

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

Operator: License # 5208

Name: Mobil Oil Corporation

Address P.O. Box 2173

2319 North Kansas Avenue

City/State/Zip Liberal, KS 67905-2173

Purchaser: Spot Market

Operator Contact Person: Sharon Cook

Phone (316) 626-1142

Contractor: Name: Norseman Drilling Inc.

License: 3779

Wellsite Geologist: L. J. Reimer

Designate Type of Completion  
 New Well  Re-Entry  Workover

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

If Workover:

Operator: \_\_\_\_\_

Well Name: \_\_\_\_\_

Comp. Date \_\_\_\_\_ Old Total Depth \_\_\_\_\_

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

9-18-97 9-22-97 10-17-97  
Spud Date Date Reached TD Completion Date

API NO. 15- 129-215330000

County Morton

     - NW - SE - SE Sec. 20 Twp. 33 Rge. 39      E

1250 Feet from S/N (circle one) Line of Section

1250 Feet from E/W (circle one) Line of Section

Footages Calculated from Nearest Outside Section Corner:  
NE, (SE) NW or SW (circle one)

Lease Name E. E. Mangels #1 Unit Well # 2

Field Name Hugoton

Producing Formation Chase

Elevation: Ground 3245 KB 3254

Total Depth 2893 PBSD 2848

Amount of Surface Pipe Set and Cemented at 528 Feet

Multiple Stage Cementing Collar Used?  Yes  No

If yes, show depth set NA Feet

If Alternate II completion, cement circulated from NA

feet depth to NA w/ NA sx cmt.

Drilling Fluid Management Plan Att. 1, 4-23-98 U.C.  
(Data must be collected from the Reserve Pit)

Chloride content 9,000 ppm Fluid volume 250 bbls

Dewatering method used Evaporation

Location of fluid disposal if hauled offsite:

Operator Name Mobil Oil Corporation

Lease Name \_\_\_\_\_ License No. 5208

     Quarter Sec.      Twp.      S Rng.      E/W

County \_\_\_\_\_ Docket No. \_\_\_\_\_

INSTRUCTIONS: An original and two copies of this form shall be filed with the Kansas Corporation Commission, 130 S. Market - Room 2078, Wichita, Kansas 67202, within 120 days of the spud date, recompletion, workover or conversion of a well. Rule 82-3-130, 82-3-106 and 82-3-107 apply. Information on side two of this form will be held confidential for a period of 12 months if requested in writing and submitted with the form (see rule 82-3-107 for confidentiality in excess of 12 months). One copy of all wireline logs and geologist well report shall be attached with this form. ALL CEMENTING TICKETS MUST BE ATTACHED. Submit CP-4 form with all plugged wells. Submit CP-111 form with all temporarily abandoned wells.

All requirements of the statutes, rules and regulations promulgated to regulate the oil and gas industry have been fully complied with and the statements herein are complete and correct to the best of my knowledge.

Signature Sharon A. Cook Sharon A. Cook

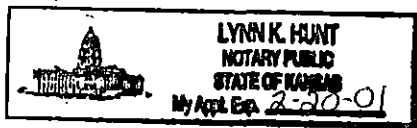
Title Regulatory Assistant Date 12-18-97

Subscribed and sworn to before me this 18th day of December, 19 97.

Notary Public Lynn K. Hunt 22 730 1881

Date Commission Expires February 20, 2001  
7-103.kcc

K.C.C. OFFICE USE ONLY  
F  Letter of Confidentiality Attached  
C  Wireline Log Received  
G  Geologist Report Received  
  
Distribution  
 KCC  SWD/Rep  NGPA  
 KGS  Plug  Other  
(Specify)



RECEIVED

12-22-97

SIDE TWO

Operator Name Mobil Oil Corporation Lease Name E. E. Mangels #1 Unit Well # 2  
 Sec. 20 Twp. 33 Rge. 39  East  West  
 County Morton

INSTRUCTIONS: Show important tops and base of formations penetrated. Detail all cores. Report all drill stem tests giving interval tested, time tool open and closed, flowing and shut-in pressures, whether shut-in pressure reached static level, hydrostatic pressures, bottom hole temperature, fluid recovery, and flow rates if gas to surface during test. Attach extra sheet if more space is needed. Attach copy of log.

Drill Stem Tests Taken  Yes  No  
 (Attach Additional Sheets.)

Samples Sent to Geological Survey  Yes  No

Cores Taken  Yes  No

Electric Log Run  Yes  No  
 (Submit Copy.)

List All E.Logs Run:  
 Array Induction Linear Correlation  
 Compensated Neutron Litho-Density  
 Natural Gamma Ray Spectroscopy

<input checked="" type="checkbox"/> Log	Formation (Top), Depth and Datums	<input type="checkbox"/> Sample
Name	Top	Datum
Glorietta	1252	1409
Stone Corral	1682	1696
Chase	2441	2782
Council Grove	2782	--

CASING RECORD <input checked="" type="checkbox"/> New <input type="checkbox"/> Used							
Report all strings set-conductor, surface, intermediate, production, etc.							
Purpose of String	Size Hole Drilled	Size Casing Set (In O.D.)	Weight Lbs./Ft.	Setting Depth	Type of Cement	# Sacks Used	Type and Percent Additives
Surface Casing	12.250	8.625	24#	528	Class C Class C	200 150	50:50 C/poz 50:50 C/poz
Production Casing	7.875	5.500	14#	2884	Class C Class C	225 100	3% D79 2% B28

ADDITIONAL CEMENTING/SQUEEZE RECORD				
Purpose:	Depth Top Bottom	Type of Cement	#Sacks Used	Type and Percent Additives
<input type="checkbox"/> Perforate				
<input type="checkbox"/> Protect Casing				
<input type="checkbox"/> Plug Back TD				
<input type="checkbox"/> Plug Off Zone				

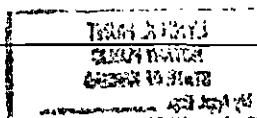
Shots Per Foot	PERFORATION RECORD - Bridge Plugs Set/Type Specify Footage of Each Interval Perforated	Acid, Fracture, Shot, Cement Squeeze Record (Amount and Kind of Material Used)	Depth
2 SPF	2496-2506 2610-20	Acid: 1,000 gals 7.5% HCL	
	2554-64 2676-86	Fract: 11,100 gals WF130 in 70q foam	
4 SPF	2719-25	110,540 lbs 16/30 sand	

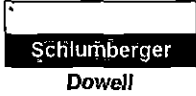
TUBING RECORD		Size	Set At	Packer At	Liner Run <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Date of First, Resumed Production, SWD or Inj. 10-10-97		Producing Method <input checked="" type="checkbox"/> Flowing <input type="checkbox"/> Pumping <input type="checkbox"/> Gas Lift <input type="checkbox"/> Other (Explain)			
Estimated Production Per 24 Hours	Oil Bbls.	Gas Mcf	Water Bbls.	Gas-Oil Ratio	Gravity

Disposition of Gas:  Vented  Sold  Used on Lease  
 (If vented, submit ACO-18.)

METHOD OF COMPLETION  Open Hole  Perf.  Dually Comp.  Commingled  Other (Specify)

Production Interval 2496  
2725





# Cementing Service Report

15-129-21533

ORIGINAL

Customer	Job Number
MOBIL OIL CORP V390500757A	20018196

Well E. MANGELS UNIT #1 2		Location (legal) 20, 33S, 39W		Dowell Location Ulysses, KS		Service Date 9/8/97		
Field HUGOTON		Formation Name/Type Dirty-Sandstone		Deviation 0 °	Bit Size 12.3 in	Well MD 535 ft	Well TVD 535 ft	
County Stevens		State/Province KS		BHP 0 psi	BHST 0 °F	BHCT 0 °F	Pore Press. Gradient 0 psi/ft	
Rig Name NORSEMAN 2	Drilled For Gas	Service Via Land		Casing/Liner				
Water Depth	Well Class 101	Well Type Development		Depth, ft	Size, in	Weight, lb/ft	Grade	
Drilling Fluid Type Bentonite	Max. Density 9.3 lb/gal	Plastic Viscosity 0 cp		Depth, ft	Size, in	Weight, lb/ft	Grade	
Service Line Cementing	Job Type Cem Surface Casing		Depth, ft	Size, in	Weight, lb/ft	Grade	Thread	
Max. Allowed Tubing Pressure 0 psi	Max. Allowed Ann. Pressure 0 psi	Wellhead Connection Single cement head		Perforations/Open Hole				
Service Instructions Cement and equipment to safely cement 8 5/8 surface casin as per customer's request Acc Code 4903 Loc #63201 I.D. JLLASITE Field Est. \$4818.30				Top, ft	Bottom, ft	spf	No. of Shots	Total Interval
				0	0	0	0	0 ft
				0	0	0	0	Diameter
				0	0	0	0	0 in
				Treat Down Casing	Displacement 30.8 bbl	Packer Type	Packer Depth 0 ft	
Tubing Vol. 0 bbl	Casing Vol. 33.6 bbl	Annular Vol. 0 bbl	Open Hole Vol. 0 bbl					
Casing/Tubing Secured <input type="checkbox"/>		1 Hole Volume Circulated prior to Cementing <input checked="" type="checkbox"/>		Casing Tools		Squeeze Job		
Lift Pressure: 190 psi		Pipe Rotated <input type="checkbox"/>		Pipe Rociprocated <input type="checkbox"/>		Shoe Type: Guide		
No. Centralizers: 4		Top Plugs: 1	Bottom Plugs: 0		Shoe Depth: 528 ft		Squeeze Type	
Cement Head Type: Single		Job Scheduled For: 9/18/97 23:00		Arrived on Location: 9/18/97 23:00	Leave Location:		Tool Type:	
Stage Tool Type	Stage Tool Depth: 0 ft	Tail Pipe Size: 0 in	Collar Type: Other	Tail Pipe Depth: 0 ft	Collar Depth: 484 ft	Sqz Total Vol: 0 bbl	Tool Depth: 0 ft	
Time	CumVol	Density	Pressure U1	totumvol	TotFlowrate	Message		
24 hr clock	bbl	ppg	psi	bbl	bpm			
15:52	0	0	0	0	0	START ACQUISITION		
15:52	0	8.057	22.85	0	0			
15:53	0	8.065	23.68	0	0			
15:54	.8954	8.276	-31.73	.8954	2.234			
15:55	2.766	8.245	4.317	2.766	2.237			
15:55	4.631	8.21	22.7	4.631	2.234			
15:56	6.495	8.215	20.62	6.495	2.233			
15:57	8.357	8.184	8.351	8.357	2.231			
15:58	10.26	8.16	-14.28	10.26	2.222			
15:59	12.12	8.194	-29.89	12.12	2.229			
16:00	13.98	8.159	-35.72	13.98	2.22			
16:01	15.84	8.143	-39.54	15.84	2.23			
16:01	17.7	8.45	39.71	17.7	2.232			
16:02	19.56	8.408	9.627	19.56	2.232			
16:03	21.47	8.487	-10.88	21.47	2.236			
16:04	23.34	8.454	-11.19	23.34	2.234			
16:05	0	0	0	0	0	[CumVol]=25.05 bbl		
16:05	0	0	0	0	0	Reset Volume:		
16:05	7398E-5	9.947	-5.87	25.2	2.219	Start Cement Slurry		
16:05	0	0	0	0	0			
16:06	1.923	15.79	64.13	27.05	2.218			

Well	E MANGELS UNIT #1 #2			Field	HUGGOTON			Service Date	Customer	Job Number
							9/8/97	MOBIL OIL CORP V39050074	20078196	
Time	CumVol	Density	Pressure UT	Submermal	TotalWater			Message		
24 hr clock	bbl	ppg	psi	bbl	bbl					
16:06	3.791	16.58	62.71	28.92	2.237	0	0			
16:07	5.662	16.46	76.1	30.79	2.236	0	0			
16:08	7.532	16.38	67.41	32.66	2.24	0	0			
16:09	9.444	16.58	68.04	34.57	2.237	0	0			
16:10	11.32	16.45	65.22	36.44	2.238	0	0			
16:11	13.19	16.45	59.77	38.31	2.244	0	0			
16:11	15.06	16.39	56.7	40.19	2.241	0	0			
16:12	16.94	16.45	56.11	42.06	2.245	0	0			
16:13	18.82	16.45	55.13	43.94	2.252	0	0			
16:14	20.69	16.45	55.05	45.82	2.25	0	0			
16:15	22.57	16.35	51.77	47.7	2.244	0	0			
16:16	0	0	0	0	0	0	0	[CumVol]=24.37 bbl		
16:16	0	0	0	0	0	0	0	Reset Volume		
16:16	0	15.65	49.3	49.57	2.252	0	0			
16:16	0	0	0	0	0	0	0			
16:16	1.892	10.92	5.305	51.47	2.267	0	0		Start Displacement	
16:17	3.783	9.905	-21.1	53.36	2.263	0	0			
16:18	5.673	9.118	-16.42	55.25	2.264	0	0			
16:19	7.565	8.77	22.61	57.16	2.29	0	0			
16:20	9.546	8.539	22.88	59.12	2.298	0	0			
16:21	11.46	8.403	27.41	61.04	2.297	0	0			
16:21	11.95	8.479	19.05	61.52	.3846	0	0			
16:22	11.97	8.186	19.97	61.54	5513E-9	0	0			
16:23	11.97	7.908	18.42	61.54	9951E-15	0	0			
16:24	11.97	7.64	17.04	61.54	1796E-20	0	0			
16:25	11.97	7.431	15.84	61.54	3243E-26	0	0			
16:26	11.97	7.253	14.64	61.54	4493E-32	0	0			
16:26	11.97	7.175	13.54	61.54	8111E-38	0	0			
16:27	11.97	6.889	12.49	61.54	1464E-43	0	0			
16:28	11.97	6.47	11.50	61.54	2643E-49	0	0			
16:29	11.97	6.906	10.62	61.54	4771E-55	0	0			
16:30	11.97	10.04	9.68.2	61.54	8613E-61	0	0			
16:31	11.97	9.26	9.00.7	61.54	1193E-66	0	0			
16:32	11.97	9.044	8.27.9	61.54	2154E-72	0	0			
16:32	11.97	8.884	6.94.2	61.54	3889E-78	0	0			
16:33	12.25	8.989	18.89	61.82	1.717	0	0			
16:34	14.91	8.734	-16.38	64.49	3.605	0	0			
16:35	17.96	8.729	-1.007	67.53	3.661	0	0			
16:36	20.86	8.218	-48.41	70.44	1.371	0	0			
16:37	20.93	8.666	-6.494	70.5	2446E-9	0	0			
16:37	20.93	8.592	7.256	70.5	4415E-15	0	0			
16:37	0	0	0	0	0	0	0	End Job		

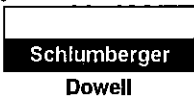
ORIGINAL

16:20 22 030 LBB1  
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 DEVAL3333R  
 44100 JRRP SVSNVW1

Well E. MANGELS UNIT #1 #2		Field HUGOTON		Service Date 9/8/97		Customer MOBIL OIL CORP V39050075		Job Number 20018196	
Time 24 hr clock	CumVol bbl	Density ppg	Pressure U1 psi	totcumvol bbl	TotFlowrate bpm	Message			
<b>Post Job Summary</b>									
Average Pump Rates, bpm				Volume of Fluid Injected, bbl					
Slurry	N2	Mud	Maximum Rate	Total Slurry	Mud	Spacer	N2		
5	0	0	5.7	119	0	25	0		
Treating Pressure Summary, psi					Breakdown Fluid				
Maximum	Final	Average	Bump Plug to	Breakdown	Type	Volume	Density		
190	800	1000	0	0		0 bbl	0 lb/gal		
Avg. N2 Percent	Designed Slurry Volume		Displacement		<input checked="" type="checkbox"/> Cement Circulated to Surface? Volume <i>89.5cs</i> bbl <i>30</i>				
0 %	0 bbl		31 bbl		<input type="checkbox"/> Washed Thru Perfs To 0 ft				
Customer or Authorized Representative Jeff Lasiter				Dowell Supervisor Charley King		<input type="checkbox"/> Circulation Lost		<input checked="" type="checkbox"/> Job Completed	

ORIGINAL

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1997 DEC 22 P 2:31



# ORIGINAL Cementing Service Report

15-129-21533

<b>Customer</b> MOBIL OIL CORP. V390500757A				<b>Job Number</b> 20018197				
<b>Well</b> E. MANGELS UNIT #1 2			<b>Location (legal)</b> 20, 33S, 39W			<b>Dowell Location</b> Ulysses, KS		<b>Service Date</b> 9/8/97
<b>Field</b> HUGOTON		<b>Formation Name/Type</b> Dolomite		<b>Deviation</b> 0 °		<b>Bit Size</b> 7.88 in	<b>Well MD</b> 2,890 ft	<b>Wall TVD</b> 2,890 ft
<b>County</b> Stevens		<b>State/Province</b> KS		<b>BHP</b> 0 psi	<b>BHST</b> 0 °F	<b>BHCT</b> 0 °F	<b>Perfor. Press. Gradient</b> 0 psi/ft	
<b>Rig Name</b> NORSEMAN 2		<b>Drilled For</b> Gas		<b>Service Via</b> Land		<b>Casing/Liner</b>		
				<b>Depth, ft</b>	<b>Size, in</b>	<b>Weight, lb/ft</b>	<b>Grade</b>	<b>Thread</b>
<b>Water Depth</b>		<b>Well Class</b> 101		<b>Well Type</b> Development		2884	5.5	13
				0	0	0		
<b>Drilling Fluid Type</b> Bentonite		<b>Max. Density</b> 9.3 lb/gal		<b>Plastic Viscosity</b> 0 cp		<b>Tubing/Drill Pipe</b>		
						<b>Depth,</b>	<b>Size, in</b>	<b>Weight, lb/ft</b>
<b>Service Line</b> Cementing		<b>Job Type</b> Cem Prod Casing				0		
						0		
<b>Max. Allowed Tubing Pressure</b> 0 psi		<b>Max. Allowed Ann. Pressure</b> 0 psi		<b>Wellhead Connection</b> Single cement head		<b>Perforations/Open Hole</b>		
						<b>Top, ft</b>	<b>Bottom, ft</b>	<b>spf</b>
								<b>No. of Shots</b>
								<b>Total Interval</b>
						0	0	0
						0	0	0
						0	0	0
						<b>Treat Down</b>	<b>Displacement</b>	<b>Packer Type</b>
						Casing	69.2 bbl	
						<b>Tubing Vol.</b>	<b>Casing Vol.</b>	<b>Annular Vol.</b>
						0 bbl	70.3 bbl	0 bbl
								<b>Packer Depth</b>
								0 ft
								<b>Open Hole Vol</b>
								0 bbl
<b>Casing/Tubing Secured</b> <input type="checkbox"/>				<b>1 Hole Volume Circulated prior to Cementing</b> <input checked="" type="checkbox"/>				
<b>Lift Pressure:</b> 675 psi				<b>Casing Tools</b>				
<b>Pipe Rotated</b> <input type="checkbox"/>				<b>Pipe Reciprocated</b> <input type="checkbox"/>				
<b>No. Centralizers:</b> 10				<b>Top Plugs:</b> 1				
				<b>Bottom Plugs:</b> 0				
<b>Cement Head Type:</b> Single				<b>Squeeze Job</b>				
<b>Job Scheduled For:</b> 9/22/97 5:30				<b>Arrived on Location:</b> 9/22/97 5:00				
				<b>Leave Location:</b>				
				<b>Shoe Type:</b> Guide				
				<b>Squeeze Type:</b>				
				<b>Shoe Depth:</b> 2884 ft				
				<b>Tool Type:</b>				
				<b>Stage Tool Type</b>				
				<b>Tool Depth:</b> 0 ft				
				<b>Stage Tool Depth:</b> 0 ft				
				<b>Tail Pipe Size:</b> 0 in				
				<b>Collar Type:</b> Auto-Fill				
				<b>Tail Pipe Depth:</b> 0 ft				
				<b>Collar Depth:</b> 2838 ft				
				<b>Sqz Total Vol:</b> 0 bbl				
<b>Time</b>	<b>CumVol</b>	<b>Density</b>	<b>Pressure W1</b>	<b>totcumvol</b>	<b>TotFlowrate</b>	<b>Message</b>		
24 hr clock	bbl	ppg	psi	bbl	bpm			
9:11	0	0	0	0	0	START ACQUISITION		
9:11	0	8.455	4.572	0	0			
9:11	0	0	0	0	0	Pressure Test Lines		
9:12	.4359	8.484	782.9	.4359	.1392			
9:13	0	0	0	0	0	Bleed Off Pressure		
9:13	.4472	8.469	1943	.4472	2806E-9			
9:13	0	0	0	0	0	Reset Volume		
9:13	0	0	0	0	0	[CumVol]=.4472 bbl		
9:13	0	0	0	0	0	Start Pumping Water		
9:13	3129E-15	8.454	1.491	.4472	1901E-14			
9:14	2.322	8.448	232	2.77	5.462			
9:15	6.613	8.456	231.9	7.06	5.592			
9:16	10.91	8.455	240	11.36	5.595			
9:17	15.21	8.484	242.4	15.66	5.595			
9:17	19.51	8.492	246.6	19.96	5.595			
9:18	23.81	8.486	243.9	24.25	5.59			
9:19	28.1	8.461	249.9	28.55	5.601			
9:20	32.32	8.496	312.1	32.77	5.589			
9:20	0	0	0	0	0	Reset Volume		
9:20	0	0	0	0	0	[CumVol]=35.68 bbl		
9:20	0	0	0	0	0	Start Mixing Lead Slurry		

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 KANSAS CORP. 22 DEC 22 1997



Well		Field				Service Date		Customer		Job Number
E. MANGELS UNIT #1 #2		HUGOTON				9/8/97		MOBIL OIL CORP V39050075		20018197
Time	CumVol	Density	Pressure U1	totcumvol	TotFlowrate			Message		
24-hr clock	bbl	ppg	psi	bbl	bpm					
9:59	52.37	8.309	432.6	223.8	5.594	0	0			
10:00	56.67	8.319	529	228.1	5.593	0	0			
10:01	0	0	0	0	0	0	0	Lower Pump Rate		
10:01	60.91	8.336	576.6	232.3	4.817	0	0			
10:02	62.69	8.298	518	234.1	2.068	0	0			
10:03	64.25	8.278	560.2	235.7	2.069	0	0	ORIGINAL		
10:03	65.84	8.275	601.7	237.3	2.06	0	0			
10:04	67.43	8.284	625.3	238.9	2.069	0	0			
10:05	69.02	8.264	672.1	240.4	2.065	0	0			
10:05	0	0	0	0	0	0	0	Psi. check		
10:05	0	0	0	0	0	0	0	Bump Top Plug		
10:06	69.75	7.161	1419	241.2	1483E-6	0	0			
10:06	0	0	0	0	0	0	0	Bump Plug/Open St.Collar		
10:06	69.75	7.042	1201	241.2	7711E-12	0	0			
10:07	0	0	0	0	0	0	0	Bleed Off Pressure		
10:07	69.75	6.928	4.789	241.2	401E-16	0	0			
10:07	0	0	0	0	0	0	0	End Job		

**Post Job Summary**

Average Pump Rates, bpm				Volume of Fluid Injected, bbl			
Slurry	N2	Mud	Maximum Rate	Total Slurry	Mud	Spacer	N2
4.5	0	0	5.6	135	0	25	0
Treating Pressure Summary, psi					Breakdown Fluid		
Maximum	Final	Average	Bump Plug to	Breakdown	Type	Volume	Density
1400	675	200	0	0		0 bbl	0 lb/gal
Avg. N2 Percent	Designed Slurry Volume		Displacement		<input type="checkbox"/> Cement Circulated to Surface? Volume bbl <input type="checkbox"/> Washed Thru Perfs To 0 ft		
0 %	0 bbl		69.5 bbl				
Customer or Authorized Representative				Dowell Supervisor		<input type="checkbox"/> Circulation Lost <input checked="" type="checkbox"/> Job Completed	
Jeff Lasiter				Charley King			

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