

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

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)

915-687-8360

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

Sec. 28, T-21-S, R-24-E 705' FNL & 855' FEL

Eddy Co. N.M.

5. Lease Serial No.

NM-06293

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 # 49

9. API Well No.

30-015-32723

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 recomple 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 recomple 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 the attached end of well report.

ACCEPTED FOR RECORD

JUN - 4 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.

Date 6/2/03

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.

Operations Summary Report

Legal Well Name: INDIAN HILLS UNIT NO. 49

Common Well Name: INDIAN HILLS UNIT NO. 49

Event Name: ORIGINAL DRILLING

Contractor Name: KEY ENERGY SERVICES

Rig Name: EDWARD CARRASCO

Start: 4/24/2003

Spud Date: 4/26/2003

Rig Release:

End:

Rig Number: 438

Group:

Date	From - To	Hours	Code	Sub Code	Phase	Description of Operations
4/26/2003	08:00 - 18:00	10.00	RIG	DMOB	MIRU	Location built by B&H Const. 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.
4/27/2003	08:00 - 09:00	1.00	TRIP	BBHD	MIRU	PU Hammer./Safety meeting
	09:00 - 13:45	4.75	DRILL	AIR	DRLSUR	Spudded 12 1/4" hole @ 0900 hrs. Mist drilled f/ 60' t/
	13:45 - 14:15	0.50	SURV	TOTC	DRLSUR	Survey with TOTCO Tools
	14:15 - 00:45	10.50	DRILL	AIR	DRLSUR	Air Drilling 3400 SCF/min @ 30 BPH of water 2 GPH of soap. Lots of water.
4/28/2003	00:45 - 01:00	0.25	SURV	TOTC	DRLSUR	Survey with TOTCO Tools
	01:00 - 01:45	0.75	TRIP	BIT	DRLSUR	Trip out for Hammer.
	01:45 - 02:30	0.75	TRIP	BBHD	DRLSUR	BHA/Bit Handling. L/D Hammer PU Bit & 3 pt Reamer
	02:30 - 03:15	0.75	TRIP	BIT	DRLSUR	Trip in w/ Bit
	03:15 - 06:00	2.75	DRILL	AIR	DRLSUR	Air Drilling. Misting 30 BPH of water/3400 SCF of air.
	06:00 - 07:45	1.75	DRILL	AIR	DRLSUR	Air Drilling
	07:45 - 08:00	0.25	EQUIP	RSEQ	DRLSUR	Repair Service equipment
	08:00 - 15:45	7.75	DRILL	AIR	DRLSUR	Air Drilling
	15:45 - 16:00	0.25	CIRC	CLN	DRLSUR	Pumped on hole.
	16:00 - 16:15	0.25	SURV	TOTC	DRLSUR	Survey with TOTCO Tools
	16:15 - 18:00	1.75	TRIP	BIT	DRLSUR	Tripout of hole. L/D 3-8" DC's.
	18:00 - 20:00	2.00	CSG	RUN	CSGSUR	Safety meeting. Ran Casing 28 jts of 9 5/6", 36# csg. Landed @ 1200'.
	20:00 - 21:30	1.50	WAIT	EQUIP	CSGSUR	Pumped on hole. 15 mins. Safety meeting. RU HES .
	21:30 - 22:00	0.50			CSGSUR	Pumped 10,000 SCF of N2, 10 bbls of N2- water, 20 bbls of N2 gelled water, 10 bbls of N2 water.
	22:00 - 23:00	1.00	CEMT	PRIM	CSGSUR	Cemented 9 5/8" surface casing with 700 sks Nitrofiged Premuim Plus cement. Tailed w/ 150 sks Premuim Plus. Plug down @ 2300 hrs. No cmt or returns to surface.
	23:00 - 01:15	2.25	CEMT	PRIM	CSGSUR	1 hr to transfer 400 sks to cmt bin. Pumped 400 sks of Foam cmt down annulus. Capped w/ 75 sks of Premuim w/ 2% CaCl2, 1% CalSeal. 0 psi. Si annulus.
	01:15 - 02:30	1.25	WAIT	CEMT	CSGSUR	Wait on Cement
	02:30 - 06:00	3.50	NUND	DBOP	CSGSUR	ND Diverter. Cut off 9 5/8" csg. Snubbed out Hydril w/ Tandam truck. Welded on 11" 3M SOW Casing head. NU bOP @ 0600 hrs.
4/29/2003	06:00 - 08:00	2.00	NUND	UBOP	CSGSUR	Install BOP Equipment
	08:00 - 13:00	5.00	TEST	BOP	CSGSUR	BOP and Well Control Testing. Tst pipe& blind rams, Choke & all valves t/ 3000 psi high, 250 psi low. Tested Hydril t/ 1500 psi & 250 psi.
	13:00 - 15:00	2.00	TRIP	BIT	CSGSUR	Trip in w/ Bit 1160'.
	15:00 - 15:15	0.25	TEST	CSG	CSGSUR	Test Casing, 1500 psi.
4/30/2003	15:15 - 15:30	0.25	DRILL	CEMT	CSGSUR	Drill Cement / Drill Shoe
	15:30 - 15:45	0.25	DRILL	AIR	DRLPR	Drill formation f/ 1200' t/ 1222'.
	15:45 - 16:00	0.25	DRILL	AIR	DRLPR	Unload hole. Repair Gasket on flow-show.
	17:15 - 22:15	5.00	DRILL	AIR	DRLPR	Aired drilled Pumping 18 BPH of water
	22:15 - 22:45	0.50	SURV	TOTC	DRLPR	Survey with TOTCO Tools
	22:45 - 06:00	7.25	DRILL	AIR	DRLPR	Aired drilled Pumping 24 BPH of water. Drilling @ 55'/hr.
	06:00 - 06:30	0.50	SURV	TOTC	DRLPR	Survey with TOTCO Tools
	06:30 - 14:15	7.75	DRILL	AIR	DRLPR	Air Drilling. Making water. Kicked on # 1 pump @ 45 stk.min. @ 3.5 BPM w/ 1000 SCF of air to matain pit level constant.
	14:15 - 14:30	0.25	SURV	TOTC	DRLPR	Survey with TOTCO Tools
	14:30 - 00:15	9.75	DRILL	AIR	DRLPR	Air Drilling.
	00:15 - 00:30	0.25	SURV	TOTC	DRLPR	Survey with TOTCO Tools
	00:30 - 06:00	5.50	DRILL	AIR	DRLPR	Air Drilling. 3.5 BPM 1000 SCF of air. Drilling 50'/hr.
	06:00 - 11:30	5.50	DRILL	DOH	DRLPR	Drill Open Hole. Drilled w/ airiated fluid.

Operations Summary Report

Legal Well Name: INDIAN HILLS UNIT NO. 49

Common Well Name: INDIAN HILLS UNIT NO. 49

Event Name: ORIGINAL DRILLING

Contractor Name: KEY ENERGY SERVICES

Rig Name: EDWARD CARRASCO

Start: 4/24/2003

Rig Release:

Rig Number: 438

Spud Date: 4/26/2003

End:

Group:

Date	From - To	Hours	Code	Sub Code	Phase	Description of Operations
5/1/2003	11:30 - 11:45	0.25	SURV	TOTC	DRLPR	Survey with TOTCO Tools
	11:45 - 18:45	7.00	DRILL	DOH	DRLPR	Drill Open Hole. Drilled w/ airiated fluid.Bit torqued.
	18:45 - 21:00	2.25	TRIP	BHA	DRLPR	POOH L/D 4 jt's & POOH f/ motor.
	21:00 - 23:00	2.00	TRIP	BBHD	DRLPR	L/D Shock sub & bit.Picked up Motor #1w/ Teleco,Shock sub NMDC & pony, & Orient motor. Tested motor & Teleco.O.K.
5/2/2003	23:00 - 03:00	4.00	TRIP	BIT	DRLPR	TIH w/ motor #1 & bit. Tagged up @ 3291'.L/D 5 jt's.
	03:00 - 04:45	1.75	DRILL	WSHR	DRLPR	Ream f/ 3291' to 3451'.
	04:45 - 06:00	1.25	DRILL	DOHR	DRLPR	Drill Open Hole Rotary w/ motor.
	06:00 - 06:30	0.50	CIRC	CLN	DRLPR	Circulate Clean
	06:30 - 08:00	1.50	SURV	GYRO	DRLPR	Survey with GYRO system
	08:00 - 09:00	1.00	DRILL	DOHR	DRLPR	Drill Open Hole Rotary
	09:00 - 09:15	0.25	SURV	MWD	DRLPR	Survey with MWD Tools
	09:15 - 09:30	0.25	DRILL	DOHS	DRLPR	Drill Open Slide . 1.76 / 218.6
	09:30 - 10:15	0.75	DRILL	DOHR	DRLPR	Drill Open Hole Rotary
	10:15 - 10:30	0.25	DRILL	DOHS	DRLPR	Drill Open Slide 171. Grid
	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
	11:30 - 12:00	0.50	DRILL	DOHS	DRLPR	Drill Open Slide 171GRID
	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 171GRID
	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 - 14:30	0.25	DRILL	DOHS	DRLPR	Drill Open Slide 171GRID
	14:30 - 15:15	0.75	DRILL	DOHR	DRLPR	Drill Open Hole Rotary
	15:15 - 15:45	0.50	DRILL	DOHS	DRLPR	Drill Open Slide 171GRID
	15:45 - 16:15	0.50	DRILL	DOHR	DRLPR	Drill Open Hole Rotary
	16:15 - 16:30	0.25	SURV	MWD	DRLPR	Survey with MWD Tools
	16:30 - 17:00	0.50	DRILL	DOHS	DRLPR	Drill Open Slide H/S
	17:00 - 18:00	1.00	DRILL	DOHR	DRLPR	Drill Open Hole Rotary
	18:00 - 18:15	0.25	DRILL	DOHS	DRLPR	Drill Open Slide H/S
	18:15 - 19:00	0.75	DRILL	DOHR	DRLPR	Drill Open Hole Rotary
	19:00 - 19:15	0.25	SURV	MWD	DRLPR	Survey with MWD Tools
	19:15 - 19:30	0.25	DRILL	DOHS	DRLPR	Drill Open Slide H/S
	19:30 - 20:15	0.75	DRILL	DOHR	DRLPR	Drill Open Hole Rotary
	20:15 - 20:45	0.50	DRILL	DOHS	DRLPR	Drill Open Slide H/S
	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 - 21:45	0.25	DRILL	DOHS	DRLPR	Drill Open Slide H/S
	21:45 - 22:30	0.75	DRILL	DOHR	DRLPR	Drill Open Hole Rotary
	22:30 - 23:00	0.50	DRILL	DOHS	DRLPR	Drill Open Slide H/S
	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 - 00:00	0.25	DRILL	DOHS	DRLPR	Drill Open Slide H/S
	00:00 - 00:30	0.50	DRILL	DOHR	DRLPR	Drill Open Hole Rotary
	00:30 - 01:00	0.50	DRILL	DOHS	DRLPR	Drill Open Slide H/S
	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 H/S
	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 H/S
	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 H/S

Operations Summary Report

Legal Well Name: INDIAN HILLS UNIT NO. 49

Common Well Name: INDIAN HILLS UNIT NO. 49

Event Name: ORIGINAL DRILLING

Contractor Name: KEY ENERGY SERVICES

Rig Name: EDWARD CARRASCO

Start: 4/24/2003

Rig Release:

Rig Number: 438

Spud Date: 4/26/2003

End:

Group:

Date	From - To	Hours	Code	Sub Code	Phase	Description of Operations
5/2/2003	04:00 - 04:30	0.50	DRILL	DOHR	DRLPR	Drill Open Hole Rotary
	04:30 - 05:00	0.50	DRILL	DOHS	DRLPR	Drill Open Slide H/S
5/3/2003	05:00 - 06:00	1.00	DRILL	DOHR	DRLPR	Drill Open Hole Rotary
	06:00 - 07:15	1.25	DRILL	DOHR	DRLPR	Drill Open Hole Rotary
	07:15 - 07:30	0.25	SURV	MWD	DRLPR	Survey with MWD Tools
	07:30 - 08:45	1.25	DRILL	DOHR	DRLPR	Drill Open Hole Rotary
	08:45 - 09:00	0.25	SURV	MWD	DRLPR	Survey with MWD Tools
	09:00 - 09:30	0.50	DRILL	DOHS	DRLPR	Drill Open Slide 60L
	09:30 - 10:45	1.25	DRILL	DOHR	DRLPR	Drill Open Hole Rotary
	10:45 - 11:00	0.25	SURV	MWD	DRLPR	Survey with MWD Tools
	11:00 - 11:30	0.50	DRILL	DOHS	DRLPR	Drill Open Slide 90L
	11:30 - 12:15	0.75	DRILL	DOHR	DRLPR	Drill Open Hole Rotary
	12:15 - 12:30	0.25	SURV	MWD	DRLPR	Survey with MWD Tools
	12:30 - 13:15	0.75	DRILL	DOHR	DRLPR	Drill Open Hole Rotary
	13:15 - 13:30	0.25	SURV	MWD	DRLPR	Survey with MWD Tools
	13:30 - 14:00	0.50	DRILL	DOHS	DRLPR	Drill Open Slide 100L
	14:00 - 14:45	0.75	DRILL	DOHR	DRLPR	Drill Open Hole Rotary
	14:45 - 15:15	0.50	DRILL	DOHS	DRLPR	Drill Open Slide 90L
	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 - 17:00	1.00	DRILL	DOHS	DRLPR	Drill Open Slide 80L
	17:00 - 18:15	1.25	DRILL	DOHR	DRLPR	Drill Open Hole Rotary
	18:15 - 18:30	0.25	SURV	MWD	DRLPR	Survey with MWD Tools
	18:30 - 19:15	0.75	DRILL	DOHS	DRLPR	Drill Open Slide 90L
	19:15 - 20:30	1.25	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 80L
	21:30 - 22:45	1.25	DRILL	DOHR	DRLPR	Drill Open Hole Rotary
	22:45 - 23:00	0.25	SURV	MWD	DRLPR	Survey with MWD Tools
	23:00 - 00:00	1.00	DRILL	DOHS	DRLPR	Drill Open Slide 85L
	00:00 - 01:45	1.75	DRILL	DOHR	DRLPR	Drill Open Hole Rotary
	01:45 - 02:00	0.25	SURV	MWD	DRLPR	Survey with MWD Tools
	02:00 - 02:45	0.75	DRILL	DOHS	DRLPR	Drill Open Slide 85L
	02:45 - 04:45	2.00	DRILL	DOHR	DRLPR	Drill Open Hole Rotary
	04:45 - 05:00	0.25	SURV	MWD	DRLPR	Survey with MWD Tools
5/4/2003	05:00 - 06:00	1.00	DRILL	DOHR	DRLPR	Drill Open Hole Rotary
	06:00 - 06:30	0.50	DRILL	DOHS	DRLPR	Drill Open Slide 15R
	06:30 - 07:45	1.25	DRILL	DOHR	DRLPR	Drill Open Hole Rotary
	07:45 - 08:00	0.25	SURV	MWD	DRLPR	Survey with MWD Tools
	08:00 - 08:45	0.75	DRILL	DOHS	DRLPR	Drill Open Slide 15L
	08:45 - 10:30	1.75	DRILL	DOHR	DRLPR	Drill Open Hole Rotary
	10:30 - 10:45	0.25	SURV	MWD	DRLPR	Survey with MWD Tools
	10:45 - 11:30	0.75	DRILL	DOHS	DRLPR	Drill Open Slide 20L
	11:30 - 13:15	1.75	DRILL	DOHR	DRLPR	Drill Open Hole Rotary
	13:15 - 13:30	0.25	SURV	MWD	DRLPR	Survey with MWD Tools
	13:30 - 14:15	0.75	DRILL	DOHS	DRLPR	Drill Open Slide 20L
	14:15 - 16:30	2.25	TRIP	BIT	DRLPR	Trip in / out for Bit
	16:30 - 17:00	0.50	TRIP	BBHD	DRLPR	Change out bit.
	17:00 - 18:45	1.75	TRIP	BIT	DRLPR	Trip in / out for Bit
	18:45 - 20:30	1.75	DRILL	WSHR	DRLPR	L/D 3 jt's & installed rotating head & reamed to btm f/ 4824' to 4917'.
	20:30 - 21:30	1.00	DRILL	DOHR	DRLPR	Drill Open Hole Rotary
	21:30 - 21:45	0.25	SURV	MWD	DRLPR	Survey with MWD Tools
	21:45 - 23:15	1.50	DRILL	DOHR	DRLPR	Drill Open Hole Rotary

Operations Summary Report

Legal Well Name: INDIAN HILLS UNIT NO. 49

Common Well Name: INDIAN HILLS UNIT NO. 49

Event Name: ORIGINAL DRILLING

Contractor Name: KEY ENERGY SERVICES

Rig Name: EDWARD CARRASCO

Start: 4/24/2003

Rig Release:

Rig Number: 438

Spud Date: 4/26/2003

End:

Group:

Date	From - To	Hours	Code	Sub Code	Phase	Description of Operations
5/4/2003	23:15 - 23:30	0.25	SURV	MWD	DRLPR	Survey with MWD Tools
	23:30 - 00:45	1.25	DRILL	DOHR	DRLPR	Drill Open Hole Rotary
	00:45 - 01:00	0.25	SURV	MWD	DRLPR	Survey with MWD Tools
	01:00 - 01:15	0.25	DRILL	DOHS	DRLPR	Drill Open Slide 20L
	01:15 - 02:45	1.50	DRILL	DOHR	DRLPR	Drill Open Hole Rotary
	02:45 - 03:00	0.25	SURV	MWD	DRLPR	Survey with MWD Tools
	03:00 - 03:15	0.25	DRILL	DOHS	DRLPR	Drill Open Slide H/S
	03:15 - 04:30	1.25	DRILL	DOHR	DRLPR	Drill Open Hole Rotary
	04:30 - 04:45	0.25	SURV	MWD	DRLPR	Survey with MWD Tools
	04:45 - 06:00	1.25	DRILL	DOHR	DRLPR	Drill Open Hole Rotary
5/5/2003	06:00 - 06:15	0.25	SURV	MWD	DRLPR	Survey with MWD Tools
	06:15 - 06:45	0.50	DRILL	DOHS	DRLPR	Drill Open Slide 25L
	06:45 - 08:00	1.25	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 10L
	09:00 - 10:00	1.00	DRILL	DOHR	DRLPR	Drill Open Hole Rotary
	10:00 - 10:15	0.25	SURV	MWD	DRLPR	Survey with MWD Tools
	10:15 - 11:00	0.75	DRILL	DOHS	DRLPR	Drill Open Slide 15L
	11:00 - 12:00	1.00	DRILL	DOHR	DRLPR	Drill Open Hole Rotary
	12:00 - 12:15	0.25	SURV	MWD	DRLPR	Survey with MWD Tools
	12:15 - 12:45	0.50	DRILL	DOHS	DRLPR	Drill Open Slide 10L
	12:45 - 13:45	1.00	DRILL	DOHR	DRLPR	Drill Open Hole Rotary
	13:45 - 14:00	0.25	SURV	MWD	DRLPR	Survey with MWD Tools
	14:00 - 14:30	0.50	DRILL	DOHS	DRLPR	Drill Open Slide H/S
	14:30 - 15:15	0.75	DRILL	DOHR	DRLPR	Drill Open Hole Rotary
	15:15 - 15:30	0.25	SURV	MWD	DRLPR	Survey with MWD Tools
	15:30 - 16:00	0.50	DRILL	DOHS	DRLPR	Drill Open Slide H/S
	16:00 - 17:00	1.00	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 - 19:00	1.25	DRILL	DOHR	DRLPR	Drill Open Hole Rotary
	19:00 - 19:15	0.25	SURV	MWD	DRLPR	Survey with MWD Tools
	19:15 - 19:45	0.50	DRILL	DOHS	DRLPR	Drill Open Slide 15R
	19:45 - 20:45	1.00	DRILL	DOHR	DRLPR	Drill Open Hole Rotary
	20:45 - 21:00	0.25	SURV	MWD	DRLPR	Survey with MWD Tools
	21:00 - 21:45	0.75	DRILL	DOHS	DRLPR	Drill Open Slide 10R
	21:45 - 22:45	1.00	DRILL	DOHR	DRLPR	Drill Open Hole Rotary
	22:45 - 23:00	0.25	SURV	MWD	DRLPR	Survey with MWD Tools
	23:00 - 23:45	0.75	DRILL	DOHS	DRLPR	Drill Open Slide 15L
	23:45 - 00:00	0.25	DRILL	DOHR	DRLPR	Drill Open Hole Rotary
	00:00 - 00:45	0.75	DRILL	DOHS	DRLPR	Drill Open Slide 30L
	00:45 - 01:00	0.25	DRILL	DOHR	DRLPR	Drill Open Hole Rotary
	01:00 - 01:15	0.25	SURV	MWD	DRLPR	Survey with MWD Tools
	01:15 - 01:45	0.50	DRILL	DOHS	DRLPR	Drill Open Slide H/S
	01:45 - 03:00	1.25	DRILL	DOHR	DRLPR	Drill Open Hole Rotary
	03:00 - 03:15	0.25	SURV	MWD	DRLPR	Survey with MWD Tools
	03:15 - 03:30	0.25	DRILL	DOHS	DRLPR	Drill Open Slide H/S
	03:30 - 04:45	1.25	DRILL	DOHR	DRLPR	Drill Open Hole Rotary
	04:45 - 05:00	0.25	SURV	MWD	DRLPR	Survey with MWD Tools
	05:00 - 05:15	0.25	DRILL	DOHS	DRLPR	Drill Open Slide 30L
	05:15 - 06:00	0.75	DRILL	DOHR	DRLPR	Drill Open Hole Rotary
5/6/2003	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

Operations Summary Report

Legal Well Name: INDIAN HILLS UNIT NO. 49

Common Well Name: INDIAN HILLS UNIT NO. 49

Event Name: ORIGINAL DRILLING

Contractor Name: KEY ENERGY SERVICES

Rig Name: EDWARD CARRASCO

Start: 4/24/2003

Rig Release:

Rig Number: 438

Spud Date: 4/26/2003

End:

Group:

Date	From - To	Hours	Code	Sub Code	Phase	Description of Operations
5/6/2003	06:45 - 07:00	0.25	DRILL	DOHS	DRLPR	Drill Open Slide .Tried to slide motor stalled.
	07:00 - 09:30	2.50	TRIP	MOTR	DRLPR	Trip for Motor Bearings locked up.
	09:30 - 11:00	1.50	TRIP	BBHD	DRLPR	Replaced bit, motor & installed stabilizer.
	11:00 - 11:30	0.50	CHECK	SURF	DRLPR	Changed out 8" line in flow line.
	11:30 - 14:30	3.00	TRIP	MOTR	DRLPR	Trip for Motor. TIH w/ new bit,redressed motor, & installed Andergauge stabilizer. RT tool 13 stands above HWDP.
	14:30 - 15:00	0.50	DRILL	WSHR	DRLPR	Installed stripper rubber & wash 11' to btm. w/ 2' fill.
	15:00 - 15:30	0.50	DRILL	DOHS	DRLPR	Drill Open Slide 10R.
	15:30 - 16:45	1.25	DRILL	DOHR	DRLPR	Drill Open Hole Rotary
	16:45 - 17:00	0.25	SURV	MWD	DRLPR	Survey with MWD Tools
	17:00 - 17:45	0.75	DRILL	DOHS	DRLPR	Drill Open Slide H/S
	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 - 20:00	1.00	DRILL	DOHR	DRLPR	Drill Open Hole Rotary
	20:00 - 20:15	0.25	SURV	MWD	DRLPR	Survey with MWD Tools
	20:15 - 21:30	1.25	DRILL	DOHR	DRLPR	Drill Open Hole Rotary
	21:30 - 21:45	0.25	SURV	MWD	DRLPR	Survey with MWD Tools
	21:45 - 22:00	0.25	CHECK	BHA	DRLPR	Perform Check of BHA .Cycle Andergauge stabilizer.
	22:00 - 22:30	0.50	DRILL	DOHS	DRLPR	Drill Open Slide 15L
	22:30 - 23:30	1.00	DRILL	DOHR	DRLPR	Drill Open Hole Rotary
	23:30 - 23:45	0.25	SURV	MWD	DRLPR	Survey with MWD Tools
	23:45 - 00:15	0.50	DRILL	DOHS	DRLPR	Drill Open Slide 15L
	00:15 - 01:15	1.00	DRILL	DOHR	DRLPR	Drill Open Hole Rotary
	01:15 - 04:00	2.75	RIG	RCNT	DRLPR	Rig Repair, Contractor owned.Belles hung up in derrick had to work free before we could go back to drilling.
	04:00 - 04:15	0.25	SURV	MWD	DRLPR	Survey with MWD Tools
	04:15 - 05:15	1.00	DRILL	DOHR	DRLPR	Drill Open Hole Rotary
	05:15 - 05:30	0.25	SURV	MWD	DRLPR	Survey with MWD Tools
	05:30 - 05:45	0.25	DRILL	DOHS	DRLPR	Drill Open Slide 60R
	05:45 - 06:00	0.25	SURV	MWD	DRLPR	Survey with MWD Tools
5/7/2003	06:00 - 07:00	1.00	DRILL	DOHR	DRLPR	Drill Open Hole Rotary
	07:00 - 07:15	0.25	SURV	MWD	DRLPR	Survey with MWD Tools
	07:15 - 07:45	0.50	DRILL	DOHS	DRLPR	Drill Open Slide 25R
	07:45 - 09:15	1.50	DRILL	DOHR	DRLPR	Drill Open Hole Rotary
	09:15 - 09:30	0.25	SURV	MWD	DRLPR	Survey with MWD Tools
	09:30 - 10:00	0.50	DRILL	DOHS	DRLPR	Drill Open Slide 10R
	10:00 - 11:15	1.25	DRILL	DOHR	DRLPR	Drill Open Hole Rotary
	11:15 - 11:30	0.25	SURV	MWD	DRLPR	Survey with MWD Tools
	11:30 - 12:00	0.50	DRILL	DOHS	DRLPR	Drill Open Slide H/S
	12:00 - 14:00	2.00	DRILL	DOHR	DRLPR	Drill Open Hole Rotary
	14:00 - 14:15	0.25	SURV	MWD	DRLPR	Survey with MWD Tools
	14:15 - 15:15	1.00	DRILL	DOHS	DRLPR	Drill Open Slide
	15:15 - 16:45	1.50	DRILL	DOHR	DRLPR	Drill Open Hole Rotary
	16:45 - 17:00	0.25	SURV	MWD	DRLPR	Survey with MWD Tools
	17:00 - 18:00	1.00	DRILL	DOHR	DRLPR	Drill Open Hole Rotary
	18:00 - 18:45	0.75	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	Survey with MWD Tools
	19:30 - 20:15	0.75	DRILL	DOHS	DRLPR	Drill Open Slide 45R
	20:15 - 22:00	1.75	DRILL	DOHR	DRLPR	Drill Open Hole Rotary
	22:00 - 22:15	0.25	SURV	MWD	DRLPR	Survey with MWD Tools
	22:15 - 23:15	1.00	DRILL	DOHS	DRLPR	Drill Open Slide 75R
	23:15 - 00:45	1.50	DRILL	DOHR	DRLPR	Drill Open Hole Rotary

Operations Summary Report

Legal Well Name: INDIAN HILLS UNIT NO. 49

Common Well Name: INDIAN HILLS UNIT NO. 49

Event Name: ORIGINAL DRILLING

Contractor Name: KEY ENERGY SERVICES

Rig Name: EDWARD CARRASCO

Start: 4/24/2003

Spud Date: 4/26/2003

Rig Release:

End:

Rig Number: 438

Group:

Date	From - To	Hours	Code	Sub Code	Phase	Description of Operations
5/7/2003	00:45 - 01:00	0.25	SURV	MWD	DRLPR	Survey with MWD Tools
	01:00 - 01:45	0.75	DRILL	DOHS	DRLPR	Drill Open Slide
	01:45 - 02:45	1.00	DRILL	DOHR	DRLPR	Drill Open Hole Rotary
	02:45 - 03:00	0.25	DRILL	DOHS	DRLPR	Drill Open Slide 35R
	03:00 - 04:00	1.00	DRILL	DOHR	DRLPR	Drill Open Hole Rotary
	04:00 - 04:15	0.25	SURV	MWD	DRLPR	Survey with MWD Tools
5/8/2003	04:15 - 04:45	0.50	DRILL	DOHS	DRLPR	Drill Open Slide H/S
	04:45 - 06:00	1.25	DRILL	DOHR	DRLPR	Drill Open Hole Rotary
	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 - 08:00	0.50	DRILL	DOHR	DRLPR	Drill Open Hole Rotary
	08:00 - 09:00	1.00	DRILL	DOHS	DRLPR	Drill Open Slide
	09:00 - 09:15	0.25	DRILL	DOHR	DRLPR	Drill Open Hole Rotary
	09:15 - 09:30	0.25	SURV	MWD	DRLPR	Survey with MWD Tools
	09:30 - 10:00	0.50	DRILL	DOHS	DRLPR	Drill Open Slide
	10:00 - 10:45	0.75	DRILL	DOHR	DRLPR	Drill Open Hole Rotary
	10:45 - 11:00	0.25	DRILL	DOHS	DRLPR	Drill Open Slide
	11:00 - 11:45	0.75	DRILL	DOHR	DRLPR	Drill Open Hole Rotary
	11:45 - 12:00	0.25	SURV	MWD	DRLPR	Survey with MWD Tools
	12:00 - 12:45	0.75	DRILL	DOHS	DRLPR	Drill Open Slide
	12:45 - 13:30	0.75	DRILL	DOHR	DRLPR	Drill Open Hole Rotary
	13:30 - 14:00	0.50	DRILL	DOHS	DRLPR	Drill Open Slide
	14:00 - 14:30	0.50	DRILL	DOHR	DRLPR	Drill Open Hole Rotary
	14:30 - 14:45	0.25	SURV	MWD	DRLPR	Survey with MWD Tools
	14:45 - 15:15	0.50	DRILL	DOHS	DRLPR	Drill Open Slide
	15:15 - 17:00	1.75	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 - 19:00	1.00	DRILL	DOHR	DRLPR	Drill Open Hole Rotary
	19:00 - 19:15	0.25	SURV	MWD	DRLPR	Survey with MWD Tools
	19:15 - 20:45	1.50	DRILL	DOHR	DRLPR	Drill Open Hole Rotary
	20:45 - 21:00	0.25	SURV	MWD	DRLPR	Survey with MWD Tools
	21:00 - 21:15	0.25	DRILL	DOHS	DRLPR	Drill Open Slide
	21:15 - 21:30	0.25	DRILL	DOHR	DRLPR	Drill Open Hole Rotary
	21:30 - 22:15	0.75	DRILL	DOHS	DRLPR	Drill Open Slide
	22:15 - 22:30	0.25	DRILL	DOHR	DRLPR	Drill Open Hole Rotary
	22:30 - 23:00	0.50	SURV	MWD	DRLPR	Survey with MWD Tools. Open Stab. t/ 8.5 OD
	23:00 - 23:45	0.75	DRILL	DOHR	DRLPR	Drill Open Hole Rotary
	23:45 - 00:00	0.25	CIRC	HOLE	DRLPR	Circulate/Cycle Andergauge
	00:00 - 00:45	0.75	DRILL	DOHR	DRLPR	Drill Open Hole Rotary
	00:45 - 01:00	0.25	SURV	MWD	DRLPR	Survey with MWD Tools.
	01:00 - 01:15	0.25	DRILL	DOHR	DRLPR	Drill Open Hole Rotary. Lost all returns @ 7724'.
	01:15 - 01:45	0.50	CIRC	HOLE	DRLPR	Pumped 50 LCM pill/ 40#/bbl.
	01:45 - 02:15	0.50	DRILL	DOHR	DRLPR	Drill Open Hole Rotary. Dry drill.
	02:15 - 02:30	0.25	CIRC	HOLE	DRLPR	Pumped 50 LCM pill/ 40#/bbl.
	02:30 - 02:45	0.25	SURV	MWD	DRLPR	Survey with MWD Tools.
	02:45 - 03:45	1.00	DRILL	DOHR	DRLPR	Drill Open Hole Rotary. 20% returns.
	03:45 - 04:00	0.25	SURV	MWD	DRLPR	Survey with MWD Tools.
	04:00 - 05:30	1.50	DRILL	DOHR	DRLPR	Drill Open Hole Rotary. 35% returns.
	05:30 - 05:45	0.25	SURV	MWD	DRLPR	Survey with MWD Tools.
5/9/2003	05:45 - 06:00	0.25	DRILL	DOHR	DRLPR	Drill Open Hole Rotary. 45% returns.
	06:00 - 07:00	1.00	DRILL	DOHR	DRLPR	Drill Open Hole Rotary. Mudded up @ 8008'. 50% returns.

Operations Summary Report

Legal Well Name: INDIAN HILLS UNIT NO. 49

Common Well Name: INDIAN HILLS UNIT NO. 49

Event Name: ORIGINAL DRILLING

Contractor Name: KEY ENERGY SERVICES

Rig Name: EDWARD CARRASCO

Start: 4/24/2003

Rig Release:

Rig Number: 438

Spud Date: 4/26/2003

End:

Group:

Date	From - To	Hours	Code	Sub Code	Phase	Description of Operations
5/9/2003	07:00 - 07:15	0.25	SURV	MWD	DRLPR	Survey with MWD Tools
	07:15 - 08:45	1.50	DRILL	DOHR	DRLPR	Drill Open Hole Rotary. 50% returns.
	08:45 - 09:00	0.25	SURV	MWD	DRLPR	Survey with MWD Tools
	09:00 - 10:15	1.25	DRILL	DOHR	DRLPR	Drill Open Hole Rotary. 50% returns.
	10:15 - 10:30	0.25	SURV	MWD	DRLPR	Survey with MWD Tools
	10:30 - 12:15	1.75	DRILL	DOHR	DRLPR	Drill Open Hole Rotary. 50% returns.
	12:15 - 12:30	0.25	SURV	MWD	DRLPR	Survey with MWD Tools
	12:30 - 14:00	1.50	DRILL	DOHR	DRLPR	Drill Open Hole Rotary. 50% returns.
	14:00 - 15:30	1.50	CIRC	MUD	DRLPR	Circulate and Condition Mud 80% returns. Pumped 30 bbl sweep/80 vis
	15:30 - 17:00	1.50	TRIP	WTRP	DRLPR	Wiper Trip. No hole problems.
	17:00 - 18:30	1.50	CIRC	MUD	DRLPR	4' of fill. Washed to bottom. Circ. Spotted high vis pill on bottom 50 bbls.
	18:30 - 22:00	3.50	TRIP	BIT	DRLPR	TOOH. No excessive drag on trip out. L/D Directional tools.
	22:00 - 00:30	2.50	LOG	OPEN	EVALPR	Safety meeting. RU HES loggers. Ran HEL Triple Combo. RI t/ 8020'. Pulled up t/ 7900'. Stuck tool 12:15 AM CST.
	00:30 - 06:00	5.50	LOG	OPEN	EVALPR	Working stuck tool. Pulling 7250# of maximum pull of 8000#. Waiting on fishing tools. Lost 53 bbls of mud in the last 7 hrs.
5/10/2003	06:00 - 08:00	2.00	FISH	RFSH	EVALPR	Unloaded fishing tools. Stripped off lub & logging adapter. Clamped off line. Cut 7/16" OD elec cable. Made up rope sockets for line overshot. Held safety meeting. Hung shields.
	08:00 - 16:00	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) Fish came free after passing loss zone @ 7724'. RI t/ 7900'. Latched onto fish.
	16:00 - 18:30	2.50	FISH	RFSH	EVALPR	Pulled 1 std. to confirm fish in place. Pulled out of rope socket. 10,200#. Clamped off line. Cut line. Pulled out w/ electric line using WL truck.
	18:30 - 22:30	4.00	FISH	PFSH	EVALPR	Pull out of Hole with Fishing Tools / Fish. Full recovery.
	22:30 - 00:30	2.00	FISH	PFSH	EVALPR	L/D Fish & tools.
	00:30 - 04:30	4.00	TRIP	BIT	EVALPR	TIH w/ bit.
	04:30 - 05:00	0.50	CIRC	FILL	EVALPR	Washed 30' t/ bottom 6' of fill.
	05:00 - 06:00	1.00	CIRC	HOLE	EVALPR	Circulate and Condition Hole

Casing Report

Legal Well Name: INDIAN HILLS UNIT NO. 49
 Common Well Name: INDIAN HILLS UNIT NO. 49
 Event Name: ORIGINAL DRILLING

Report #: 1
 Start: 4/24/2003

Spud Date: 4/26/2003
 Report Date: 4/27/2003
 End:

General Information

String Type: SURFACE CASING	Permanent Datum: KELLY BUSHING	Hole Size:	Hole TMD: 1,200.0 (ft)
Hole TVD: 1,200.0 (ft)	KB-Datum: 0.00 (ft)	Water TMD:	Str Wt on Slips: (lb)
Ground Level: 3,649.00 (ft)	CF Elevation: (ft)	Liner Overlap: (ft)	Max Hole Angle: 1.25 (°)
Circ Hours: 0.50 (hr)	Mud Lost: (bbl)	KB to Cutoff: (ft)	Days From Spud: 1 (days)

Casing Flange / Wellhead

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

Actual TMD Set: 1,200.450 (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	27	1,171.700									
CASING FLOAT COLLA	9.625			8.921	8 ROUND		1.200	1,171.70								
CASING JOINT(S)	9.625	36.0	J-55	8.921	8 ROUND	1	26.100	1,172.90								
CASING FLOAT SHOE	9.625			8.921	8 ROUND		1.450	1,199.00								

Non-Integral Casing Accessories

Accessory	Manufacturer	Number	Spacing (ft)	Interval		How Fixed
				Top (ft)	Bottom (ft)	
CENTRALIZER	GEMCO	8	90.0			CLAMPED

Cementing Report

Legal Well Name: INDIAN HILLS UNIT NO. 49
 Common Well Name: INDIAN HILLS UNIT NO. 49
 Event Name: ORIGINAL DRILLING

Report #: 1
 Start: 4/24/2003

Spud Date: 4/26/2003
 Report Date: 4/27/2003
 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: 1,200.0 (ft)	SQ TMD: (ft)	TMD Set:	Top Set: (ft)
Date Set: 4/27/2003	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: 21:30	Disp Avg Rate: 5.00 (bbl/min)	Returns: None
Volume Excess %: 120.00	Start Slurry Displ: :	Disp Max Rate: 5.00 (bbl/min)	Total Mud Lost: (bbl)
Meas. From: KB	Start Displ: :	Bump Plug: Y	Cmt Vol to Surf: (bbl)
Time Circ Prior	End Pumping: :	Press Prior: 200 (psi)	
To Cementing: 0.25	End Pump Date:	Press Bumped: 800 (psi)	Ann Flow After: N
Mud Circ Rate: 350 (gpm)	Top Plug: N	Press Held: 500 (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: 27 (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: 94.00 (bbl)

Stage No: 1 Slurry No: 1 of 4**Slurry Data**

Fluid Type: LEAD	Description: FOAM	Class: CLASS C	Purpose: FILLER CEM
Slurry Interval: 250.00 (ft) To: 800.00 (ft)	Cmt Vol: 700 (sk)	Yield: 14.80 (ft ³ /sk)	Mix Water: 6.36 (gal/sk)
Water Source: frac tank	Slurry Vol: (bbl)	Water Vol: (bbl)	Other Vol: ()
			Foam Job: Y

Test Data

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

Marathon Oil Company

Cementing Report

Page 2 of 3

Legal Well Name: INDIAN HILLS UNIT NO. 49	Report #: 1	Spud Date: 4/26/2003
Common Well Name: INDIAN HILLS UNIT NO. 49	Start: 4/24/2003	Report Date: 4/27/2003
Event Name: ORIGINAL DRILLING		End:

Stage No: 1 Slurry No: 2 of 4

Slurry Data

Fluid Type: TAIL	Description: OTHER	Class: CLASS C	Purpose: SHOE INTEG
Slurry Interval: 800.00 (ft) To: 1,242.00 (ft)	Cmt Vol: 150 (sk)	Density: (ppg)	Yield: 1.34 (ft³/sk)
Water Source: frac tank	Slurry Vol: (bbl)	Water Vol: 36.0 (bbl)	Other Vol: ()
			Mix Water: 6.37 (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 4 - Additives

Trade Name	Type	Concentration	Units	Liquid Conc.	Units
CACL2 (LIQUID)	ACCELERATOR	2.00			% BWOC

Stage No: 1 Slurry No: 3 of 4

Slurry Data

Fluid Type: OTHER	Description: FOAM	Class: CLASS C	Purpose: FILLER CEM
Slurry Interval: 250.00 (ft) To: 250.00 (ft)	Cmt Vol: 400 (sk)	Density: (ppg)	Yield: 1.35 (ft³/sk)
Water Source: frac tank	Slurry Vol: (bbl)	Water Vol: 95.0 (bbl)	Other Vol: ()
			Mix Water: 6.37 (gal/sk)
			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: 1 Slurry No: 3 of 4 - Additives

Trade Name	Type	Concentration	Units	Liquid Conc.	Units
Zone Seal		1.50			% BWOC
CACL2 (LIQUID)	ACCELERATOR	2.00			% BWOC

Stage No: 1 Slurry No: 4 of 4

Slurry Data

Fluid Type: OTHER	Description: BENTONITE ACCEL.	Class: CLASS C	Purpose: FW PROTEC
Slurry Interval: (ft) To: 75.00 (ft)	Cmt Vol: 75 (sk)	Density: (ppg)	Yield: 1.48 (ft³/sk)
Water Source: frac tank	Slurry Vol: (bbl)	Water Vol: 18.0 (bbl)	Other Vol: ()
			Mix Water: 6.80 (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)			

Cementing Report

Legal Well Name: INDIAN HILLS UNIT NO. 49
Common Well Name: INDIAN HILLS UNIT NO. 49
Event Name: ORIGINAL DRILLING

Report #: 1
Start: 4/24/2003

Spud Date: 4/26/2003
Report Date: 4/27/2003
End:

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

Trade Name	Type	Concentration	Units	Liquid Conc.	Units
CACL2 (LIQUID)	ACCELERATOR	2.00			% BWOC
CaSeal		1.00			% BWOC

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

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

Log/Survey Evaluation**Interpretation Summary**

CBL Run: N	Cement Top: 95 (ft)
Under Pressure: (psi)	How Determined: Tagged
Bond Quality:	TOC Sufficient: Y
Cet Run: N	Job Rating:
Bond Quality:	If Unsuccessful Detection Indicator:
Temp Survey: N	Remedial Cementing Required: N
Hrs Prior to Log:	Number of Remedial Squeezes:

Remarks

Started to circulate well to surface on last 15 to 20 bbl's before bumping plug. Circulation foam had some signs of cement. Pumped 275 sks of foam cement down back side showing about 85 psi while pumping.
Capped w/ 75 sks liquid cement. Pressure dropped to 0. After N/D stack & cutting off 9 5/8" casing
Ran string line down backside & tagged around 75 to 80'. Poured 5 1/2 yards on backside to surface.

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Operations Summary Report

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Legal Well Name:	INDIAN HILLS UNIT NO. 49		
Common Well Name:	INDIAN HILLS UNIT NO. 49	Spud Date:	4/26/2003
Event Name:	ORIGINAL COMPLETION	Start:	5/20/2003
Contractor Name:	KEY ENERGY SERVICES	End:	
Rig Name:	EDWARD CARRASCO	Rig Release:	Group:
		Rig Number:	438

Date	From - To	Hours	Code	Sub Code	Phase	Description of Operations
5/11/2003	06:00 - 06:30	0.50	CIRC	CLN	CSGPRO	Circulate Clean
	06:30 - 14:30	8.00	TRIP	LDDP	CSGPRO	LD DP & DC's.
	14:30 - 22:45	8.25	CSG	RUN	CSGPRO	Safety meeting. Ran Float Shoe, 1- 7"-26# Shoe jt., float collar, 80 jts of 7"-26#, 106 jts of 7"-23#, 2- jts of 7"-26#. Washed the last jt to bottom @ 8180'. (12' of fill)
	22:45 - 00:30	1.75	CIRC	CLN	CSGPRO	Circulate Clean
	00:30 - 04:00	3.50	CEMT	PRIM	CSGPRO	Safety meeting. Pumped 50,000 SCF of N2 ahead. Slurry-1 Cemented w/ 100 sks of foamed acid soluble 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/ 317 bbls of fresh water. Bumped plug @ 0345AM CST. Circ 180sks. Capped w/ 75 sks of Premuim Plus w/ 3% CaCl2, 10# Ca-Seal. 250 psi on annulus. (used a total of 187,569 SCF of N2).
5/12/2003	04:00 - 06:00	2.00	WAIT	CEMT	CSGPRO	Wait on Cement
	06:00 - 12:00	6.00	NUND	DBOP	CSGPRO	WOC 2 hrs. 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 @ 12:00 noon CST. Move t/ IHU # 38 on Tues.
5/19/2003	06:00 - 08:00	2.00	RIG	MIRU	MIRU	Move in / RU Rig, Workover Unit spot equipment. RU BOPs. Test blind rams and casing to 1500 psig. Function test pipe rams and torus annular.
	08:00 - 14:30	6.50	PLNRNP		RCMP	PJSM. Took del of 266 jts of 2 7/8" L-80 tbg. Racked, tallied - PU & RIH w/ 6.125" used bit, csg scraper - RIH to TD @ 8153'.
	14:30 - 18:30	4.00	CLEAN	WELL	RCMP	RU rev unit and circ well clean. PUH 10'. RU HES. Pickle tbg & casg w/ 1000 gals of 15% HCl. Circ OOH. RD HES. SDFN
5/20/2003	06:00 - 09:00	3.00	SAFETY	SMTG	PERF	Safety Meeting. POH w/ tubing. LD bit & scraper.
	09:00 - 19:30	10.50	PERF	WLNC	PERF	RU Baker Atlas. Test lubr to 1500#. Ran gamma tool - correlated to Halliburton Down Pass OH log (5/8/2003) Made 9 runs perf from 7526'-32',7564'-77',7607'-11',33'-37',50'-64',72'-86',7697'-7707',13'-31',40'-54',66'-80',7812'-7816' @ 4JSPF in 120 deg phs. RD B/A
	19:30 - 21:30	2.00	PKRPLG	RUN	RCMP	PU 7" PPI pkrs spaced out @ 2'. RIH on 60 stands of tbg. Closed and locked pipe rams. SDFN
5/21/2003	06:00 - 07:00	1.00	SAFETY	SMTG	STIM	Safety Meeting. RU Halliburton. Dropped SV. Test lines to 4500#.
	07:00 - 13:00	6.00	STIM	ACID	STIM	Dropped RFC - Function test Open: 1085 psig. Close 560 psig. PUH w/ PPI packer in 2' spacings. Acidized new perfs in 68 settings @ 100 gpf for a total of 13,000 gals of 17% CCA sour acid. (Aver break - 2202#) (Max brk - 3800#) (Min brk - 1540#) Avg treat - 1806# Min treat - 1395# Max treat - 2300# Avg rate of 2.1 BPM RD Halliburton Acid
	13:00 - 21:30	8.50	PKRPLG	PULL	RCMP	Fish retrievable valves. POOH w/ tbg. LD PPI packers.
5/22/2003	21:30 -		PKRPLG	RUN	RCMP	PU 7" RBP. RIH to 3136'. Set RBP. Load and test to 500 psig. OK Closed and locked pipe rams. SDFN
	07:00 - 08:30	1.50	TRIP		RCMP	RI w/ 7" RBP. Set @ 3400'. Loaded & tested t/ 500 psi. POOH w/ tbg.
	08:30 - 14:00	5.50	WAIT	EQUIP	RCMP	Wait on Equipment (Sub pump)
	14:00 - 17:00	3.00	EQUIP	RURD	RCMP	Made up Baker Centrilift sub pump. 4-pumps, Seperator, Seal, 2 Motors, PHD, 62'-5 1/2" OD shroud. FC 2200 pumps, 2- 132 HP Motors.
5/23/2003	17:00 - 19:30	2.50	PLNRNP	PTBG	RCMP	Run in hole w/ 2 7/8" tbg t/ top of RBP @ 3400'. SIFN. Clamped bottom 2000' of tubing. 2- 3/8" CT strings.
	06:00 - 13:00	7.00	PLNRNP		RCMP	PJSM. CIH w/ sub pump to RBP. Latch on - equalized CIH w/ remaining 150 jts of 2 7/8" tbg. PU hgr, measure and made fianl splice. Land hgr in wehlthead. RD spoolers.
	13:00 - 14:00	1.00	RIG	RDMO	RCMP	Move out / RD Rig, Workover Unit, etc.

Casing Report

Legal Well Name: INDIAN HILLS UNIT NO. 49
 Common Well Name: INDIAN HILLS UNIT NO. 49
 Event Name: ORIGINAL COMPLETION

Report #: 1
 Start: 5/20/2003

Spud Date: 4/26/2003
 Report Date: 5/11/2003
 End:

General Information

String Type: PRODUCTION CASING #1	Permanent Datum: KELLY BUSHING	Hole Size:	Hole TMD: 8,180.0 (ft)
Hole TVD: 8,089.0 (ft)	KB-Datum: 0.00 (ft)	Water TMD:	Str Wt on Slips: (lb)
Ground Level: 3,649.00 (ft)	CF Elevation: (ft)	Liner Overlap: (ft)	Max Hole Angle: 13.00 (°)
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: 8,180.270 (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	89.780		3,410				NEW		6.276	
CASING JOINT(S)	7.000	23.0	K-55	6.241	8 ROUND	106	4,677.450	89.78	3,410				NEW		6.366	
CASING JOINT(S)	7.000	26.0	K-55	6.151	8 ROUND	78	3,388.240	4,767.23	3,410				NEW		6.276	
CASING FLOAT COLLA	7.000	26.0	K-55	6.151	8 ROUND		1.900	8,155.47	3,410	Y	GEMCO		NEW		6.276	
CASING JOINT(S)	7.000	26.0	K-55	6.151	8 ROUND	1	21.000	8,157.37	3,410	Y			NEW		6.276	
CASING FLOAT SHOE	7.000	26.0	K-55	6.151	8 ROUND		1.900	8,178.37	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

Cementing Report

Legal Well Name: INDIAN HILLS UNIT NO. 49
 Common Well Name: INDIAN HILLS UNIT NO. 49
 Event Name: ORIGINAL COMPLETION

Report #: 1
 Start: 5/20/2003

Spud Date: 4/26/2003
 Report Date: 5/11/2003
 End:

Cement Job Type: Primary

Primary	Squeeze Open Hole	Squeeze Casing	Plug
Hole Size: 8.750 (in)	Hole Size:	Hole Size:	Hole Size:
TMD Set: 8,180.0 (ft)	SQ TMD: (ft)	TMD Set:	Top Set: (ft)
Date Set: 5/11/2003	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

Cement:

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: 00:30	Disp Avg Rate: 5.00 (bbl/min)	Returns: 70%
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: 1.50	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 (ft ³ /sk)
Water Source: Corky Glenn	Slurry Vol: (bbl)	Water Vol: 26.0 (bbl)	Other Vol: ()
			Mix Water: 11.10 (gal/sk)
			Foam Job: Y

Test Data

	Time	Temp	Pressure
Thickening Time:	Temperature: (°F)	Compressive Strength 1: 12.00	(°F) 500 (psi)
Free Water: (%)	Temperature: (°F)	Compressive Strength 2: 24.00	(°F) 1,200 (psi)
Fluid Loss: 400.0 (cc)	Temperature: (°F)		
Fluid Loss Pressure: (°F)			

Marathon Oil Company

Cementing Report

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Legal Well Name: INDIAN HILLS UNIT NO. 49	Report #: 1	Spud Date: 4/26/2003
Common Well Name: INDIAN HILLS UNIT NO. 49	Start: 5/20/2003	Report Date: 5/11/2003
Event Name: ORIGINAL COMPLETION		End:

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

Trade Name	Type	Concentration	Units	Liquid Conc.	Units
Zone Seal		2.00			% BWOC

Stage No: 2 of 4

Type: PRIM CMT 2ND STAGE	Start Mix Cmt: 01:00	Disp Avg Rate: 5.00 (bbl/min)	Returns: 70%
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: 1.50	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: 7,100.00 (ft) Cmt Vol: 950 (sk)	Density: 13.0 (ppg)	Yield: 2.00 (ft ³ /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: 12.00	(°F) 1,150 (psi)
Free Water: 1.00 (%)	Temperature: (°F)	Compressive Strength 2: 24.00	(°F) 2,100 (psi)
Fluid Loss: 700.0 (cc)	Temperature: (°F)		
Fluid Loss Pressure: (°F)			

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

Trade Name	Type	Concentration	Units	Liquid Conc.	Units
Zone Seal		2.00			% BWOC

Cementing Report

Legal Well Name: INDIAN HILLS UNIT NO. 49
 Common Well Name: INDIAN HILLS UNIT NO. 49
 Event Name: ORIGINAL COMPLETION

Report #: 1
 Start: 5/20/2003

Spud Date: 4/26/2003
 Report Date: 5/11/2003
 End:

Stage No: 3 of 4

Type: PRIM CMT 3RD STAGE	Start Mix Cmt: :	Disp Avg Rate: 5.00 (bbl/min)	Returns: 70%
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: 2,200 (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)

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

Fluid Type: TAIL	Description: OTHER	Class: CLASS H	Purpose: SHOE INTEG
Slurry Interval: 7,100.00 (ft) To: 8,180.00 (ft)	Cmt Vol: 120 (sk)	Density: 13.0 (ppg)	Yield: 1.67 (ft ³ /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

Cementing Report

Legal Well Name: INDIAN HILLS UNIT NO. 49
 Common Well Name: INDIAN HILLS UNIT NO. 49
 Event Name: ORIGINAL COMPLETION

Report #: 1
 Start: 5/20/2003

Spud Date: 4/26/2003
 Report Date: 5/11/2003
 End:

Stage No: 4 of 4

Type: SUFACE TOPOUT	Start Mix Cmt: 03:45	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)

Stage No: 4 Slurry No: 1 of 1**Slurry Data**

Fluid Type: OTHER	Description: Modified 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 (ft ³ /sk)
Water Source:	Slurry Vol: (bbl)	Water Vol: 20.0 (bbl)	Other Vol: ()
			Mix Water: 6.36 (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: 4 Slurry No: 1 of 1 - Additives

Trade Name	Type	Concentration	Units	Liquid Conc.	Units
CaCl ₂		3.00			% BWOC
CalSeal		10.00			lbs/sack

Cementing Report

Legal Well Name: INDIAN HILLS UNIT NO. 49
Common Well Name: INDIAN HILLS UNIT NO. 49
Event Name: ORIGINAL COMPLETION

Report #: 1
Start: 5/20/2003

Spud Date: 4/26/2003
Report Date: 5/11/2003
End:

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