  
as directed

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

THIS CONTRACT MUST BE SIGNED BEFORE WORK IS COMMENCED

- As consideration, the above-named Customer agrees:
- (a) To pay Halliburton in accord with the rates and terms stated in Halliburton's current price lists;
  - (b) Halliburton shall not be responsible for and Customer shall secure Halliburton against any liability for damage to property of Customer and of the well owner (if different from Customer), unless caused by the willful misconduct or gross negligence of Halliburton, this provision applying to but not limited to subsurface damage and surface damage arising from subsurface damage.
  - (c) Customer shall be responsible for and secure Halliburton against any liability for reservoir loss or damage, or property damage resulting from subsurface pressure, losing control of the well and/or a well blowout, unless such loss or damage is caused by the willful misconduct or gross negligence of Halliburton.
  - (d) Customer shall be responsible for and secure Halliburton against any and all liability of whatsoever nature for damages as a result of subsurface trespass, or an action in the nature thereof, arising from a service operation performed by Halliburton hereunder.
  - (e) Customer shall be responsible for and secure Halliburton against any liability for injury to or death of persons, other than employees of Halliburton, or damage to property (including, but not limited to, injury to the well), or any damages whatsoever, irrespective of cause, growing out of or in any way connected with the use of radioactive material in the well hole, unless such damage shall be caused by the willful misconduct or gross negligence of Halliburton.
  - (f) Halliburton makes no guarantee of the effectiveness of the products, supplies or materials, nor of the results of any treatment or service.
  - (g) Customer shall, at its risk and expense, attempt to recover any Halliburton equipment, tools or instruments which are lost in the well and if such equipment, tools or instruments are not recovered, Customer shall pay Halliburton its replacement cost unless such loss is due to the sole negligence of Halliburton. If Halliburton equipment, tools or instruments are damaged in the well, Customer shall pay Halliburton the lesser of its replacement cost or the cost of repairs unless such damage is caused by the sole negligence of Halliburton. In the case of equipment, tools or instruments for marine operations, Customer shall, in addition to the foregoing, be fully responsible for loss of or damage to any of Halliburton's equipment, tools or instruments which occurs at any time after delivery to Customer at the landing until returned to the landing, unless such loss or damage is caused by the sole negligence of Halliburton.
  - (h) Because of the uncertainty of variable well conditions and the necessity of relying on facts and supporting services furnished by others, Halliburton is unable to guarantee the accuracy of any chart interpretation, research analysis, job recommendation or other data furnished by Halliburton. Halliburton personnel will use their best efforts in gathering such information and their best judgment in interpreting it, but Customer agrees that Halliburton shall not be responsible for any damages arising from the use of such information except where due to Halliburton's gross negligence or willful misconduct in the preparation or furnishing of it.
  - (i) Halliburton warrants only title to the products, supplies and materials and that the same are free from defects in workmanship and materials. THERE ARE NO WARRANTIES, EXPRESS OR IMPLIED, OF MERCHANTABILITY, FITNESS OR OTHERWISE WHICH EXTEND BEYOND THOSE STATED IN THE IMMEDIATELY PRECEDING SENTENCE. Halliburton's liability and Customer's exclusive remedy in any cause of action (whether in contract, tort, breach of warranty or otherwise) arising out of the sale or use of any products, supplies or materials in 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.
  - (j) 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.
  - (k) This contract shall be governed by the law of the state where services are performed or equipment or materials are furnished.
  - (l) Halliburton shall not be bound by any changes or modifications in this contract, except where such change or modification is made in writing by a duly authorized executive officer of Halliburton.

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

SIGNED \_\_\_\_\_ CUSTOMER  
 DATE 9/11/90

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

CUSTOMER

TIME \_\_\_\_\_ A.M. P.M. NOV. 28 1990

# WORK ORDER CONTRACT AND PRE-TREATMENT DATA

ATTACH TO INVOICE & TICKET NO. 904237

DATE 9/25/90

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

WELL NO. 1 LEASE Howard Trust SEC. 26 TWP. 9S RANGE 33W  
FIELD \_\_\_\_\_ COUNTY Thomas STATE Ks OWNED BY Shamrock Resources

**THE FOLLOWING INFORMATION WAS FURNISHED BY THE CUSTOMER OR HIS AGENT**

FORMATION NAME	TYPE	NEW USED	WEIGHT	SIZE	FROM	TO	MAX. ALLOW. P.S.I.
FORMATION THICKNESS	FROM TO						
PACKER: TYPE <u>E2-Sv</u>	SET AT <u>4385'</u>						
TOTAL DEPTH <u>4406' P8TD</u>	MUD WEIGHT						
BORE HOLE <u>7 7/8"</u>							
INITIAL PROD: OIL _____ BPD, H <sub>2</sub> O _____ BPD, GAS _____ MCF							
PRESENT PROD: OIL _____ BPD, H <sub>2</sub> O _____ BPD, GAS _____ MCF							
CASING				<u>4 1/2"</u>	<u>KB</u>	<u>4406</u>	<u>P8TD</u>
LINER							
TUBING		<u>U</u>	<u>4.7</u>	<u>2 3/8"</u>	<u>KB</u>	<u>4385'</u>	
OPEN HOLE							<u>2 SHOTS/FT.</u>
PERFORATIONS					<u>4140</u>		
PERFORATIONS					<u>4140</u>		
PERFORATIONS							

PREVIOUS TREATMENT: DATE \_\_\_\_\_ TYPE \_\_\_\_\_ MATERIALS \_\_\_\_\_

TREATMENT INSTRUCTIONS: TREAT THRU TUBING  ANNULUS  CASING  TUBING/ANNULUS  HYDRAULIC HORSEPOWER ORDERED

Run 4 1/2" E2-Sv packer, Squeeze Packs as directed

STATE OF KANSAS  
SEAL OF THE STATE COMMISSION

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

THIS CONTRACT MUST BE SIGNED BEFORE WORK IS COMMENCED  
CONSERVATION DIVISION  
Wichita, Kansas

- As consideration, the above-named Customer agrees:
- (a) To pay Halliburton in accord with the rates and terms stated in Halliburton's current price lists.
  - (b) Halliburton shall not be responsible for and Customer shall secure Halliburton against any liability for damage to property of Customer and of the well owner (if different from Customer), unless caused by the willful misconduct or gross negligence of Halliburton, this provision applying to but not limited to subsurface damage and surface damage arising from subsurface damage.
  - (c) Customer shall be responsible for and secure Halliburton against any liability for reservoir loss or damage, or property damage resulting from subsurface pressure, losing control of the well and/or well blowout, unless such loss or damage is caused by the willful misconduct or gross negligence of Halliburton.
  - (d) Customer shall be responsible for and secure Halliburton against any and all liability of whatsoever nature for damages as a result of subsurface trespass, or an action in the nature thereof, arising from a service operation performed by Halliburton hereunder.
  - (e) Customer shall be responsible for and secure Halliburton against any liability for injury to or death of persons, other than employees of Halliburton, or damage to property (including, but not limited to injury to the well), or any damages whatsoever, irrespective of cause, growing out of or in any way connected with the use of radioactive material in the well hole, unless such damage shall be caused by the willful misconduct or gross negligence of Halliburton.
  - (f) Halliburton makes no guarantee of the effectiveness of the products, supplies or materials, nor of the results of any treatment or service.
  - (g) Customer shall, at its risk and expense, attempt to recover any Halliburton equipment, tools or instruments which are lost in the well and if such equipment, tools or instruments are not recovered, Customer shall pay Halliburton its replacement cost unless such loss is due to the sole negligence of Halliburton. If Halliburton equipment, tools or instruments are damaged in the well, Customer shall pay Halliburton the lesser of its replacement cost or the cost of repairs unless such damage is caused by the sole negligence of Halliburton. In the case of equipment, tools or instruments for marine operation, Customer shall, in addition to the foregoing, be fully responsible for loss of or damage to any of Halliburton's equipment, tools or instruments which occurs at any time after delivery to Customer and until returned to the landing, unless such loss or damage is caused by the sole negligence of Halliburton.
  - (h) Because of the uncertainty of variable well conditions and the necessity of relying on facts and supporting services furnished by others, Halliburton is unable to guarantee the accuracy of any interpretation, research analysis, job recommendation or other data furnished by Halliburton. Halliburton personnel will use their best efforts in gathering such information and their best judgment in interpreting it, but Customer agrees that Halliburton shall not be responsible for any damages arising from the use of such information except where due to Halliburton's gross negligence or willful misconduct in the preparation or furnishing of it.
  - (i) 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, MERCHANTABILITY, FITNESS OR OTHERWISE WHICH EXTEND BEYOND THOSE STATED IN THE IMMEDIATELY PRECEDING SENTENCE. Halliburton's liability and Customer's exclusive remedy in any cause of action (whether in contract, tort, breach of warranty or otherwise) arising out of the sale or use of any products, supplies or materials is expressly limited to the replacement of such products, supplies or materials 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.
  - (j) 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 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 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.
  - (k) This contract shall be governed by the law of the state where services are performed or equipment or materials are furnished.
  - (l) Halliburton shall not be bound by any changes or modifications in this contract, except where such change or modification is made in writing by a duly authorized executive officer of Halliburton.

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

SIGNED \_\_\_\_\_ CUSTOMER  
DATE 9/25/90 8:00 P.M.  
TIME 8:00 A.M. P.M.

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

CUSTOMER

START NO.	TIME	RATE (BPM)	VOLUME (BBL) (GAL)	PUMPS		PRESSURE (PSI)		DESCRIPTION OF OPERATION AND MATERIALS
				T	C	TUBING	CASING	
	0850							On hoc, Perforator in hole, Set up Eq
	0920							Perf Gun stuck in hole - Pulled wire line off gun - wait for run Fishing Tool + retrieve gun
	1000							Perf Gun out - Released for Day 9/26/90
	0830							On hoc. Reg Crew running Tbg/Bit
	0912	2 1/2				750	-	Circulate Tbg down to 4400' Circ Hole Clean
	1010	-	73 1/2			-	-	Shut Down
	1030	2 1/2				-	400	St Circ - Short Way
	1041	-	27 1/2			-	-	Shut Down - Hole Staying Clean
	1050							Start out with Tag/Bit
	1220							Tag/Bit out
	1250							Make up Setting Tool - Make Jimmy run - Make up + Start Ez-Sr Petr
	1425							Set Ec-Su @ 4385' - Hot up to Tbg
	1445	1				900		St Form. H2O - Ann Blowing
	1450	"	5 1/2			"		No Blow on Ann
	1502	-	16 1/2			250		Shut Down
	1502	1					350	Pump down Ann.
	1505	"	2 1/2				"	Circ out Tbg
	1508		5 1/2			-	-	Shut Down
	1509	1 1/4				400		Pump down Tbg
	1510	"	1 1/2			"		Circ out Ann
	1513	"	4 1/2			"		Start Fresh H2O Spacer
	1517	"	5 Frac	H2O		"		Host Circ
	1517	"	6 Frac	H2O		"		St 75 sls Std Cut H2O - 2 H322
	1528	1 1/2	16 - Cut			50		Fin. Cut - St Diepl
		1 1/4	9 1/2 - H2O			400		Slow Rate
		1/2	9 1/2 - H2O			100		Press Rate
		1/2	13 1/2			200		" "
		1/4	14 1/2			300		
	1546	-	16 1/2			550		Shut Down - Slow Bleed off

See Page 2

ICES

WELL NO. 1

LEASE

Howard Trust

TICKET NO.

904239

CUSTOMER

Shamrock Resources

PAGE NO.

2 of 2

JOB TYPE

Tool Acid

DATE

013 R-2

CHART NO.	TIME	RATE (BPM)	VOLUME (BBL) (GAL)	PUMPS		PRESSURE (PSI)		DESCRIPTION OF OPERATION AND MATERIALS
				T	C	TUBING	CASING	
	1525	3/1				1100		Treat Pents 4329-30 - Ann Closed
		1	365			1,000		Increase Rate
		1	"			1,050		Treat Pents 4328-29
		1	"			1,000		" " 4327-28
		1	"			1,000		" " 4326-27
		1	"			1,080		" " 4325-26
		1	"			1150		" " 4324-25
		1	"			1175		" " 4323-24
		1	"			1100		" " 4322-23 - Ann Dead
	1555					1,500		PPI Set 4321-22 - Blank Pipe
								Holding
	1600							Release Press & PPI - Pull Subs +
								1/3" Tbg
	1610							Set API 4299-4300 - Rig
								Crew Retrieve RFC valve + br.
								Pass Plug on Sand line
	1640							Tools out - Rig Crew Start
								Tbg Swapping
	1800							Released for Day

STATE COMMISSION

NOV 28 1990

CONSERVATION  
Wichita, Kansas

NOV 28 1990

# JOB SUMMARY

HALLIBURTON LOCATION

**Oberlin, Ks**

BILLED ON TICKET NO.

**904239**

SEC. **26** TWP. **9S** RNG. **32W** COUNTY **Thomas** STATE **Ks**

FORMATION NAME **LKC** TYPE **lime**  
 FORMATION THICKNESS FROM TO  
 INITIAL PROD: OIL BPD. WATER BPD. GAS MCFD  
 PRESENT PROD: OIL BPD. WATER BPD. GAS MCFD  
 COMPLETION DATE MUD TYPE MUD WT.  
 PACKER TYPE **ppi-1** SET AT  
 BOTTOM HOLE TEMP. PRESSURE  
 MISC. DATA **7 1/2" Hole, PB** TOTAL DEPTH **4384'**

NEW USED	WEIGHT	SIZE	FROM	TO	MAXIMUM PSI ALLOWABLE
CASING	U	10.5	4 1/2"	KB	4384' PBTO
LINER					
TUBING	U	4.7	2 3/8"	KB	actv
OPEN HOLE					SHOTS/FT.
PERFORATIONS			4322	4330	
PERFORATIONS					
PERFORATIONS					

TOOLS AND ACCESSORIES

TYPE AND SIZE	QTY.	MAKE
FLOAT COLLAR		
FLOAT SHOE		
GUIDE SHOE		
CENTRALIZERS		
BOTTOM PLUG		
TOP PLUG		
HEAD <b>Stripper - 4 1/2"</b>	<b>1ea</b>	<b>Howrs</b>
PACKER <b>ppi-1 - 4 1/2"</b>	<b>"</b>	<b>"</b>
OTHER <b>RFC Valve - 2 3/8"</b>	<b>"</b>	<b>"</b>

JOB DATA

CALLED OUT DATE	ON LOCATION DATE	JOB STARTED DATE	JOB COMPLETED DATE
<b>10/1/90</b>	<b>10/2/90</b>	<b>10/2/90</b>	<b>10/2/90</b>
TIME <b>2200</b>	TIME <b>0810</b>	TIME <b>0930</b>	TIME

MATERIALS

TREAT. FLUID DENSITY LB/GAL-API  
 DISPL. FLUID DENSITY LB/GAL-API  
 PROP. TYPE SIZE LB  
 PROP. TYPE SIZE LB  
 ACID TYPE **MCA** GAL **300** % **1.5%**  
 ACID TYPE **Non-E** GAL **1,000** % **1.5%**  
 ACID TYPE GAL %  
 SURFACTANT TYPE GAL IN  
 NE AGENT TYPE **ho-surf 259** GAL **3** IN **1,000**  
 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  
 PERFPAC BALLS TYPE QTY  
 OTHER **1 1/4 gal HAE-65, 2 Gal Cle-Stalk**  
 OTHER **1 1/4 gal An-88, 2 Gal WP-55**

PERSONNEL AND SERVICE UNITS

NAME	UNIT NO. & TYPE	LOCATION
<b>S. Odan</b>	<b>36654</b>	<b>Oberlin Ks</b>
<b>S. Moore</b>	<b>Tools 2591 HT-400</b>	<b>"</b>

DEPARTMENT **Tool, Stim**  
 DESCRIPTION OF JOB **Run Tools Acidize Form.**  
 JOB DONE THRU: TUBING  CASING  ANNULUS  TBG/ANN.   
 CUSTOMER REPRESENTATIVE **[Signature]**  
 HALLIBURTON OPERATOR **[Signature]** COPIES REQUESTED

CEMENT DATA

STAGE	NUMBER OF SACKS	CEMENT	BRAND	BULK SACKED	ADDITIVES	YIELD CU.FT./SK.	MIXED LBS./GAL.

PRESSURES IN PSI

CIRCULATING DISPLACEMENT  
 BREAKDOWN MAXIMUM  
 AVERAGE FRACTURE GRADIENT  
 SHUT-IN: INSTANT 5-MIN. 15-MIN.  
 HYDRAULIC HORSEPOWER  
 ORDERED AVAILABLE USED  
 AVERAGE RATES IN BPM  
 TREATING DISPL. CEMENT LEFT IN PIPE OVERALL  
 FEET REASON

SUMMARY

Spot PRESLURRY **10 10** VOLUMES  
 LOAD BKG **25**  
 TREATMENT: BR **300 1,000** PAD: BBL-GAL  
 CEMENT SLURRY: BBL-GAL  
 TOTAL VOLUME **102** DISP. **18**

REMARKS  
**See Job log + Chart**  
**"Thank You" Scott, Jack**

CUSTOMER **Shamrock Resources**  
 LEASE **Howard's Trust**  
 WELL NO. **1**  
 JOB TYPE **Tool-Acid**  
 DATE **10/2/90**

TIME	RATE (BPM)	VOLUME (BBL) (GAL)	PUMPS		PRESSURE (PSI)		DESCRIPTION OF OPERATION AND MATERIALS
			T	C	TUBING	CASING	
0810							On loc. Wait to run Bond log + Perm.
0930							Start 4 1/2" API on 2 3/8" Tbg
1105							pkn swinging @ 4330. Rubber in head. Perms 4322-30
1115	2						Pump to head Hole
	"	8 1/20			300		Circulating
1130	1	25 1/20			—		Shut Down
1131	2				300		Start 300 Gal 15% MCA acid
1135	"	7 1/2-Acid			"		Finish Acid - Start H2O to Spot
1141		10-H2O			—		Finish Spot - Shut Down - Close Ann
1147		2-H2O			200		Pull 1 1/2" Tbg
					300		Pkn set 4299' - Press up
					400		Press up
					500		" " " " " " Slow Bleed off
					600		" " " " " "
					700		" " " " " "
1202	1/4	1/2-H2O			600		Feeding - Press + Rate
	1/2	1 1/2-H2O			450		" " "
	1	4-H2O			500		Increase Rate - Press
1215	—	8 1/20			300		Finish Displ - Shut Down - ISIP
1220					125		5-Min
1225					75		10-Min
1227					0		12-Min - Break loose From Tbg - Rig
1445							Crew Rig up + Tbg Swabs
1455							Finish Swabbing, Release ppi
							PP2 swinging @ 1332. Drop by Press
1500	3				0		Plug + RFC v/lve
1503		8 1/2			1,300		head Tbg
	1				1050		by headed RFC Oper
1504	—	10			750		Press + Rate
1507	1 1/2				1,100		Shut Down - RFC Holding
							Start 1,000 Gal 15% Non-E
1524	—	11 1/2			500		Acid - (spot to Tool)
							Finish Spot - Shut Down - RFC
							Holding
							See Page 2

STATE COMMISSION  
 NOV 28 1990  
 CONSERVATION DIVISION  
 Wichita, Kansas