

ORIGINAL

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

Operator: License # 30689
Name: Marathon Oil Company
Address P. O. Box 2690
City/State/Zip Cody, WY 82414
Purchaser: Minute Stop (Reclaimer)
Operator Contact Person: R. P. Meabon
Phone (307) 587-4961
Contractor: Name: Murfin Drilling
License: 6033
Wellsite Geologist: Ken LeBlanc

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 PBTB
 Commingled Docket No. _____
 Dual Completion Docket No. _____
 Other (SWD or Inj?) Docket No. _____
12/1/92 12/9/92 12/31/92
Spud Date Date Reached TD Completion Date

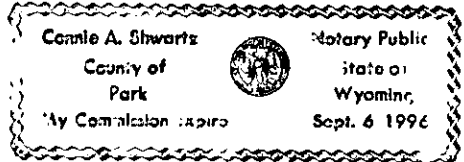
API NO. 15- 071-20580-0000
County Greeley
N/2 - NW - NE - _____ Sec. 11 Twp. 18S Rge. 43 E
510 Feet from S/W (circle one) Line of Section
1950 Feet from E/W (circle one) Line of Section
Footages Calculated from Nearest Outside Section Corner:
(NE, SE, NW or SW (circle one))
Lease Name Norma Wendelburg Well # 2-11
Field Name Moore-Johnson
Producing Formation Morrow
Elevation: Ground 3912' KB 3421'
Total Depth 5310' PBTB 5220'
Amount of Surface Pipe Set and Cemented at 268 Feet
Multiple Stage Cementing Collar Used? Yes No
If yes, show depth set 2666 Feet
If Alternate II completion, cement circulated from 4070'
feet depth to 2620' w/ 835 sx cmt.

Drilling Fluid Management Plan 7-25-88
(Data must be collected from the Reserve Pit)
Chloride content 3800 ppm Fluid volume 800 CC bbls
Dewatering method used Evaporation
Location of fluid disposal if hauled offsite:
Evaporation & buried on site
Operator Name _____
Lease Name _____ License No. _____
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, 200 Colorado Derby Building, Wichita, Kansas 67202, within 120 days of the spud date, recompletion, workover or conversion of a well. Rule 82-3-130, 82-3-106 and 82-3-107 apply. Information on side two of this form will be held confidential for a period of 12 months if requested in writing and submitted with the form (see rule 82-3-107 for confidentiality in excess of 12 months). One copy of all wireline logs and geologist well report shall be attached with this form. ALL CEMENTING TICKETS MUST BE ATTACHED. Submit CP-4 form with all plugged wells. Submit CP-111 form with all temporarily abandoned wells.

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

Signature R.P. Meabon
Title Regulatory Coordinator Date 3/1/93
Subscribed and sworn to before me this 1st day of March, 1993.
Notary Public Cornie A. Shwartz
Date Commission Expires 9-6-1996



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

SIDE TWO

Operator Name Marathon Oil Company

Lease Name Norma Wendelburg

Well # 2-11

Sec. 11 Twp. 18S Rge. 43
 East
 West

County Greeley

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.)

Temperature Survey
 List All E.Logs Run: DIFL-Sonic-GR-CAL
 FDL-CNL-GR
 CBL-GR-CCL
 CET-CCL
 RA Tracer Survey

Log Formation (Top), Depth and Datums Sample

Name	Top	Datum
Base Stone Cerral	2644	+1277
Cottonwood	3321	+ 600
Neva	3394	+ 527
Foraker	3368	+ 449
Topeka Ls	3850	+ 71
Heebner Sh	4095	- 174
Toronto Ls	4114	- 193
Lansing	4156	- 235
Stark Sh	4447	- 526
Mamaton Ls	4577	- 656

(Continued on attached)

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"	24.0	268'	Common	175	3% Salt 1#/SX Flo Seal
Production	7 7/8"	4 1/2"	10.5	5310'	Standard	185	4/10% Halad 3% KCl
					Light	125	

ADDITIONAL CEMENTING/SQUEEZE RECORD

835 1 #W/835 SX Flocele

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
4 JSPF	Morrow 5181' - 5186'	Squeezed w/10 sxs. Class "A" Cement	5181'-86'
4 JSPF	Morrow 5167' - 5178'	Squeezed w/35 sxs. Class "A" Cement	5167'-78'
4 JSPF	Mississippian 5228' - 5232'	300 gals. 15% HCl Squeezed w/15 sxs. Class "A" cement	5228'-32'
4 JSPF	Morrow 5167' - 5170'		

TUBING RECORD	Size	Set At	Packer At	Liner Run
	2 3/8"	5170'	-----	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No

Date of First, Resumed Production, SWD or Inj. 1/2/93 Producing Method Flowing Pumping Gas Lift Other (Explain)

Estimated Production Per 24 Hours	Oil	Bbls.	Gas	Mcf	Water	Bbls.	Gas-Oil Ratio	Gravity
	4		0		231		-----	----

Disposition of Gas: **METHOD OF COMPLETION** Vented Sold Used on Lease (If vented, submit ACO-18.) Open Hole Perf. Dually Comp. Commingled Other (Specify) _____ **Production Interval** _____

Well was shut-in on February 10, 1993 pending further evaluation.

Dist: KCC-Orig. & 2 cc: WRF, MEB, JRW, DMJ, Lamar, Title & Contr. (Hous.)

ORIGINAL

Name	Top	Datum
Cherokee Sh	4718	- 797
Atoka Ls	4926	-1005
Morrow Sh	5061	-1140
Lwr Mor Sst	5167	-1246
Morrow Ls	5190	-1269
Miss	5226	-1305
RTD, LTD	5306	-1385

KANSAS CORPORATION

MAR 05 1993

CONDENSATION
MORNING

ORIGINAL

Duncan, Oklahoma 73838
A Division of Halliburton Company

Production casing

TICKET

NO. 304820-X

FORM 1968 R-11

WELL NO.—FARM OR LEASE NAME <u>Nokma 2-11</u>		COUNTY <u>Greer</u>	STATE <u>Ks</u>	CITY / OFFSHORE LOCATION	DATE <u>12-4-92</u>
CHARGE TO <u>MARATHON</u>		OWNER <u>SIME</u>	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 <u>D.O. Box 2610</u>		CONTRACTOR <u>MURPHY & SONS</u>	1 LOCATION <u>ISSAL</u>		CODE <u>75546</u>
CITY, STATE, ZIP <u>Atchafalaya - 82-114</u>		SHIPPED VIA <u>Truck</u>	FREIGHT CHARGES <input type="checkbox"/> PPD <input type="checkbox"/> COLLECT	2 LOCATION <u>HUSTON</u>	CODE <u>75535</u>
WELL TYPE <u>DI</u>	WELL CATEGORY <u>DI</u>	WELL PERMIT NO. <u>B-116052</u>	DELIVERED TO <u>STATION</u>	3 LOCATION <u>AMAR CO.</u>	CODE <u>25615</u>
TYPE AND PURPOSE OF JOB <u>0 235</u>		ORDER NO. <u>122827</u>	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 the material and workmanship of the equipment and materials furnished by it. THERE ARE NO WARRANTIES, EXPRESS OR IMPLIED, IN ANY OTHER EQUIPMENT OR MATERIALS FURNISHED BY OTHERS. HALLIBURTON'S LIABILITY IS LIMITED TO THE AMOUNT OF THE CONTRACT PRICE. HALLIBURTON IS NOT RESPONSIBLE FOR ANY DAMAGE TO OR LOSS OF EQUIPMENT OR MATERIALS FURNISHED BY OTHERS. HALLIBURTON IS NOT RESPONSIBLE FOR ANY DAMAGE TO OR LOSS OF EQUIPMENT OR MATERIALS FURNISHED BY OTHERS.

PRICE REFERENCE	SECONDARY REF OR PART NO.	L O C	ACCOUNT	DESCRIPTION	UNITS 1		UNITS 2		UNIT PRICE	AMOUNT
					QTY	MEAS	QTY	MEAS		
200-117		1		MILEAGE	60	MI			2.60	156.00
307-213				1ST STAGE PUMPING	2	HR	5310			1040.00
307-161				2ND STAGE PUMPING	1					1025.00
227-233				ADDITIONAL TIME	2	HR			130.00	510.00
5-A	837, 00300			SUPER SEAL FOOT SINE	1	EA	4 1/2"			2.00
50	807, 13504			FUNDMASTER CENTRALIZERS	3	EA	4 1/2"		48.00	354.00
40	807, 22221			CENTRALIZERS	2	EA	4 1/2"		132.00	259.00
510	807, 20003			WIRE SCRAPERS	20	EA	4 1/2"		25.50	765.00
71	813, 50100			D.V. MASTER	1	EA	4 1/2"			2174.00
75	813, 16410			D.V. MASTER	1	EA	4 1/2"			450.00
350	890, 10802			WASHER	1	EA	4 1/2"			11.50
320	800, 8581			WASHER	2	EA	4 1/2"		85.00	170.00
410	811, 2021			1 1/2" TAP	1	EA	4 1/2"			94.00
575	812, 21185			1 1/2" TAP	1	EA	4 1/2"			234.00

THIS IS NOT AN INVOICE

REC'D BY Roger Rosenthal DATE 12/10/92
 AFE # 3-890-2 CHARGE Nokma 2-11
 PROJ. CAT. 82 DF 91 CLASS
 APPROVED
 APPROV. FOR _____ DATE _____

KANSAS CORPORATION CO.

MAR 05 1993

CONCRETE DIVISION
MICHIGAN

B-116052
122827

4014.85
1497.24

AS PER ATTACHED BULK MATERIAL DELIVERY TICKET NO.

WAS JOB SATISFACTORILY COMPLETED? _____
 WAS OPERATION OF EQUIPMENT SATISFACTORY? _____
 WAS PERFORMANCE OF PERSONNEL SATISFACTORY? _____
 X Roger Rosenthal
 CUSTOMER OR HIS AGENT (PLEASE PRINT)
 X _____
 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.

Kurt
 HALLIBURTON OPERATOR

HALLIBURTON APPROVAL

CUSTOMER

SUB TOTAL 21713.57
 APPLICABLE TAXES WILL BE ADDED ON INVOICE



BULK MATERIALS DELIVERY AND TICKET CONTINUATION

FOR INVOICE AND TICKET NO. 304820

DATE 12-9-92	CUSTOMER ORDER NO.	WELL NO. AND FARM #2-11 Norma	COUNTY Greeley	STATE Ks.
CHARGE TO Marathon		OWNER Same	CONTRACTOR Murfin Drlg. #24	
MAILING ADDRESS		DELIVERED FROM Lamar Co.	LOCATION CODE 25615	PREPARED BY Blatten
CITY & STATE		DELIVERED TO Loc.	TRUCK NO. 4037-5070	RECEIVED BY KINSINGER

No. **B 116052**

PRICE REFERENCE	SECONDARY REF. OR PART NO.	CODE		DESCRIPTION	UNITS 1		UNITS 2		UNIT PRICE	AMOUNT	
		L	D		QTY.	MEAS.	QTY.	MEAS.			
504-308				Standard Cement	185	sk			7.82	1446.70	
504-118				Halliburton Light Cement Prem.	125	sk			8.00	1000.00	
508-002				Potassium Chloride	240	lbs			.25	60.00	
507-775				Halad-322	70	lbs			6.35	444.50	
				FIRST STAGE CEMENT							
ORIGINAL											
				Returned Mileage Charge							
				TOTAL WEIGHT		LOADED MILES		TON MILES			
				SERVICE CHARGE ON MATERIALS RETURNED				CU. FEET			
500-207				SERVICE CHARGE				CU. FEET	315 1/15	362.25	
500-306				Mileage Charge	29225	TOTAL WEIGHT	60	LOADED MILES	TON MILES	876.75 .80	
No B 116052		CARRY FORWARD TO INVOICE:							SUB-TOTAL		4014.85



BULK MATERIALS DELIVERY AND TICKET CONTINUATION

FOR INVOICE AND
TICKET NO. 224300

A Division of Halliburton Company

DATE 12-09-92	CUSTOMER ORDER NO.	WELL NO. AND FARM Norma 2-11	COUNTY Greeley	STATE Kansas
CHARGE TO Marathon		OWNER Same	CONTRACTOR Murfin #24	No. B 122827
MAILING ADDRESS		DELIVERED FROM Hugoton, Ks	LOCATION CODE 025535	PREPARED BY Mike Gilbert
CITY & STATE		DELIVERED TO NW/ Tribune, Ks	TRUCK NO. 52827-7620 3625-	RECEIVED BY <i>Kussner</i>

PRICE REFERENCE	SECONDARY REF. OR PART NO.	CODE		DESCRIPTION	UNITS 1		UNITS 2		UNIT PRICE	AMOUNT		
		L	D		QTY.	MEAS.	QTY.	MEAS.				
XXX				Second Stage								
504-118	516.00272	2	B	Halliburton Light Cement	835	sk			7.66	6396	10	
507-210	890.50071	2	B	Flocele 1/2" W/ 335	209	lb			1.80	271	70	
<div style="font-size: 2em; font-weight: bold; opacity: 0.5;">ORIGINAL</div> <div style="font-size: 1.5em; font-weight: bold; margin-top: 10px;"> KANSAS MAR 05 1993 COMPTON HUGOTON, KS </div>												
				Returned Mileage Charge	TOTAL WEIGHT	LOADED MILES	TON MILES					
				SERVICE CHARGE ON MATERIALS RETURNED			CU. FEET					
500-280		2	B	SERVICE CHARGE			CU. FEET 849	1.15		976	35	
500-306		2	B	Mileage Charge	77 212 TOTAL WEIGHT	60 LOADED MILES	2316.36 TON MILES	.80		1853	09	
No. B 122827		CARRY FORWARD TO INVOICE					SUB TOTAL				9497	24

CUSTOMER

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

FORM 1908 R-7

A Division of Halliburton Company

ATTACH TO INVOICE & TICKET NO. 304520

DISTRICT: LIBERTY

DATE 12-9-92

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

WELL NO. 3-11 LEASE WAMA SEC. 11 TWP. 18 RANGE 43

FIELD _____ COUNTY Greenville STATE KS OWNED BY MARATHON

THE FOLLOWING INFORMATION WAS FURNISHED BY THE CUSTOMER OR HIS AGENT

FORMATION NAME _____ TYPE _____
 FORMATION THICKNESS _____ FROM _____ TO _____
 PACKER: TYPE _____ SET AT 2627
 TOTAL DEPTH 5310 MUD WEIGHT _____
 BORE HOLE _____
 INITIAL PROD: OIL _____ BPD, H₂O _____ BPD, GAS _____ MCF
 PRESENT PROD: OIL _____ BPD, H₂O _____ BPD, GAS _____ MCF

	NEW USED	WEIGHT	SIZE	FROM	TO	MAX ALLOW. P.S.I.
CASING	N	10.5	4.5	KB	5310	
LINER						
TUBING						
OPEN HOLE			7 7/8	8 5/8	5310	SHOTS/FT.
PERFORATIONS						
PERFORATIONS						
PERFORATIONS						

PREVIOUS TREATMENT: DATE _____ TYPE _____ MATERIALS _____

TREATMENT INSTRUCTIONS: TREAT THRU TUBING ANNULUS CASING TUBING/ANNULUS HYDRAULIC HORSEPOWER ORDERED _____
1ST STAGE - PUMP 12 EBL H₂O - Pump Cement 4 1/2 (Casing w/ 125 SC FROM. HLC - 1.35 SC STD w/ 4 1/2 H₂O HALL 322, 37% KCL - Displace w/ H₂O - MUD
2ND STAGE - Cement w/ 235 SC FROM. HLC w/ 1/2 H₂O FLOCCS - Displace w/ H₂O

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

ORIGINAL
 MAR 05 1993
 CONSTRUCTION SIGNATURE

SIGNED: _____ CUSTOMER
 DATE 12-10-92
 TIME 0230 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



JOB SUMMARY

HALLIBURTON DIVISION _____
 HALLIBURTON LOCATION _____

BILLED ON TICKET NO. 302820

WELL DATA

FIELD _____ SEC. 11 TWP. 15S RNG. 43W COUNTY. Boone STATE. GA

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 _____ SET AT _____
 BOTTOM HOLE TEMP _____ PRESSURE _____
 MISC. DATA _____ TOTAL DEPTH 5310

	NEW USED	WEIGHT	SIZE	FROM	TO	MAXIMUM PSI ALLOWABLE
CASING	<u>IV</u>	<u>10.5</u>	<u>2.5</u>	<u>13</u>	<u>5310</u>	
LINER						
TUBING						
OPEN HOLE			<u>7 7/8</u>	<u>22</u>	<u>5310</u>	GHOTS/FT
PERFORATIONS						
PERFORATIONS						
PERFORATIONS						

JOB DATA

TOOLS AND ACCESSORIES

TYPE AND SIZE	QTY.	MAKE
FLOAT COLLAR		
FLOAT SHOES <u>5</u>	<u>1</u>	<u>Horse</u>
GUIDE-SHOE <u>2 1/2</u>	<u>1</u>	
CENTRALIZERS <u>C M/S-D</u>	<u>14</u>	
BOTTOM PLUG <u>27-00</u>	<u>1</u>	
TOP PLUG <u>20</u>	<u>1</u>	
HEAD <u>2 1/2</u>	<u>1</u>	
PACKER <u>1 1/2</u>	<u>2</u>	
OTHER <u>1 1/2</u>	<u>1</u>	

CALLLED OUT	ON LOCATION	JOB STARTED	JOB COMPLETED
DATE <u>12-9</u>	DATE <u>12-10</u>	DATE <u>12-10</u>	DATE <u>12-10</u>
TIME <u>1730</u>	TIME <u>0830</u>	TIME <u>1430</u>	TIME <u>1830</u>

PERSONNEL AND SERVICE UNITS

NAME	UNIT NO & TYPE	LOCATION
<u>Winters</u>	<u>5035R</u>	<u>Boone</u>
<u>...</u>	<u>...</u>	<u>...</u>
<u>MEAL</u>	<u>...</u>	<u>...</u>
<u>TRE</u>	<u>5035</u>	<u>"</u>
<u>-</u>	<u>5070</u>	<u>...</u>

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 _____

ORIGINAL

CEMENT DATA

STAGE	NUMBER OF SACKS	CEMENT	BRAND	BULK SACKED	ADDITIVES	YIELD CUFT/SK	MIXED LBS/GAL
<u>1</u>	<u>125</u>	<u>Port 112</u>		<u>5</u>	<u>...</u>	<u>1.84</u>	<u>127</u>
	<u>125</u>	<u>STD</u>		<u>5</u>	<u>...</u>	<u>1.15</u>	<u>122</u>
<u>2</u>	<u>225</u>	<u>Port 112</u>		<u>5</u>	<u>...</u>		

PRESSURES IN PSI

SUMMARY

VOLUMES

CIRCULATING _____ DISPLACEMENT _____ PRESLUSH BBL-GAL 10 TYPE ...
 BREAKDOWN _____ MAXIMUM _____ LOAD & BKON BBL-GAL _____ PAD BBL-GAL _____
 AVERAGE _____ FRACTURE GRADIENT _____ TREATMENT BBL-GAL _____ DISPL. BBL-GAL ...
 SHUT-IN INSTANT _____ 5-MIN _____ 15-MIN _____ CEMENT SLURRY BBL-GAL ...
 HYDRAULIC HORSEPOWER _____ TOTAL VOLUME BBL-GAL _____
 ORDERED _____ AVAILABLE _____ USED _____ REMARKS _____
 AVERAGE RATES IN BPM _____
 TREATING _____ DISPL. _____ OVERALL _____
 CEMENT LEFT IN PIPE _____
 LET _____ REASON _____

WELL NO. 2-11 LEASE YADAMA TICKET NO. 304820

CUSTOMER MAPLATHA PAGE NO. 1

FORM 2013 R-2

JOB TYPE 5 4 2500 DATE 12-7-92

CHART NO.	TIME	RATE (BPM)	VOLUME (FED) (GAL)	PUMPS		PRESSURE (PSI)		DESCRIPTION OF OPERATION AND MATERIALS
				T	C	TUBING	CASING	
	0800							SHUT
	0900							Loc. LOCATION.
	0930							Run 1/2" Asphal
	0930							Plugging in. Hook up To Miss Pump
	0950							Not Circulating
	0930							SHUT MISS PUMP DOWN Hook up To Cat Line
	0633	3	10		✓	250		Pump 10 32L Fresh WATER
	0636	6	41		✓	250		Pump 10 32L Slurry 12.7d - Good RETURN
	0644	5	39		✓	250		Pump 10 32L Slurry 15.6d - " "
	0652							SHUT DOWN To Drop L.D. Plug & Wash
								Pumps & Lines
	0655	4	41		✓	500		Displace w/ H ₂ O - Good RETURN
	0705	6			✓	100		Displace w/ H ₂ O - " "
	0710	5.2	30		✓	500/400		Slow Rate - 30 32L mud out
	0720		42			600/1100		Plug Down - Release Pres. Fract 2nd -
	0730					0		Deep Draining LOUPE
	0740	5	10			1500		Open DV. Generator - Pump 6 32L mud
	0745							Switched line over To Miss Pump - Circ. the W.O.C.
	1130							SHUT MISS PUMP DOWN Switched over To Cat Line
	1135	5	274		✓	150		Pump 835 32L Slurry 12.7d - Good RETURN
	1227							Slurry in. SHUT DOWN To Drop Slurry Plug
								Washed up
	1230	2.5			✓	500		Displace w/ H ₂ O - Good RETURN
	1237	5.2	35		✓	700		Slow Rate
	1240		42		✓	250/1150		Plug Down Tool 12.7d - 2nd 11 1250
						0		Release Pressure Corporation CO. 12.7d
								Released From Location

MAR 05 1993

CONSERVATION DIVISION
LITCHITA, KS

ORIGINAL

Surface casing

Phone 913-483-2627, Russell, Kansas

Phone Plainville 913-434-2812

Phone 316-793-5861, Great Bend, Kansas

Phone Ness City 913-798-3843

ALLIED CEMENTING CO., INC.

1076

Home Office P. O. Box 31

Russell, Kansas 67665

N.L.

Date	12-1-92	Sec.	11	Fwp.	18	Range	43	Called Out	1:00 PM	On Location	4:00 PM	Job Start	5:00 PM	Finish	16:00 PM
Lease	Norma	Well No.	2-11	Location	Tribune 15w AN 2E S15			County	Missoury	State	KS				

Contractor	Murfin Drilling Ris # 24		
Type Job	Surface Casing Job		
Hole Size	12 1/4	T.D.	265 ft
Csg.	8 5/8	Depth	268 ft
Tbg. Size		Depth	
Drill Pipe		Depth	
Tool		Depth	
Cement Left in Csg.		Shoe Joint	42.65 ft
Press Max.	400*	Minimum	
Meas Line	225 ft	ISA	DISPATCH COMMISSION
Perf.			

Owner	Marathon Oil Co.
To Allied Cementing Co., Inc. You are hereby requested to rent cementing equipment and furnish cementer and helper to assist owner or contractor to do work as listed.	
Charge To	Murfin Drilling Co.
Street	250 N. Water, Suite 300
City	Wichita State KS, 67202
The above was done to satisfaction and supervision of owner agent or contractor.	

Purchase Order No.	
X	James McKenna
CEMENT	

Amount Ordered	175 Com	37cc	1/4 Pi. flo seal	
Consisting of				
Common	175	5.50		962.50
Poz. Mix				
Gel.				
Chloride	5	21.00		105.00
Quickset				
	Flt Seal-44	1.00		44.00
Handling	175	1.00		175.00
Mileage	100			700.00

EQUIPMENT MAR 05 1993

No.	Cementor	
Pumptrk 120	Helper	
No.	Cementor	
Pumptrk	Helper	
	Driver	Jack S.
Bulktrk 116		
Bulktrk	Driver	

DEPTH of Job	268 ft	
Reference:		
	Pump Truck charge	380.00
	100 miles charge	200.00
	1 8 5/8 wooden plug	42.00
	Total	622.00

Total #	3299.50	Sub Total	
Disc	- 659.90		
	\$ 2639.60	Total	1986.50

Remarks: Cement did curedate

ORIGINAL

Allied Cementing Co. Inc. *James McKenna*

Floating Equipment	
1-8 1/2 Top Seal -	220.00
1-8 1/2 Insert -	258.00
3-8 1/2 Core -	183.00
1 core hook leak -	30.00
	\$ 691.00

HALLIBURTON SERVICES JOB LOG

WELL NO. 2-11 LEASE NORRIS TICKET NO. 251223
 CUSTOMER Marathon Oil Co PAGE NO. 1 of 2
 JOB TYPE 4 1/2" EZSV / Mechanical Setting / Squeeze DATE 1-22-93

FORM 2013 R-2

ORIGINAL

CHART NO.	TIME	RATE (BPM)	VOLUME (BBL) (GAL)	PUMPS		PRESSURE (PSI)		DESCRIPTION OF OPERATION AND MATERIALS
				T	C	TUBING	CASING	
C. 1	03:00							Called out Requested Ready 09:00 set
	08:00							on location, Requested Arrive standby set
	08:30							Ready to R. T. G.
	09:00							Pick up EZSV / Mechanical setting down 4 1/2
	10:40							TRIP HOLE
	10:55	3						Set EZSV at 5220 with mechanical setting tool
	11:15							and 167 575. TAG. STING OUT
	11:20							Hookup & Load Hole
	11:30	3	80				700	Shot down. Hole C. with. Hookup to
	11:33							put oil in line tank
	11:36	1 1/2				1000		Resume pumping
	11:42	1 1/2	10			1000		Shot down Hole toward
	11:47	1 1/2				1000 ↓		STING IN EZSV
	11:49	1 1/2	2.8			800		Start Injection Rate
	12:02	1 1/2	20			1300		Finish Injection Rate
	12:03	2.5					100	Mid and pump 15 sec Pressure 15% 164316 + 1645
	12:14		30				700	shut down Finish Displacement ISIP 850
	12:15							STING OUT, Reverse out
	13:20							Finish Reverse out. Knowledge
	15:30							P. II TAG and Mechanical setting tool
	15:10							out of hole. Reset Mechanical setting tool
	15:16	7.5					250	P. II used EZSV
	15:20							TRIP HOLE
	15:22							Set EZSV at 5136 on Mechanical setting tool 164555
	15:27						500	Load Annul.
	15:29					1000		STING OUT put Trip in hole good
	15:35	1 1/2				1100		Repeat Annul.
	15:38	1 1/2	6			1100		Start Injection 1000 psi increment with pump
	15:41	1 1/2				1100		backing pump into
	15:46		6.6					Rate 1 1/2 BPM / 1100 PSI, after 3 sec Pressure 164322
	15:48	1 1/2				1050		Finish cement, Wash pump & lines to pit
								START Displacement

RECEIVED
KANSAS CORPORATION COMMISSION
MAR 05 1993
CONSERVATION DIVISION
WICHITA, KS

Please See Job Log #2 For Continuation

CUSTOMER

HALLIBURTON SERVICES
JOB LOG

WELL NO. 2-11 LEASE Norma TICKET NO. 251223
 CUSTOMER Marathon Oil Co PAGE NO. 2 of 2
 JOB TYPE 4 1/2" ccs / packset and / squeeze DATE 1-22-93

FORM 2013 R-2

CHART NO.	TIME	RATE (BPM)	VOLUME (BBL) (GAL)	PUMPS		PRESSURE (PSI)		DESCRIPTION OF OPERATION AND MATERIALS
				T	C	TUBING	CASING	
	16:01	3/4				1050		Shutdown ST-MT ST-AGNS
	16:06					350/1000		R-PSF
	16:13					412/1000		R-PSF
	16:40		18.5			700/1000		R-PSF
	16:24					1000		Holding, Release Back
	16:25							STING OUT and Reverse out
	16:39		25					Finish Reversing out. Next Log
	16:40							Tripout of hole with T36 / T006
	17:55							out of hole with mechanical setting tool
	18:10							Released Sub Completed
								1st Squeeze 80 BBL KCL H2O to treat hole
								10 BBL KCL H2O Injective Rate
								2.8 BBL cement Slurry
								20 BBL KCL H2O Displacement
								30 BBL KCL H2O Reverse out
								13 sec cement out in Completion 1500 in pipe
								String out of c2st 850 PSI / holding
								2nd Squeeze 2 BBL KCL H2O Lead Hole
								6 BBL KCL H2O Injective Rate
								6.6 BBL cement Slurry
								18.5 BBL KCL H2O Displacement
								25 BBL KCL H2O Reverse out
								26 sec cement out in formation, 3.5 sec in pipe, 5.5 pit
								Reverse out Squeezed to 1000 psi Holding

ORIGINAL

Thanks For Calling Halliburton Services
 Gary D Grant JCRW

CUSTOMER

DISTRICT Liberal, KS.

DATE 1-22-93

TO: HALLIBURTON SERVICES YOU ARE HEREBY REQUESTED TO FURNISH EQUIPMENT AND SERVICEMEN TO DELIVER AND OPERATE

THE SAME AS AN INDEPENDENT CONTRACTOR TO: Marathon Oil Company (CUSTOMER) AND DELIVER AND SELL PRODUCTS, SUPPLIES, AND MATERIALS FOR THE PURPOSE OF SERVICING

WELL NO. 2-11 LEASE Norma SEC. 11 TWP. 18 S RANGE 43 W

FIELD Moore-Schwartz COUNTY Geology STATE KS. OWNED BY SMIE

THE FOLLOWING INFORMATION WAS FURNISHED BY THE CUSTOMER OR HIS AGENT

FORMATION NAME _____ TYPE _____
FORMATION THICKNESS _____ FROM _____ TO _____
PACKER: TYPE FR 5240 SET AT 5136
TOTAL DEPTH FR 5240 MUD WEIGHT _____
BORE HOLE _____
INITIAL PROD: OIL _____ BPD, H₂O _____ BPD, GAS _____ MCF
PRESENT PROD: OIL _____ BPD, H₂O _____ BPD, GAS _____ MCF

	NEW USED	WEIGHT	SIZE	FROM	TO	MAX. ALLOW. P.S.I.
CASING	U	9.5	4 1/2	K6 (9')	5240	1000
LINER						
TUBING	U	4.7	2 3/8	K6 (9')	5240	1500
OPEN HOLE						SHOTS/FT.
PERFORATIONS				5228	5232	
PERFORATIONS				5167	5178	
PERFORATIONS						

PREVIOUS TREATMENT: DATE _____ TYPE _____ MATERIALS _____

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

Run 4 1/2 E25V / Mechanical Sealing Down on 2 3/8 TSC For Squeeze with 9855. Premium with .8% Haled 322, Run Second 4 1/2 E25V and Squeeze Top Rds. with 355t Premium with .8% Haled 322.

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

As consideration, the above-named Customer agrees: THIS CONTRACT MUST BE SIGNED BEFORE WORK IS COMMENCED

- a) To pay Halliburton in accord with the rates and terms stated in Halliburton's current price list. Invoices are 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 attorneys 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.
- b) To defend, indemnify, release and hold harmless Halliburton, its divisions, subsidiaries, parent and affiliated companies and the officers, directors, employees, agents and servants of all of them from and against any claims, liability, expenses, attorneys fees, and costs of defense to the extent permitted by law for:
 - Damage to property owned by, in the possession of, or leased by Customer, and/or the well owner (if different from Customer), including, but not limited to, surface and subsurface damage. The term well owner shall include working and royalty interest owners.
 - Reservoir formation or well loss or damage, subsurface trespass or any action in the nature thereof.
 - Personal injury or death or property damage (including, but not limited to, damage to the reservoir, formation or well) or any damages (whats ever, growing out of or in any way connected with or resulting from pollution, subsurface pressure, losing control of the well and/or a well blowout or the use of radioactive material).

The defense, indemnity, release and hold harmless obligations of Customer provided for in this Section b) and Section c) below shall apply to claims or liability (whatsoever) caused or contributed to by Halliburton's negligence, strict liability or the unseaworthiness of any vessel owned, operated, or furnished by Halliburton or any defect in the data, products, supplies, materials, or equipment of Halliburton whether in the preparation, design, manufacture, distribution, or marketing thereof, or from a failure to warn any person of such defect. Such defense, indemnity, release and hold harmless obligations of Customer shall not apply where the claims or liability are caused by the gross negligence or willful misconduct of Halliburton. The term Halliburton as used in said Sections b) and c) shall mean Halliburton, its divisions, subsidiaries, parent and affiliated companies and the officers, directors, employees, agents and servants of all of them.

It is recognized that 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 effectiveness of the products, supplies, materials or the results of any treatment or service, nor 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 liable for and Customer shall indemnify Halliburton against any damages (whatsoever) arising from the use of such information.

That 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 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.

That 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 determined to be the result 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 loss or damage is caused by the gross 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 Halliburton's equipment, tools or instruments which occurs at any time after delivery to Customer or the landing until returned to the landing, unless such loss or damage is caused by the gross negligence of Halliburton.

- f) To waive the provisions of the Deceptive Trade Practices - Consumer Protection Act, to the extent permitted by law.
- g) That this contract shall be governed by the law of the state where services are performed or materials are furnished.
- h) That Halliburton shall not be bound by any changes or modifications to 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 D.D. Wood CUSTOMER
DATE 1-22-93
TIME 08:00 (A.M.) P.M.

CONSERVATION DIVISION WICHITA, KS

MAR 03 1993

WELL DATA

FIELD W-1-Sch SEC 11 TWP 19 RNG 2 COUNTY Chey 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 EZSV SET AT 5220 & 5136
 BOTTOM HOLE TEMP _____ PRESSURE _____
 MISC DATA _____ TOTAL DEPTH 5240 P3

	NEW USED	WEIGHT	SIZE	FROM	TO	MAXIMUM PSI ALLOWABLE
CASING	10	AS	4" 1/2	23(1)	8240	
LINER						
TUBING	1	4.1	2 1/4	153(1)		
OPEN HOLE						SHOTS-FT
PERFORATIONS				5220	5136	
PERFORATIONS				5167	5178	
PERFORATIONS						

JOB DATA

TOOLS AND ACCESSORIES

TYPE AND SIZE	QTY	MAKE
FLOAT COLLAR		
FLOAT SHOE		
GUIDE SHOE		
CENTRALIZERS		
BOTTOM PLUG		
TOP PLUG		
HEAD		
PACKER <u>EZSV</u>	<u>1 1/2</u>	<u>2 Husco</u>
OTHER		

CALLED OUT	ON LOCATION	JOB STARTED	JOB COMPLETED
DATE <u>12-13</u>	DATE <u>12-13</u>	DATE <u>1-27-13</u>	DATE <u>1-27-13</u>
TIME <u>03:00</u>	TIME <u>08:00</u>	TIME <u>08:00</u>	TIME <u>18:15</u>

PERSONNEL AND SERVICE UNITS

NAME	UNIT NO & TYPE	LOCATION
<u>L.D. Grant 20112</u>	<u>1121</u>	<u>Liberal, KS</u>
<u>J. G. ... 021073</u>	<u>4-16</u>	<u>"</u>
<u>T. Broadbent 04604</u>	<u>76900 P</u>	<u>"</u>
<u>P. Clive 84372</u>	<u>1301A</u>	<u>Hays, KS</u>

MATERIALS

TREAT FLUID _____ DENSITY _____ LB/GAL-⁰API
 DISPL FLUID _____ DENSITY _____ LB/GAL-⁰API
 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 Tool / Service
 DESCRIPTION OF JOB 1 1/2" EZSV / 1 1/2" HUSCO
spec 2 with filter

JOB DONE THRU TUBING CASING ANNULUS TGB/ANN

CUSTOMER REPRESENTATIVE X D D / 1212

HALLIBURTON OPERATOR Lon, D. ... COPIES REQUESTED _____

CEMENT DATA

STAGE	NUMBER OF SACKS	CEMENT	BRAND	BULK SACKED	ADDITIVES	YIELD CU FT/SK	MIXED LBS GAL
	<u>25</u>	<u>P...</u>			<u>.8 1/2 Husco 311</u>	<u>1.00</u>	<u>16.4</u>
	<u>35</u>				<u>4-1/2 ...</u>	<u>1</u>	<u>16.4</u>

PRESSURES IN PSI

SUMMARY

VOLUMES

CIRCULATING _____ DISPLACEMENT _____ PRESLUSH BBL-GAL _____ TYPE _____
 BREAKDOWN _____ MAXIMUM _____ LOAD & BKDN BBL-GAL _____ PAD BBL-GAL _____
 AVERAGE _____ FRACTURE GRADIENT _____ TREATMENT BBL-GAL _____ DISPL BBL-GAL _____
 SHUT-IN INSTANT _____ 5-MIN _____ 15-MIN _____ CEMENT SLURRY BBL-GAL _____
 ORDERED _____ AVAILABLE _____ USED _____ TOTAL VOLUME BBL-GAL _____
 TREATING _____ DISPL _____ OVERALL _____
 FEET _____ REASON _____

REMARKS _____

ORIGINAL

CUSTOMER 11/27/13
 LEASE 11/27/13
 WELL NO 1-11
 JOB TYPE 1-2-73
 DATE 1-27-13

FORM 1906 R-11

WELL NO. - FARM OR LEASE NAME 2-11 Norma		COUNTY Grand	STATE KS	CITY / OFFSHORE LOCATION	DATE 1-22-73
CHARGE TO Marathon Oil Company		OWNER Marathon	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 P.O. Box 2690		CONTRACTOR S.W. Gilbert	LOCATION 1 Liberal, KS		CODE 25340
CITY, STATE, ZIP Cad, Wyo 82414		SHIPPED VIA H2	FREIGHT CHARGES <input type="checkbox"/> PPD <input type="checkbox"/> COLLECT		LOCATION 2
WELL TYPE 01	WELL CATEGORY 02	WELL PERMIT NO.	DELIVERED TO Liberal, Wyo		LOCATION 3
TYPE AND PURPOSE OF JOB 667		B-	ORDER NO.		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 28th 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.

PRICE REFERENCE	SECONDARY REF OR PART NO.	L O C	ACCOUNT	DESCRIPTION	UNITS 1		UNITS 2		UNIT PRICE	AMOUNT
					QTY	MEAS	QTY	MEAS		
100-115		1		MILEAGE	65	miles	1	unit	1.45	94 25
102-012		1		Operator Charge	2	Hrs	1	unit	38.22	304 00
128-363		1		Mechanical Setting, Airline	1	unit	4 1/2	unit		210 00
128-546		1		Supervisor Marshall	1	unit				165 00
94	802.339	1		E2SV P-100	1	unit	4 1/2	unit		710 00
94	802.339	1		E2SV P-100	1	unit	4 1/2	unit		710 00

HALLIBURTON

ORIGINAL

1-22-73

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

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.

Larry DeJure
 HALLIBURTON OPERATOR

HALLIBURTON APPROVAL

CUSTOMER

SUB TOTAL

2523 25
 APPLICABLE TAXES WILL BE ADDED ON INVOICE.

A Division of Halliburton Company

FORM 1908 R-11

WELL NO.—FARM OR LEASE NAME <i>2-11 NORMA</i>		COUNTY <i>Grady</i>	STATE <i>K</i>	CITY / OFFSHORE
CHARGE TO <i>MARATHON</i>			OWNER <i>SAM</i>	TICKET TYPE (CHECK ONE) SERVICE <input checked="" type="checkbox"/> SALES <input type="checkbox"/> YES <input type="checkbox"/> NO <input checked="" type="checkbox"/>
ADDRESS			CONTRACTOR <i>SW</i>	LOCATION <i>1 Liberal, K</i>
CITY, STATE, ZIP			SHIPPED VIA <i>None</i>	LOCATION <i>2 Liberal, K</i>
WELL TYPE <i>01</i>	WELL CATEGORY <i>02</i>	WELL PERMIT NO.	DELIVERED TO <i>location</i>	LOCATION <i>3</i>
TYPE AND PURPOSE OF JOB <i>025</i>		B- <i>122958</i>	ORDER NO.	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 common 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 25% 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.

PRICE REFERENCE	SECONDARY REF OR PART NO.	L O C.	ACCOUNT	DESCRIPTION	UNITS 1		UNITS 2		UNIT PRICE	AMOUNT	
					QTY	MEAS	QTY	MEAS			
<i>000-117</i>				<i>MILEAGE</i>	<i>15</i>	<i>Mi</i>			<i>225</i>	<i>177</i>	<i>75</i>
<i>009-134</i>				<i>PUMPING CHARGE</i>	<i>5232</i>	<i>7</i>	<i>5</i>	<i>WGL</i>		<i>1585</i>	<i>00</i>

NOT THIS IS AN INVOICE ORIGINAL

MAR 06 1968

AS PER ATTACHED BULK MATERIAL DELIVERY TICKET NO.

B- *122958*

872 99

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.

JOHN ESCOBAR

HALLIBURTON OPERATOR

HALLIBURTON APPROVAL

CUSTOMER

SUB TOTAL *2636 74*
APPLICABLE TAXES WILL BE ADDED ON INVOICE.

ORIGINAL

KANSAS CORPORATION COMMISSION

MAR 05 1993

CONSERVATION DIVISION
WICHITA, KS

Structural Comparison

Marathon Oil
Norma 2-11
1950 FEL&510FNL
11-18S-43W
Greeley Co., KS
KB 3921

Murfin/Axem/DCX
Coyote 1-DCX
S/2 SE NE
2-18S-43W
Greeley Co., KS
KB 3912

Murfin/Axem/DCX
Norma 1-1
1980FNL&2130FEL
11-18S-43W
Greeley Co., KS
KB 3918

Formation Sample ELOG

BSC	2650	2644	+1277	2648+1264	(+13)	2642+1276	(-01)
Cottonwood	3317	3321	+ 600	3314+	598 (+02)	3306+	612 (-12)
Neva	3399	3394	+ 527	3397+	515 (+12)	3388+	530 (-03)
Foraker	3472	3368	+ 449	3472+	440 (+09)	3462+	456 (-07)
Topeka Ls	3856	3850	+ 71	4170+	56 (+15)	3844+	74 (-03)
Heebner Sh	4093	4095	- 174	4094-	182 (+08)	4082-	164 (-10)
Toronto Ls	4123	4114	- 193	4130-	218 (+25)	4108-	190 (-03)
Lansing	4164	4156	- 235	4170-	258 (+23)	4146-	228 (-07)
Stark Sh	4452	4447	- 526	4454-	542 (+16)	4441-	523 (-03)
Marmaton Ls	4583	4577	- 656	4586-	674 (+18)	4574-	656 (00)
Cherokee Sh	4722	4718	- 797	4735-	823 (+26)	4700-	781 (-16)
Atoka Ls	4938	4926	-1005	4954-	1024 (+19)	4908-	990 (-15)
Morrow Sh	5065	5061	-1140	5065-	1153 (+13)	5045-	1130 (-10)
Lwr Mor Sst	5170	5167	-1246	5173-	1261 (+15)	5144-	1226 (-20)
Morrow Ls	5191	5190	-1269	5190-	1278 (+09)	5160-	1242 (-27)
Miss	5236	5226	-1305	5230-	1318 (+13)	5196-	1278 (-27)
RTD, LTD	5310	5306	-1385				

ORIGINAL

Marathon Oil Company
Norma 2-11
1950 FEL & 510 FNL
Sec. 11-18S-43W
Greeley County, Kansas

December 4, 1992

FILED
KANSAS CORPORATION COMMISSION

MAR 05 1993

RECEIVED
KANSAS CORPORATION COMMISSION

SUPPLEMENTAL SAMPLE DESCRIPTIONS

The following sample descriptions are a composite representation of each sample saved during the drilling operations of the above referenced well. No attempt was made to lag these descriptions but are to be used as a supplement to the geologic report for this well.

- 3840-3860 ls lt gray to white fn xln w/shales dk gray and red beds 20%, scattered large pieces of pyrite
- 3860-3880 shales gray-green, dk gray some blk, red beds 40%, ls cream fn xln, soft w/med inclusions
- 3880-3900 red beds 60%, lesser shales dk gray and steel gray some sandy scattered pyrite
- 3900-3920 red beds 90%, lesser shales blk and gray-green some sandy w/ anhydrite white
- 3920-3940 red beds 90%, w/shales dk gray to steel gray
- 3940-3960 red beds 95%, scattered pyrite w/dk gray to blk shale
- 3960-3980 same as above
- 3980-4000 red beds 95%, sparse pyrite and lesser dk gray shales
- 4000-4010 sandy red beds 90%, w/shales gray, gray-green
- 4010-4020 red beds, sandy in part 95%, shales dk gray and blk to brn and gray-green
- 4020-4030 as above, trace of ls tan fn xln, scattered vugs
- 4030-4040 red beds 85%, sandy, shales dk gray to blk lesser gray-green
- 4040-4050 red beds 70%, shales gray-green, green and blk
- 4050-4060 red beds 90%, w/lesser shales gray-green to dk gray and blk
- 4060-4070 red beds 85-90%, shales dk gray, gray-green and blk, very small amts of ls tan fn xln
- 4070-4080 red beds 95%, shales dk gray and blk, soft and clayey in part
- 4080-4090 as above
- 4090-4100 red beds 90%, some sandy, shales gray-green and dk gray
- 4100-4110 red beds 98%, lesser shales dk gray
- 4110-4120 same as above
- 4120-4130 red beds 98%, w/shales gray to blk
- 4130-4140 red beds 98%, w/shales dk gray to blk, very small amts of ls tan fn xln
- 4140-4150 red beds and dk gray to blk shales 100%
- 4150-4160 ls white fn xln to chalky, TRACE of FLOUR and Very Slight Show of Oil in pp porosity, faint odor
- 4160-4170 ls white fn and some med xln to soft and chalky
- 4170-4180 ls white fn xln, fossil, red beds 98% w/shales gray to blk
- 4180-4190 100% red beds and shales dk gray
- 4190-4200 ls cream to white fn to some med xln, scattered fossil
- 4200-4210 ls white and cream fn xln, chert white and milky, fresh, subopaque 10%
- 4210-4220 ls white and cream fn xln, some coarsely oolitic in dn to recrystallized matrix, small amts of chert white opaque, shaly gray sst fn grain, rounded, well sorted
- 4220-4230 same as above

- 4230-4240 ls cream to white fn and some med-xln to poorly dev. oolitic
ls in dn matrix
- 4240-4250 red beds 85%, w/dk gray and blk shales
- 4250-4260 ls cream to white fn xln to chalky, lesser finely oolitic ls
in dn matrix, fair amts of chert white and clear, fresh,
opaque to translucent, sharp
- 4260-4270 red beds 85%, w/dk gray and blk shales, ls white and cream fn
xln, poorly dev. med oolitic ls and sparse fossil
- 4270-4280 ls dk brn fn xln dn, scattered chert white fresh, opaque
- 4280-4290 ls tan-brn fn xln, grading to slightly chalky ls and some
fossil, scattered chert white and cream, fresh subopaque to
translucent
- 4290-4300 ls white to lt gray fn xln to chalky
- 4300-4310 ls dk gray and some brn fossil to oolitic, chalky, trace of
chert white, fresh, opaque
- 4310-4320 ls dk gray and some brn fossil, fn to med oolitic, chalky
- 4320-4330 ls dk gray and some brn fossil to finely oolitic, chalky
- 4330-4340 same as above
- 4340-4350 ls brn and gray fossil and med oolitic, sparsely oolitic
w/assoc. chalky ls
- 4350-4360 ls white to lt gray fn and med oolitic and oolitic, broken
and fragmental, well represented
- 4360-4370 red beds 75%, shales vdk gray and ls white to lt gray fn and
med oolitic and oolitic ls, broken and fragmental,
scattered chalk
- 4370-4380 red beds 95%, shales vdk gray, gray-green to blk some sandy
- 4380-4390 ls cream to white fn xln grading to chalky ls, red beds 40%
- 4390-4400 ls cream-white fn xln grading to chalky ls, red beds 40%
- 4400-4410 ls gray to white fn xln, fossil in part, w/chert gray, fossil
- 4410-4420 red beds, brick red, sandy, w/gray-green sandy shale 100%
- 4420-4430 red beds 80%, ls tan-gray fn xln dn to chalky
- 4430-4440 ls gray fn and med xln, soft
- 4440-4450 ls white fn xln, partly oolitic and lesser fossil, red beds
and dk gray shales 50%
- 4450-4460 ls white to tan fn xln to poorly dev. oolitic ls, broken and
fragmental
- 4460-4470 red beds and dk gray to blk shales 100%
- 4470-4480 ls dk gray and gray fn xln dn 20%, red beds and shales blk to
dk gray 80%
- 4480-4490 same as above
- 4490-4500 ls gray to lt gray fn xln, slightly chalky 5%, red beds and dk
gray shales 95%
- 4500-4510 ls gray to tan fn xln, few pieces brn med oolitic, red beds
and gray shales 95%
- 4510-4520 same as above
- 4520-4530 red beds, brick red 80%, shales vdk gray to blk 10%, scattered
anhydrite
- 4530-4540 ls brn and gray fn xln, fossil in part, blk inclusions
- 4540-4550 red beds 50%, shales dk gray and blk 50%
- 4550-4560 red beds 60%, w/shales dk gray, gray-green and blk 35%, traces

- of ls tan fn xln
- 4560-4570 ls tan fn xln dn, and red beds 60% and shales gray-green to sandy
- 4570-4580 red beds 85%, w/shales dk gray, gray-green and anhydrite, ls tan fn xln dn, small amts of chalky ls
- 4580-4590 same as above, red beds
- 4590-4600 red beds 90%, shales dk gray, gray-green and anhydrite, sparse amts of ls tan fn xln dn w/small amts of assoc. chalky ls 2-3%
- 4600-4610 red beds 95%, small amts of vdk gray, gray-green and anhydrite, sparse ls brn fn xln
- 4610-4620 ls cream to lt gray fn xln, scattered broken fn and med oolitic ls
- 4620-4630 ls cream to lt gray fn xln
- 4630-4640 ls cream to lt gray fn xln, sparse broken oolitic and fossil ls grading to chalky
- 4640-4650 ls tan fn xln dn w/assoc. chalky ls, sparse chert milky, fresh subopaque
- 4650-4660 ls tan fn xln dn w/assoc. chalky ls, small amts of chert white to translucent, fresh
- 4660-4670 ls tan fn xln dn w/assoc. chalky ls and small amts of chert white to translucent, fresh
- 4670-4680 ls gray to cream fn xln dn, w/med dk inclusions and fossils
- 4680-4690 ls vdk gray to brn fn xln dn increasing shales vdk gray 30%
- 4690-4700 ls tan and cream fn xln, small amts of chert white, fresh, opaque, shales blk and vdk gray 60%
- 4700-4710 ls tan to dk gray fn xln dn, shales gray-green and dk gray 40%
- 4710-4720 ls tan to dk gray fn xln dn, poorly dev. oolitic ls thru-out, shales vdk gray, gray-green
- 4720-4730 ls vdk brn and gray fn xln dn, w/white vfn oolitic ls, shales gray-green, dk gray and blk 50%
- 4730-4740 ls tan-vdk brn and gray fn xln dn, shales blk and vdk gray some sandy and micac. 50%
- 4740-4750 ls tan to brn and dk gray fn xln some fossil, shales gray-green, dk gray 40%
- 4750-4760 ls cream fn xln and med oolitic, chalky to dn matrix, no shows, well represented
- 4760-4770 as above, decrease in oolitic ls
- 4770-4780 ls gray fn xln dn and lesser ls cream med oolitic, broken, shales gray-green to blk, some sandy 35%
- 4780-4790 ls cream to tan fn xln, med oolitic ls thru-out, poor porosity, chalky matrix w/shales gray-green to blk 40%
- 4790-4800 shales vdk gray to blk and gray-green, ls cream to tan fn xln dn to oolitic w/chalky matrix
- 4800-4810 same as above
- 4810-4820 ls cream to tan fn xln dn some chalky, assoc. broken oolitic ls, shales gray-green and blk 20%
- 4820-4830 shales blk 20%, gray-green and gray 40%, lesser ls tan fn xln
- 4830-4840 same as above
- 4840-4850 red beds, brick red 40%, shales vdk gray to blk 30%, ls tan fn and some med xln, traces of chert and pyritized shales

- 4850-4860 red beds and gray-green shales to blk 90%, ls tan fossil w/chert white opaque
- 4860-4870 ls cream and tan fn xln mixed w/poorly dev. oolitic ls, shales gray-green to blk 60%
- 4870-4880 same as above
- 4880-4890 red beds and small amts of dk gray shales
- 4890-4900 red beds 95%, and shales vdk gray, gray-green to blk
- 4900-4910 red beds 90%, and shales dk gray, gray-green to blk
- 4910-4920 same as above
- 4920-4930 ls cream to lt gray fn xln dn grading to chalky ls
- 4930-4940 ls cream and tan fn xln some fossil, shales vdk gray and blk
- 4940-4950 shales gray, green, dk gray and blk 70%, ls cream and tan fn xln
- 4950-4960 shales blk 30%, gray-green, dk gray and blk 70%, ls cream and tan fn xln
- 4960-4970 ls cream to brn fn xln dn and shales blk and vdk gray 80%
- 4970-4980 ls tan fn xln w/chalky ls, shales blk, vdk gray and gray-green
- 4980-4990 as above
- 4990-5000 ls tan and cream fn xln some slightly fossil, shales vdk gray and blk 40%
- 5000-5010 ls cream and dk gray partly colitic and fossil, shales blk and dk micac.
- 5010-5020 ls tan to dk gray fn xln some fossil, shales vdk gray to blk 40%
- 5020-5030 ls vdk gray and tan fn xln dn, sparsely pyritic, shales vdk gray and gray-green 60%
- 5030-5040 ls vdk brn and gray fn xln dn, partly oolitic, scattered pyrite, shales vdk gray, gray-green some micac.
- 5040-5050 ls gray fn xln to some soft and chalky, scattered pyrite, shales blk 30%, dk gray to gray-green
- 5050-5060 same as above
- 5060-5070 shales vdk gray and blk, micac. in part 60%, ls dk gray and gray fn xln, scattered loose pyrite
- 5070-5080 shales blk 30%, gray-green, ls gray and dk gray fn xln dn some slightly chalky
- 5080-5090 shales blk 30%, gray-green and dk gray, ls gray and brn fn xln some fossil, w/scattered pyrite
- 5090-5100 shales blk, gray-green and gray 80%, scattered ls dk gray fn xln dn
- 5100-5110 shales blk 40%, gray-green and gray 50%, ls dk gray and brn fn xln, sparsely pyritic
- 5110-5120 shales gray, gray-green and lesser blk 100%
- 5120-5130 shales blk 40%, gray-green and dk gray
- 5130-5140 shales blk, gray-green and dk gray
- 5140-5150 shales vdk gray, blk and gray-green, sparse ls cream fn xln
- 5150-5160 shales vdk gray, blk and gray-green, scattered pyrite
- 5160-5170 shales blk, dk gray and gray-green, scattered pyritic shales and loose pyrite
- 5170-5180 shales blk, dk gray and gray-green
- 5180-5190 shales blk, dk gray and gray-green, loose pyrite and pyritic shales

ORIGINAL

5190-5200 shales dk gray, gray-green and gray

5200 C.F.S. 30" shales blk and dk gray to gray-green 95%, small amts of loose coarse, clear and fractured qtz grains, few clusters of sst clear and glassy, very poorly sorted, associated w/a few clusters sst white fn grain, subang., poor porosity, no shows **MOST CLUSTERS NO FLUOR, NO ODOR AND NO SHOW**, a couple of pieces of loose qtz w/dull fluor on edges, QTZ and sst make up less than 1% of the sample by volume

5200 C.F.S. 60" shales blk, dk gray and gray-green, very small amts of sst clear, rounded, w/scattered dull to some fair sptd fluor in poor intergranular porosity, secondary overgrowths, **VERY small show live oil on break, ONE CLUSTER w/very good show tan live oil, NO ODOR!**, very poor fluor dry, fair to fast cut, finer qtz grains makeup matrix on some clusters, traces blk carb. and glauc. inclusions in dirtier sst clusters, mostly loose clear coarse qtz grains, sharp, broken and fractured 1-2% by volume of total sample

5200 C.F.S. 90" shales blk, gray-green and dk gray 95%, sst coarse grain, clear, titely welded, poorly sorted, scattered blk carb and glauc. inclusions, broken and fractured to loose fine thru very coarse, clear, qtz grains, a few clusters med grain, well sorted, rounded to subrnd, scattered sptd fluor to a few fair fluor in intergranular porosity, scattered very small to a couple pcs. w/very good show tan live oil, no odor

5200-5210 shales blk, gray-green and dk gray 95%, sst clear, coarse grain poorly sorted, scattered loose, clear qtz grains, fair sptd to some even fluor, w/small to fair show tan oil in intergranular porosity, **FAIR AMTS W/NO SHOWS**, ls cream to white chalky and ls gray and tan fn and med xln 3-5%

5210-5220 shales blk, gray-green and dk gray 95%, scattered sst and qtz as above 1-2% some w/shows, ls tan-lt gray fn and med xln, fossil in part to chalky

5220-5230 shales blk, gray-green and dk gray 90%, ls tan fn and med xln dn 5%

5230-5240 shales blk, dk gray, gray-green 98%, ls white and tan fn-med oolitic grading to chalky ls

5240-5250 shales blk, dk gray and gray-green 90%+, ls white and tan dn xln med oolitic and slightly fossil grading to chalky ls 5%

5250-5260 shales blk, 70%, gray-green and dk gray, ls dk brn fn xln dn and ls white chalky, soft 10%

5260-5270 shales blk, gray-green and dk gray 80%, ls white to cream chalky, grainy to slightly sandy

5270-5280 ls tan fn thru coarse xln some fossil, grading to chalk and chalky ls, (questionable show lt oil in porosity)

5280-5290 ls 30%, cream to white med oolitic, chalky and weathered, a

couple pieces with fair show tan live oil in interoolitic porosity,
the majority of pcs. have no show, also ls tan fn and med xln,
shales dk gray, blk and gray-green 70%

5290-5300 same as above

5300-5310 ls cream and tan fn to med xln to sandy and chalky w/assoc. fn and
med oolitic ls

5310 C.F.S. 30" ls white fn xln, grainy to sandy, w/assoc. chalk

5310 C.F.S. 60" ls white fn xln, grainy to sandy, w/assoc. chalk

Respectfully Submitted,

Kenneth M. LeBlanc

Kenneth M. LeBlanc

12-08-92

Marathon Oil Company
Norma 2-11
1950 FEL & 510 FNL
Sec. 11-18S-43W
Greeley County, Kansas

December 4, 1992

ORIGINAL

Five foot drilling time from 2500 ft. to 3300 ft.
One foot drilling time from 3300 ft. to R.T.D.

2500-2600	3-3-3-5-4-5-5-4-3-3-3	3-5-4-4-3-3-2-2-2-2
2600-2700	2-2-2-2-5-10-10-9-10-10	6-4-4-4-4-4-4-7-6-3
2700-2800	4-3-3-3-3-4-8-7-7-8	10-9-7-7-7-10-10-9-9-11
2800-2900	11-12-12-14-8-10-10-12-9-9	8-8-8-8-9-10-9-10-9-8
2900-3000	10-6-5-6-3-3-7-4-3-6	6-3-3-3-5-7-7-6-4-3
3000-3100	4-9-10-9-9-9-3-4-6-9	9-11-11-11-11-12-11-11-10-11
3100-3200	14-13-12-12-12-11-10-8-13-12	8-7-12-13-10-4-11-5-4-3
3200-3300	3-4-4-3-3-3-10-11-10-11	10-5-13-11-12-12-12-12-9-12
3300-3320	2-3-3-2-3-2-2-2-3-3	2-2-2-3-2-2-2-4-1-4
3320-3340	2-1-1-2-2-1-2-2-2-1	2-2-2-1-2-2-2-2-2-2
3340-3360	2-3-3-2-2-2-1-2-3-3	2-2-2-2-3-2-2-2-3-3
3360-3380	1-2-3-2-2-1-1-2-1-1	1-1-2-1-1-1-1-1-2-1
3380-3400	2-2-2-2-1-1-2-2-2-2	2-2-2-2-2-2-2-2-1-2
3400-3420	2-1-2-2-2-2-2-1-1-2	2-2-2-1-1-1-1-1-1-2
3420-3440	2-3-2-3-2-3-2-3-2-2	3-2-2-2-1-2-1-2-2-1
3440-3460	2-2-2-3-2-3-2-2-2-2	2-3-2-2-2-3-3-2-2-3
3460-3480	2-3-2-3-3-2-2-2-2-2	2-2-1-2-2-1-1-2-1- $\frac{1}{2}$
3480-3500	$\frac{1}{2}$ - $\frac{1}{2}$ - $\frac{1}{2}$ -1-2-2-2-2-2-2	2-2-2-2-2-2-2-3-2-2
3500-3520	2-2-3-2-2-2-2-3-2-2	2-2-2-3-1-1-1-1-1-1
3520-3540	1-1-1-2-2-1-2-1-3-2	3-2-3-2-3-3-3-2-3-2
3540-3560	2-3-3-2-3-2-3-3-3-2	3-2-3-2-3-3-2-2-1-2
3560-3580	1-1-2-1-1-1-1- $\frac{1}{2}$ - $\frac{1}{2}$ -1	1-1-1-1-1-1-1-2-2-1
3580-3600	2-2-2-2-2-2-2-2-2-2	2-2-2-2-3-2-2-2-1-2
3600-3620	2-2-2-2-3-2-3-2-2-2	3-2-3-1-2-2-1-1-1-1
3620-3640	1-1-2-2-2-2-2-2-2-3	2-2-2-1-2-3-2-3-3-3
3640-3660	2-3-3-2-3-2-4-2-3-3	2-2-2-3-2-3-2-2-2-3
3660-3680	3-3-2-3-1-2-1-1-2-3	3-4-3-3-2-3-2-2-2-2
3680-3700	3-2-3-2-3-2-3-3-3-2	5-2-3-3-3-2-1-2-3-2
3700-3720	3-3-3-3-3-2-3-4-4-3	3-3-4-2-3-3-2-2-1-3
3720-3740	2-3-2-3-2-2-3-2-3-3	2-2-3-2-3-2-3-2-3-2
3740-3760	3-3-3-3-3-2-2-2-2-2	2-1-1-2-2-2-1-2-2-1
3760-3780	2-2-2-3-2-3-2-3-3-2	3-3-3-2-3-2-2-2-2-2
3780-3800	3-1-2-2-3-3-2-2-3-1	3-2-3-3-2-3-4-3-3-3
3800-3820	3-3-3-2-3-2-2-2-2-2	3-3-2-2-3-3-3-3-2-2
3820-3840	2-1-2-3-3-3-3-3-3-3	2-3-2-2-2-3-3-2-3-3
3840-3860	2-3-3-3-2-2-3-3-2-3	3-3-3-2-2-2-3-3-3-2
3860-3880	3-2-2-2-2-1-1-1-1-1	1-1-1-1-3-4-3-2-3-2
3880-3900	3-2-2-1-2-1-1-1-1-1	1-1-1-1-1-1-1-1-1-1
3900-3920	1-1-2-2-2-2-3-3-3-2	2-2-3-2-2-2-2-2-2-3
3920-3940	2-2-1-2-2-2-2-2-2-2	2-3-3-2-2-3-3-2-2-3
3940-3960	2-2-4-3-3-2-2-3-3-2	2-1-1-1-1-2-1-1-2-1
3960-3980	3-2-2-3-3-2-3-2-3-2	2-3-2-3-3-2-3-2-3-3
3980-4000	3-2-3-2-3-3-3-4-3-3	3-3-3-3-4-3-3-3-3-3
4000-4020	3-3-2-3-3-2-3-2-2-1	2-2-1-2-1-2-2-2-2-2
4020-4040	3-2-3-3-3-3-3-3-3-3	2-3-3-2-2-1-1-2-2-2

4040-4060 2-3-3-3-2-3-3-2-4-4
4060-4080 3-2-2-3-2-1-1-1-2-1
4080-4100 2-2-2-2-1-2-2-3-2-3
4100-4120 3-3-3-3-3-3-3-2-3-3
4120-4140 1-2-2-3-2-2-1-2-1-1
4140-4160 2-1-1-2-3-3-2-3-2-3
4160-4180 3-3-3-2-3-3-3-3-3-2
4180-4200 1-1-2-1-3-2-2-2-2-2
4200-4220 3-3-3-3-3-3-3-2-3-3
4220-4240 1-2-2-3-2-2-1-2-1-1
4240-4260 2-1-1-2-3-3-2-3-2-3
4260-4280 3-3-3-2-3-3-3-3-3-2
4280-4300 1-1-2-1-3-2-2-2-2-2
4300-4320 2-1-2-1-2-3-3-2-1-2
4320-4340 3-1-1-1-1-1- $\frac{1}{2}$ - $\frac{1}{2}$ -1-1
4340-4360 2-2-2-3-3-4-3-3-3-2
4360-4380 3-3-3-4-4-3-3-3-2-3
4380-4400 2-3-3-3-3-3-3-3-3-3
4400-4420 3-3-3-3-2-3-3-3-3-2
4420-4440 3-4-3-3-3-3-4-4-4-4
4440-4460 2-2-3-3-2-2-2-2-3-3
4460-4480 4-3-4-4-3-4-4-3-3-3
4480-4500 3-3-2-4-3-3-3-3-3-3
4500-4520 4-3-3-3-3-3-3-3-2-2
4520-4540 2-2-2-2-2-2-3-3-4-3
4540-4560 3-3-3-3-3-3-3-3-4-3
4560-4580 3-3-1-1-1-2-1-2-2-4
4580-4600 4-3-3-2-3-3-2-3-2-1
4600-4620 2-2-4-4-3-2-2-3-3-2
4620-4640 3-3-3-4-5-5-4-5-5-6
4640-4660 3-3-3-3-3-4-3-3-5-3
4660-4680 3-3-3-3-3-5-3-3-3-3
4680-4700 3-4-3-5-3-3-5-6-5-6
4700-4720 3-3-3-2-3-3-3-3-3-3
4720-4740 3-4-2-2-2-3-5-4-4-4
4740-4760 3-3-3-2-2-2-4-3-3-3
4760-4780 4-4-3-3-3-3-4-3-4-4
4780-4800 4-5-4-4-4-3-5-4-4-4
4800-4820 4-3-4-4-4-3-4-4-4-4
4820-4840 4-4-3-3-4-2-4-4-5-5
4840-4860 5-5-4-3-4-3-2-3-4-4
4860-4880 4-3-4-4-4-5-4-5-4-4
4880-4900 4-4-3-4-2-4-4-3-3-3
4900-4920 3-3-4-6-4-5-4-3-3-5
4920-4940 4-5-3-2-3-4-3-3-3-4
4940-4960 2-5-4-3-4-2-4-4-2-2
4960-4980 3-4-3-5-3-3-3-5-4-4
4980-5000 4-5-5-4-5-5-3-4-4-3
5000-5020 2-4-4-3-2-3-4-3-3-4
5020-5040 2-4-4-4-4-2-3-4-3-3

4-3-3-3-3-2-2-2-3
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1-1-3-2-2-2-3-3-2-2
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