Form 3160-5
(August 1999)

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

Oil Cons.
N.M. DIV-Dist. 2
1301 W. Grand Avenue
Artesia, NM 88210

FORM APPROVED
OMB NO. 1004-0135
Expires: November 30, 2000

SUNDRY NOTICES AND REPORTS ON WELLS

Do not use this form for proposals to drill or to re-enter an abandoned well. Use Form 3160-3 (APD) for such proposals.

SUBMIT IN TRIPLICATE - Other instructions on reverse side

5. Lease Serial No.
NM-0330449

6. If Indian, Allottee or Tribe Name
N/A

7. If Unit or CA/Agreement, Name and/or No.
Indian Hills Unit Gas Com

1. Type of Well
☐ Oil Well ☒ Gas Well ☐ Other

8. Well Name and No.
Indian Hills Unit #47
Gas Com.

2. Name of Operator
Marathon Oil Company

9. API Well No.
30-015-32536

3a. Address
P.O. Box 552 Midland, TX 79702

3b. Phone No. (*include area code*)
915-687-8360

10. Field and Pool, or Exploratory Area
Indian Basin U. Penn Assoc.

4. Location of Well (*Footage, Sec., T., R., M., or Survey Description*)
SHL @ U.L. "J" Sec. 29, T-21-S, R-24-E 2316' FSL & 2004' FEL
BHL @ U.L. "P" SEc. 29, T-21-S, R-24-E 700' FSL & 700' FEL

11. County or Parish, State
Eddy N.M.

MAR 2003
RECEIVED
OCD - ARTESIA

12. CHECK APPROPRIATE BOX(ES) TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA

TYPE OF SUBMISSION	TYPE OF ACTION			
☐ Notice of Intent	☐ Acidize	☐ Deepen	☐ Production (Start/Resume)	☐ Water Shut-Off
☒ Subsequent Report	☐ Alter Casing	☐ Fracture Treat	☐ Reclamation	☐ Well Integrity
☐ Final Abandonment Notice	☐ Casing Repair	☐ New Construction	☐ Recomplete	☐ Other
	☐ Change Plans	☐ Plug and Abandon	☐ Temporarily Abandon	
	☐ Convert to Injection	☐ Plug Back	☐ Water Disposal	

13. Describe Proposed or Completed Operation (clearly state all pertinent details, including estimated starting date of any proposed work and approximate duration thereof. If the proposal is to deepen directionally or recomplete horizontally, give subsurface locations and measured and true vertical depths of all pertinent markers and zones. Attach the Bond under which the work will be performed or provide the Bond No. on file with BLM/BIA. Required subsequent reports shall be filed within 30 days following completion of the involved operations. If the operation results in a multiple completion or recompletion in a new interval, a Form 3160-4 shall be filed once testing has been completed. Final Abandonment Notices shall be filed only after all requirements, including reclamation, have been completed, and the operator has determined that the final site is ready for final inspection.)

Please find the attached end of well report for the IHU G.C. # 47.

ACCEPTED FOR RECORD
MAR 2 0 2003
ALEXIS C. SWOBODA
PETROLEUM ENGINEER

14. I hereby certify that the foregoing is true and correct
Name (*Printed/Typed*)
Jerry Fletcher

Title
Engineer Tech.

Signature

Date 3/18/03

THIS SPACE FOR FEDERAL OR STATE OFFICE USE

Approved by

Title

Date

Conditions of approval, if any, are attached. Approval of this notice does not warrant or certify that the applicant holds legal or equitable title to those rights in the subject lease which would entitle the applicant to conduct operations thereon.

Office

Title 18 U.S.C. Section 1001, and Title 43 U.S.C. Section 1212, makes it a crime for any person knowingly and willfully to make to any department or agency of the United States any false, fictitious or fraudulent statements or representations as to any matter within its jurisdiction.

Marathon Oil Company

Operations Summary Report

Legal Well Name: INDIAN HILLS UNIT GC NO. 47
Common Well Name: INDIAN HILLS UNIT GC NO. 47
Event Name: ORIGINAL DRILLING
Contractor Name: MCVAY DRILLING
Rig Name: MCVAY DRILLING

Start: 2/25/2003
Rig Release:
Rig Number: 4

Spud Date: 2/26/2003
End:
Group:

Date	From - To	Hours	Code	Sub Code	Phase	Description of Operations
2/27/2003	08:00 - 18:00	10.00	RIG	DMOB	MIRU	Location built by Key Const. (300' x 200') Drilled & set 40' of 14" conductor pipe (GL). Cemented to surface. MIRU McVay #4. Finished rigging up.Welded on 13 5/8" flange on conductor pipe. NU 13 5/8" 3 M Hydril & drilling spool. Shut down for night.
2/28/2003	08:00 - 14:00	6.00	EQUIP	PEQP	MIRU	Finished rigging up. Flowline. PU Swivel.Pick up Equipment. PU 12 1/4" Hammer & BHA.
	14:00 - 15:15	1.25	DRILL	HAMR	DRLSUR	Pre-spud meeting/Safety meeting. Pumped on hole. Ajdusting water volume. Pumping 28 BPH of water.
	15:15 - 22:15	7.00	DRILL	HAMR	DRLSUR	Hammer Drill. Spudded 12 1/4" hole @ 3:15 PM CST. Misted drilled f/ 53' t/ 358'. Hit water @ 300'. Filled reserve pit & more.
	22:15 - 22:30	0.25	SURV	TOTC	DRLSUR	Survey with TOTCO Tools
	22:30 - 04:45	6.25	DRILL	HAMR	DRLSUR	Misted drilled f/ 358' t/ 611'. P-rate slowed.
	04:45 - 06:00	1.25	TRIP	BIT	DRLSUR	Trip out for Hammer.
3/1/2003	06:00 - 08:00	2.00	TRIP	BIT	DRLSUR	TOOH. L/D Hammer. PU bit. Shock sub & 3 pt reamer.
	08:00 - 09:00	1.00	TRIP	BIT	DRLSUR	TIH.
	09:00 - 15:00	6.00	DRILL	AIR	DRLSUR	Air Drilling . Pumping @ 3400 SCF/min. Making 10 BPM of water.
	15:00 - 15:15	0.25	SURV	TOTC	DRLSUR	Survey with TOTCO Tools
	15:15 - 17:15	2.00	DRILL	AIR	DRLSUR	Air Drilling. High excessive torque.
	17:15 - 18:30	1.25	TRIP	BIT	DRLSUR	Trip out for Bit. Bit ck OK. L/D 3 pt reamer.
	18:30 - 19:45	1.25	TRIP	BIT	DRLSUR	Trip in w/ Bit.
	19:45 - 20:15	0.50	DRILL	AIR	DRLSUR	Air Drilling. Mist drilled f/ 919' t/ 936'. Tight on connection. 10' of fill after reaming back down.
	20:15 - 20:30	0.25	DRILL	WSHR	DRLSUR	Ream hole 3 times. No drag. (Possible boulder)
	20:30 - 21:30	1.00	DRILL	AIR	DRLSUR	Air Drilling. Pumping 3400 SCF/min of air. 3 GPH of Soap, 28 BPH of fluid.
	21:30 - 21:45	0.25	DRILL	WSHR	DRLSUR	Ream hole 3 times. No drag.
	21:45 - 22:45	1.00	DRILL	AIR	DRLSUR	Air Drilling
	22:45 - 23:15	0.50	DRILL	WSHR	DRLSUR	Reamed on connection. Ck mist pump due to show of air in line. Disconnected all lines. Showed to be pumping OK. Opened bypass showed good fluid.
	23:15 - 23:45	0.50	DRILL	AIR	DRLSUR	Air Drilling. Mist pump showed not to be pumping. Immediately switched to rig pump. Pumped @ 368 GPM. Hole packed off while reaming to bottom. Note: Discission to finish hole by dry drilling to TD w/ rig pump due to a 3 hr wait for additional mist pump.
	23:45 - 01:30	1.75	FISH	JAR	DRLSUR	Worked pipe up hole. 40' off bottom.Stuck DP. Worked pipe free after 1 1/2 hrs. L/D 1 jt.
	01:30 - 02:15	0.75	DRILL	WSHR	DRLSUR	Wash/Ream 70' to bottom. No drag or torque. (Pumping @ 368 GPM)
	02:15 - 06:00	3.75	DRILL	DOHR	DRLSUR	Drill Open Hole Rotary. Dry drilled f/ 1010' t/ 1110'. Drilling @ 27'/hr. No drag or fill on connections. Pumping 1 gal of EZ mud on connections.
3/2/2003	06:00 - 08:30	2.50	DRILL	DOHR	DRLSUR	Dry drilled f/ 1110' t/ TD of 1212'.
	08:30 - 09:30	1.00	CIRC	MUD	DRLSUR	Pumped sweep. 50 vis. Ran WL survey.
	09:30 - 11:00	1.50	TRIP	BIT	DRLSUR	TOOH. Do drag. No hole problems. L/D 8" DC & shock sub.
	11:00 - 14:00	3.00	CSG	RUN	CSGSUR	Safety meeting. RU csg crew. Ran 28 jts of 9 5/8", 36%, K-55 csg. (1 shoe jt) Tack weld 1 st 3 coupling on csg. Landed shoe @ 1212'. Washed bridge @ 1102' No fill.
	14:00 - 15:15	1.25	CIRC	CLN	CSGSUR	RU HES cementing head. Pumped on hole. Waited for HES tech to repair computers.
	15:15 - 18:45	3.50	CEMT	PRIM	CSGSUR	Safety meeting. Primary Cementing Operations. Lead- 10,000 SCF of N2, 10 bbls of foamed water, 20 bbls of foamed gelled water, 10 bbls of foam fresh water, 500 sks of foamed Premuim Plus w/ 1.5% Zonesealant 2000, 2% CaCl2 (14.8 ppg Yield-1.35) tailed with 150 sks of Premuim Plus w/ 2% CaCl2. (14.8 ppg Yield- 1.43) Good returns.Circ 25 sks of cmt before dropping plug. No returns after

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Event Name: ORIGINAL DRILLING
Contractor Name: MCVAY DRILLING
Rig Name: MCVAY DRILLING

Start: 2/25/2003
Rig Release:
Rig Number: 4

Spud Date: 2/26/2003
End:
Group:

Date	From - To	Hours	Code	Sub Code	Phase	Description of Operations
3/2/2003	15:15 - 18:45	3.50	CEMT	PRIM	CSGSUR	dropping plug. Pumped 200 sks of foamed Premuim Plus down annulas. Capped w/ 75 sks of "C" w/ 2% CaCl2.
	18:45 - 21:45	3.00	WAIT	CEMT	CSGSUR	Wait on Cement
	21:45 - 23:00	1.25	NUND	DBOP	CSGSUR	ND 13 5/8" Divertor. Cut off 9 5/8" csg. Pulled Hydril. Welded on 11" 3M x 9 5/8" SOW Casing Head. Tested weld t/ 3000 psi.
	23:00 - 03:00	4.00	NUND	DBOP	CSGSUR	NU 11" 5M BOP , Hydril, & Choke manifold.
	03:00 - 06:00	3.00	TEST	BOP	CSGSUR	BOP and Well Control Testing. Test pipe rams t/ 3000 psi high, 250 psi low,Choke valves, Blind rams, Kill line t/ 3000 psi high 250 low. Ck HCR valve @ 0600 hrs.
3/3/2003	06:00 - 09:30	3.50	TEST	BOP	CSGSUR	Tested HCR/Kelly valves/Hydril/. 3000 psi high/250 psi low. Good test. No leaks.(Witness by BLM rep- Homer Signs). Ran Acc perf. test.
	09:30 - 10:45	1.25	TRIP	BBHD	CSGSUR	BHA/Bit Handling. PU 8 3/4" bit, shock, sub.
	10:45 - 12:15	1.50	TRIP	BIT	CSGSUR	TIH w/ 8 3/4" bit t/ 1166'.
	12:15 - 12:30	0.25	TEST	CSG	CSGSUR	Test Casing- 2000 psi.
	12:30 - 13:30	1.00	DRILL	CEMT	CSGSUR	Drill Cement / Drill Shoe
	13:30 - 16:15	2.75	DRILL	DOHR	DRLPR	Drill Open Hole Rotary
	16:15 - 16:30	0.25	SURV	TOTC	DRLPR	Survey with TOTCO Tools
	16:30 - 03:45	11.25	DRILL	DOHR	DRLPR	Drill Open Hole Rotary
	03:45 - 04:00	0.25	SURV	TOTC	DRLPR	Survey with TOTCO Tools.
	04:00 - 06:00	2.00	DRILL	DOHR	DRLPR	Drill Open Hole Rotary. Drilling @ 42'/hr.
3/4/2003	06:00 - 11:45	5.75	DRILL	DOHR	DRLPR	Drill Open Hole Rotary
	11:45 - 12:00	0.25	CIRC	CLN	DRLPR	Circulate Clean
	12:00 - 13:30	1.50	TRIP	BHA	DRLPR	Trip for BHA
	13:30 - 15:00	1.50	TRIP	BBHD	DRLPR	BHA/Bit Handling. Test motor. PU 4 6 1/2" DCs, RT tool,
	15:00 - 17:15	2.25	TRIP	BIT	DRLPR	Trip in w/ Motor. t/ 1175'.
	17:15 - 18:30	1.25	SURV	GYRO	DRLPR	RU Sciencetic. Survey with GYRO system
	18:30 - 18:45	0.25	DRILL	DOHS	DRLPR	Drill Open Slide. Kick off @ 2000'.
	18:45 - 19:00	0.25	DRILL	WSHR	DRLPR	Ream
	19:00 - 19:15	0.25	DRILL	DOHR	DRLPR	Drill Open Hole Rotary
	19:15 - 19:30	0.25	SURV	MWD	DRLPR	Survey with MWD Tools
	19:30 - 19:45	0.25	DRILL	DOHS	DRLPR	Drill Open Slide
	19:45 - 20:30	0.75	DRILL	DOHR	DRLPR	Drill Open Hole Rotary
	20:30 - 20:45	0.25	DRILL	DOHS	DRLPR	Drill Open Slide
	20:45 - 21:15	0.50	DRILL	DOHR	DRLPR	Drill Open Hole Rotary
	21:15 - 21:30	0.25	SURV	MWD	DRLPR	Survey with MWD Tools
	21:30 - 22:00	0.50	DRILL	DOHS	DRLPR	Drill Open Slide
	22:00 - 22:30	0.50	DRILL	DOHR	DRLPR	Drill Open Hole Rotary
	22:30 - 00:00	1.50	DRILL	DOHS	DRLPR	Drill Open Slide
	00:00 - 00:45	0.75	DRILL	DOHR	DRLPR	Drill Open Hole Rotary
	00:45 - 01:00	0.25	DRILL	DOHS	DRLPR	Drill Open Slide
	01:00 - 01:30	0.50	DRILL	DOHR	DRLPR	Drill Open Hole Rotary
	01:30 - 01:45	0.25	SURV	MWD	DRLPR	Survey with MWD Tools
	01:45 - 02:00	0.25	DRILL	DOHS	DRLPR	Drill Open Slide
	02:00 - 02:30	0.50	DRILL	DOHR	DRLPR	Drill Open Hole Rotary
	02:30 - 02:45	0.25	DRILL	DOHS	DRLPR	Drill Open Slide
	02:45 - 03:30	0.75	DRILL	DOHR	DRLPR	Drill Open Hole Rotary
	03:30 - 03:45	0.25	SURV	MWD	DRLPR	Survey with MWD Tools
	03:45 - 04:00	0.25	DRILL	DOHS	DRLPR	Drill Open Slide
	04:00 - 04:30	0.50	DRILL	DOHR	DRLPR	Drill Open Hole Rotary
	04:30 - 04:45	0.25	DRILL	DOHS	DRLPR	Drill Open Slide
	04:45 - 05:30	0.75	DRILL	DOHR	DRLPR	Drill Open Hole Rotary
	05:30 - 05:45	0.25	SURV	MWD	DRLPR	Survey with MWD Tools
	05:45 - 06:00	0.25	DRILL	DOHS	DRLPR	Drill Open Slide

Marathon Oil Company

Operations Summary Report

Legal Well Name: INDIAN HILLS UNIT GC NO. 47
Common Well Name: INDIAN HILLS UNIT GC NO. 47
Spud Date: 2/26/2003
Event Name: ORIGINAL DRILLING
Start: 2/25/2003
End:
Contractor Name: MCVAY DRILLING
Rig Release:
Group:
Rig Name: MCVAY DRILLING
Rig Number: 4

Date	From - To	Hours	Code	Sub Code	Phase	Description of Operations
3/5/2003	06:00 - 06:45	0.75	DRILL	DOHR	DRLPR	Drill Open Hole Rotary
	06:45 - 07:00	0.25	DRILL	DOHS	DRLPR	Drill Open Slide
	07:00 - 07:30	0.50	DRILL	DOHR	DRLPR	Drill Open Hole Rotary
	07:30 - 07:45	0.25	SURV	MWD	DRLPR	Survey with MWD Tools
	07:45 - 08:00	0.25	DRILL	DOHS	DRLPR	Drill Open Slide
	08:00 - 08:30	0.50	DRILL	DOHR	DRLPR	Drill Open Hole Rotary
	08:30 - 08:45	0.25	DRILL	DOHS	DRLPR	Drill Open Slide
	08:45 - 09:00	0.25	DRILL	DOHR	DRLPR	Drill Open Hole Rotary
	09:00 - 09:15	0.25	SURV	MWD	DRLPR	Survey with MWD Tools
	09:15 - 09:45	0.50	DRILL	DOHS	DRLPR	Drill Open Slide
	09:45 - 10:15	0.50	DRILL	DOHR	DRLPR	Drill Open Hole Rotary
	10:15 - 10:30	0.25	DRILL	DOHS	DRLPR	Drill Open Slide
	10:30 - 10:45	0.25	DRILL	DOHR	DRLPR	Drill Open Hole Rotary
	10:45 - 11:00	0.25	SURV	MWD	DRLPR	Survey with MWD Tools
	11:00 - 11:15	0.25	DRILL	DOHS	DRLPR	Drill Open Slide
	11:15 - 11:45	0.50	DRILL	DOHR	DRLPR	Drill Open Hole Rotary
	11:45 - 12:00	0.25	DRILL	DOHS	DRLPR	Drill Open Slide
	12:00 - 12:15	0.25	DRILL	DOHR	DRLPR	Drill Open Hole Rotary
	12:15 - 12:30	0.25	SURV	MWD	DRLPR	Survey with MWD Tools
	12:30 - 12:45	0.25	DRILL	DOHS	DRLPR	Drill Open Slide
	12:45 - 13:15	0.50	DRILL	DOHR	DRLPR	Drill Open Hole Rotary
	13:15 - 13:30	0.25	DRILL	DOHS	DRLPR	Drill Open Slide
	13:30 - 14:00	0.50	DRILL	DOHR	DRLPR	Drill Open Hole Rotary
	14:00 - 14:15	0.25	SURV	MWD	DRLPR	Survey with MWD Tools
	14:15 - 14:30	0.25	DRILL	DOHS	DRLPR	Drill Open Slide
	14:30 - 15:00	0.50	DRILL	DOHR	DRLPR	Drill Open Hole Rotary
	15:00 - 15:15	0.25	DRILL	DOHS	DRLPR	Drill Open Slide
	15:15 - 15:45	0.50	DRILL	DOHR	DRLPR	Drill Open Hole Rotary
	15:45 - 16:00	0.25	SURV	MWD	DRLPR	Survey with MWD Tools
	16:00 - 16:15	0.25	DRILL	DOHS	DRLPR	Drill Open Slide
	16:15 - 17:00	0.75	DRILL	DOHR	DRLPR	Drill Open Hole Rotary
	17:00 - 17:15	0.25	SURV	MWD	DRLPR	Survey with MWD Tools
	17:15 - 17:45	0.50	DRILL	DOHS	DRLPR	Drill Open Slide
	17:45 - 18:45	1.00	DRILL	DOHR	DRLPR	Drill Open Hole Rotary
	18:45 - 19:00	0.25	SURV	MWD	DRLPR	Survey with MWD Tools
	19:00 - 20:15	1.25	DRILL	DOHR	DRLPR	Drill Open Hole Rotary
	20:15 - 20:30	0.25	SURV	MWD	DRLPR	Survey with MWD Tools
	20:30 - 21:45	1.25	DRILL	DOHS	DRLPR	Drill Open Slide
	21:45 - 22:00	0.25	SURV	MWD	DRLPR	Survey with MWD Tools
	22:00 - 22:30	0.50	DRILL	DOHS	DRLPR	Drill Open Slide
	22:30 - 23:45	1.25	DRILL	DOHR	DRLPR	Drill Open Hole Rotary
	23:45 - 00:00	0.25	SURV	MWD	DRLPR	Survey with MWD Tools
	00:00 - 01:15	1.25	DRILL	DOHR	DRLPR	Drill Open Hole Rotary
	01:15 - 01:30	0.25	SURV	MWD	DRLPR	Survey with MWD Tools
	01:30 - 03:00	1.50	DRILL	DOHR	DRLPR	Drill Open Hole Rotary
	03:00 - 03:15	0.25	SURV	MWD	DRLPR	Survey with MWD Tools
	03:15 - 04:45	1.50	DRILL	DOHR	DRLPR	Drill Open Hole Rotary
	04:45 - 05:00	0.25	SURV	MWD	DRLPR	Survey with MWD Tools
	05:00 - 05:30	0.50	DRILL	DOHS	DRLPR	Drill Open Slide
	05:30 - 06:00	0.50	DRILL	DOHR	DRLPR	Drill Open Hole Rotary
3/6/2003	06:00 - 06:45	0.75	DRILL	DOHR	DRLPR	Drill Open Hole Rotary
	06:45 - 07:00	0.25	SURV	MWD	DRLPR	Conn. & Survey with MWD Tools
	07:00 - 07:30	0.50	DRILL	DOHS	DRLPR	Drill Open Slide H/S

Operations Summary Report

Legal Well Name: INDIAN HILLS UNIT GC NO. 47
Common Well Name: INDIAN HILLS UNIT GC NO. 47
Spud Date: 2/26/2003
Event Name: ORIGINAL DRILLING
Start: 2/25/2003
End:
Contractor Name: MCVAY DRILLING
Rig Release:
Group:
Rig Name: MCVAY DRILLING
Rig Number: 4

Date	From - To	Hours	Code	Sub Code	Phase	Description of Operations
3/6/2003	07:30 - 08:45	1.25	DRILL	DOHR	DRLPR	Drill Open Hole Rotary
	08:45 - 09:00	0.25	SURV	MWD	DRLPR	Conn. & Survey with MWD Tools
	09:00 - 09:30	0.50	DRILL	DOHS	DRLPR	Drill Open Slide H/S
	09:30 - 12:30	3.00	DRILL	DOHR	DRLPR	Drill Open Hole Rotary
	12:30 - 12:45	0.25	SURV	MWD	DRLPR	Conn. & Survey with MWD Tools
	12:45 - 13:00	0.25	DRILL	DOHS	DRLPR	Drill Open Slide H/S
	13:00 - 14:15	1.25	DRILL	DOHR	DRLPR	Drill Open Hole Rotary
	14:15 - 14:30	0.25	SURV	MWD	DRLPR	Conn. & Survey with MWD Tools
	14:30 - 15:00	0.50	DRILL	DOHS	DRLPR	Drill Open Slide H/S
	15:00 - 15:45	0.75	DRILL	DOHR	DRLPR	Drill Open Hole Rotary
	15:45 - 16:00	0.25	RIG	MOD	DRLPR	Rig Modifications (Not rountine rig service or repair) Switched pumps on hole.
	16:00 - 16:45	0.75	DRILL	DOHR	DRLPR	Drill Open Hole Rotary
	16:45 - 17:00	0.25	SURV	MWD	DRLPR	Conn. & Survey with MWD Tools
	17:00 - 18:45	1.75	DRILL	DOHR	DRLPR	Drill Open Hole Rotary
	18:45 - 19:00	0.25	SURV	MWD	DRLPR	Conn. & Survey with MWD Tools
	19:00 - 20:15	1.25	DRILL	DOHR	DRLPR	Drill Open Hole Rotary
	20:15 - 20:30	0.25	SURV	MWD	DRLPR	Conn. & Survey with MWD Tools
	20:30 - 22:15	1.75	DRILL	DOHR	DRLPR	Drill Open Hole Rotary
	22:15 - 22:30	0.25	SURV	MWD	DRLPR	Conn. & Survey with MWD Tools
	22:30 - 23:00	0.50	DRILL	DOHS	DRLPR	Drill Open Slide 35L
	23:00 - 01:00	2.00	DRILL	DOHR	DRLPR	Drill Open Hole Rotary
	01:00 - 01:15	0.25	SURV	MWD	DRLPR	Conn. & Survey with MWD Tools
	01:15 - 02:15	1.00	DRILL	DOHS	DRLPR	Drill Open Slide 15L
	02:15 - 03:00	0.75	DRILL	DOHR	DRLPR	Drill Open Hole Rotary
	03:00 - 03:45	0.75	DRILL	DOHS	DRLPR	Drill Open Slide 20L
	03:45 - 04:30	0.75	DRILL	DOHR	DRLPR	Drill Open Hole Rotary
	04:30 - 04:45	0.25	SURV	MWD	DRLPR	Conn. & Survey with MWD Tools
	04:45 - 06:00	1.25	DRILL	DOHS	DRLPR	Drill Open Slide H/S
3/7/2003	06:00 - 07:00	1.00	DRILL	DOHR	DRLPR	Drill Open Hole Rotary
	07:00 - 07:30	0.50	DRILL	DOHS	DRLPR	Drill Open Slide 20L
	07:30 - 08:15	0.75	DRILL	DOHR	DRLPR	Drill Open Hole Rotary
	08:15 - 08:30	0.25	SURV	MWD	DRLPR	Conn. & Survey with MWD Tools
	08:30 - 09:00	0.50	DRILL	DOHS	DRLPR	Drill Open Slide 45L
	09:00 - 10:15	1.25	DRILL	DOHR	DRLPR	Drill Open Hole Rotary
	10:15 - 10:45	0.50	DRILL	DOHS	DRLPR	Drill Open Slide 20L
	10:45 - 11:30	0.75	DRILL	DOHR	DRLPR	Drill Open Hole Rotary
	11:30 - 11:45	0.25	SURV	MWD	DRLPR	Conn. & Survey with MWD Tools
	11:45 - 12:30	0.75	DRILL	DOHS	DRLPR	Drill Open Slide 20L
	12:30 - 13:30	1.00	DRILL	DOHR	DRLPR	Drill Open Hole Rotary
	13:30 - 14:15	0.75	DRILL	DOHS	DRLPR	Drill Open Slide 20L
	14:15 - 15:15	1.00	DRILL	DOHR	DRLPR	Drill Open Hole Rotary
	15:15 - 15:30	0.25	SURV	MWD	DRLPR	Conn. & Survey with MWD Tools
	15:30 - 16:15	0.75	DRILL	DOHS	DRLPR	Drill Open Slide 35L
	16:15 - 20:00	3.75	TRIP	BHA	DRLPR	POOH to check bit, motor, & move RT tool up hole.
	20:00 - 22:00	2.00	TRIP	BBHD	DRLPR	L/D 2- 6 1/4" DC. The pin & box had bad threads. L/D motor & bit. Picking up 1.5 degree motor & turned back to 1.3 motor & tested motor.O.K..
	22:00 - 01:15	3.25	TRIP	BIT	DRLPR	Trip in hole w/ new bit & motor, replacing 2-6 1/4" collars.
	01:15 - 03:00	1.75	TRIP	BHA	DRLPR	Round trip for screen.Left it below RT tool when fill up.
	03:00 - 05:30	2.50	DRILL	WSHR	DRLPR	Broke cir. & wash/ream 90' to btm. 4022' to 4112'.
	05:30 - 06:00	0.50	DRILL	DOHR	DRLPR	Drill Open Hole Rotary
3/8/2003	06:00 - 06:15	0.25	SURV	MWD	DRLPR	Conn. & Survey with MWD Tools

Operations Summary Report

Legal Well Name: INDIAN HILLS UNIT GC NO. 47
Common Well Name: INDIAN HILLS UNIT GC NO. 47
Spud Date: 2/26/2003
Event Name: ORIGINAL DRILLING
Start: 2/25/2003
End:
Contractor Name: MCVAY DRILLING
Rig Release:
Group:
Rig Name: MCVAY DRILLING
Rig Number: 4

Date	From - To	Hours	Code	Sub Code	Phase	Description of Operations
3/8/2003	06:15 - 06:45	0.50	DRILL	DOHS	DRLPR	Drill Open Slide 20L
	06:45 - 07:30	0.75	DRILL	DOHR	DRLPR	Drill Open Hole Rotary
	07:30 - 07:45	0.25	SURV	MWD	DRLPR	Conn. & Survey with MWD Tools
	07:45 - 08:15	0.50	DRILL	DOHS	DRLPR	Drill Open Slide 35L
	08:15 - 09:00	0.75	DRILL	DOHR	DRLPR	Drill Open Hole Rotary
	09:00 - 09:15	0.25	SURV	MWD	DRLPR	Conn. & Survey with MWD Tools
	09:15 - 09:30	0.25	RIG	RCNT	DRLPR	Rig Repair, Prime pump went down had to reprime.
	09:30 - 10:15	0.75	DRILL	DOHR	DRLPR	Drill Open Hole Rotary
	10:15 - 10:30	0.25	SURV	MWD	DRLPR	Conn. & Survey with MWD Tools
	10:30 - 11:00	0.50	DRILL	DOHS	DRLPR	Drill Open Slide 15L
	11:00 - 12:15	1.25	DRILL	DOHR	DRLPR	Drill Open Hole Rotary
	12:15 - 12:30	0.25	SURV	MWD	DRLPR	Conn. & Survey with MWD Tools
	12:30 - 13:00	0.50	DRILL	DOHS	DRLPR	Drill Open Slide 15L
	13:00 - 14:15	1.25	DRILL	DOHR	DRLPR	Drill Open Hole Rotary
	14:15 - 14:30	0.25	SURV	MWD	DRLPR	Conn. & Survey with MWD Tools
	14:30 - 15:00	0.50	DRILL	DOHS	DRLPR	Drill Open Slide 35L
	15:00 - 16:15	1.25	DRILL	DOHR	DRLPR	Drill Open Hole Rotary
	16:15 - 16:30	0.25	SURV	MWD	DRLPR	Conn. & Survey with MWD Tools
	16:30 - 17:00	0.50	DRILL	DOHS	DRLPR	Drill Open Slide 30L
	17:00 - 18:15	1.25	DRILL	DOHR	DRLPR	Drill Open Hole Rotary
	18:15 - 18:30	0.25	SURV	MWD	DRLPR	Conn. & Survey with MWD Tools
	18:30 - 19:00	0.50	DRILL	DOHS	DRLPR	Drill Open Slide H/S
	19:00 - 20:30	1.50	DRILL	DOHR	DRLPR	Drill Open Hole Rotary
	20:30 - 20:45	0.25	SURV	MWD	DRLPR	Conn. & Survey with MWD Tools
	20:45 - 21:30	0.75	DRILL	DOHS	DRLPR	Drill Open Slide 30R
	21:30 - 23:00	1.50	DRILL	DOHR	DRLPR	Drill Open Hole Rotary
	23:00 - 23:15	0.25	SURV	MWD	DRLPR	Conn. & Survey with MWD Tools
	23:15 - 23:30	0.25	DRILL	DOHS	DRLPR	Drill Open Slide 10R
	23:30 - 00:00	0.50	DRILL	DOHR	DRLPR	Drill Open Hole Rotary
	00:00 - 00:45	0.75	DRILL	DOHS	DRLPR	Drill Open Slide H/S
	00:45 - 01:30	0.75	DRILL	DOHR	DRLPR	Drill Open Hole Rotary
	01:30 - 01:45	0.25	SURV	MWD	DRLPR	Conn. & Survey with MWD Tools
	01:45 - 02:30	0.75	DRILL	DOHS	DRLPR	Drill Open Slide 15R
	02:30 - 03:15	0.75	DRILL	DOHR	DRLPR	Drill Open Hole Rotary
	03:15 - 04:00	0.75	DRILL	DOHS	DRLPR	Drill Open Slide 25R
	04:00 - 04:30	0.50	DRILL	DOHR	DRLPR	Drill Open Hole Rotary
	04:30 - 04:45	0.25	SURV	MWD	DRLPR	Conn. & Survey with MWD Tools
	04:45 - 05:15	0.50	DRILL	DOHS	DRLPR	Drill Open Slide 20R
	05:15 - 06:00	0.75	DRILL	DOHR	DRLPR	Drill Open Hole Rotary
3/9/2003	06:00 - 06:15	0.25	RIG	RCNT	DRLPR	Rig Repair, Changed out filter on light plant. other plant not in operation.Contractor owned
	06:15 - 06:30	0.25	SURV	MWD	DRLPR	Conn. & Survey with MWD Tools
	06:30 - 12:45	6.25	DRILL	DOHR	DRLPR	Drill Open Hole Rotary
	12:45 - 13:15	0.50	DRILL	DOHS	DRLPR	Drill Open Slide 30R
	13:15 - 14:15	1.00	DRILL	DOHR	DRLPR	Drill Open Hole Rotary
	14:15 - 14:30	0.25	DRILL	DOHS	DRLPR	Drill Open Slide 30R
	14:30 - 15:15	0.75	DRILL	DOHR	DRLPR	Drill Open Hole Rotary
	15:15 - 15:30	0.25	SURV	MWD	DRLPR	Conn. & Survey with MWD Tools
	15:30 - 16:00	0.50	DRILL	DOHS	DRLPR	Drill Open Slide H/S
	16:00 - 16:45	0.75	DRILL	DOHR	DRLPR	Drill Open Hole Rotary
	16:45 - 17:15	0.50	DRILL	DOHS	DRLPR	Drill Open Slide H/S
	17:15 - 17:45	0.50	DRILL	DOHR	DRLPR	Drill Open Hole Rotary
	17:45 - 18:00	0.25	SURV	MWD	DRLPR	Conn. & Survey with MWD Tools

Operations Summary Report

Legal Well Name: INDIAN HILLS UNIT GC NO. 47
Common Well Name: INDIAN HILLS UNIT GC NO. 47 Spud Date: 2/26/2003
Event Name: ORIGINAL DRILLING Start: 2/25/2003 End:
Contractor Name: MCVAY DRILLING Rig Release: Group:
Rig Name: MCVAY DRILLING Rig Number: 4

Date	From - To	Hours	Code	Sub Code	Phase	Description of Operations
3/9/2003	18:00 - 18:30	0.50	DRILL	DOHS	DRLPR	Drill Open Slide H/S
	18:30 - 19:15	0.75	DRILL	DOHR	DRLPR	Drill Open Hole Rotary
	19:15 - 20:00	0.75	DRILL	DOHS	DRLPR	Drill Open Slide 30R
	20:00 - 20:30	0.50	DRILL	DOHR	DRLPR	Drill Open Hole Rotary
	20:30 - 20:45	0.25	SURV	MWD	DRLPR	Conn. & Survey with MWD Tools
	20:45 - 21:15	0.50	DRILL	DOHS	DRLPR	Drill Open Slide 40R
	21:15 - 22:00	0.75	DRILL	DOHR	DRLPR	Drill Open Hole Rotary
	22:00 - 22:45	0.75	DRILL	DOHS	DRLPR	Drill Open Slide 40R
	22:45 - 23:15	0.50	DRILL	DOHR	DRLPR	Drill Open Hole Rotary
	23:15 - 23:30	0.25	SURV	MWD	DRLPR	Conn. & Survey with MWD Tools
	23:30 - 00:00	0.50	DRILL	DOHS	DRLPR	Drill Open Slide 35R
	00:00 - 00:45	0.75	DRILL	DOHR	DRLPR	Drill Open Hole Rotary
	00:45 - 01:30	0.75	DRILL	DOHS	DRLPR	Drill Open Slide 40R
	01:30 - 02:15	0.75	DRILL	DOHR	DRLPR	Drill Open Hole Rotary
	02:15 - 02:30	0.25	SURV	MWD	DRLPR	Conn. & Survey with MWD Tools
	02:30 - 03:00	0.50	DRILL	DOHS	DRLPR	Drill Open Slide 25R
	03:00 - 03:45	0.75	DRILL	DOHR	DRLPR	Drill Open Hole Rotary
	03:45 - 04:15	0.50	DRILL	DOHS	DRLPR	Drill Open Slide 30R
	04:15 - 05:00	0.75	DRILL	DOHR	DRLPR	Drill Open Hole Rotary
	05:00 - 05:15	0.25	SURV	MWD	DRLPR	Conn. & Survey with MWD Tools
	05:15 - 05:45	0.50	DRILL	DOHS	DRLPR	Drill Open Slide 15R
	05:45 - 06:00	0.25	DRILL	DOHR	DRLPR	Drill Open Hole Rotary
3/10/2003	06:00 - 09:30	3.50	DRILL	DOHR	DRLPR	Drill Open Hole Rotary
	09:30 - 10:00	0.50	DRILL	DOHS	DRLPR	Drill Open Slide H/S
	10:00 - 11:15	1.25	DRILL	DOHR	DRLPR	Drill Open Hole Rotary
	11:15 - 11:30	0.25	SURV	MWD	DRLPR	Conn. & Survey with MWD Tools
	11:30 - 12:00	0.50	DRILL	DOHS	DRLPR	Drill Open Slide H/S
	12:00 - 12:45	0.75	DRILL	DOHR	DRLPR	Drill Open Hole Rotary
	12:45 - 13:15	0.50	DRILL	DOHS	DRLPR	Drill Open Slide H/S
	13:15 - 14:00	0.75	DRILL	DOHR	DRLPR	Drill Open Hole Rotary
	14:00 - 14:15	0.25	SURV	MWD	DRLPR	Conn. & Survey with MWD Tools
	14:15 - 14:45	0.50	DRILL	DOHS	DRLPR	Drill Open Slide H/S
	14:45 - 15:30	0.75	DRILL	DOHR	DRLPR	Drill Open Hole Rotary
	15:30 - 16:00	0.50	DRILL	DOHS	DRLPR	Drill Open Slide H/S
	16:00 - 16:30	0.50	DRILL	DOHR	DRLPR	Drill Open Hole Rotary
	16:30 - 16:45	0.25	SURV	MWD	DRLPR	Conn. & Survey with MWD Tools
	16:45 - 17:30	0.75	DRILL	DOHS	DRLPR	Drill Open Slide H/S
	17:30 - 18:15	0.75	DRILL	DOHR	DRLPR	Drill Open Hole Rotary
	18:15 - 18:45	0.50	DRILL	DOHS	DRLPR	Drill Open Slide H/S
	18:45 - 19:15	0.50	DRILL	DOHR	DRLPR	Drill Open Hole Rotary
	19:15 - 19:30	0.25	SURV	MWD	DRLPR	Conn. & Survey with MWD Tools
	19:30 - 20:15	0.75	DRILL	DOHS	DRLPR	Drill Open Slide 15R
	20:15 - 21:45	1.50	DRILL	DOHR	DRLPR	Drill Open Hole Rotary
	21:45 - 22:30	0.75	DRILL	DOHS	DRLPR	Drill Open Slide 30R
	22:30 - 00:00	1.50	DRILL	DOHR	DRLPR	Drill Open Hole Rotary
	00:00 - 00:15	0.25	SURV	MWD	DRLPR	Conn. & Survey with MWD Tools
	00:15 - 01:00	0.75	DRILL	DOHS	DRLPR	Drill Open Slide 20R
	01:00 - 01:45	0.75	DRILL	DOHR	DRLPR	Drill Open Hole Rotary
	01:45 - 02:15	0.50	DRILL	DOHS	DRLPR	Drill Open Slide 10R
	02:15 - 03:00	0.75	DRILL	DOHR	DRLPR	Drill Open Hole Rotary
	03:00 - 03:15	0.25	SURV	MWD	DRLPR	Conn. & Survey with MWD Tools
	03:15 - 03:45	0.50	DRILL	DOHS	DRLPR	Drill Open Slide 20R
	03:45 - 04:15	0.50	DRILL	DOHR	DRLPR	Drill Open Hole Rotary

Operations Summary Report

Legal Well Name: INDIAN HILLS UNIT GC NO. 47
Common Well Name: INDIAN HILLS UNIT GC NO. 47
Event Name: ORIGINAL DRILLING
Contractor Name: MCVAY DRILLING
Rig Name: MCVAY DRILLING

Start: 2/25/2003
Rig Release:
Rig Number: 4

Spud Date: 2/26/2003
End:
Group:

Date	From - To	Hours	Code	Sub Code	Phase	Description of Operations
3/10/2003	04:15 - 05:00	0.75	DRILL	DOHS	DRLPR	Drill Open Slide H/S
	05:00 - 05:30	0.50	DRILL	DOHR	DRLPR	Drill Open Hole Rotary
	05:30 - 05:45	0.25	SURV	MWD	DRLPR	Conn. & Survey with MWD Tools
	05:45 - 06:00	0.25	DRILL	DOHS	DRLPR	Drill Open Slide H/S
3/11/2003	06:00 - 06:30	0.50	DRILL	DOHS	DRLPR	Drill Open Slide H/S
	06:30 - 07:15	0.75	DRILL	DOHR	DRLPR	Drill Open Hole Rotary
	07:15 - 07:45	0.50	DRILL	DOHS	DRLPR	Drill Open Slide 10L
	07:45 - 08:15	0.50	DRILL	DOHR	DRLPR	Drill Open Hole Rotary
	08:15 - 08:30	0.25	SURV	MWD	DRLPR	Conn. & Survey with MWD Tools
	08:30 - 09:00	0.50	DRILL	DOHS	DRLPR	Drill Open Slide H/S
	09:00 - 10:00	1.00	DRILL	DOHR	DRLPR	Drill Open Hole Rotary
	10:00 - 10:30	0.50	DRILL	DOHS	DRLPR	Drill Open Slide H/S
	10:30 - 11:15	0.75	DRILL	DOHR	DRLPR	Drill Open Hole Rotary
	11:15 - 11:30	0.25	SURV	MWD	DRLPR	Conn. & Survey with MWD Tools
	11:30 - 12:00	0.50	EQUIP	PEQP	DRLPR	Installed rotating head, check gas seperator & check panic line for leaks.
	12:00 - 12:30	0.50	DRILL	DOHS	DRLPR	Drill Open Slide H/S
	12:30 - 13:15	0.75	DRILL	DOHR	DRLPR	Drill Open Hole Rotary
	13:15 - 14:00	0.75	DRILL	DOHS	DRLPR	Drill Open Slide H/S
	14:00 - 14:30	0.50	DRILL	DOHR	DRLPR	Drill Open Hole Rotary
	14:30 - 14:45	0.25	SURV	MWD	DRLPR	Conn. & Survey with MWD Tools
	14:45 - 15:15	0.50	DRILL	DOHS	DRLPR	Drill Open Slide H/S
	15:15 - 15:30	0.25	DRILL	DOHR	DRLPR	Drill Open Hole Rotary
	15:30 - 19:30	4.00	TRIP	BHA	DRLPR	Trip for BHA . Motor stalled.
	19:30 - 20:00	0.50	TRIP	BBHD	DRLPR	BHA/Bit Handling. L/D motor.Bearings locked up.Picked up 1.5 motor & changed to 1.3.
	20:00 - 21:45	1.75	WAIT	EQIP	DRLPR	Wait on Equipment. 7 7/8" Nortrac stabilizer that came f/ Odessa.
	21:45 - 22:30	0.75	TRIP	BBHD	DRLPR	BHA/Bit Handling. Picked up stabilizer. Set H/S on Teleco w/ motor.
	22:30 - 01:30	3.00	TRIP	BIT	DRLPR	Trip in hole w/ new bit.
	01:30 - 02:00	0.50	DRILL	WSHR	DRLPR	Installed rotating head,picked up 2 jt's & wash to btm.No fill
	02:00 - 02:45	0.75	DRILL	DOHR	DRLPR	Drill Open Hole Rotary
	02:45 - 03:30	0.75	DRILL	DOHS	DRLPR	Drill Open Slide 25R
	03:30 - 03:45	0.25	DRILL	DOHR	DRLPR	Drill Open Hole Rotary
	03:45 - 04:00	0.25	SURV	MWD	DRLPR	Conn. & Survey with MWD Tools
	04:00 - 04:30	0.50	DRILL	DOHS	DRLPR	Drill Open Slide 20R
	04:30 - 05:00	0.50	DRILL	DOHR	DRLPR	Drill Open Hole Rotary
	05:00 - 05:45	0.75	DRILL	DOHS	DRLPR	Drill Open Slide 15R
	05:45 - 06:00	0.25	DRILL	DOHR	DRLPR	Drill Open Hole Rotary
3/12/2003	06:00 - 10:00	4.00	DRILL	DOHR	DRLPR	Drill Open Hole Rotary
	10:00 - 10:15	0.25	SURV	MWD	DRLPR	Conn. & Survey with MWD Tools
	10:15 - 10:45	0.50	DRILL	DOHS	DRLPR	Drill Open Slide H/S
	10:45 - 12:15	1.50	DRILL	DOHR	DRLPR	Drill Open Hole Rotary
	12:15 - 12:30	0.25	SURV	MWD	DRLPR	Conn. & Survey with MWD Tools
	12:30 - 13:00	0.50	DRILL	DOHS	DRLPR	Drill Open Slide 10L
	13:00 - 18:00	5.00	DRILL	DOHR	DRLPR	Drill Open Hole Rotary
	18:00 - 18:15	0.25	SURV	MWD	DRLPR	Conn. & Survey with MWD Tools
	18:15 - 18:45	0.50	DRILL	DOHS	DRLPR	Drill Open Slide 10L
	18:45 - 20:30	1.75	DRILL	DOHR	DRLPR	Drill Open Hole Rotary
	20:30 - 20:45	0.25	SURV	MWD	DRLPR	Conn. & Survey with MWD Tools
	20:45 - 22:30	1.75	DRILL	DOHR	DRLPR	Drill Open Hole Rotary
	22:30 - 22:45	0.25	SURV	MWD	DRLPR	Conn. & Survey with MWD Tools
	22:45 - 00:30	1.75	DRILL	DOHR	DRLPR	Drill Open Hole Rotary
	00:30 - 00:45	0.25	SURV	MWD	DRLPR	Conn. & Survey with MWD Tools

Operations Summary Report

Legal Well Name: INDIAN HILLS UNIT GC NO. 47
Common Well Name: INDIAN HILLS UNIT GC NO. 47
Event Name: ORIGINAL DRILLING
Contractor Name: MCVAY DRILLING
Rig Name: MCVAY DRILLING

Start: 2/25/2003
Rig Release:
Rig Number: 4

Spud Date: 2/26/2003
End:
Group:

Date	From - To	Hours	Code	Sub Code	Phase	Description of Operations
3/12/2003	00:45 - 02:30	1.75	DRILL	DOHR	DRLPR	Drill Open Hole Rotary
	02:30 - 02:45	0.25	SURV	MWD	DRLPR	Conn. & Survey with MWD Tools
	02:45 - 03:15	0.50	DRILL	DOHS	DRLPR	Drill Open Slide 15L
	03:15 - 05:30	2.25	DRILL	DOHR	DRLPR	Drill Open Hole Rotary
	05:30 - 05:45	0.25	SURV	MWD	DRLPR	Conn. & Survey with MWD Tools
	05:45 - 06:00	0.25	DRILL	DOHR	DRLPR	Drill Open Hole Rotary
3/13/2003	06:00 - 06:30	0.50	DRILL	DOHR	DRLPR	Drill Open Hole Rotary
	06:30 - 06:45	0.25	SURV	MWD	DRLPR	Survey with MWD Tools
	06:45 - 07:30	0.75	DRILL	DOHS	DRLPR	Drill Open Slide
	07:30 - 08:15	0.75	DRILL	DOHR	DRLPR	Drill Open Hole Rotary
	08:15 - 08:30	0.25	SURV	MWD	DRLPR	Survey with MWD Tools
	08:30 - 09:00	0.50	DRILL	DOHS	DRLPR	Drill Open Slide
	09:00 - 09:45	0.75	DRILL	DOHR	DRLPR	Drill Open Hole Rotary
	09:45 - 10:15	0.50	DRILL	DOHS	DRLPR	Drill Open Slide
	10:15 - 11:00	0.75	DRILL	DOHR	DRLPR	Drill Open Hole Rotary
	11:00 - 11:15	0.25	SURV	MWD	DRLPR	Survey with MWD Tools
	11:15 - 11:45	0.50	DRILL	DOHS	DRLPR	Drill Open Slide
	11:45 - 12:45	1.00	DRILL	DOHR	DRLPR	Drill Open Hole Rotary
	12:45 - 13:15	0.50	DRILL	DOHS	DRLPR	Drill Open Slide
	13:15 - 14:00	0.75	DRILL	DOHR	DRLPR	Drill Open Hole Rotary
	14:00 - 14:15	0.25	SURV	MWD	DRLPR	Survey with MWD Tools
	14:15 - 14:45	0.50	DRILL	DOHS	DRLPR	Drill Open Slide
	14:45 - 15:45	1.00	DRILL	DOHR	DRLPR	Drill Open Hole Rotary
	15:45 - 16:15	0.50	DRILL	DOHS	DRLPR	Drill Open Slide
	16:15 - 17:00	0.75	DRILL	DOHR	DRLPR	Drill Open Hole Rotary
	17:00 - 17:15	0.25	SURV	MWD	DRLPR	Survey with MWD Tools
	17:15 - 18:00	0.75	DRILL	DOHS	DRLPR	Drill Open Slide
	18:00 - 18:45	0.75	DRILL	DOHR	DRLPR	Drill Open Hole Rotary
	18:45 - 19:45	1.00	DRILL	DOHS	DRLPR	Drill Open Slide
	19:45 - 20:30	0.75	DRILL	DOHR	DRLPR	Drill Open Hole Rotary
	20:30 - 20:45	0.25	SURV	MWD	DRLPR	Survey with MWD Tools
	20:45 - 21:30	0.75	DRILL	DOHS	DRLPR	Drill Open Slide
	21:30 - 22:15	0.75	DRILL	DOHR	DRLPR	Drill Open Hole Rotary
	22:15 - 23:00	0.75	DRILL	DOHS	DRLPR	Drill Open Slide
	23:00 - 23:30	0.50	DRILL	DOHR	DRLPR	Drill Open Hole Rotary
	23:30 - 23:45	0.25	SURV	MWD	DRLPR	Survey with MWD Tools
	23:45 - 00:30	0.75	DRILL	DOHS	DRLPR	Drill Open Slide
	00:30 - 02:15	1.75	DRILL	DOHR	DRLPR	Drill Open Hole Rotary
	02:15 - 02:30	0.25	SURV	MWD	DRLPR	Survey with MWD Tools
	02:30 - 03:15	0.75	DRILL	DOHS	DRLPR	Drill Open Slide
	03:15 - 04:45	1.50	DRILL	DOHR	DRLPR	Drill Open Hole Rotary
	04:45 - 05:00	0.25	SURV	MWD	DRLPR	Survey with MWD Tools
	05:00 - 05:30	0.50	DRILL	DOHS	DRLPR	Drill Open Slide
	05:30 - 06:00	0.50	DRILL	DOHR	DRLPR	Drill Open Hole Rotary
3/14/2003	06:00 - 06:30	0.50	DRILL	DOHR	DRLPR	Drill Open Hole Rotary
	06:30 - 07:30	1.00	DRILL	DOHS	DRLPR	Drill Open Slide
	07:30 - 08:00	0.50	DRILL	DOHR	DRLPR	Drill Open Hole Rotary
	08:00 - 08:15	0.25	SURV	MWD	DRLPR	Survey with MWD Tools
	08:15 - 09:00	0.75	DRILL	DOHS	DRLPR	Drill Open Slide
	09:00 - 09:45	0.75	DRILL	DOHR	DRLPR	Drill Open Hole Rotary
	09:45 - 10:30	0.75	DRILL	DOHS	DRLPR	Drill Open Slide
	10:30 - 11:15	0.75	DRILL	DOHR	DRLPR	Drill Open Hole Rotary
	11:15 - 11:30	0.25	SURV	MWD	DRLPR	Survey with MWD Tools

Marathon Oil Company

Operations Summary Report

Legal Well Name: INDIAN HILLS UNIT GC NO. 47
Common Well Name: INDIAN HILLS UNIT GC NO. 47 Spud Date: 2/26/2003
Event Name: ORIGINAL DRILLING Start: 2/25/2003 End:
Contractor Name: MCVAY DRILLING Rig Release: Group:
Rig Name: MCVAY DRILLING Rig Number: 4

Date	From - To	Hours	Code	Sub Code	Phase	Description of Operations
3/14/2003	11:30 - 11:45	0.25	DRILL	DOHS	DRLPR	Drill Open Slide
	11:45 - 13:00	1.25	DRILL	DOHR	DRLPR	Drill Open Hole Rotary
	13:00 - 13:15	0.25	SURV	MWD	DRLPR	Survey with MWD Tools
	13:15 - 13:30	0.25	DRILL	DOHS	DRLPR	Drill Open Slide. 95% returns
	13:30 - 14:15	0.75	DRILL	DOHR	DRLPR	Drill Open Hole Rotary
	14:15 - 14:30	0.25	SURV	MWD	DRLPR	Survey with MWD Tools
	14:30 - 17:00	2.50	DRILL	DOHR	DRLPR	Drill Open Hole Rotary 80% returns
	17:00 - 17:15	0.25	SURV	MWD	DRLPR	Survey with MWD Tools
	17:15 - 17:30	0.25	DRILL	DOHS	DRLPR	Drill Open Slide
	17:30 - 18:30	1.00	DRILL	DOHR	DRLPR	Drill Open Hole Rotary 80% returns
	18:30 - 18:45	0.25	SURV	MWD	DRLPR	Survey with MWD Tools
	18:45 - 19:15	0.50	DRILL	DOHS	DRLPR	Drill Open Slide 70% returns
	19:15 - 20:15	1.00	DRILL	DOHR	DRLPR	Drill Open Hole Rotary 80% returns
	20:15 - 20:30	0.25	SURV	MWD	DRLPR	Survey with MWD Tools
	20:30 - 21:45	1.25	DRILL	DOHR	DRLPR	Drill Open Hole Rotary 80% returns
	21:45 - 22:00	0.25	SURV	MWD	DRLPR	Survey with MWD Tools
	22:00 - 23:15	1.25	DRILL	DOHR	DRLPR	Drill Open Hole Rotary 80% returns
	23:15 - 23:30	0.25	SURV	MWD	DRLPR	Survey with MWD Tools
	23:30 - 00:00	0.50	DRILL	DOHR	DRLPR	Drill Open Hole Rotary 80% returns
	00:00 - 00:15	0.25	SURV	MWD	DRLPR	Survey with MWD Tools
	00:15 - 00:30	0.25	DRILL	DOHR	DRLPR	Drill Open Hole Rotary 80% returns
	00:30 - 02:15	1.75	SURV	MWD	DRLPR	Survey with MWD Tools
	02:15 - 02:30	0.25	DRILL	DOHR	DRLPR	Drill Open Hole Rotary 90% returns
	02:30 - 03:45	1.25	SURV	MWD	DRLPR	Survey with MWD Tools
	04:00 - 05:45	1.75	DRILL	DOHR	DRLPR	Drill Open Hole Rotary 90% returns. Start mud up @ 8360'.
	05:45 - 06:00	0.25	SURV	MWD	DRLPR	Survey with MWD Tools
3/15/2003	06:00 - 09:45	3.75	DRILL	DOHR	DRLPR	Drill Open Hole Rotary.
	09:45 - 10:00	0.25	SURV	MWD	DRLPR	Survey with MWD Tools
	10:00 - 13:30	3.50	DRILL	DOHR	DRLPR	Drill Open Hole Rotary. TD 95% returns. Mudded up. 47 vis, 9 WL.
	13:30 - 14:45	1.25	CIRC	HOLE	DRLPR	Circulate and Condition Hole
	14:45 - 15:45	1.00	TRIP	WTRP	DRLPR	Wiper Trip. 10 stds. 70,000# over max.
	15:45 - 17:00	1.25	CIRC	HOLE	DRLPR	Circulate and Condition Hole
	17:00 - 20:30	3.50	TRIP	LOGS	DRLPR	Trip for Logs. 60,000# drag off bottom. L/D NMDC's & motor.
	20:30 - 00:30	4.00	LOG	OPEN	EVALPR	RU HES. Safety meeting. Open Hole Logging.(Triple combo) 56' long. Logged f/ 8400' t/ 8070'. Work through tight spot @ 8014' (top) Worked tool t/ 8033' (bottom of tool) (top @ 7977')
	00:30 - 06:00	5.50	LOG	OPEN	EVALPR	Worked logging tool. Pulled 6000# of Maximum pull of 6600#. Working tools while waiting on fishing tools.
3/16/2003	06:00 - 07:00	1.00	LOG	OPEN	EVALPR	Working logging tool @ 7977'. Pulling @ 6000#.
	07:00 - 10:30	3.50	FISH	RFSH	EVALPR	Unloaded fishing tools. Stripped off lub & logging adapater. Clamped off line. Cut 7/16" OD elec cable. Made up rope sockets for line overshot. Held safety meeting. Hung shields.
	10:30 - 18:30	8.00	FISH	RFSH	EVALPR	Run in Hole with Fishing Tools on 4 1/2" OD DP. (6 1/2" OD overshot w/ 3.625 grapple) Latched onto fish @ 7981'.
	18:30 - 22:30	4.00	FISH	RFSH	EVALPR	Pulled 1 std. Clamped off elect line. Cut line. Pulled out of rope socket using rig blocks. Pulled out w/ electric line using WL truck.
	22:30 - 01:30	3.00	FISH	PFSH	EVALPR	Pull out of Hole with Fishing Tools / Fish. Full recovery.
	01:30 - 02:30	1.00	FISH	PFSH	EVALPR	L/D logging tools & overshot. Full recovery.(switch t/ completion report)

Marathon Oil Company

Operations Summary Report

Legal Well Name:	INDIAN HILLS UNIT GC NO. 47				
Common Well Name:	INDIAN HILLS UNIT GC NO. 47			Spud Date:	2/26/2003
Event Name:	ORIGINAL COMPLETION	Start:	2/16/2003	End:	3/18/2003
Contractor Name:	MCVAY DRILLING	Rig Release:		Group:	
Rig Name:	MCVAY DRILLING	Rig Number:	4		

Date	From - To	Hours	Code	Sub Code	Phase	Description of Operations
3/16/2003	02:30 - 03:30	1.00	TRIP	BIT	CSGPRO	TIH w/ bit & 6 1/2" DC's.
	03:30 - 04:45	1.25	RIG	SCDL	CSGPRO	Slip and Cut Drill Line
	04:45 - 06:00	1.25	TRIP	BIT	CSGPRO	TIH @ 0600 hrs.
3/17/2003	06:00 - 08:30	2.50	TRIP	BIT	CSGPRO	Trip in w/ 8 3/4" bit.
	08:30 - 09:30	1.00	CIRC	FILL	CSGPRO	Installed Rotating head rubber. Washed 46' bottom. 10' of fill.
	09:30 - 11:00	1.50	CIRC	CLN	CSGPRO	Circulate Clean
	11:00 - 18:45	7.75	TRIP	LDDP	CSGPRO	LD DP & DC's.
	18:45 - 03:00	8.25	CSG	RUN	CSGPRO	Safety meeting. Ran Float Shoe, 1- 7"-26# Shoe jt., float collar, 90 jts of 7"-26#, 104 jts of 7"-23#, 2- jts of 7"-26#. Washed the last 2 jts to bottom @ 8530'.
	03:00 - 04:30	1.50	CIRC	CLN	CSGPRO	Circulate Clean
	04:30 - 06:00	1.50	CEMT	PRIM	CSGPRO	Safety meeting. RU cmt head. Tested lines t/ 4000 psi. Pumped 50,000 SCF of N2 ahead. Pumped 10 bbls of 2% CaCl2 water, 10 bbl water spacer, 24 bbls of Super flush, 10 bbls of water, Slurry-1 Cemented w/ 100 sks of foamed acid soluable cement @ 15 ppg Yield- 2.55. Cmt @ 0600 hrs.
3/18/2003	06:00 - 08:00	2.00	CEMT	PRIM	CSGPRO	Pumped 50,000 SCF of N2 ahead. Slurry-1 Cemented w/ 100 sks of foamed acid soluable cement @ 15 ppg Yield- 2.55. Slurry 2- Lead 950 Class "H" foamed w/ N2 @ 13. ppg Yield-2, Slurry-3 tailed w/ 120 sks. of Mod. Super "H" w/ .4% CFR-3, 5PPG Gilsointe, .5% H-344, .2% HR-7, 1 PPG Salt. Displaced w/ 332 bbls of fresh water. Bumped plug @ 8:00AM CST. Circ 50sks. Capped w/ 75 sks of Premuim Plus w/ 3% CaCl2, 10# Ca-Seal. 675 psi on annulus. (used a total of 142,951 SCF of N2).
	08:00 - 12:00	4.00	WAIT	CEMT	CSGPRO	Wait on Cement
	12:00 - 16:00	4.00	NUND	DBOP	CSGPRO	ND 11" BOP. Set 7" casing slips. Cut off 7" csg. Pulled BOP. NU 11" x 7 1/16" 3M Tubing head. Tested t/ 3000 psi. Released Rig @ 1600 hrs. CST. Will move to Fed "C" 35# 4 on Wed.

Marathon Oil Company

Casing Report

Legal Well Name: INDIAN HILLS UNIT GC NO. 47
Common Well Name: INDIAN HILLS UNIT GC NO. 47
Event Name: ORIGINAL DRILLING

Report #: 1
Start: 2/25/2003

Spud Date: 2/26/2003
Report Date: 2/28/2003
End:

General Information

String Type: SURFACE CASING
Hole TVD: 1,212.0 (ft)
Ground Level: 3,775.00 (ft)
Circ Hours: 0.50 (hr)

Permanent Datum: KELLY BUSHING
KB-Datum: 0.00 (ft)
CF Elevation: (ft)
Mud Lost: (bbl)

Hole Size:
Water TMD:
Liner Overlap: (ft)
KB to Cutoff: (ft)

Hole TMD: 1,212.0 (ft)
Str Wt on Slips: (lb)
Max Hole Angle: 1.75 (°)
Days From Spud: 1 (days)

Casing Flange / Wellhead

Manufacturer: WOOD GROUP
Hanger Model: 9 5/8" SOW

Model: FMC C-22
Packoff Model:

Top Hub/Flange: 11.000 (in) / 3,000 (psi)
BTM Hub/Flange: 9.625 (in) / 3,000 (psi)

Actual TMD Set: 1,217.860 (ft)

Integral Casing Detail

Item	Size (in)	Weight (lb/ft)	Grade	Drift (in)	Threads	JTS	Length (ft)	Top (ft)	MU Torq. (ft-lbf)	THD	Manufacturer	Model	Cond.	Max OD (in)	Min ID (in)	Comp. Name
CASING JOINT(S)	9.625	36.0	J-55	8.921	8 ROUND	40	1,171.680							10.625	8.765	
CASING FLOAT COLLA	9.625			8.921	8 ROUND		1.450	1,171.68						10.625	8.765	
CASING JOINT(S)	9.625	36.0	J-55	8.921	8 ROUND	1	43.530	1,173.13						10.625	8.765	
Texas Pattern	9.625			8.921	Weld-on		1.200	1,216.66						10.625	8.765	

Non-Integral Casing Accessories

Accessory	Manufacturer	Number	Spacing (ft)	Interval		How Fixed
				Top (ft)	Bottom (ft)	
CENTRALIZER	Weatherford	9	220.0			CLAMPED

Marathon Oil Company

Cementing Report

Legal Well Name:	INDIAN HILLS UNIT GC NO. 47			Spud Date:	2/26/2003
Common Well Name:	INDIAN HILLS UNIT GC NO. 47	Report #:	1	Report Date:	2/28/2003
Event Name:	ORIGINAL DRILLING	Start:	2/25/2003	End:	

Cement Job Type: Primary

Primary	Squeeze Open Hole	Squeeze Casing	Plug
Hole Size: 12.250 (in)	Hole Size:	Hole Size:	Hole Size:
TMD Set: 1,212.0 (ft)	SQ TMD: (ft)	TMD Set:	Top Set: (ft)
Date Set: 3/1/2003	SQ Date:	Date Set:	BTM set: (ft)
Csg Type: SURFACE CASING	SQ Type:	Csg Type:	Plug Date:
Csg Size: 9.625 (in)		SQ TMD:	Plug Type:
		SQ Date:	Drilled Out:
Cmtd. Csg: OPEN HOLE	Cmtd. Csg:	Cmtd. Csg:	Cmtd. Csg:

Cement Co: HALLIBURTON Cementer: Pipe Movement: NO MOVEMENT

Pipe Movement

Rot Time Start: :	Time End: :	RPM:	Init Torque: (ft-lbf)	Avg Torque: (ft-lbf)	Max Torque: (ft-lbf)
Rec Time Start: :	Time End: :	SPM:	Stroke Length: (ft)	Drag Up: (lb)	Drag Down: (lb)

Stage No: 1 of 1

Type: PRIM CMT 1ST STAGE	Start Mix Cmt:	17:30	Disp Avg Rate:	4.00 (bbl/min)	Returns: No retunrs
Volume Excess %: 100.00	Start Slurry Displ:	:	Disp Max Rate:	6.00 (bbl/min)	Total Mud Lost: (bbl)
Meas. From: KB	Start Displ:	:	Bump Plug:	Y	Cmt Vol to Surf: 2.00 (bbl)
Time Circ Prior	End Pumping:	:	Press Prior:	380 (psi)	
To Cementing: 1.00	End Pump Date:		Press Bumped:	650 (psi)	Ann Flow After: N
Mud Circ Rate: 250 (gpm)	Top Plug:	N	Press Held:	5 (min)	Mixing Method:
Mud Circ Press: 300 (psi)	Bottom Plug:	Y	Float Held:	Y	Density Meas By:

Mud Data

Type: AIR/GAS Density: (ppg) Visc: (s/qt) PV/YP: (cp)/ (lb/100ft²) Gels 10 sec: (lb/100ft²) Gels 10 min: (lb/100ft²)

Bottom Hole Circulating Temperature:76 (°F) Bottom Hole Static Temperature: (°F)

Displacement Fluid Type:FRESH WATER Density: 8.4 (ppg) Volume: 138.00 (bbl)

Stage No: 1 Slurry No: 1 of 4

Slurry Data

Fluid Type: LEAD		Description: FOAM		Class: CLASS C	Purpose: FILLER CEM
Slurry Interval: (ft)	To: 837.00 (ft)	Cmt Vol: 500 (sk)	Density: 14.8 (ppg)	Yield: 1.34 (ft³/sk)	Mix Water: 6.36 (gal/sk)
Water Source: Frac-tanks		Slurry Vol:10.0 (bbl)	Water Vol: 120.0 (bbl)	Other Vol: ()	Foam Job: Y

Test Data

			Time	Temp	Pressure
Thickening Time: 3.00	Temperature: (°F)	Compressive Strength 1:	12.00	(°F)	600 (psi)
Free Water: (%)	Temperature: (°F)	Compressive Strength 2:	24.00	(°F)	1,950 (psi)
Fluid Loss: 800.0 (cc)	Temperature: (°F)				
Fluid Loss Pressure: (°F)					

Marathon Oil Company
Cementing Report

Legal Well Name: INDIAN HILLS UNIT GC NO. 47
Common Well Name: INDIAN HILLS UNIT GC NO. 47
Event Name: ORIGINAL DRILLING
Report #: 1
Start: 2/25/2003
Spud Date: 2/26/2003
Report Date: 2/28/2003
End:

Stage No: 1 Slurry No: 1 of 4 - Additives

Trade Name	Type	Concentration	Units	Liquid Conc.	Units
1.5% ZoneSeal		1.50			% BWOC
CALC2	ACCELERATOR	2.00			% BWOC

Stage No: 1 Slurry No: 2 of 4

Slurry Data

Fluid Type: TAIL
Description: NEAT
Class: CLASS C
Purpose: SHOE INTEG
Slurry Interval: (ft) To: (ft)
Cmt Vol: 150 (sk)
Density: 14.8 (ppg)
Yield: 1.34 (ft³/sk)
Mix Water: 6.34 (gal/sk)
Water Source: Frac tanks
Slurry Vol: (bbl)
Water Vol: 36.0 (bbl)
Other Vol: ()
Foam Job: N

Test Data

		Time	Temp	Pressure
Thickening Time:	Temperature: (°F)	Compressive Strength 1: 12.00	(°F)	1,800 (psi)
Free Water: (%)	Temperature: (°F)	Compressive Strength 2: 24.00	(°F)	3,200 (psi)
Fluid Loss: (cc)	Temperature: (°F)			
Fluid Loss Pressure: (°F)				

Stage No: 1 Slurry No: 2 of 4 - Additives

Trade Name	Type	Concentration	Units	Liquid Conc.	Units
CALC2	ACCELERATOR	2.00			% BWOC
Cal-Seal		10.00			% BWOC

Stage No: 1 Slurry No: 3 of 4

Slurry Data

Fluid Type: OTHER
Description: FOAM
Class: CLASS C
Purpose: FILLER CEM
Slurry Interval: 200.00 (ft) To: 450.00 (ft)
Cmt Vol: 200 (sk)
Density: 14.8 (ppg)
Yield: 1.35 (ft³/sk)
Mix Water: 6.37 (gal/sk)
Water Source:
Slurry Vol: (bbl)
Water Vol: (bbl)
Other Vol: ()
Foam Job: Y

Test Data

		Time	Temp	Pressure
Thickening Time:	Temperature: (°F)	Compressive Strength 1: 12.00	(°F)	600 (psi)
Free Water: (%)	Temperature: (°F)	Compressive Strength 2: 24.00	(°F)	1,200 (psi)
Fluid Loss: 800.0 (cc)	Temperature: (°F)			
Fluid Loss Pressure: (°F)				

Stage No: 1 Slurry No: 3 of 4 - Additives

Trade Name	Type	Concentration	Units	Liquid Conc.	Units
Zonesealant		1.50			% BWOC
CaCl2		2.00			% BWOC

Marathon Oil Company

Cementing Report

Legal Well Name:	INDIAN HILLS UNIT GC NO. 47			Spud Date:	2/26/2003
Common Well Name:	INDIAN HILLS UNIT GC NO. 47	Report #:	1	Report Date:	2/28/2003
Event Name:	ORIGINAL DRILLING	Start:	2/25/2003	End:	

Stage No: 1 Slurry No: 4 of 4

Slurry Data

Fluid Type: OTHER		Description: BENTONITE ACCEL.		Class: CLASS C	Purpose: CONDUCTOR
Slurry Interval: (ft)	To: (ft)	Cmt Vol: 75 (sk)	Density: 14.8 (ppg)	Yield: 1.32 (ft^3/sk)	Mix Water: 14.80 (gal/sk
Water Source:		Slurry Vol: (bbl)	Water Vol: (bbl)	Other Vol: ()	Foam Job: Y

Test Data

		Time	Temp	Pressure
Thickening Time:	Temperature: (°F)	Compressive Strength 1: 12.00	(°F)	1,800 (psi)
Free Water: (%)	Temperature: (°F)	Compressive Strength 2: 24.00	(°F)	3,200 (psi)
Fluid Loss: 200.0 (cc)	Temperature: (°F)			
Fluid Loss Pressure: (°F)				

Stage No: 1 Slurry No: 4 of 4 - Additives

Trade Name	Type	Concentration	Units	Liquid Conc.	Units
CALC2	ACCELERATOR	2.00			% BWOC
Cal-Seal		10.00			% BWOC

Casing Test

Test Press: 2,000 (psi)
For: 10 (min)
Cement Found between
Shoe and Collar: Y

Shoe Test

Pressure: (ppge)
Tool: N
Open Hole: (ft)
Hrs Before Test:

Liner Top Test

Liner Lap:
Pos Test: (ppge) Tool: N
Neg Test: (ppge) Tool: N
Hrs Before Test:
Cement Found on Tool: N

Log/Survey Evaluation

CBL Run: N
Under Pressure: (psi)
Bond Quality:
Cet Run: N
Bond Quality:
Temp Survey: N
Hrs Prior to Log:

Interpretation Summary

Cement Top: 100 (ft)
How Determined: Water Volume/Filled
TOC Sufficient: N
Job Rating:
If Unsuccessful Detection Indicator:
Remedial Cementing Required: N
Number of Remedial Squeezes:

Marathon Oil Company

Casing Report

Legal Well Name:	INDIAN HILLS UNIT GC NO. 47			Spud Date:	2/26/2003
Common Well Name:	INDIAN HILLS UNIT GC NO. 47	Report #:	1	Report Date:	3/16/2003
Event Name:	ORIGINAL COMPLETION	Start:	2/16/2003	End:	3/18/2003

General Information

String Type: PRODUCTION CASING #1		Permanent Datum:	KELLY BUSHING	Hole Size:		Hole TMD:	8,530.0 (ft)
Hole TVD:	8,203.0 (ft)	KB-Datum:	0.00 (ft)	Water TMD:		Str Wt on Slips:	(lb)
Ground Level:	3,775.00 (ft)	CF Elevation:	(ft)	Liner Overlap:	(ft)	Max Hole Angle:	20.00 (°)
Circ Hours:	1.50 (hr)	Mud Lost:	(bbl)	KB to Cutoff:	(ft)	Days From Spud:	(days)

Casing Flange / Wellhead

Manufacturer:	WOOD GROUP	Model:	FMC C-22	Top Hub/Flange: 11.000 (in) / 3,000 (psi)
Hanger Model:	11"3M	Packoff Model:		BTM Hub/Flange: 9.625 (in) / 3,000 (psi)

Actual TMD Set: 8,542.300 (ft)

Integral Casing Detail

Item	Size (in)	Weight (lb/ft)	Grade	Drift (in)	Threads	JTS	Length (ft)	Top (ft)	MU Torq. (ft-lbf)	THD	Manufacturer	Model	Cond.	Max OD (in)	Min ID (in)	Comp. Name
CASING JOINT(S)	7.000	26.0	K-55	6.151	8 ROUND	2	88.000		3,410				NEW		6.276	
CASING JOINT(S)	7.000	23.0	K-55	6.241	8 ROUND	104	4,542.580	88.00	3,410				NEW		6.366	
CASING JOINT(S)	7.000	26.0	K-55	6.151	8 ROUND	90	3,887.960	4,630.58	3,410				NEW		6.276	
CASING FLOAT COLLA	7.000	26.0	K-55	6.151	8 ROUND		1.900	8,518.54	3,410	Y	GEMCO		NEW		6.276	
CASING JOINT(S)	7.000	26.0	K-55	6.151	8 ROUND	1	19.960	8,520.44	3,410	Y			NEW		6.276	
CASING FLOAT SHOE	7.000	26.0	K-55	6.151	8 ROUND		1.900	8,540.40	3,410	Y	GEMCO		NEW		6.276	

Non-Integral Casing Accessories

Accessory	Manufacturer	Number	Spacing (ft)	Interval		How Fixed
				Top (ft)	Bottom (ft)	
CENTRALIZER	GEMCO	26	45.0	7,600.0	8,500.0	CLAMPED

Marathon Oil Company

Cementing Report

Legal Well Name:	INDIAN HILLS UNIT GC NO. 47			Spud Date:	2/26/2003
Common Well Name:	INDIAN HILLS UNIT GC NO. 47	Report #:	1	Report Date:	3/17/2003
Event Name:	ORIGINAL COMPLETION	Start:	2/16/2003	End:	3/18/2003

Cement Job Type: Primary

Primary	Squeeze Open Hole	Squeeze Casing	Plug
Hole Size: 8.750 (in)	Hole Size:	Hole Size:	Hole Size:
TMD Set: 8,530.0 (ft)	SQ TMD: (ft)	TMD Set:	Top Set: (ft)
Date Set: 3/17/2003	SQ Date:	Date Set:	BTM set: (ft)
Csg Type: PRODUCTION CASIN	SQ Type:	Csg Type:	Plug Date:
Csg Size: 7.000 (in)		SQ TMD:	Plug Type:
		SQ Date:	Drilled Out:
Cmtd. Csg: OPEN HOLE	Cmtd. Csg:	Cmtd. Csg:	Cmtd. Csg:

Cement Co: HALLIBURTON Cementer: Pipe Movement: NO MOVEMENT

Pipe Movement

Rot Time Start: :	Time End: :	RPM:	Init Torque: (ft-lbf)	Avg Torque: (ft-lbf)	Max Torque: (ft-lbf)
Rec Time Start: :	Time End: :	SPM:	Stroke Length: (ft)	Drag Up: 205 (lb)	Drag Down: 180 (lb)

Stage No: 1 of 4

Type: PRIM CMT 1ST STAGE	Start Mix Cmt: 05:55	Disp Avg Rate: 5.00 (bbl/min)	Returns: 100%
Volume Excess %: 60.00	Start Slurry Displ: :	Disp Max Rate: 5.00 (bbl/min)	Total Mud Lost: (bbl)
Meas. From:	Start Displ: :	Bump Plug: N	Cmt Vol to Surf: (bbl)
Time Circ Prior	End Pumping: :	Press Prior: (psi)	
To Cementing: 9.00	End Pump Date:	Press Bumped: (psi)	Ann Flow After: N
Mud Circ Rate: 388 (gpm)	Top Plug: N	Press Held: (min)	Mixing Method:
Mud Circ Press: 1,500 (psi)	Bottom Plug: N	Float Held: N	Density Meas By:

Mud Data

Type: FRESH WATER Density: 8.7 (ppg) Visc: 45 (s/qt) PV/YP: (cp)/8 (lb/100ft²) Gels 10 sec: (lb/100ft²) Gels 10 min: (lb/100ft²)
Bottom Hole Circulating Temperature:126 (°F) Bottom Hole Static Temperature: (°F)
Displacement Fluid Type:FRESH WATER Density: 8.3 (ppg) Volume: 334.00 (bbl)

Stage No: 1 Slurry No: 1 of 1

Slurry Data

Fluid Type: LEAD	Description: EXTENDED		Class: CLASS H	Purpose: FILLER CEM
Slurry Interval: (ft) To: (ft)	Cmt Vol: 100 (sk)	Density: 15.0 (ppg)	Yield: 2.55 (ft³/sk)	Mix Water: 11.10 (gal/sk
Water Source: Corky Glenn	Slurry Vol: (bbl)	Water Vol: 26.0 (bbl)	Other Vol: ()	Foam Job: Y

Test Data

			Time	Temp	Pressure
Thickening Time:	Temperature: (°F)	Compressive Strength 1:		(°F)	(psi)
Free Water: (%)	Temperature: (°F)	Compressive Strength 2:		(°F)	(psi)
Fluid Loss: (cc)	Temperature: (°F)				
Fluid Loss Pressure: (°F)					

Marathon Oil Company

Cementing Report

Legal Well Name:	INDIAN HILLS UNIT GC NO. 47			Spud Date:	2/26/2003
Common Well Name:	INDIAN HILLS UNIT GC NO. 47	Report #:	1	Report Date:	3/17/2003
Event Name:	ORIGINAL COMPLETION	Start:	2/16/2003	End:	3/18/2003

Stage No: 2 of 4

Type: PRIM CMT 2ND STAGE	Start Mix Cmt: 06:04	Disp Avg Rate: 5.00 (bbl/min)	Returns: 100%
Volume Excess %: 60.00	Start Slurry Displ: :	Disp Max Rate: 5.00 (bbl/min)	Total Mud Lost: (bbl)
Meas. From:	Start Displ: :	Bump Plug: N	Cmt Vol to Surf: (bbl)
Time Circ Prior	End Pumping: :	Press Prior: (psi)	
To Cementing: 9.00	End Pump Date:	Press Bumped: 2,600 (psi)	Ann Flow After: Y
Mud Circ Rate: 388 (gpm)	Top Plug: N	Press Held: (min)	Mixing Method:
Mud Circ Press: (psi)	Bottom Plug: N	Float Held: N	Density Meas By:

Mud Data

Type: FRESH WATER Density: 8.7 (ppg) Visc: 45 (s/qt) PV/YP: (cp)/8 (lb/100ft²) Gels 10 sec: (lb/100ft²) Gels 10 min: (lb/100ft²)
Bottom Hole Circulating Temperature: (°F) Bottom Hole Static Temperature: (°F)
Displacement Fluid Type: Density: (ppg) Volume: (bbl)

Stage No: 2 Slurry No: 1 of 1

Slurry Data

Fluid Type: LEAD	Description: FOAM		Class: CLASS H	Purpose: FILLER CEM	
Slurry Interval: (ft)	To: 8,100.00 (ft)	Cmt Vol: 950 (sk)	Density: 13.0 (ppg)	Yield: 2.00 (ft³/sk)	Mix Water: 5.20 (gal/sk)
Water Source: Corky Glenn		Slurry Vol: (bbl)	Water Vol: 117.0 (bbl)	Other Vol: ()	Foam Job: Y

Test Data

			Time	Temp	Pressure
Thickening Time:	Temperature: (°F)	Compressive Strength 1:		(°F)	(psi)
Free Water: (%)	Temperature: (°F)	Compressive Strength 2:		(°F)	(psi)
Fluid Loss: (cc)	Temperature: (°F)				
Fluid Loss Pressure: (°F)					

Stage No: 3 of 4

Type: PRIM CMT 3RD STAGE	Start Mix Cmt: :	Disp Avg Rate: 5.00 (bbl/min)	Returns: 100%
Volume Excess %: 60.00	Start Slurry Displ: :	Disp Max Rate: 5.00 (bbl/min)	Total Mud Lost: (bbl)
Meas. From:	Start Displ: :	Bump Plug: Y	Cmt Vol to Surf: 75.00 (bbl)
Time Circ Prior	End Pumping: :	Press Prior: 2,100 (psi)	
To Cementing:	End Pump Date:	Press Bumped: 2,600 (psi)	Ann Flow After: N
Mud Circ Rate: 388 (gpm)	Top Plug: Y	Press Held: 5 (min)	Mixing Method:
Mud Circ Press: (psi)	Bottom Plug: N	Float Held: Y	Density Meas By:

Mud Data

Type: FRESH WATER Density: 8.7 (ppg) Visc: 45 (s/qt) PV/YP: (cp)/8 (lb/100ft²) Gels 10 sec: (lb/100ft²) Gels 10 min: (lb/100ft²)
Bottom Hole Circulating Temperature: (°F) Bottom Hole Static Temperature: (°F)
Displacement Fluid Type:FRESH WATER Density: 8.3 (ppg) Volume: 334.00 (bbl)

Marathon Oil Company
Cementing Report

Legal Well Name:	INDIAN HILLS UNIT GC NO. 47			Spud Date:	2/26/2003
Common Well Name:	INDIAN HILLS UNIT GC NO. 47	Report #:	1	Report Date:	3/17/2003
Event Name:	ORIGINAL COMPLETION	Start:	2/16/2003	End:	3/18/2003

Stage No: 3 Slurry No: 1 of 1

Slurry Data

Fluid Type: TAIL	Description: OTHER		Class: CLASS H	Purpose: SHOE INTEG	
Slurry Interval: 8,100.00 (ft)	To: 8,825.00 (ft)	Cmt Vol: 120 (sk)	Density: 13.0 (ppg)	Yield: 1.67 (ft³/sk)	Mix Water: 8.20 (gal/sk)
Water Source: Corky Glenn		Slurry Vol: (bbl)	Water Vol: 24.0 (bbl)	Other Vol: ()	Foam Job: N

Test Data

			Time	Temp	Pressure
Thickening Time:	Temperature: (°F)	Compressive Strength 1:		(°F)	(psi)
Free Water: (%)	Temperature: (°F)	Compressive Strength 2:		(°F)	(psi)
Fluid Loss: (cc)	Temperature: (°F)				
Fluid Loss Pressure: (°F)					

Stage No: 3 Slurry No: 1 of 1 - Additives

Trade Name	Type	Concentration	Units	Liquid Conc.	Units
CFR-3		4.00			% BWOC
Gilsonite		5.00			lbs/sack
HR-344		5.00			% BWOC
HR-7		0.20			% BWOC
Salt		1.00			lbs/sack

Stage No: 4 of 4

Type: SUFACE TOPOUT	Start Mix Cmt: 07:05	Disp Avg Rate: (bbl/min)	Returns: Bullhead
Volume Excess %:	Start Slurry Displ: :	Disp Max Rate: (bbl/min)	Total Mud Lost: (bbl)
Meas. From:	Start Displ: :	Bump Plug: N	Cmt Vol to Surf: (bbl)
Time Circ Prior	End Pumping: :	Press Prior: (psi)	
To Cementing:	End Pump Date:	Press Bumped: (psi)	Ann Flow After: Y
Mud Circ Rate: (gpm)	Top Plug: N	Press Held: (min)	Mixing Method:
Mud Circ Press: (psi)	Bottom Plug: N	Float Held: N	Density Meas By:

Mud Data

Type: FRESH WATER Density: 8.7 (ppg) Visc: 45 (s/qt) PV/YP: (cp)/8 (lb/100ft²) Gels 10 sec: (lb/100ft²) Gels 10 min: (lb/100ft²)
Bottom Hole Circulating Temperature: (°F) Bottom Hole Static Temperature: (°F)
Displacement Fluid Type:FRESH WATER Density: 8.4 (ppg) Volume: 2.00 (bbl)

Marathon Oil Company

Cementing Report

Legal Well Name:	INDIAN HILLS UNIT GC NO. 47			Spud Date:	2/26/2003
Common Well Name:	INDIAN HILLS UNIT GC NO. 47	Report #:	1	Report Date:	3/17/2003
Event Name:	ORIGINAL COMPLETION	Start:	2/16/2003	End:	3/18/2003

Stage No: 4 Slurry No: 1 of 1

Slurry Data

Fluid Type: OTHER
Description: Modfied Super "H"
Class: CLASS H
Purpose: FILLER CEM
Slurry Interval: (ft) To: 350.00 (ft)
Cmt Vol: 75 (sk)
Density: 14.8 (ppg)
Yield: 1.35 (ft³/sk)
Mix Water: 6.36 (gal/sk)
Water Source:
Slurry Vol: (bbl)
Water Vol: 20.0 (bbl)
Other Vol: ()
Foam Job: N

Test Data

			Time	Temp	Pressure
Thickening Time:		Temperature: (°F)	Compressive Strength 1:	(°F)	(psi)
Free Water:	(%)	Temperature: (°F)	Compressive Strength 2:	(°F)	(psi)
Fluid Loss:	(cc)	Temperature: (°F)			
Fluid Loss Pressure:	(°F)				

Stage No: 4 Slurry No: 1 of 1 - Additives

Trade Name	Type	Concentration	Units	Liquid Conc.	Units
CaCl2		3.00			% BWOC
CalSeal		10.00			lbs/sack

Casing Test

Test Press: (psi)
For: (min)
Cement Found between Shoe and Collar:

Shoe Test

Pressure: (ppge)
Tool:
Open Hole: (ft)
Hrs Before Test:

Liner Top Test

Liner Lap:
Pos Test: (ppge) Tool:
Neg Test: (ppge) Tool:
Hrs Before Test:
Cement Found on Tool:

Log/Survey Evaluation

CBL Run:
Under Pressure: (psi)
Bond Quality:
Cet Run:
Bond Quality:
Temp Survey:
Hrs Prior to Log:

Interpretation Summary

Cement Top: (ft)
How Determined:
TOC Sufficient:
Job Rating:
If Unsuccessful Detection Indicator:
Remedial Cementing Required:
Number of Remedial Squeezes: