

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

Oil Cons.
N.M. DIV-1 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

1. Type of Well

☐ Oil Well ☒ Gas Well ☐ Other

2. Name of Operator

Marathon Oil Company

3a. Address

P.O. Box 552 Midland, TX 79702

3b. Phone No. (Include area code)

915-687-8357

4. Location of Well (Footage, Sec., T., R., M., or Survey Description)

Section 33, T-21-S, R-24-E
1800' FSL & 660' FWL

5. Lease Serial No.

NM-07260

6. If Indian, Allottee or Tribe Name

N/A

7. If Unit or CA/Agreement, Name and/or No.

Indian Hills Unit

8. Well Name and No.

Indian Hills Unit #43

9. API Well No.

30-015-32246

10. Field and Pool, or Exploratory Area

Indian Basin U. P. Assoc.

11. County or Parish, State

Eddy N.M.

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

TYPE OF SUBMISSION

- ☐ Notice of Intent
☒ Subsequent Report
☐ Final Abandonment Notice

TYPE OF ACTION

- | | | | |
|---|---|--|---|
| ☐ Acidize | ☐ Deepen | ☐ Production (Start/Resume) | ☐ Water Shut-Off |
| ☐ Alter Casing | ☐ Fracture Treat | ☐ Reclamation | ☐ Well Integrity |
| ☐ 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 recompleat 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 recompleat 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 see attachments to form 3160-5 for end of well report.

ACCEPTED FOR RECORD

JUL - 5 2002

ALEXIS C. SWOBODA
PETROLEUM ENGINEER

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

Jerry Fletcher

Title

Engineer Tech.

Date 7/02/02

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.

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Marathon Oil Company

Operations Summary Report

Page 1 of 4

Legal Well Name: INDIAN HILLS UNIT NO. 43
 Common Well Name: INDIAN HILLS UNIT NO. 43
 Event Name: ORIGINAL DRILLING
 Contractor Name: MCVAY DRILLING
 Rig Name: MCVAY DRILLING

Start: 5/30/2002
 Rig Release:
 Rig Number: 4

Spud Date: 5/30/2002
 End: 6/20/2002
 Group:

Date	From - To	Hours	Code	Sub Code	Phase	Description of Operations
6/3/2002	07:00 - 22:00	15.00	Loc		MIRU	Location: 1800' FSL & 660' FWL. Section 33 T-21-S, R-24-E Eddy County, New Mexico. Location 350' X 350' w/ 175' X 175' single horseshoe reserve pit. Built by Sweat Construction. Move rig & rig up on well. Brantly Trucking moved rig. Mesquite Service lined reserve pit.
6/4/2002	08:00 - 13:00	5.00	Rig		MIRU	Finish R/U rig. Instal flow line & securing lines.
	13:00 - 14:30	1.50	Drill		MIRU	Picked up 8" collars & install hammer .
	14:30 - 01:00	10.50	Drill	HAMR	DRLSUR	Spudded w/ 12 1/4" hammer @ 14:30 Hr.
	01:00 - 01:15	0.25	Surv	TOTC	DRLSUR	Wireline survey
	01:15 - 06:00	4.75	Drill	HAMR	DRLSUR	Drilling w/ hammer.
6/5/2002	06:00 - 14:30	8.50	Drill	AIR	DRLSUR	Drilling w/ 12 1/4" hammer.
	14:30 - 14:45	0.25	Surv	TOTC	DRLSUR	W.L.S.
	14:45 - 15:00	0.25	Drill	AIR	DRLSUR	Drilling w/ 12 1/4" hammer. Hit water @ 1045'. Drilling slowed down.
	15:00 - 16:30	1.50	Stuck	WPIP	DRLSUR	Worked pipe L/D 1 jt. Tight for btm 2 jt's. Worked free.
	16:30 - 18:30	2.00	Trip	BHA	DRLSUR	POOH & L/D Hammer bit & tool. Bit graded 7. Good shape
	18:30 - 20:00	1.50	Rig	MOD	DRLSUR	Pulled 5 jt's csg off rack & picked up 4 drill colars, Put BHA on walk to get ready to pick up.
	20:00 - 22:00	2.00	Trip	BBHD	DRLSUR	Picked up 12 1/4" bit, bit sub, shock sub, RIH w/ 1-8" collar, reamer, TIH w/ 6 1/2" collars.
	22:00 - 22:45	0.75	Drill	DOH	DRLSUR	Picked up rotating rubber & washed down 87' to btm. Had 4' fill.
6/6/2002	22:45 - 06:00	7.25	Drill	DOH	DRLSUR	Drill w/ 12 1/4" bit w/ air.
	06:00 - 09:15	3.25	Drill	AIR	DRLSUR	Aired drilled
	09:15 - 09:45	0.50	Surv	TOTC	DRLSUR	BOP drill/Survey
	09:45 - 16:00	6.25	Drill	AIR	DRLSUR	Aired drilled t/ TD @ 1830'.
	16:00 - 16:15	0.25	Circ	CLN	DRLSUR	Pumped on hole 50% returns.
	16:15 - 16:30	0.25	Surv	TOTC	DRLSUR	Ran WL survey.
	16:30 - 18:30	2.00	Trip	BIT	DRLSUR	TOH. L/D 1-8" DC.
	18:30 - 22:00	3.50	Csg	RUN	CSGSUR	Safety meeting. RU csg crew. Ran 41 jts of 9 5/8", 36#, K-55 csg. .
	22:00 - 22:45	0.75	Circ	WSHD	CSGSUR	Washed last 15' to bottom @ 1830'. Pumped on hole.
	22:45 - 00:30	1.75	Cemt	PRIM	CSGSUR	RU cmt head. Safety meeting. Cmted w/ 700 sks of foamed Premuim cement containing 3% CaCl2 (Yield-1.35 @ 14.8 ppg) (167 bbls of slurry) tailed w/ 150 sks of Premuim w/ 3% CaCL2.(Yield- 1.84 @ 14.8 ppg). (36 bbls of slurry) Max pressure 600 psi. No returns while pumping cmt. Dropped plug. Hole bridged off 14 1/2 bbls into displacement of wiper plug. Pressure immediately built to 3000 psi. Pulled 225,000# on csg. Not able to break bridge. SI w/ 2664 psi on csg.
6/7/2002	00:30 - 06:00	5.50	Wait	CEMT	CSGSUR	WOC.
	06:00 - 15:00	9.00	Wait	CEMT	CSGSUR	WOC. Pumped 95 bbls of water down annulus. Could not fill hole.
	15:00 - 17:30	2.50	Cemt	REMD	CSGSUR	RU HES on annulus. Pumped 600 sks of Nitrofiied "C" cmt + 3% CaCl2. (80 psi on csg) Pumped 75 sks of "C" w/ 3% CaCl2. (20 psi on csg). SI.
	17:30 - 20:30	3.00	Wait	CEMT	CSGSUR	WOC.
	20:30 - 21:30	1.00	Weld	WLHD	CSGSUR	Cut off 16" conductor & 9 5/8" csg. Waited on 1" DP & cmt.
	21:30 - 02:30	5.00	Cemt	TJOB	CSGSUR	Tagged top of cmt w/ 1" @ 130'. Wait on cement.
	02:30 - 02:45	0.25	Cemt	TJOB	CSGSUR	Pumped 100 sks of "C" w/ 3% CaCl2. POOH w/ 1" DP. Found cmt 20' up on last jt.
	02:45 - 04:45	2.00	Wait	CEMT	CSGSUR	WOC.
	04:45 - 05:00	0.25	Cemt	TJOB	CSGSUR	RI w/ 1" . Tagged @ 110'.
	05:00 - 05:15	0.25	Cemt	TJOB	CSGSUR	Pumped 100 sks of of "C" w/ 3% CaCl2. Circ. 20 sks.
	05:15 - 06:00	0.75	Cemt	TJOB	CSGSUR	POOH w/ 1". RD Halliburton. Preparing to weld on head.

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BOWENVILLE OFFICE

Operations Summary Report

Legal Well Name: INDIAN HILLS UNIT NO. 43

Common Well Name: INDIAN HILLS UNIT NO. 43

Event Name: ORIGINAL DRILLING

Contractor Name: MCVAY DRILLING

Rig Name: MCVAY DRILLING

Start: 5/30/2002

Rig Release:

Rig Number: 4

Spud Date: 5/30/2002

End: 6/20/2002

Group:

Date	From - To	Hours	Code	Sub Code	Phase	Description of Operations
6/8/2002	06:00 - 08:00	2.00			CSGSUR	Welded on 11" 3M x 9 5/8" SOW csg head. Tested t/ 1500 psi.
	08:00 - 14:00	6.00	BOPwhd	UBOP	CSGSUR	NU 11" BOP, Choke & gas seperater.
	14:00 - 18:00	4.00	BOPwhd	UBOP	CSGSUR	Tested pipe & blind rams t/ 3000 psi/250 psi. Tested Hydril t/ 1500 psi/250 psi. Tested choke & TIW valves t/ 3000 psi.
	18:00 - 20:00	2.00	Trip	BBHD	CSGSUR	PU 8 3/4" milled tooth bit. TI w/ 2 stds of 6 1/2" DC's. Tagged cmt @ 138'.
	20:00 - 22:30	2.50	Drill	CEMT	CSGSUR	Drilled cmt f/ 138' t/ 334'.
6/9/2002	22:30 - 23:00	0.50	Trip	BHA	CSGSUR	L/D 6 jts of DP. TI w/ 2 stds of 6 1/2" DC's.
	23:00 - 06:00	7.00	Drill	CEMT	CSGSUR	Drilled cmt f/ 334' t/ 935'.
	06:00 - 08:30	2.50	Drill	CEMT	CSGSUR	Drilled cmt f/ 935' t/ 1015'. Fell out of good cmt.
	08:30 - 09:00	0.50	BOPwhd	URTH	CSGSUR	Installed Rot. head rubber.
	09:00 - 12:15	3.25	Drill	CEMT	CSGSUR	Drilled cmt stringer & foam t/ 1782'. Tested csg t/ 1000 psi. Drilled shoe t/ 1828'. (Top of float shoe) Tested t/ 1000 psi.
6/10/2002	12:15 - 13:00	0.75	Drill	DOHR	DRLPR	Drilled 2' float shoe & 5' of new formation. Tested t/ 10.5 ppg EMW.
	13:00 - 15:15	2.25	Trip	LDDP	DRLPR	L/D 48 jts of 4 1/2" DP.
	15:15 - 16:00	0.75	Trip	BBHD	DRLPR	PU 8 3/4" BHA.
	16:00 - 17:00	1.00	Trip	BBHD	DRLPR	TIH w/ 6 1/2" DC's & 4 1/2" DP.
	17:00 - 18:30	1.50	Drill	DOH	DRLPR	Drilled f/ 1835' t/ 1881' w/ water.
	18:30 - 18:45	0.25	Circ	CLN	DRLPR	Switched t/ air. Unloaded hole.
	18:45 - 02:15	7.50	Drill	AIR	DRLPR	Air drilled 8 3/4" hole f/ 1881' t/ 2325'.
	02:15 - 02:30	0.25	Surv	TOTC	DRLPR	WL Survey 1 degree
	02:30 - 06:00	3.50	Drill	AIR	DRLPR	Air drilled f/ 2325' t/ 2550'.
	06:00 - 10:00	4.00	Drill	AIR	DRLPR	Air drilled f/ 2550' t/ 2801'.
	10:00 - 10:15	0.25	Surv	TOTC	DRLPR	WL survey 3/4 degrees
	10:15 - 13:45	3.50	Drill	AIR	DRLPR	Air drilled f/ 2801' t/ 2992'.
	13:45 - 14:00	0.25	Rig	RCNT	DRLPR	Air compressor.
	14:00 - 17:30	3.50	Drill	AIR	DRLPR	Air drilled f/ 2992' t/ 3185'.
	17:30 - 17:45	0.25	Rig	RCNT	DRLPR	Air compressor.
6/11/2002	17:45 - 20:15	2.50	Drill	AIR	DRLPR	Aired f/ 3185' t/ 3311'.
	20:15 - 20:30	0.25	Surv	TOTC	DRLPR	Misrun on survey.
	20:30 - 21:15	0.75	Drill	AIR	DRLPR	Air drilled f/ 3311' t/ 3343'.
	21:15 - 21:45	0.50	Surv	TOTC	DRLPR	WL Survey. 3/4 degrees.
	21:45 - 23:30	1.75	Drill	AIR	DRLPR	Air drilled f/ 3343' t/ 3436'.
	23:30 - 00:00	0.50	Rig	RCNT	DRLPR	Air compressor(belts)
	00:00 - 06:00	6.00	Drill	AIR	DRLPR	Air drilled f/ 3436' t/ 3725'. Drilling @ 55'/hr.
	06:00 - 08:30	2.50	Drill	AIR	DRLPR	Air drilled f/ 3725' t/ 3850'. 60K
	08:30 - 09:15	0.75	Surv	TOTC	DRLPR	WL Survey 1 1/4 degress
	09:15 - 18:30	9.25	Drill	AIR	DRLPR	Air drilled f/ 3850' t/ 4357'. 55K
6/12/2002	18:30 - 19:15	0.75	Surv	TOTC	DRLPR	WL Survey 2 3/4 degress -BOP drill
	19:15 - 03:30	8.25	Drill	AIR	DRLPR	Air drilled f/ 4357' t/ 4863'. 50-55K
	03:30 - 04:00	0.50	Surv	TOTC	DRLPR	WL Survey 4 degrees. BOP drill
	04:00 - 06:00	2.00	Drill	AIR	DRLPR	Air drilled f/ 4863' t/ 4935'. 38-40K Drilling @ 40'/hr.
	06:00 - 09:45	3.75	Drill	AIR	DRLPR	Air drilled f/ 4935' t/ 5021'. 25K
	09:45 - 10:15	0.50	Surv	TOTC	DRLPR	WL Survey. 5 1/4 degress
	10:15 - 11:15	1.00	Circ	HOLE	DRLPR	Switched f/ air to fluid.
6/13/2002	11:15 - 00:30	13.25	Drill	DOH	DRLPR	Drill f/ 5021' t/ 5116'. 18K
	00:30 - 01:00	0.50	Surv	TOTC	DRLPR	WL Survey 4 1/4 degress
	01:00 - 06:00	5.00	Drill	DOH	DRLPR	Drill f/ 5116' t/ 5170'. 25K
	06:00 - 09:00	3.00	Drill	DOH	DRLPR	Drilling w/ fluid & holding off wt. to straighten hole.
	09:00 - 09:30	0.50	Surv	TOTC	DRLPR	W.L.S. & BOP drill. worked Hydril.
	09:30 - 14:45	5.25	Drill	DOH	DRLPR	Drilling 8 3/4" hole w/ fluid. Running 25 to 30 thousand on bit.
	14:45 - 15:15	0.50	Surv	TOTC	DRLPR	W.L.S.
	15:15 - 23:15	8.00	Drill	DOH	DRLPR	Drilling 8 3/4" hole w/ fluid. Running 20 to 25 thousand on bit.

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Marathon Oil Company
Operations Summary Report

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

Spud Date: 5/30/2002
End: 6/20/2002

Start: 5/30/2002
Rig Release:
Rig Number: 4

Date	From - To	Hours	Code	Sub Code	Phase	Description of Operations
6/13/2002	23:15 - 23:45	0.50	Surv	TOTC	DRLPR	W.L.S. & BOP drill.
	23:45 - 06:00	6.25	Drill	DOH	DRLPR	Drilling 8 3/4" hole w/ fluid. Running 20 to 25 thousand on bit. While waiting on motor & MWD.
6/14/2002	06:00 - 06:15	0.25	Surv	TOTC	DRLPR	Dropped totco & getting ready to POOH.
	06:15 - 09:30	3.25	Trip	BHA	DRLPR	TOOH to L/D PHA.
	09:30 - 12:00	2.50	Trip	BBHD	DRLPR	L/D PHA & picked up 1.3 motor w/ MWD. Tested MWD.No good. Replaced MWD & retest. O.K.
	12:00 - 15:30	3.50	Trip	BIT	DRLPR	TIH w/ same 8 3/4" bit w/ motor & MWD.
	15:30 - 15:45	0.25	Drill	DOH	DRLPR	Installed stripper rubber. Picked up 2 jt's & washed 40' to btm. No fill.
	15:45 - 16:00	0.25	Drill	DOH	DRLPR	Drill w/ 8 3/4" bit w/ motor.
	16:00 - 16:15	0.25	Surv	MWD	DRLPR	Survey & BOP drill.
	16:15 - 19:00	2.75	Drill	DOHR	DRLPR	Drill w/ motor & 30 thousand on bit.
	19:00 - 19:15	0.25	Surv	MWD	DRLPR	Survey
	19:15 - 22:00	2.75	Drill	DOHR	DRLPR	Drill w/ motor & 30 thousand on bit.
	22:00 - 22:15	0.25	Surv	MWD	DRLPR	Survey
	22:15 - 02:00	3.75	Drill	DOHR	DRLPR	Drill w/ motor & 35 to 40 thousand on bit. Torque has build up when added wt. Dropped wt to 30 thousand on bit.
	02:00 - 02:15	0.25	Surv	MWD	DRLPR	Survey & BOP drill.
	02:15 - 06:00	3.75	Drill	DOHR	DRLPR	Drill w/ motor & 30 thousand on bit. still lots of torque when added to much wt. Played w/ wt while drilling.
6/15/2002	06:00 - 08:15	2.25	Drill	DOHR	DRLPR	Drilling w/ 8 3/4" bit w/ motor.
	08:15 - 08:30	0.25	Surv	MWD	DRLPR	Survey & BOP drill.
	08:30 - 12:15	3.75	Drill	DOHR	DRLPR	Drilling w/ 8 3/4" bit w/ motor.
	12:15 - 13:00	0.75	Surv	TOTC	DRLPR	MWD not working. Ran W.L.S.
	13:00 - 14:15	1.25	Drill	DOHR	DRLPR	Drilling w/ 8 3/4" bit w/ motor.
	14:15 - 14:30	0.25	Surv	MWD	DRLPR	Survey. Got MWD back to working.
	14:30 - 19:45	5.25	Drill	DOHR	DRLPR	Drilling w/ 8 3/4" bit w/ motor.
	19:45 - 20:00	0.25	Surv	MWD	DRLPR	Survey & BOP drill.
	20:00 - 01:15	5.25	Drill	DOHR	DRLPR	Drilling w/ 8 3/4" bit w/ motor.
	01:15 - 01:30	0.25	Surv	MWD	DRLPR	Survey & BOP drill.
	01:30 - 05:15	3.75	Drill	DOHR	DRLPR	Drilling w/ 8 3/4" bit w/ motor. Started increasing bit wt. Torque decreased. Running f/ 35 to 40 thousand on bit.
	05:15 - 05:30	0.25	Surv	MWD	DRLPR	Survey.
6/16/2002	05:30 - 06:00	0.50	Drill	DOHR	DRLPR	Drilling w/ 8 3/4" bit w/ motor.
	06:00 - 09:15	3.25	Drill	DOHR	DRLPR	Drill w/ 8 3/4" bit w/ motor.
	09:15 - 09:30	0.25	Surv	MWD	DRLPR	Survey & BOP drill.
	09:30 - 12:45	3.25	Drill	DOHR	DRLPR	Drill w/ 8 3/4" bit w/ motor.
	12:45 - 13:00	0.25	Surv	MWD	DRLPR	Survey
	13:00 - 16:30	3.50	Drill	DOHR	DRLPR	Drill w/ 8 3/4" bit w/ motor.
	16:30 - 17:00	0.50	Surv	MWD	DRLPR	Survey & BOP drill.
	17:00 - 17:30	0.50	Drill	DOHR	DRLPR	Drill w/ 8 3/4" bit w/ motor. Motor stalled out.
	17:30 - 18:00	0.50	Circ	CLN	DRLPR	Cir. well bore clean.
	18:00 - 20:15	2.25	Trip	BHA	DRLPR	TOOH to L/D motor.
	20:15 - 21:30	1.25	Trip	BBHD	DRLPR	L/D MWD, monel collar, motor, bit. & picked up new bit.
	21:30 - 22:30	1.00	Trip	BIT	DRLPR	TIH w/ new bit.
	22:30 - 23:00	0.50	Rig	RCNT	DRLPR	Worked on quick release on clutch.
	23:00 - 00:30	1.50	Trip	BIT	DRLPR	Finish TIH w/ new bit.
	00:30 - 01:00	0.50	Circ	WSHD	DRLPR	Picked up 3 jt's & wash 22' to btm. 3' of fill.
	01:00 - 03:45	2.75	Drill	DOH	DRLPR	Drill w/ 8 3/4" bit.
6/17/2002	03:45 - 04:00	0.25	Surv	TOTC	DRLPR	W.L.S.
	04:00 - 06:00	2.00	Drill	DOH	DRLPR	Drill w/ 8 3/4" bit.
	06:00 - 10:30	4.50	Drill	DOH	DRLPR	Drilling w/ 8 3/4" bit w/ slick assembly.
	10:30 - 11:00	0.50	Surv	TOTC	DRLPR	W.L.S & BOP drill.

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Marathon Oil Company
Operations Summary Report

Page 4 of 4

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Contractor Name: MCVAY DRILLING
Rig Name: MCVAY DRILLING

Spud Date: 5/30/2002
End: 6/20/2002
Group:

Start: 5/30/2002
Rig Release:
Rig Number: 4

Date	From - To	Hours	Code	Sub Code	Phase	Description of Operations
6/17/2002	11:00 - 16:00	5.00	Drill	DOH	DRLPR	Drilling w/ 8 3/4" bit w/ slick assembly.
	16:00 - 16:30	0.50	Surv	TOTC	DRLPR	W.L.S. & BOP drill.
	16:30 - 21:15	4.75	Drill	DOH	DRLPR	Drilling w/ 8 3/4" bit w/ slick assembly.
	21:15 - 21:45	0.50	Surv	TOTC	DRLPR	W.L.S.
	21:45 - 03:30	5.75	Drill	DOH	DRLPR	Drilling w/ 8 3/4" bit w/ slick assembly.
	03:30 - 04:00	0.50	Surv	TOTC	DRLPR	W.L.S. & BOP drill.
6/18/2002	04:00 - 06:00	2.00	Drill	DOH	DRLPR	Drilling w/ 8 3/4" bit w/ slick assembly.
	06:00 - 10:30	4.50	Drill	DOH	DRLPR	Drill w/ 8 3/4" bit w/ slick assembly.
	10:30 - 11:00	0.50	Surv	TOTC	DRLPR	W.L.S. & BOP drill.
	11:00 - 13:15	2.25	Drill	DOH	DRLPR	Drill w/ 8 3/4" bit w/ slick assembly.
	13:15 - 13:45	0.50	Surv	TOTC	DRLPR	W.L.S.
	13:45 - 16:45	3.00	Drill	DOH	DRLPR	Drill w/ 8 3/4" bit w/ slick assembly
	16:45 - 17:15	0.50	Surv	TOTC	DRLPR	W.L.S. & BOP drill.
	17:15 - 22:45	5.50	Drill	DOH	DRLPR	Drill w/ 8 3/4" bit w/ slick assembly. Lost returns @ 7665. Dry drill.
	22:45 - 23:15	0.50	Surv	TOTC	DRLPR	W.L.S. & BOP drill.
	23:15 - 06:00	6.75	Drill	DOH	DRLPR	Dry drill w/ 8 3/4" bit w/ slick assembly.
6/19/2002	06:00 - 07:15	1.25	Drill	DOH	DRLPR	Dry drill w/ 8 3/4" bit w/ slick assembly.
	07:15 - 07:45	0.50	Surv	TOTC	DRLPR	W.L.S. & BOP drill.
	07:45 - 14:30	6.75	Drill	DOH	DRLPR	Dry drill w/ 8 3/4" bit w/ slick assembly.
	14:30 - 15:00	0.50	Surv	TOTC	DRLPR	W.L.S. & BOP drill.
	15:00 - 02:45	11.75	Drill	DOH	DRLPR	Dry drill w/ 8 3/4" bit w/ slick assembly. T.D. hole .
	02:45 - 04:15	1.50	Circ	HOLE	DRLPR	Pump sweep & clean out well bore.
	04:15 - 05:00	0.75	Trip	BIT	DRLPR	10 stand short trip. No fill.
	05:00 - 05:30	0.50	Circ	MUD	DRLPR	Spotted 100 bbl pill on btm.
6/20/2002	05:30 - 06:00	0.50	Surv	TOTC	DRLPR	W.L.S.
	06:00 - 10:45	4.75	Trip		DRLPR	TOH (SLM) for logs-slick. Pumped 2-3 BPM to keep well dead.
	10:45 - 14:00	3.25			EVALPR	W/O Schlumberger. Logging truck broke down enroute.
	14:00 - 15:30	1.50	Log	OPEN	EVALPR	Pre-job meeting. R/U Schlumberger & packoff.
	15:30 - 22:30	7.00	Log	OPEN	EVALPR	Ran Platform Express w/ FMI, NGT, Density Neutron logs from 8400' w/ no hole problems. Fluid level 5550. R/D Schlumberger.

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Marathon Oil Company

Operations Summary Report

Page 1 of 1

Legal Well Name:	INDIAN HILLS UNIT NO. 43		
Common Well Name:	INDIAN HILLS UNIT NO. 43	Spud Date:	5/30/2002
Event Name:	ORIGINAL COMPLETION	Start:	5/30/2002
Contractor Name:	MCVAY DRILLING	Rig Release:	End: 6/22/2002
Rig Name:	MCVAY DRILLING	Group:	
		Rig Number:	4

Date	From - To	Hours	Code	Sub Code	Phase	Description of Operations
6/20/2002	22:30 - 00:30	2.00	Trip		CSGPR	TIH w/ same bit / BHA on DC's & DP.
	00:30 - 01:15	0.75	Equip		CSGPR	Slip & cut drilling line.
	01:15 - 03:15	2.00	Trip		CSGPR	TIH
	03:15 - 04:30	1.25	Trip		CSGPR	Install rotating rubber & tag @ 8414. Wash 3 jts. from 8387 to 8536
	04:30 - 05:30	1.00	Circ		CSGPR	Pump on well w/ no returns. Spot pill on bottom. Held pre-job meeting & R/U Bull Rogers L/D truck.
6/21/2002	05:30 - 06:00	0.50	Trip		CSGPR	L/D 4-1/2" DP.
	06:00 - 11:45	5.75	Trip	LDDP	CSGPR	TOH L/D DP. Break kelly. L/D 33-6-1/4" DC's, jars, & bit.
	11:45 - 13:30	1.75	BOPwhd	UBOP	CSGPR	Install 7" pipe rams. Held pre-job meeting. R/U Bull Rogers csg. crew. * (Gave HES a 7 hr. notice @ 12:19 CST for cement & N2).
	13:30 - 21:15	7.75	Csg	RUN	CSGPR	Run 92 jts. of 7", 26#, 8rd csg. w/ single float shoe w/ ECP & DV 84 jts. above shoe. Ran 97 jts. of 7", 23# buttress & 3 jts. of 7" 26#, 8rd on top of string to 8474 w/ no problems. Tagged @ 8474.
	21:15 - 23:00	1.75	Csg	RUN	CSGPR	Wash fill from 8474 to 8534 w/ last 5' very tight w/ no returns. Land csg. @ 8534 w/ DV / ECP @ 4754-4766. Pumped pipe capacity. Held pre-job meeting w/ HES. Start R/U HES.
	23:00 - 00:00	1.00	Cemt	PRIM	CSGPR	Finish R/U HES cement & N2 equipment.
	00:00 - 02:45	2.75	Cemt	PRIM	CSGPR	Test lines to 7000#. HES pumped 50,000 SCF N2, 10 bbl's. water, 10 bbl's. Super Flush 101, 10 bbl's. water. Cemented w/ 100 sks. Premium Acid Soluble, 620 sks. 2% zonesalant, & 120 sks. Super H ,0.4% CFR-3, 5 lb's./ sk. gilsonite, & 0.5% Halad-344. Used 160,100 SCF N2 / 140,100 downhole. Drop plug & displaced 329.1 bbl's. of water @ max. press. of 340# @ 8 bpm (no differential). Did not circ. water or N2.
	02:45 - 03:45	1.00	Cemt	PRIM	CSGPR	Bump plug to 2800# & inflate packer @ 02:10 CST. Float held. Drop bomb & open DV @ 480#.
	03:45 - 05:15	1.50	Cemt	PRIM	CSGPR	Circulate w/ rig pump w/ no cement or N2 in returns.
						Cement 2nd stage w/ 460 sks. of Interfill C, 1/4 lb's./ sk. flocele, 3 lb's./ sk. gilsonite, & 0.2% Halad-322. Tail w/ 100 sks. Premium Plus neat cement. Drop plug. Displace w/ 184 bbl's. of water. Bump plug to 2700# & close tool @ 05:10 CST. Circulated 35 sks. of cement.
6/22/2002	05:15 - 06:00	0.75	Clean	RIG	CSGPR	R/D HES. Wash out BOP's & flowlines.
	06:00 - 08:45	2.75	NuNd		XMBO	N/D BOP's & flowlines. P/U & secure BOP stack.
	08:45 - 10:45	2.00	NuNd		XMBO	WoodGroup installed 7" csg. slips w/ packoff PESEAL & set total string wt. 200,000 on slips. Cutoff 7" csg. L/D BOP's. N/U 11", 3M X 11", 3M C-22 Tbg. Head Assembly / Csg. Hanger. Test 7" csg. seals to 3000# for 15 minutes (ok).
	10:45 - 12:00	1.25	BOPwhd		OTHER	Change pipe rams & jet pits. Released rig @ 12:00 CST.

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Casing Report

Legal Well Name: INDIAN HILLS UNIT NO. 43
 Common Well Name: INDIAN HILLS UNIT NO. 43
 Event Name: ORIGINAL DRILLING

Report #: 1
 Start: 5/30/2002

Spud Date: 5/30/2002
 Report Date: 6/5/2002
 End: 6/20/2002

General Information

String Type: SURFACE CASING	Permanent Datum:	KELLY BUSHING	Hole Size:	Hole TMD:	1,818.0 (ft)
Hole TVD: 1,830.0 (ft)	KB-Datum:	0.00 (ft)	Water TMD:	Str Wt on Slips:	(lb)
Ground Level: 4,109.00 (ft)	CF Elevation:	(ft)	Liner Overlap:	Max Hole Angle:	0.50 (°)
Circ Hours: 0.50 (hr)	Mud Lost:	(bbl)	KB to Cutoff:	Days From Spud:	2 (days)

Casing Flange / Wellhead

Manufacturer: Woodgroup Model: FMC C-22 Top Hub/Flange: (in) / 3,000 (psi)
 Hanger Model: 9 5/8" SOW Packoff Model: BTM Hub/Flange: 9.625 (in) / (psi)

Actual TMD Set: 1,830.060 (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	8rd	40	1,782.360	1,782.36		Y				10.625	8.765	
CASING FLOAT COLLA	9.625	36.0		8.921	8rd	1	1.250	1,783.61		Y				10.625		
CASING JOINT(S)	9.625	36.0	J-55	8.921	8rd	1	44.950	1,783.61		Y				10.625	8.765	
CASING FLOAT SHOE	9.625	36.0		8.921	8rd	1	1.500	1,828.56		Y				10.625		

Non-Integral Casing Accessories

Accessory	Manufacturer	Number	Spacing (ft)	Top (ft)	Interval	Bottom (ft)	How Fixed
CENTRALIZER	Weatherford	19	88.0				CLAMPED

Remarks

Tacked btm 2 jlt's ,guide shoe, & float collar.

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Marathon Oil Company

Cementing Report

Page 1 of 2

Legal Well Name: INDIAN HILLS UNIT NO. 43
Common Well Name: INDIAN HILLS UNIT NO. 43 ORIGINAL DRILLING
Event Name:
Spud Date: 5/30/2002
Report Date: 6/5/2002
End: 6/20/2002

Cement Job Type: Primary

Primary	Squeeze Open Hole	Squeeze Casing	Plug
Hole Size: 12.250 (in)	Hole Size:	Hole Size:	Hole Size:
TMD Set: 1,830.0 (ft)	SQ TMD: (ft)	TMD Set:	Top Set: (ft)
Date Set: 6/5/2002	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:
Cmt. Csg: OPEN HOLE	Cmt. Csg:	SQ Date:	Drilled Out:

Cement Co: HALLIBURTON
Cement: Pipe Movement: NO MOVEMENT

Pipe Movement

Rot Time Start: 00:00 Time End: 00:00 RPM: SPM: Init Torque: (ft-lbf) Avg Torque: (ft-lbf) Drag Up: (lb) Drag Down: (lb)
Rec Time Start: Time End: Time End: SPM: Stroke Length: (ft)

Stage No: 1 of 1

Type: PRIM CMT 1ST STAGE	Start Mix Cmt: 22:00	Disp Avg Rate: 5.00 (bbl/min)	Returns: 0
Volume Excess %: 100.00	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: 600 (psi)	Ann Flow After: N
To Cementing: 0.75	End Pump Date:	Press Bumped: (psi)	Mixing Method:
Mud Circ Rate: (gpm)	Top Plug: Y	Press Held: (min)	Density Meas By:
Mud Circ Press: (psi)	Bottom Plug: N	Float Held: N	

Mud Data

Type: AIR-MIST Density: 8.3 (ppg) Visc: (s/qt)
PV/FP: (cp) / (lb/100ft²) Gels 10 sec: (lb/100ft²) Gels 10 min: (lb/100ft²)
Bottom Hole Circulating Temperature: (°F)
Displacement Fluid Type: FRESH WATER
Density: 8.3 (ppg)
Volume: 138.00 (bbl)

Stage No: 1 Slurry No: 1 of 2

Slurry Data
Fluid Type: OTHER
Description: FOAM
Class: CLASS C
Purpose: CONDUCTOR
Slurry Interval: 800.00 (ft) To: (ft)
Cmt Vol: 700 (sk)
Density: 14.8 (ppg)
Yield: 1.34 (ft³/sk)
Mix Water: 6.30 (gal/sk)
Foam Job: Y

Test Data
Thickening Time: Temperature: (°F)
Free Water: (%) Temperature: (°F)
Fluid Loss: (cc) Temperature: (°F)
Fluid Loss Pressure: (°F)

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Legal Well Name: INDIAN HILLS UNIT NO. 43
Common Well Name: INDIAN HILLS UNIT NO. 43
Event Name: ORIGINAL DRILLING
Spud Date: 5/30/2002
Report Date: 6/5/2002
End: 6/20/2002
Report #: 1
Start: 5/30/2002

Stage No: 1 Slurry No: 1 of 2 - Additives					
Trade Name	Type	Concentration	Units	Liquid Conc.	% BWOC
CACL2 (LIQUID)	ACCELERATOR	3.00			

Slurry Data
Fluid Type: TAIL
Description: BENTONITE EXT.
Class: CLASS C
Purpose: CONDUCTOR
Slurry Interval: 1,200.00 (ft) To: 1,830.00 (ft) Cmt Vol: 150 (sk)
Density: 14.8 (ppg)
Yield: 1.34 (ft³/sk)
Mix Water: 6.30 (gal/sk)
Water Source: Frac tank
Slurry Vol: (bbl)
Water Vol: 6.3 (bbl)
Other Vol: ()
Foam Job: N

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

Stage No: 1 Slurry No: 2 of 2 - Additives					
Trade Name	Type	Concentration	Units	Liquid Conc.	% BWOC
CACL2 (LIQUID)	ACCELERATOR	3.00			

Casing Test		Shoe Test		Liner Top Test	
Test Press: (psi)	Pressure: (ppge)	Pos Test: (ppge)	Liner Lap:	Tool:	
For: (min)		Neg Test: (ppge)	Hrs Before Test:	Tool:	
Cement Found between	Open Hole: (ft)		Cement Found on Tool:		
Shoe and Collar:					

Log/Survey Evaluation

CBL Run:	Cement Top: (ft)	How Determined:	TOC Sufficient:	Job Rating:	If Unsuccessful Detection Indicator:	Remedial Cementing Required:	Number of Remedial Squeezes:
Under Pressure: (psi)							
Bond Quality:							
Cet Run:							
Bond Quality:							
Temp Survey:							
Hrs Prior to Log:							

Remarks

Pumped 700 sks nitroflashed cement tailed w/ 150 sks "C". Pressure before dropping plug 600 psi. Dropped plug. Hole bridge off or cmt flashed set after pumping 14 1/2 bbls of 138 bbl displacement. Sl w/ 2664 psi on csg. Pulled 225,000# on csg. 6/6/02. Pumped 600 sks of Nitroflashed Class "C" cmt capped w/ 75 sks of "C" down annulus. WOC 3 hrs. Tagged w/ 1" @ 130'. Cmt annulus in 2 stages for a total of 200 sks of "C" w/ 3% Caci2. Circ. 20 sks

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Casing Report

Legal Well Name: INDIAN HILLS UNIT NO. 43
Common Well Name: INDIAN HILLS UNIT NO. 43
Event Name: ORIGINAL COMPLETION

Report #: 1
Start: 5/30/2002

Spud Date: 5/30/2002
Report Date: 6/21/2002
End: 6/22/2002

General Information

String Type: PRODUCTION CASING #1 Permanent Datum: KELLY BUSHING Hole Size: 8.536.0 (ft)
Hole TVD: (ft) KB-Datum: 0.00 (ft) Water TMD: Str Wt on Slips: (lb)
3round Level: 4.109.00 (ft) CF Elevation: (ft) Liner Overlap: Max Hole Angle: (°)
Circ Hours: (hr) Mud Lost: (bbl) KB to Cutoff: 17.00 (ft) Days From Spud: (days)

Casing Flange / Wellhead

Manufacturer: WoodGroup C-22
Hanger Model: WG-22.11"x7"

Model:
Packoff Model: PESEAL

Top Hub/Flange: 11.000 (in) / 3.000 (psi)
BTM Hub/Flange: 11.000 (in) / 3.000 (psi)

Actual TMD Set: 8.533.870 (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	K55	6.151	8 ROUND	3	109.930	17.00							6.276	
CROSSOVER	7.000	23.0	K55	6.241	8Rd/BTC	1	2.680	126.93							6.366	
CASING JOINT(S)	7.000	23.0	K55	6.241	BTC	97	4,256.270	129.61							6.366	
CROSSOVER	7.000	23.0	K55		BTC/8Rd	1	3.050	4,385.86								
CASING JOINT(S)	7.000	26.0	K55		8 ROUND	8	359.120	4,388.93								
PUP JOINT	7.000	23.0	K55		8 ROUND	1	6.000	4,748.05								
CEMENT STAGE TOOL	7.000				8 ROUND	1	2.200	4,754.05								
CASING EXTERNAL PA	7.000				8 ROUND	1	10.000	4,756.25								
CASING JOINT(S)	7.000		K55		8 ROUND	83	3,721.680	4,766.25								
CASING FLOAT COLLA	7.000				8 ROUND	1	1.200	8,487.93								
CASING JOINT(S)	7.000		K55		8 ROUND	1	43.640	8,489.13								
CASING FLOAT SHOE	1.050				8 ROUND	1	1.100	8,532.77								

Non-Integral Casing Accessories

Accessory	Manufacturer	Number	Spacing (ft)	Top (ft)	Interval	Bottom (ft)	How Fixed
CENTRALIZER	Weatherford	1		8.512.0		8.512.0	CLAMPED
CENTRALIZER	Weatherford	15	90.0	7.092.0		8.442.0	BOLTED

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Casing Report

Legal Well Name: INDIAN HILLS UNIT NO. 43
Common Well Name: INDIAN HILLS UNIT NO. 43
Event Name: ORIGINAL COMPLETION

Report #: 1
Start: 5/30/2002

Spud Date: 5/30/2002
Report Date: 6/21/2002
End: 6/22/2002

Remarks

5 JTs. of 7", 26#, 8rd leftover

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Cementing Report

Legal Well Name: INDIAN HILLS UNIT NO. 43
 Common Well Name: INDIAN HILLS UNIT NO. 43
 Event Name: ORIGINAL COMPLETION

Report #: 1
 Start: 5/30/2002

Spud Date: 5/30/2002
 Report Date: 6/21/2002
 End: 6/22/2002

Cement Job Type: Primary

Primary	Squeeze Open Hole	Squeeze Casing	Plug
Hole Size: 8.750 (in) TMD Set: 8,534.0 (ft) Date Set: 6/20/2002 Csg Type: PRODUCTION CASIN Csg Size: 7.000 (in) Cmtd. Csg: OPEN HOLE	Hole Size: SQ TMD: (ft) SQ Date: SQ Type: Cmtd. Csg:	Hole Size: TMD Set: Date Set: Csg Type: SQ TMD: SQ Date: Cmtd. Csg:	Hole Size: Top Set: (ft) BTM set: (ft) Plug Date: Plug Type: Drilled Out: 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 2

Type: PRIM CMT 1ST STAGE	Start Mix Cmt: :	Disp Avg Rate: 8.00 (bbl/min)	Returns: no returns
Volume Excess %: 0.60	Start Slurry Displ: :	Disp Max Rate: 8.50 (bbl/min)	Total Mud Lost: (bbl)
Meas. From:	Start Displ: :	Bump Plug: Y	Cmt Vol to Surf: (bbl)
Time Circ Prior	End Pumping: :	Press Prior: (psi)	
To Cementing:	End Pump Date:	Press Bumped: 2,800 (psi)	Ann Flow After: N
Mud Circ Rate: (gpm)	Top Plug: N	Press Held: (min)	Mixing Method:
Mud Circ Press: (psi)	Bottom Plug: Y	Float Held: Y	Density Meas By:

Mud Data

Type: FRESH WATER Density: 8.4 (ppg) Visc: (s/qt) PV/YP: (cp)/(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: 329.10 (bbl)

Stage No: 1 Slurry No: 1 of 3**Slurry Data**

Fluid Type: LEAD	Description: Premium Acid Soluble	Class: FOAMED	Purpose: FILLER CEM
Slurry Interval: 4,800.00 (ft) To: 8,536.00 (ft)	Cmt Vol: 100 (sk)	Density: 15.0 (ppg)	Yield: 2.55 (ft ³ /sk)
Water Source:	Slurry Vol: (bbl)	Water Vol: (bbl)	Other Vol: (l)
			Mix Water: 11.07 (gal/sk)
			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)			

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Cementing Report

Page 2 of 4

Legal Well Name: INDIAN HILLS UNIT NO. 43
Common Well Name: INDIAN HILLS UNIT NO. 43
Event Name: ORIGINAL COMPLETION

Report #: 1
Start: 5/30/2002

Spud Date: 5/30/2002
Report Date: 6/21/2002
End: 6/22/2002

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

Trade Name	Type	Concentration	Units	Liquid Conc.	Units
C-558 zONESEALANT					100 LBS./ SK. 2%

Stage No: 1 Slurry No: 2 of 3

Slurry Data

Fluid Type: LEAD	Description: Premium	Class: FOAMED	Purpose: FILLER CEM
Slurry Interval: (ft) To: (ft)	Cmt Vol: 620 (sk)	Density: 15.6 (ppg)	Yield: 1.18 (ft³/sk)
Water Source:	Slurry Vol: (bbl)	Water Vol: (bbl)	Other Vol: (l)
			Mix Water: 7.36 (gal/sk)
			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: 1 Slurry No: 2 of 3 - Additives

Trade Name	Type	Concentration	Units	Liquid Conc.	Units
Zonesealant					2%

Stage No: 1 Slurry No: 3 of 3

Slurry Data

Fluid Type: TAIL	Description: Super H	Class: CLASS H	Purpose: FILLER CEM
Slurry Interval: (ft) To: 4,754.00 (ft)	Cmt Vol: 120 (sk)	Density: 13.0 (ppg)	Yield: 1.67 (ft³/sk)
Water Source:	Slurry Vol: (bbl)	Water Vol: (bbl)	Other Vol: (l)
			Mix Water: 8.25 (gal/sk)
			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: 1 Slurry No: 3 of 3 - Additives

Trade Name	Type	Concentration	Units	Liquid Conc.	Units
CFR-3					0.4%
Gilsonite					5# / Sk.
Halad-344					0.5%

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Cementing Report

Legal Well Name: INDIAN HILLS UNIT NO. 43
 Common Well Name: INDIAN HILLS UNIT NO. 43
 Event Name: ORIGINAL COMPLETION

Report #: 1
 Start: 5/30/2002

Spud Date: 5/30/2002
 Report Date: 6/21/2002
 End: 6/22/2002

Stage No: 2 of 2

Type: PRIM CMT 2ND STAGE	Start Mix Cmt: :	Disp Avg Rate: (bbl/min)	Returns: Circ. 35 sks.
Volume Excess %: 0.35	Start Slurry Displ: :	Disp Max Rate: (bbl/min)	Total Mud Lost: (bbl)
Meas. From:	Start Displ: :	Bump Plug: Y	Cmt Vol to Surf: 9.00 (bbl)
Time Circ Prior	End Pumping: :	Press Prior: (psi)	
To Cementing:	End Pump Date:	Press Bumped: 2,700 (psi)	Ann Flow After: N
Mud Circ Rate: (gpm)	Top Plug: Y	Press Held: (min)	Mixing Method:
Mud Circ Press: (psi)	Bottom Plug: N	Float Held: Y	Density Meas By:

Mud Data

Type: FRESH WATER Density: 8.4 (ppg) Visc: (s/qt) PV/YP: (cp)/(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: 184.10 (bbl)

Stage No: 2 Slurry No: 1 of 2**Slurry Data**

Fluid Type: LEAD	Description: Interfill C	Class: CLASS C	Purpose: FILLER CEM
Slurry Interval: (ft)	To: 4,800.00 (ft) Cmt Vol: 460 (sk)	Density: 11.9 (ppg)	Yield: 2.47 (ft ³ /sk)
Water Source:	Slurry Vol: (bbl)	Water Vol: (bbl)	Other Vol: ()
			Mix Water: 13.83 (gal/sk)
			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: 2 Slurry No: 1 of 2 - Additives

Trade Name	Type	Concentration	Units	Liquid Conc.	Units
Flocele					0.25 LB. / SK.
Gilsonite					3 LBS. / SK.
Halad-322					0.2%

Stage No: 2 Slurry No: 2 of 2**Slurry Data**

Fluid Type: TAIL	Description: Premium Plus / Neat	Class:	Purpose: FILLER CEM
Slurry Interval: (ft)	To: (ft) Cmt Vol: 100 (sk)	Density: 14.8 (ppg)	Yield: 1.32 (ft ³ /sk)
Water Source:	Slurry Vol: (bbl)	Water Vol: (bbl)	Other Vol: ()
			Mix Water: 6.30 (gal/sk)
			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)			

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Cementing Report

Legal Well Name: INDIAN HILLS UNIT NO. 43
Common Well Name: INDIAN HILLS UNIT NO. 43
Event Name: ORIGINAL COMPLETION

Report #: 1
Start: 5/30/2002

Spud Date: 5/30/2002
Report Date: 6/21/2002
End: 6/22/2002

Casing Test**Shoe Test****Liner Top Test**

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

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

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

Log/Survey Evaluation**Interpretation Summary**

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

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

Remarks

Circulated 35 sks. of cement to surface.

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