Form 3160-5
(August 1999)

UN. D 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

C/S F

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.
LC-064391-B

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

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

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

8. Well Name and No.
Indian Hills Unit # 37-Y

2. Name of Operator
Marathon Oil Company

9. API Well No.
30-015-32594

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

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

RECEIVED
JAN 2003
OCD ARTESIA

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

4. Location of Well (*Footage, Sec., T., R., M., or Survey Description*)
1098' FNL & 1400' FEL
Sec. 20, T-21-S, R-24-E
Eddy Co. N.M.
LOT 2

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	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 see attached End of well report for the Indian Hills Unit # 37-Y.

ACCEPTED FOR RECORD
JAN 29 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 1/24/03

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 NO. 37 "Y"
Common Well Name: INDIAN HILLS UNIT NO. 37 "Y" Spud Date: 12/19/2002
Event Name: ORIGINAL DRILLING Start: 12/13/2002 End:
Contractor Name: KEY ENERGY SERVICES Rig Release: Group:
Rig Name: KEY ENERGY SERVICES Rig Number: 347

Date	From - To	Hours	Code	Sub Code	Phase	Description of Operations
12/21/2002	06:00 - 18:00	12.00	RIG	DMOB	MIRU	Location built by Key Const. Drilled & set 40' of 14" conductor pipe (GL). Cemented to surface. MIRU McVay #4. Held safety & spud meeting on Friday. 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.
12/22/2002	06:00 - 08:00	2.00	WAIT	Crew	MIRU	Shut down.
	08:00 - 09:30	1.50	CHECK	SURF	MIRU	Perform Check of Surface Equipment. Start motors. Held safety meeting.
	09:30 - 12:45	3.25	DRILL	AIR	DRLSUR	Spudded 12 1/4" hole @ 0900 hrs. CST. Air drilled f/ 57'-299'.
	12:45 - 14:00	1.25	SURV	GYRO	DRLSUR	Survey . RU Wildcat Auto Driller.
	14:00 - 17:30	3.50	DRILL	AIR	DRLSUR	Air Drilling
	17:30 - 17:45	0.25	SURV	GYRO	DRLSUR	Survey
	17:45 - 20:30	2.75	DRILL	AIR	DRLSUR	Air Drilling. 3" stream of water @ 706'. Switch to mist. 4 GPH of soap.
	20:30 - 21:15	0.75	CIRC	FILL	DRLSUR	Pumped on hole to unload water. No drag. No returns.
	21:15 - 22:15	1.00	DRILL	AIR	DRLSUR	Mist drilled f/ 706' t/ 737'. No drag on connection. Mist drilled f/ 737' t/ 763'. Tight hole after making connection.
	22:15 - 06:00	7.75	FISH	JAR	DRLSUR	Backreaming out of hole due to a large boulder falling in on top of DC or hammer. Pipe can rotate OK & movement downward with drillstring. Can not go up with drillstring. Max pull-225,000# Made 13' of hole in 7 hrs. Pumped 50 bbl sweep @ a -80 vis . Pumped water @ 12 BPM for 15 mins. Torque is less without pumping air or water. Pulled free @ 0550 aM. TOOH w/ Hammer @ 0600 hrs.
12/23/2002	06:00 - 07:30	1.50	TRIP	BHA	DRLSUR	Trip for BHA (Hammer). Found pin broke on Hammer. Left Hammer in hole.(6.90')
	07:30 - 11:00	3.50	TRIP	BBHD	DRLSUR	BHA/Bit Handling L/D Hammer. PU Bit, Shock sub, 12- 6 1/2" DC's, jars, HWDP.TIH.
	11:00 - 12:30	1.50	CIRC	FILL	DRLSUR	Tagged top of fish @ 756'.
	12:30 - 14:30	2.00	CIRC	CLN	DRLSUR	Pumped hole @ 3400 SCF of mist. No returns.
	14:30 - 17:00	2.50	TRIP	BHA	DRLSUR	Had to backream from 746'-718' due to boulder in hole. TOOH. L/D Shocksub.
	17:00 - 18:00	1.00	WAIT	EQIP	DRLSUR	Wait on Shoe.
	18:00 - 20:00	2.00	TRIP	BBHD	DRLSUR	PU 11 3/4" OD x 9 7/8" ID shoe. TIH.
	20:00 - 21:30	1.50	DRILL	WSHR	DRLSUR	Reamed 65' to bottom. Boulder on top of shoe.
	21:30 - 06:00	8.50	FISH	MLCT	DRLSUR	Mill/Cut. Milled overHammer @ 756'. Cut 17" @ 0600 hrs. Will atempt to cut 24". Mist drilling 4 GPH of Soap @ 12 BPH of fluid. 3400 SCF of Air. No returns.
12/24/2002	06:00 - 06:15	0.25	FISH	MLCT	DRLSUR	Mill/Cut. Cut 16" fishing neck onto Hammer @ 756'.
	06:15 - 14:15	8.00	TRIP	BHA	DRLSUR	Backreamed & jarred f/ 756' t/ 706'. Free after @ 706'.
	14:15 - 14:30	0.25	TRIP	BHA	DRLSUR	TOOH. L/D shoe. Good marking on shoe.
	14:30 - 17:30	3.00	TRIP	BIT	DRLSUR	Trip in w/ 12 1/4" bit.
	18:30 - 19:30	1.00	CIRC	WSHD	DRLSUR	Washed 65' t/ top of fish @ 756'. Tagged 1' above fish. Washed t/ top of fish. Pumped on hole w/ air. No returns.
	19:30 - 21:00	1.50	TRIP	BBHD	DRLSUR	TOOH w/ 12 1/4" Bit. (small amount of drag 30' above fish.) L/D bit. PU 11 3/4" overshot w/ 9 7/8" grapple.
	21:00 - 23:00	2.00	FISH	RFSH	DRLSUR	Run in Hole with 11 3/4" overshot.
	23:00 - 01:00	2.00	FISH	EGNG	DRLSUR	Washed over fish.(60' above fish) Engaged fish. Jarring.
	01:00 - 06:00	5.00	FISH	PFSH	DRLSUR	Backreamed f/ 756' t/ 746'. Backreaming & jarring @ 0600 hrs.
12/25/2002	06:00 - 08:00	2.00	FISH	PFSH	DRLSUR	Pull out of Hole with Fishing Tools / Fish. No recovery. Had broke grapple.
	08:00 - 09:00	1.00	TRIP	BIT	DRLSUR	TIH w/ DC's & HWDP.
	09:00 - 11:00	2.00	TRIP	LDDP	DRLSUR	LD/HWDP & DC's. PU 23 jts of 4 1/2", 19.5 #DP off rack.
	11:00 - 15:30	4.50	NUND	DBOP	DRLSUR	ND & removed 13 5/8" Hydril with Rotating head.
	15:30 - 16:00	0.50	CEMT	PLUG	DRLSUR	Dumped 20 yds of ready-mix down hole.

Operations Summary Report

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Common Well Name: INDIAN HILLS UNIT NO. 37 "Y" Spud Date: 12/19/2002
Event Name: ORIGINAL DRILLING Start: 12/13/2002 End:
Contractor Name: KEY ENERGY SERVICES Rig Release: Group:
Rig Name: KEY ENERGY SERVICES Rig Number: 347

Date	From - To	Hours	Code	Sub Code	Phase	Description of Operations
12/25/2002	16:00 - 19:00	3.00	WAIT	CEMT	DRLSUR	Wait on Cement
	19:00 - 20:30	1.50	TRIP	BIT	DRLSUR	TI w/ DP. Tagged @ 290'. Pumped 700 sks of Premuim Plus w/ 2% CaICl2. FL @ 80'. Did not circ. POOH w/ 3 stds of DP.
	20:30 - 23:30	3.00	WAIT	CEMT	DRLSUR	WOC
	23:30 - 00:00	0.50	CEMT	TJOB	DRLSUR	Tagged cement @ 165'. Pumped 300 sks of Premuin Plus w/ 3% CaCl2. FL @ 50'.
	00:00 - 02:30	2.50	WAIT	CEMT	DRLSUR	Wait on Cement
	02:30 - 03:00	0.50	CEMT	TJOB	DRLSUR	Top Job Cementing. Tagged @ 80'. Pumped 150 sks of Premuim w/ 3% CaCl2. FL @ 50'.
	03:00 - 06:00	3.00	WAIT	CEMT	DRLSUR	Wait on Cement. Thawing out HES lines @ 0600 hrs. (Pumped a total of 1150 sks. Top @ 80'. FL @ 50')
12/26/2002	06:00 - 07:00	1.00	CEMT	PLUG	DRLSUR	Thawed out water lines.
	07:00 - 07:15	0.25	CEMT	PLUG	DRLSUR	Pumped 150 sks of Premuim Plus w/ 3% CaIC2.
	07:15 - 10:45	3.50	WAIT	CEMT	DRLSUR	Wait on Cement
	10:45 - 11:00	0.25	CEMT	PLUG	DRLSUR	Pumped 100 sks of Premuim Plus w/ 3% CaIC2. Circ to surface. Filled cellar 3' with cement. RD HES.
	11:00 - 06:00	19.00	WAIT	OTHR	DRLSUR	Shut down for day.
12/27/2002	06:00 - 08:00	2.00	RIG	RDMO	RDMO	RD Rig equipment on rig floor & around drilling pits.
	08:00 - 13:00	5.00	LOC	WORK	RDMO	Work on drilling pilot holes w/ rat hole machine to install new cellar. Installed new cellar.
	13:00 - 18:00	5.00	DRILL	AIR	RDMO	Drill out mouse hole & started drilling out conductor.
	18:00 - 22:00	4.00	WELD	RRPL	RDMO	Welded on rat hole machine to repair air leak.
	22:00 - 02:00	4.00	DRILL	AIR	RDMO	Finish drilling out conductor & drilling out rat hole.
	02:00 - 02:30	0.50	CEMT	OTHR	RDMO	Cemented conductor pipe w/ 5 yards of ready mix.
	02:30 - 06:00	3.50	WAIT	CEMT	RDMO	Wait on Cement
12/28/2002	06:00 - 08:00	2.00	WELD	WLHD	MIRU	Cut & weld on 13 5/8" 3M slip on flange to conductor pipe.
	08:00 - 08:30	0.50	SAFETY	SMTG	MIRU	Held Safety Meeting w/ rig hands & truck drivers.
	08:30 - 09:00	0.50	NUND	UFwL	MIRU	N/U surface stack on conductor pipe before skidding rig.
	09:00 - 13:30	4.50	RIG	SKID	MIRU	Skid Rig or Service Unit
	13:30 - 20:00	6.50	RIG	MOB	MIRU	R/U equipment & rig up rig floor.Weld up flow line & did minor repairs needed.
	20:00 - 06:00	10.00	WAIT	CEMT	DRLCN2	Wait on Cement. Letting cement on conductor heal good before start drilling w/ air.(BHA picked up except for Hammerwhich will be here first thing in the morning to spud.)
12/29/2002	06:00 - 08:15	2.25	CHECK	SURF	DRLSUR	Perform Check of Surface Equipment.Checked compressor.
	08:15 - 08:45	0.50	EQUIP	PEQP	DRLSUR	Pick up hammer tool w/ 12 3/8" Hammer bit & made up on BHA.
	08:45 - 09:15	0.50	SAFETY	SMTG	DRLSUR	Safety Meeting
	09:15 - 13:00	3.75	DRILL	HAMR	DRLSUR	Spud in w/ 12 3/8" hammer bit @ 09:15AM . Hammer Drill w/ mist.
	13:00 - 13:15	0.25	SURV	TOTC	DRLSUR	Survey with non-mag TOTCO Tools. Single shot.
	13:15 - 19:30	6.25	DRILL	HAMR	DRLSUR	Hammer Drill
	19:30 - 20:15	0.75	SURV	TOTC	DRLSUR	Survey with non-mag TOTCO Tools. Single shot.
	20:15 - 01:15	5.00	DRILL	HAMR	DRLSUR	Hammer Drill. Started getting some fluid for returns.
	01:15 - 01:45	0.50	EQUIP	REQP	DRLSUR	Changed out rotating rubber
	01:45 - 03:15	1.50	DRILL	HAMR	DRLSUR	Hammer Drill
	03:15 - 03:30	0.25	SURV	TOTC	DRLSUR	Survey with non-mag TOTCO Tools
	03:30 - 06:00	2.50	DRILL	HAMR	DRLSUR	Hammer Drill
12/30/2002	06:00 - 06:30	0.50	CIRC	CLN	DRLSUR	Blow well c w/ air.lean
	06:30 - 07:30	1.00	TRIP	BHA	DRLSUR	Trip for BHA
	07:30 - 08:30	1.00	TRIP	BBHD	DRLSUR	L/D hammer tool & bit. Picked up used 12 1/4" bit w/ shock tool & 3 point reamer.
	08:30 - 09:15	0.75	TRIP	BIT	DRLSUR	TIH w/ 12 1/4" bit on shock tool w/ 3 point reamer above 8" non-mag collar.
	09:15 - 09:30	0.25	TRIP	WSHR	DRLSUR	Installed rotating rubber & washed down 35' to btm. No fill.

Operations Summary Report

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Common Well Name: INDIAN HILLS UNIT NO. 37 "Y" Spud Date: 12/19/2002
Event Name: ORIGINAL DRILLING Start: 12/13/2002 End:
Contractor Name: KEY ENERGY SERVICES Rig Release: Group:
Rig Name: KEY ENERGY SERVICES Rig Number: 347

Date	From - To	Hours	Code	Sub Code	Phase	Description of Operations
12/30/2002	09:30 - 15:00	5.50	DRILL	AIR	DRLSUR	Air Drilling w/ 12 1/4" bit.
	15:00 - 15:15	0.25	SURV	TOTC	DRLSUR	Survey with non-mag TOTCO Tools. Mis-run
	15:15 - 15:45	0.50	DRILL	AIR	DRLSUR	Air Drilling w/ 12 1/4" bit.
	15:45 - 16:15	0.50	SURV	TOTC	DRLSUR	Survey with non-mag TOTCO Tools
	16:15 - 18:30	2.25	DRILL	AIR	DRLSUR	Air Drilling w/ 12 1/4" bit.
	18:30 - 19:45	1.25	DRILL	WSHR	DRLSUR	Torqued up after making conn.Worked pipe f/ 1390' to 1397'. Felt like rock ontop of reamer. Worked until smoothed out.
	19:45 - 01:45	6.00	DRILL	AIR	DRLSUR	Air Drilling w/ 12 1/4" bit.Using fluid to drill with to help keep the reserve pit from running over.
	01:45 - 02:15	0.50	SURV	TOTC	DRLSUR	Survey with non-mag TOTCO Tools
	02:15 - 06:00	3.75	DRILL	AIR	DRLSUR	Air Drilling w/12 1/4" bit. Using fluid to drill with to help keep the reserve pit from running over.
12/31/2002	06:00 - 07:00	1.00	DRILL	AIR	DRLSUR	Air Drilling with fluid to keep from running reserve pit over.Surface T.D 1825'
	07:00 - 07:30	0.50	CIRC	CLN	DRLSUR	Blew & Circulate Clean
	07:30 - 08:00	0.50	SURV	TOTC	DRLSUR	Survey with non mag TOTCO Tools
	08:00 - 09:45	1.75	TRIP	LDDP	DRLSUR	LD 5 jt's DP, POOH w/ drill string, L/D reamer, 8" collar, 8" shock sub, & 12 1/4" bit.
	09:45 - 13:00	3.25	CSG	RUN	CSGSUR	R/U casers & held safety meeting. Run 41 jt's 9 5/8" casing to 1825' w/ float shoe & shoe jt tacked .
	13:00 - 13:30	0.50	CIRC	WSHD	CSGSUR	Wash 45' to btm. 5' fill.
	13:30 - 14:30	1.00	CEMT	OTHR	CSGSUR	R/U Halliburton lines & held safety meeting. R/U cementing head.
	14:30 - 17:45	3.25	CEMT	OTHR	CSGSUR	Cemented 9 5/8" surface casing with 700 sks P+ cement nitrofied. Tailed w/150 sks P+ cement. Plug down @ 16:45 .Did not cir. cement. Pumped 400 sks P+ cement, nitrofied down the annulas & capped w/ 75 sks w/ 2% CACL. No pressure on csg.
	17:45 - 20:45	3.00	WAIT	CEMT	CSGSUR	Wait on Cement
	20:45 - 22:45	2.00	NUND	DWLD	CSGSUR	Check for pressure on surface stack. None. N/D surface stack & picked upon stack. Cut 9 5/8" casing & snubbed out stack. Cut 14" conductor pipe.
	22:45 - 23:45	1.00	CEMT	TJOB	CSGSUR	Picked up 8 jts of 1" pipe & tagged top of cement @ 213'. Pumped 100 sks neat w/ 3% CaCl & POOH w/ 1" pipe.
	23:45 - 01:00	1.25	WAIT	CEMT	CSGSUR	Wait on Cement. Ran temp. survey from 250' to 1000 ft. Showed cement all the way.
	01:00 - 02:30	1.50	CEMT	TJOB	CSGSUR	Picked up 5 jts of 1" pipe & tagged cement @ 135'. Pumped 100 sks neat w/ 3% CaCl to surface. Cir. 8 sks in cellar. POOH w/ 1" pipe.
	02:30 - 03:00	0.50	CLEAN	RIG	CSGSUR	Clean Rig Floor & putting up 1" & cement tools.
	03:00 - 06:00	3.00	WELD	WLHD	CSGSUR	Welded on 11" 3M SOW wellhead on 9 5/8 casing.
1/1/2003	06:00 - 08:45	2.75	NUND	UBOP	DRLPR	Install BOP Equipment
	08:45 - 14:00	5.25	TEST	EQUI	DRLPR	Test Equip (BOP's), SCSSV, valves, tree, lines, etc. to Low 250 & high 3000PSI. Tested Annuler to Low 250 psi & 1500psi. All Good.
	14:00 - 16:00	2.00	TRIP	BBHD	DRLPR	Picked up BHA #1 w/ motor w./ 1.5 degree. Tested motor w/ Teleco O.K.
	16:00 - 18:00	2.00	TRIP	BIT	DRLPR	Trip in hole w/ BHA #1 .
	18:00 - 18:30	0.50	TEST	PLGS	DRLPR	Test casing to 1000 PSI w/ rig pump.O.K.
	18:30 - 19:15	0.75	DRILL	CEMT	DRLPR	Drill Plug Cement, Float collar. & 30' of Cement In Shoe jt to 1820'.
	19:15 - 19:30	0.25	TEST	PLGS	DRLPR	Test Shoe jt to 1000PSI w/ rig pump .
	19:30 - 22:15	2.75	DRILL	DOH	DRLPR	Drill out guide shoe & cement & formation w/ 8 3/4" bit to 1892'
	22:15 - 22:30	0.25	SURV	MWD	DRLPR	Survey with MWD Tools
	22:30 - 23:00	0.50	DRILL	DOHS	DRLPR	Drill Open Slide
	23:00 - 23:45	0.75	DRILL	DOHR	DRLPR	Drill Open Hole Rotary
	23:45 - 00:00	0.25	SURV	MWD	DRLPR	Survey with MWD Tools
	00:00 - 00:15	0.25	DRILL	DOHS	DRLPR	Drill Open Slide

Marathon Oil Company

Operations Summary Report

Legal Well Name: INDIAN HILLS UNIT NO. 37 "Y"
Common Well Name: INDIAN HILLS UNIT NO. 37 "Y" Spud Date: 12/19/2002
Event Name: ORIGINAL DRILLING Start: 12/13/2002 End:
Contractor Name: KEY ENERGY SERVICES Rig Release: Group:
Rig Name: KEY ENERGY SERVICES Rig Number: 347

Date	From - To	Hours	Code	Sub Code	Phase	Description of Operations
1/1/2003	00:15 - 01:00	0.75	DRILL	DOHR	DRLPR	Drill Open Hole Rotary
	01:00 - 01:15	0.25	SURV	MWD	DRLPR	Survey with MWD Tools
	01:15 - 01:30	0.25	DRILL	DOHS	DRLPR	Drill Open Slide
	01:30 - 02:15	0.75	DRILL	DOHR	DRLPR	Drill Open Hole Rotary
	02:15 - 02:30	0.25	SURV	MWD	DRLPR	Survey with MWD Tools
	02:30 - 03:00	0.50	DRILL	DOHS	DRLPR	Drill Open Slide
	03:00 - 03:45	0.75	DRILL	DOHR	DRLPR	Drill Open Hole Rotary
	03:45 - 04:00	0.25	SURV	MWD	DRLPR	Survey with MWD Tools
	04:00 - 04:15	0.25	DRILL	DOHS	DRLPR	Drill Open Slide
	04:15 - 05:00	0.75	DRILL	DOHR	DRLPR	Drill Open Hole Rotary
	05:00 - 05:15	0.25	SURV	MWD	DRLPR	Survey with MWD Tools
	05:15 - 05:30	0.25	DRILL	DOHS	DRLPR	Drill Open Slide
	05:30 - 06:00	0.50	DRILL	DOHR	DRLPR	Drill Open Hole Rotary
1/2/2003	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 - 07:15	0.50	DRILL	DOHS	DRLPR	Drill Open Slide. H/S
	07:15 - 08:15	1.00	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 . H/S
	09:00 - 09:45	0.75	DRILL	DOHR	DRLPR	Drill Open Hole Rotary
	09:45 - 10:00	0.25	SURV	MWD	DRLPR	Survey with MWD Tools
	10:00 - 10:15	0.25	DRILL	DOHS	DRLPR	Drill Open Slide. 15L
	10:15 - 11:15	1.00	DRILL	DOHR	DRLPR	Drill Open Hole Rotary
	11:15 - 11:30	0.25	SURV	MWD	DRLPR	Survey with MWD Tools
	11:30 - 11:45	0.25	DRILL	DOHS	DRLPR	Drill Open Slide. 15L
	11:45 - 12:45	1.00	DRILL	DOHR	DRLPR	Drill Open Hole Rotary
	12:45 - 13:00	0.25	SURV	MWD	DRLPR	Survey with MWD Tools
	13:00 - 13:15	0.25	DRILL	DOHS	DRLPR	Drill Open Slide. 30L
	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. 15L
	14:30 - 15:30	1.00	DRILL	DOHR	DRLPR	Drill Open Hole Rotary
	15:30 - 15:45	0.25	SURV	MWD	DRLPR	Survey with MWD Tools
	15:45 - 16:15	0.50	DRILL	DOHS	DRLPR	Drill Open Slide. 60L
	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. 70L
	17:45 - 18:30	0.75	DRILL	DOHR	DRLPR	Drill Open Hole Rotary
	18:30 - 18:45	0.25	SURV	MWD	DRLPR	Survey with MWD Tools
	18:45 - 19:30	0.75	DRILL	DOHS	DRLPR	Drill Open Slide. 75L
	19:30 - 20:15	0.75	DRILL	DOHR	DRLPR	Drill Open Hole Rotary
	20:15 - 20:30	0.25	SURV	MWD	DRLPR	Survey with MWD Tools
	20:30 - 20:45	0.25	DRILL	DOHS	DRLPR	Drill Open Slide
	20:45 - 21:30	0.75	DRILL	DOHR	DRLPR	Drill Open Hole Rotary
	21:30 - 21:45	0.25	SURV	MWD	DRLPR	Survey with MWD Tools
	21:45 - 22:15	0.50	DRILL	DOHS	DRLPR	Drill Open Slide
	22:15 - 22:45	0.50	DRILL	DOHR	DRLPR	Drill Open Hole Rotary
	22:45 - 23:00	0.25	SURV	MWD	DRLPR	Survey with MWD Tools
	23:00 - 23:15	0.25	DRILL	DOHS	DRLPR	Drill Open Slide
	23:15 - 00:45	1.50	DRILL	DOHR	DRLPR	Drill Open Hole Rotary
	00:45 - 01:00	0.25	SURV	MWD	DRLPR	Survey with MWD Tools
	01:00 - 01:30	0.50	DRILL	DOHS	DRLPR	Drill Open Slide
	01:30 - 02:15	0.75	DRILL	DOHR	DRLPR	Drill Open Hole Rotary

Operations Summary Report

Legal Well Name: INDIAN HILLS UNIT NO. 37 "Y"
Common Well Name: INDIAN HILLS UNIT NO. 37 "Y" Spud Date: 12/19/2002
Event Name: ORIGINAL DRILLING Start: 12/13/2002 End:
Contractor Name: KEY ENERGY SERVICES Rig Release: Group:
Rig Name: KEY ENERGY SERVICES Rig Number: 347

Date	From - To	Hours	Code	Sub Code	Phase	Description of Operations
1/2/2003	02:15 - 02:30	0.25	SURV	MWD	DRLPR	Survey with MWD Tools
	02:30 - 03:00	0.50	DRILL	DOHS	DRLPR	Drill Open Slide
	03:00 - 03:45	0.75	DRILL	DOHR	DRLPR	Drill Open Hole Rotary
	03:45 - 04:00	0.25	SURV	MWD	DRLPR	Survey with MWD Tools
	04:00 - 04:30	0.50	DRILL	DOHS	DRLPR	Drill Open Slide
	04:30 - 05:30	1.00	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
1/3/2003	06:00 - 07:45	1.75	DRILL	DOHD	DRLPR	Drill Open Hole Directional (R)
	07:45 - 08:00	0.25	SURV	MWD	DRLPR	Survey with MWD Tools
	08:00 - 10:15	2.25	DRILL	DOHD	DRLPR	Drill Open Hole Directional (R)
	10:15 - 10:30	0.25	SURV	MWD	DRLPR	Survey with MWD Tools
	10:30 - 12:45	2.25	DRILL	DOHD	DRLPR	Drill Open Hole Directional (R)
	12:45 - 13:00	0.25	SURV	MWD	DRLPR	Survey with MWD Tools
	13:00 - 17:15	4.25	DRILL	DOHD	DRLPR	Drill Open Hole Directional (R)
	17:15 - 17:30	0.25	DRILL	DOHS	DRLPR	Drill Open Slide
	17:30 - 17:45	0.25	SURV	MWD	DRLPR	Survey with MWD Tools
	17:45 - 19:30	1.75	DRILL	DOHD	DRLPR	Drill Open Hole Directional (R)
	19:30 - 19:45	0.25	SURV	MWD	DRLPR	Survey with MWD Tools
	19:45 - 21:45	2.00	DRILL	DOHD	DRLPR	Drill Open Hole Directional (R)
	21:45 - 22:00	0.25	SURV	MWD	DRLPR	Survey with MWD Tools
	22:00 - 23:15	1.25	DRILL	DOHD	DRLPR	Drill Open Hole Directional (R)
	23:15 - 23:30	0.25	SURV	MWD	DRLPR	Survey with MWD Tools
	23:30 - 00:45	1.25	DRILL	DOHD	DRLPR	Drill Open Hole Directional (R)
	00:45 - 01:00	0.25	SURV	MWD	DRLPR	Survey with MWD Tools
	01:00 - 01:30	0.50	DRILL	DOHS	DRLPR	Drill Open Slide
	01:30 - 03:45	2.25	DRILL	DOHD	DRLPR	Drill Open Hole Directional (R)
	03:45 - 04:00	0.25	SURV	MWD	DRLPR	Survey with MWD Tools
	04:00 - 04:45	0.75	DRILL	DOHS	DRLPR	Drill Open Slide
	04:45 - 06:00	1.25	DRILL	DOHD	DRLPR	Drill Open Hole Directional (R)
1/4/2003	06:00 - 08:15	2.25	DRILL	DOHD	DRLPR	Drill Open Hole Directionalm (R)
	08:15 - 08:30	0.25	SURV	MWD	DRLPR	Survey with MWD Tools (BOP drill)
	08:30 - 10:45	2.25	DRILL	DOHD	DRLPR	Drill Open Hole Directionalm (R)
	10:45 - 11:00	0.25	SURV	MWD	DRLPR	Survey with MWD Tools
	11:00 - 13:00	2.00	DRILL	DOHD	DRLPR	Drill Open Hole Directionalm (R)
	13:00 - 13:15	0.25	SURV	MWD	DRLPR	Survey with MWD Tools
	13:15 - 15:45	2.50	DRILL	DOHD	DRLPR	Drill Open Hole Directionalm (R)
	15:45 - 16:00	0.25	SURV	MWD	DRLPR	Survey with MWD Tools
	16:00 - 18:30	2.50	DRILL	DOHD	DRLPR	Drill Open Hole Directionalm (R)
	18:30 - 19:00	0.50	SURV	MWD	DRLPR	Survey with MWD Tools (problem w/ MWD)
	19:00 - 19:45	0.75	DRILL	DOHS	DRLPR	Drill Open Slide
	19:45 - 22:30	2.75	DRILL	DOHD	DRLPR	Drill Open Hole Directionalm (R)
	22:30 - 22:45	0.25	SURV	MWD	DRLPR	Survey with MWD Tools (problem w/ MWD)
	22:45 - 01:30	2.75	DRILL	DOHD	DRLPR	Drill Open Hole Directionalm (R)
	01:30 - 01:45	0.25	SURV	MWD	DRLPR	Survey with MWD Tools (problem w/ MWD)
	01:45 - 03:30	1.75	DRILL	DOHD	DRLPR	Drill Open Hole Directionalm (R)
	03:30 - 03:45	0.25	SURV	MWD	DRLPR	Survey with MWD Tools (problem w/ MWD)
	03:45 - 05:15	1.50	DRILL	DOHD	DRLPR	Drill Open Hole Directionalm (R)
	05:15 - 05:30	0.25	SURV	MWD	DRLPR	Survey with MWD Tools (problem w/ MWD) Could not get a pulse.
	05:30 - 06:00	0.50	DRILL	DOHD	DRLPR	Drill Open Hole Directionalm (R). Drilling @ 20'/hr. Will pull MWD @ 0800 hrs.
1/5/2003	06:00 - 07:00	1.00	DRILL	DOHD	DRLPR	Drill Open Hole Directional
	07:00 - 09:30	2.50	TRIP	BHA	DRLPR	TOOH.

Operations Summary Report

Legal Well Name: INDIAN HILLS UNIT NO. 37 "Y"
Common Well Name: INDIAN HILLS UNIT NO. 37 "Y"
Spud Date: 12/19/2002
Event Name: ORIGINAL DRILLING
Start: 12/13/2002
End:
Contractor Name: KEY ENERGY SERVICES
Rig Release:
Group:
Rig Name: KEY ENERGY SERVICES
Rig Number: 347

Date	From - To	Hours	Code	Sub Code	Phase	Description of Operations
1/5/2003	09:30 - 10:30	1.00	TRIP	BBHD	DRLPR	BHA/Bit Handling. L/D MWD. PU new MWD & bit.
	10:30 - 13:15	2.75	TRIP	BHA	DRLPR	TIH. Installed RT tool @ 21 stds. TIH
	13:15 - 13:30	0.25	TRIP	WSHR	DRLPR	Wash/Ream 40'. No fill
	13:30 - 15:15	1.75	DRILL	DOHD	DRLPR	Drill Open Hole Directional (R)
	15:15 - 15:30	0.25	SURV	MWD	DRLPR	Survey with MWD Tools
	15:30 - 18:15	2.75	DRILL	DOHD	DRLPR	Drill Open Hole Directional (R)
	18:15 - 18:30	0.25	SURV	MWD	DRLPR	Survey with MWD Tools
	18:30 - 20:00	1.50	DRILL	DOHS	DRLPR	Drill Open Slide
	20:00 - 23:15	3.25	DRILL	DOHD	DRLPR	Drill Open Hole Directional (R)
	23:15 - 23:30	0.25	SURV	MWD	DRLPR	Survey with MWD Tools
	23:30 - 02:15	2.75	DRILL	DOHD	DRLPR	Drill Open Hole Directional (R)
	02:15 - 02:30	0.25	SURV	MWD	DRLPR	Survey with MWD Tools
	02:30 - 05:30	3.00	DRILL	DOHD	DRLPR	Drill Open Hole Directional (R)
	05:30 - 05:45	0.25	SURV	MWD	DRLPR	Survey with MWD Tools
	05:45 - 06:00	0.25	DRILL	DOHD	DRLPR	Drill Open Hole Directional (R)
1/6/2003	06:00 - 09:15	3.25	DRILL	DOHD	DRLPR	Drill Open Hole Directional (R)
	09:15 - 09:30	0.25	SURV	MWD	DRLPR	Survey with MWD Tools
	09:30 - 12:15	2.75	DRILL	DOHD	DRLPR	Drill Open Hole Directional (R)
	12:15 - 12:30	0.25	SURV	MWD	DRLPR	Survey with MWD Tools BOP drill SPR
	12:30 - 16:00	3.50	DRILL	DOHD	DRLPR	Drill Open Hole Directional (R)
	16:00 - 16:30	0.50	SURV	MWD	DRLPR	Survey with MWD Tools. P-rate slowed f/ 22' t/ 8' hr. Pump pressure increased t/ 400 psi. Ran survey. Ck motor. Motor not turning.
	16:30 - 19:30	3.00	TRIP	BHA	DRLPR	Trip for BHA
	19:30 - 20:00	0.50	TRIP	BBHD	DRLPR	BHA/Bit Handling. Motor locked up. L/D motor. PU new motor. (high speed)
	20:00 - 23:30	3.50	TRIP	BIT	DRLPR	Trip in / out for Bit . Washed t/ bottom. No fill.
	23:30 - 01:30	2.00	DRILL	DOHD	DRLPR	Drill Open Hole Directional (R)
	01:30 - 01:45	0.25	SURV	MWD	DRLPR	Survey with MWD Tools BOP drill
	01:45 - 04:00	2.25	DRILL	DOHD	DRLPR	Drill Open Hole Directional (R)
	04:00 - 04:15	0.25	SURV	MWD	DRLPR	Survey with MWD Tools
	04:15 - 04:45	0.50	DRILL	DOHS	DRLPR	Drill Open Slide
	04:45 - 06:00	1.25	DRILL	DOHD	DRLPR	Drill Open Hole Directional (R) Avg 26'/hr. drilling @ 30'/hr @ 0600 hrs.
1/7/2003	06:00 - 09:30	3.50	DRILL	DOHD	DRLPR	Drill Open Hole Directional (R)
	09:30 - 09:45	0.25	SURV	MWD	DRLPR	Survey with MWD Tools
	09:45 - 10:15	0.50	DRILL	DOHS	DRLPR	Drill Open Slide
	10:15 - 12:30	2.25	DRILL	DOHD	DRLPR	Drill Open Hole Directional (R)
	12:30 - 12:45	0.25	SURV	MWD	DRLPR	Survey with MWD Tools
	12:45 - 15:00	2.25	DRILL	DOHD	DRLPR	Drill Open Hole Directional (R)
	15:00 - 15:15	0.25	SURV	MWD	DRLPR	Survey with MWD Tools
	15:15 - 15:30	0.25	DRILL	DOHS	DRLPR	Drill Open Slide
	15:30 - 17:30	2.00	DRILL	DOHD	DRLPR	Drill Open Hole Directional (R)
	17:30 - 17:45	0.25	SURV	MWD	DRLPR	Survey with MWD Tools
	17:45 - 18:15	0.50	DRILL	DOHS	DRLPR	Drill Open Slide
	18:15 - 20:30	2.25	DRILL	DOHD	DRLPR	Drill Open Hole Directional (R)
	20:30 - 20:45	0.25	SURV	MWD	DRLPR	Survey with MWD Tools
	20:45 - 23:00	2.25	DRILL	DOHD	DRLPR	Drill Open Hole Directional (R)
	23:00 - 23:15	0.25	SURV	MWD	DRLPR	Survey with MWD Tools
	23:15 - 01:45	2.50	DRILL	DOHD	DRLPR	Drill Open Hole Directional (R)
	01:45 - 02:00	0.25	SURV	MWD	DRLPR	Survey with MWD Tools
	02:00 - 04:15	2.25	DRILL	DOHD	DRLPR	Drill Open Hole Directional (R)
	04:15 - 04:30	0.25	SURV	MWD	DRLPR	Survey with MWD Tools
	04:30 - 06:00	1.50	DRILL	DOHD	DRLPR	Drill Open Hole Directional (R)
1/8/2003	06:00 - 08:15	2.25	DRILL	DOHD	DRLPR	Drill Open Hole Directional (R)

Marathon Oil Company

Operations Summary Report

Legal Well Name: INDIAN HILLS UNIT NO. 37 "Y"
Common Well Name: INDIAN HILLS UNIT NO. 37 "Y" Spud Date: 12/19/2002
Event Name: ORIGINAL DRILLING Start: 12/13/2002 End:
Contractor Name: KEY ENERGY SERVICES Rig Release: Group:
Rig Name: KEY ENERGY SERVICES Rig Number: 347

Date	From - To	Hours	Code	Sub Code	Phase	Description of Operations
1/8/2003	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 - 11:45	2.75	DRILL	DOHD	DRLPR	Drill Open Hole Directional (R)
	11:45 - 12:00	0.25	SURV	MWD	DRLPR	Survey with MWD Tools
	12:00 - 12:30	0.50	DRILL	DOHS	DRLPR	Drill Open Slide
	12:30 - 14:45	2.25	DRILL	DOHD	DRLPR	Drill Open Hole Directional (R)
	14:45 - 15:00	0.25	SURV	MWD	DRLPR	Survey with MWD Tools
	15:00 - 18:00	3.00	DRILL	DOHD	DRLPR	Drill Open Hole Directional (R)
	18:00 - 18:15	0.25	SURV	MWD	DRLPR	Survey with MWD Tools
	18:15 - 21:00	2.75	DRILL	DOHD	DRLPR	Drill Open Hole Directional (R)
	21:00 - 21:15	0.25	SURV	MWD	DRLPR	Survey with MWD Tools
	21:15 - 23:45	2.50	DRILL	DOHD	DRLPR	Drill Open Hole Directional (R)
	23:45 - 00:00	0.25	SURV	MWD	DRLPR	Survey with MWD Tools
	00:00 - 00:45	0.75	DRILL	DOHS	DRLPR	Drill Open Slide
	00:45 - 03:00	2.25	DRILL	DOHD	DRLPR	Drill Open Hole Directional (R)
	03:00 - 03:15	0.25	SURV	MWD	DRLPR	Survey with MWD Tools
	03:15 - 04:00	0.75	DRILL	DOHS	DRLPR	Drill Open Slide
	04:00 - 05:15	1.25	DRILL	DOHD	DRLPR	Drill Open Hole Directional (R)
	05:15 - 05:30	0.25	SURV	MWD	DRLPR	Survey with MWD Tools
	05:30 - 06:00	0.50	DRILL	DOHD	DRLPR	Drill Open Hole Directional (R)
1/9/2003	06:00 - 07:45	1.75	DRILL	DOHR	DRLPR	Drill Open Hole Rotary
	07:45 - 08:00	0.25	SURV	MWD	DRLPR	Survey with MWD Tools
	08:00 - 08:15	0.25	DRILL	DOHS	DRLPR	Drill Open Slide
	08:15 - 08:30	0.25	STUCK	WPIP	DRLPR	Pipe hung up afterslide. Worked pipe free & reamed out slide.
	08:30 - 10:15	1.75	DRILL	DOHR	DRLPR	Drill Open Hole Rotary
	10:15 - 10:30	0.25	SURV	MWD	DRLPR	Survey with MWD Tools
	10:30 - 11:00	0.50	DRILL	DOHS	DRLPR	Drill Open Slide
	11:00 - 13:00	2.00	DRILL	DOHR	DRLPR	Drill Open Hole Rotary
	13:00 - 13:15	0.25	SURV	MWD	DRLPR	Survey with MWD Tools
	13:15 - 15:00	1.75	DRILL	DOHR	DRLPR	Drill Open Hole Rotary
	15:00 - 15:15	0.25	SURV	MWD	DRLPR	Survey with MWD Tools
	15:15 - 15:45	0.50	DRILL	DOHS	DRLPR	Drill Open Slide
	15:45 - 17:00	1.25	RIG	RCNT	DRLPR	Prime up transfer pump. Which kept the main pump running.
	17:00 - 18:45	1.75	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 - 21:15	1.00	DRILL	DOHR	DRLPR	Drill Open Hole Rotary
	21:15 - 21:30	0.25	SURV	MWD	DRLPR	Survey with MWD Tools
	21:30 - 23:45	2.25	DRILL	DOHR	DRLPR	Drill Open Hole Rotary
	23:45 - 00:00	0.25	SURV	MWD	DRLPR	Survey with MWD Tools
	00:00 - 00:30	0.50	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 - 03:00	0.50	DRILL	DOHS	DRLPR	Drill Open Slide
	03:00 - 03:45	0.75	DRILL	DOHR	DRLPR	Drill Open Hole Rotary
	03:45 - 04:00	0.25	SURV	MWD	DRLPR	Survey with MWD Tools
	04:00 - 04:45	0.75	DRILL	DOHS	DRLPR	Drill Open Slide
	04:45 - 06:00	1.25	DRILL	DOHR	DRLPR	Drill Open Hole Rotary
1/10/2003	06:00 - 06:30	0.50	DRILL	DOHS	DRLPR	Drill Open Slide 10L
	06:30 - 07:00	0.50	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 30L

Operations Summary Report

Legal Well Name: INDIAN HILLS UNIT NO. 37 "Y"
Common Well Name: INDIAN HILLS UNIT NO. 37 "Y"
Event Name: ORIGINAL DRILLING
Contractor Name: KEY ENERGY SERVICES
Rig Name: KEY ENERGY SERVICES

Start: 12/13/2002
Rig Release:
Rig Number: 347

Spud Date: 12/19/2002
End:
Group:

Date	From - To	Hours	Code	Sub Code	Phase	Description of Operations
1/10/2003	07:45 - 08:30	0.75	DRILL	DOHR	DRLPR	Drill Open Hole Rotary
	08:30 - 08:45	0.25	SURV	MWD	DRLPR	Survey with MWD Tools
	08:45 - 09:15	0.50	DRILL	DOHS	DRLPR	Drill Open Slide 20L
	09:15 - 09:45	0.50	DRILL	DOHR	DRLPR	Drill Open Hole Rotary
	09:45 - 10:00	0.25	SURV	MWD	DRLPR	Survey with MWD Tools
	10:00 - 10:45	0.75	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 30L
	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 - 14:00	0.50	DRILL	DOHS	DRLPR	Drill Open Slide 40L
	14:00 - 16:00	2.00	DRILL	DOHR	DRLPR	Drill Open Hole Rotary
	16:00 - 16:15	0.25	SURV	MWD	DRLPR	Survey with MWD Tools
	16:15 - 16:45	0.50	DRILL	DOHS	DRLPR	Drill Open Slide 45L
	16:45 - 18:45	2.00	DRILL	DOHR	DRLPR	Drill Open Hole Rotary
	18:45 - 19:00	0.25	SURV	MWD	DRLPR	Survey with MWD Tools
	19:00 - 19:45	0.75	DRILL	DOHS	DRLPR	Drill Open Slide 40L
	19:45 - 21:30	1.75	DRILL	DOHR	DRLPR	Drill Open Hole Rotary
	21:30 - 21:45	0.25	SURV	MWD	DRLPR	Survey with MWD Tools
	21:45 - 22:30	0.75	DRILL	DOHS	DRLPR	Drill Open Slide
	22:30 - 00:00	1.50	DRILL	DOHR	DRLPR	Drill Open Hole Rotary
	00:00 - 00:15	0.25	SURV	MWD	DRLPR	Survey with MWD Tools
	00:15 - 01:00	0.75	DRILL	DOHS	DRLPR	Drill Open Slide
	01:00 - 03:15	2.25	DRILL	DOHR	DRLPR	Drill Open Hole Rotary
	03:15 - 03:30	0.25	SURV	MWD	DRLPR	Survey with MWD Tools
	03:30 - 04:15	0.75	DRILL	DOHS	DRLPR	Drill Open Slide
	04:15 - 06:00	1.75	DRILL	DOHR	DRLPR	Drill Open Hole Rotary
1/11/2003	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 - 09:45	2.25	DRILL	DOHR	DRLPR	Drill Open Hole Rotary
	09:45 - 10:00	0.25	SURV	MWD	DRLPR	Survey with MWD Tools
	10:00 - 10:45	0.75	DRILL	DOHS	DRLPR	Drill Open Slide 50L
	10:45 - 12:45	2.00	DRILL	DOHR	DRLPR	Drill Open Hole Rotary
	12:45 - 15:30	2.75	TRIP	BHA	DRLPR	Trip for BHA
	15:30 - 16:30	1.00	TRIP	BBHD	DRLPR	BHA/Bit Handling. L/D 6 1/2 M1X motor & replaced w/ M1ADM slower motor, bit, & replaced top stabilizer. Tested pulse on MWD & checked motor O.K..
	16:30 - 19:15	2.75	TRIP	BHA	DRLPR	TIH w/ motor #3 & new bit.
	19:15 - 19:30	0.25	DRILL	WSHR	DRLPR	Picked up 1 jt of D.P. & wash 26' to btm..
	19:30 - 21:00	1.50	DRILL	DOHR	DRLPR	Drill Open Hole Rotary
	21:00 - 21:15	0.25	SURV	MWD	DRLPR	Survey with MWD Tools
	21:15 - 22:00	0.75	DRILL	DOHS	DRLPR	Drill Open Slide
	22:00 - 00:00	2.00	DRILL	DOHR	DRLPR	Drill Open Hole Rotary
	00:00 - 00:15	0.25	SURV	MWD	DRLPR	Survey with MWD Tools
	00:15 - 03:00	2.75	DRILL	DOHR	DRLPR	Drill Open Hole Rotary
	03:00 - 03:15	0.25	SURV	MWD	DRLPR	Survey with MWD Tools
	03:15 - 06:00	2.75	DRILL	DOHR	DRLPR	Drill Open Hole Rotary
1/12/2003	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 - 09:30	2.00	DRILL	DOHR	DRLPR	Drill Open Hole Rotary
	09:30 - 09:45	0.25	SURV	MWD	DRLPR	Survey with MWD Tools

Marathon Oil Company

Operations Summary Report

Legal Well Name: INDIAN HILLS UNIT NO. 37 "Y"
Common Well Name: INDIAN HILLS UNIT NO. 37 "Y" Spud Date: 12/19/2002
Event Name: ORIGINAL DRILLING Start: 12/13/2002 End:
Contractor Name: KEY ENERGY SERVICES Rig Release: Group:
Rig Name: KEY ENERGY SERVICES Rig Number: 347

Date	From - To	Hours	Code	Sub Code	Phase	Description of Operations
1/12/2003	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	DRILL	WEAR	DRLPR	Install rotating rotating head.
	11:15 - 12:45	1.50	DRILL	DOHR	DRLPR	Drill Open Hole Rotary
	12:45 - 13:00	0.25	SURV	MWD	DRLPR	Survey with MWD Tools
	13:00 - 15:30	2.50	DRILL	DOHR	DRLPR	Drill Open Hole Rotary
	15:30 - 15:45	0.25	SURV	MWD	DRLPR	Survey with MWD Tools
	15:45 - 18:30	2.75	DRILL	DOHR	DRLPR	Drill Open Hole Rotary
	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. H/S
	19:15 - 22:00	2.75	DRILL	DOHR	DRLPR	Drill Open Hole Rotary
	22:00 - 22:15	0.25	SURV	MWD	DRLPR	Survey with MWD Tools
	22:15 - 01:00	2.75	DRILL	DOHR	DRLPR	Drill Open Hole Rotary
	01:00 - 01:15	0.25	SURV	MWD	DRLPR	Survey with MWD Tools
	01:15 - 03:45	2.50	DRILL	DOHR	DRLPR	Drill Open Hole Rotary
	03:45 - 04:00	0.25	SURV	MWD	DRLPR	Survey with MWD Tools
	04:00 - 04:45	0.75	DRILL	DOHS	DRLPR	Drill Open Slide
	04:45 - 06:00	1.25	DRILL	DOHR	DRLPR	Drill Open Hole Rotary
1/13/2003	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 - 08:00	0.75	DRILL	DOHS	DRLPR	Drill Open Slide . 50R
	08:00 - 10:15	2.25	DRILL	DOHS	DRLPR	Drill Open Slide
	10:15 - 10:30	0.25	SURV	MWD	DRLPR	Survey with MWD Tools
	10:30 - 11:30	1.00	DRILL	DOHS	DRLPR	Drill Open Slide 50R
	11:30 - 12:00	0.50	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 50R
	12:45 - 13:30	0.75	DRILL	DOHR	DRLPR	Drill Open Hole Rotary
	13:30 - 13:45	0.25	SURV	MWD	DRLPR	Survey with MWD Tools
	13:45 - 14:30	0.75	DRILL	DOHS	DRLPR	Drill Open Slide 75R
	14:30 - 15:00	0.50	DRILL	DOHR	DRLPR	Drill Open Hole Rotary
	15:00 - 15:15	0.25	SURV	MWD	DRLPR	Survey with MWD Tools
	15:15 - 16:30	1.25	DRILL	DOHS	DRLPR	Drill Open Slide 45R
	16:30 - 17:00	0.50	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 60R
	18:00 - 18:30	0.50	DRILL	DOHR	DRLPR	Drill Open Hole Rotary
	18:30 - 18:45	0.25	SURV	MWD	DRLPR	Survey with MWD Tools
	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 - 22:45	1.25	DRILL	DOHR	DRLPR	Drill Open Hole Rotary
	22:45 - 23:00	0.25	SURV	MWD	DRLPR	Survey with MWD Tools
	23:00 - 23:45	0.75	DRILL	DOHS	DRLPR	Drill Open Slide
	23:45 - 00:45	1.00	DRILL	DOHR	DRLPR	Drill Open Hole Rotary
	00:45 - 01:00	0.25	SURV	MWD	DRLPR	Survey with MWD Tools
	01:00 - 02:15	1.25	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 - 04:15	1.00	DRILL	DOHR	DRLPR	Drill Open Hole Rotary
	04:15 - 04:45	0.50	RIG	RCNT	DRLPR	Pin on slips dropped down on top of rotating head. Pulled rubber to make sure it didn't fall in hole.

Operations Summary Report

Legal Well Name: INDIAN HILLS UNIT NO. 37 "Y"
Common Well Name: INDIAN HILLS UNIT NO. 37 "Y" Spud Date: 12/19/2002
Event Name: ORIGINAL DRILLING Start: 12/13/2002 End:
Contractor Name: KEY ENERGY SERVICES Rig Release: Group:
Rig Name: KEY ENERGY SERVICES Rig Number: 347

Date	From - To	Hours	Code	Sub Code	Phase	Description of Operations
1/13/2003	04:45 - 05:00	0.25	SURV	MWD	DRLPR	Survey with MWD Tools
	05:00 - 06:00	1.00	DRILL	DOHS	DRLPR	Drill Open Slide
1/14/2003	06:00 - 06:45	0.75	DRILL	DOHR	DRLPR	Drill Open Hole Rotary
	06:45 - 07:00	0.25	SURV	MWD	DRLPR	Survey with MWD Tools
	07:00 - 07:45	0.75	DRILL	DOHS	DRLPR	Drill Open Slide 30R.
	07:45 - 09:30	1.75	DRILL	DOHR	DRLPR	Drill Open Hole Rotary
	09:30 - 09:45	0.25	SURV	MWD	DRLPR	Survey with MWD Tools
	09:45 - 10:30	0.75	DRILL	DOHS	DRLPR	Drill Open Slide 50R
	10:30 - 12:45	2.25	DRILL	DOHR	DRLPR	Drill Open Hole Rotary
	12:45 - 13:00	0.25	SURV	MWD	DRLPR	Survey with MWD Tools
	13:00 - 15:00	2.00	DRILL	DOHR	DRLPR	Drill Open Hole Rotary
	15:00 - 15:15	0.25	SURV	MWD	DRLPR	Survey with MWD Tools
	15:15 - 16:00	0.75	DRILL	DOHS	DRLPR	Drill Open Slide 50L
	16:00 - 17:30	1.50	DRILL	DOHR	DRLPR	Drill Open Hole Rotary
	17:30 - 17:45	0.25	SURV	MWD	DRLPR	Survey with MWD Tools
	17:45 - 18:00	0.25	DRILL	DOHS	DRLPR	Drill Open Slide 20L
	18:00 - 20:30	2.50	DRILL	DOHR	DRLPR	Drill Open Hole Rotary
	20:30 - 20:45	0.25	SURV	MWD	DRLPR	Survey with MWD Tools
	20:45 - 22:00	1.25	DRILL	DOHR	DRLPR	Drill Open Hole Rotary
	22:00 - 22:15	0.25	SURV	MWD	DRLPR	Survey with MWD Tools
	22:15 - 23:45	1.50	DRILL	DOHR	DRLPR	Drill Open Hole Rotary
	23:45 - 00:00	0.25	SURV	MWD	DRLPR	Survey with MWD Tools
	00:00 - 00:15	0.25	CHECK	BHA	DRLPR	Pumped soft line down pipe. Took hit in 4.11 min. 200# increase. Perform Check of BHA
	00:15 - 02:00	1.75	TRIP	BIT	DRLPR	POOH to stand # 29. L/D btm jt. Hole in pipe in slip area.
	02:00 - 03:15	1.25	TRIP	BIT	DRLPR	Trip back in hole.
	03:15 - 04:00	0.75	TRIP	WSHR	DRLPR	Wash/ReamJetted shale pit while waiting to break circulation .& washed 45' to btm. 17' fill.
	04:00 - 05:45	1.75	DRILL	DOHR	DRLPR	Drill Open Hole Rotary
	05:45 - 06:00	0.25	SURV	MWD	DRLPR	Survey with MWD Tools
1/15/2003	06:00 - 06:30	0.50	DRILL	DOHS	DRLPR	Drill Open Slide 20L
	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 - 09:30	1.50	DRILL	DOHR	DRLPR	Drill Open Hole Rotary
	09:30 - 09:45	0.25	SURV	MWD	DRLPR	Survey with MWD Tools
	09:45 - 11:30	1.75	DRILL	DOHR	DRLPR	Drill Open Hole Rotary
	11:30 - 11:45	0.25	SURV	MWD	DRLPR	Survey with MWD Tools
	11:45 - 15:30	3.75	DRILL	DOHR	DRLPR	Drill Open Hole Rotary
	15:30 - 15:45	0.25	SURV	MWD	DRLPR	Survey with MWD Tools
	15:45 - 17:15	1.50	DRILL	DOHR	DRLPR	Drill Open Hole Rotary
	17:15 - 17:45	0.50	STUCK	WPIP	DRLPR	Motor torqued up. Stuck pipe. Due to running second pump. Not cleaning out hole properly. Worked pipe. Set jars off once. Pipe come free.
	17:45 - 19:30	1.75	DRILL	DOHR	DRLPR	Drill Open Hole Rotary . Drill slow to let hole clean out.
	19:30 - 19:45	0.25	CHECK	OTHR	DRLPR	Perform Check Other. Pumped soft line down pipe to check for hole. No hit.
	19:45 - 21:00	1.25	DRILL	DOHR	DRLPR	Drill Open Hole Rotary
	21:00 - 21:15	0.25	SURV	MWD	DRLPR	Survey with MWD Tools
	21:15 - 03:30	6.25	DRILL	DOHR	DRLPR	Drill Open Hole Rotary
	03:30 - 03:45	0.25	SURV	MWD	DRLPR	Survey with MWD Tools
	03:45 - 06:00	2.25	DRILL	DOH	DRLPR	Drill Open Hole. T.D.
1/16/2003	06:00 - 08:45	2.75	TRIP	WTRP	DRLPR	Wiper Trip(10 std trip) tight on the 1st 3 stds. 150,000 over
	08:45 - 10:45	2.00	RIG	SCDL	DRLPR	Slip and Cut Drill Line

Marathon Oil Company

Operations Summary Report

Legal Well Name:	INDIAN HILLS UNIT NO. 37 "Y"				
Common Well Name:	INDIAN HILLS UNIT NO. 37 "Y"				Spud Date: 12/19/2002
Event Name:	ORIGINAL DRILLING	Start:	12/13/2002	End:	
Contractor Name:	KEY ENERGY SERVICES	Rig Release:		Group:	
Rig Name:	KEY ENERGY SERVICES	Rig Number:	347		

Date	From - To	Hours	Code	Sub Code	Phase	Description of Operations
1/16/2003	10:45 - 11:30	0.75	TRIP	WTRP	DRLPR	Wiper Trip 80,000# SO
	11:30 - 13:30	2.00	CIRC	HOLE	DRLPR	Circulate and Condition Hole
	13:30 - 18:00	4.50	TRIP	LOGS	DRLPR	Trip for Logs .Pumped 1 st 2 jts out of hole. 150,000# drag on the next 2 stds. 30,-40,000# over thereafter.
	18:00 - 19:00	1.00	TRIP	BBHD	DRLPR	BHA/Bit Handling L/D NM DC's & motor.
	19:00 - 01:30	6.50	LOG	OPEN	EVALPR	Safety meeting. RU HES loggers. Ran Spectral Density Dual Neatron Spectral Neutron Spectral Gamma log t/ 8620' t/ 1830'. RD HES. (Switched t/ Completion report)

Marathon Oil Company

Operations Summary Report

Legal Well Name: INDIAN HILLS UNIT NO. 37 "Y"
Common Well Name: INDIAN HILLS UNIT NO. 37 "Y" Spud Date: 12/19/2002
Event Name: ORIGINAL COMPLETION Start: 12/13/2002 End:
Contractor Name: KEY ENERGY SERVICES Rig Release: Group:
Rig Name: KEY ENERGY SERVICES Rig Number: 347

Date	From - To	Hours	Code	Sub Code	Phase	Description of Operations
1/16/2003	01:30 - 05:30	4.00	TRIP	BIT	OTHER	Trip in / out for Bit
	05:30 - 06:00	0.50	CIRC	FILL	OTHER	Washing & reaming last 155' t/ bottom. Washing @ 0600 hrs.
1/17/2003	06:00 - 07:00	1.00	CIRC	HOLE	CSGPRO	Washed t/ bottom @ 8820'.
	07:00 - 08:30	1.50	CIRC	HOLE	CSGPRO	Circulate and Condition Hole. Pumped 40 bbl sweep (80 vis)
	08:30 - 16:00	7.50	TRIP	LDDP	CSGPRO	Safety meeting. LD DP & DC's. 30-40,000# drag.
	16:00 - 03:00	11.00	CSG	RUN	CSGPRO	Safety meeting. Ran Float Shoe, 1- 7"-26# Shoe jt., float collar, 95 jts of 7"-26#, 103 jts of 7"-23#, 2- jts of 7"-26#. Washed the last 2 jts to bottom @ 8825'.
	03:00 - 04:30	1.50	CIRC	FILL	CSGPRO	RU HES Cmt head. Circulate bottom's up.
	04:30 - 06:00	1.50	CEMT	PRIM	CSGPRO	Safety meeting. Tested lines t/ 4500 psi. Pump on N2 truck not working properly. Will have to wait for truck out of Hobbs. Circ w/ Rig pump.
1/18/2003	06:00 - 12:30	6.50	WAIT	EQIP	CSGPRO	Wait on Equipment. N2 Truck.
	12:30 - 15:45	3.25	CEMT	PRIM	CSGPRO	Safety meeting. Tested lines t/ 4000 psi. 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/ 334 bbls of fresh water. Bumped plug @ 3:10PM CST. Circ 101 sks. Capped w/ 30 sks of Premuim Plus w/ 3% CaCl2, 10# Ca-Seal. (used a total of 144,642 SCF of N2).
	15:45 - 20:00	4.25	NUND	DBOP	CSGPRO	RD HES. Remove BOP Equipment. Set 7" slips.(190,000#) Cut off 7" csg. Pulled 11" BOP. NU 11 3M x 7 11/6" 3M Tbg head.Tested t/ 3000 psi.
	20:00 - 22:00	2.00	EQUIP	RURD	CSGPRO	Released rig @ 20:00 hrs. CST. Jet pits. Rigging down. Will move to the IHU # 50 on Sunday. Final report.
1/23/2003	08:00 - 12:00	4.00	WAIT	OTHR	OTHER	Waiting on crew to finish R/U flowlines to well head
	12:00 - 13:00	1.00	EQUIP	ONFL	OTHER	Off loaded tbg from trucks to pipe racks while waiting on crew to finish flowlines.
	13:00 - 13:30	0.50	RIG	MIRU	MIRU	Move in / RU Rig, Workover Unit, etc.
	13:30 - 14:30	1.00	NUND	UBOP	MIRU	Install BOP Equipment . Tested blind rams to 1000 PSI. Funtion test pipe rams.
	14:30 - 17:00	2.50	TRIP	PUDP	WBCO	PU Bit & scraper,run on 2 7/8" tbg. Picked up 150 jt's.
	17:00 - 17:30	0.50	SHUTDN	SIFN	WBCO	Secure Well/Location, SIFN

Marathon Oil Company

Casing Report

Legal Well Name:	INDIAN HILLS UNIT NO. 37 "Y"			Spud Date:	12/19/2002
Common Well Name:	INDIAN HILLS UNIT NO. 37 "Y"	Report #:	1	Report Date:	12/22/2002
Event Name:	ORIGINAL DRILLING	Start:	12/13/2002	End:	

General Information

String Type: SURFACE CASING		Permanent Datum:	KELLY BUSHING	Hole Size:		Hole TMD:	1,825.0 (ft)
Hole TVD:	1,825.0 (ft)	KB-Datum:	0.00 (ft)	Water TMD:		Str Wt on Slips:	(lb)
Ground Level:	4,145.00 (ft)	CF Elevation:	(ft)	Liner Overlap:	(ft)	Max Hole Angle:	0.75 (°)
Circ Hours:	1.00 (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:	SOW	Packoff Model:		BTM Hub/Flange	9.625 (in) / (psi)

Actual TMD Set: 1,826.200 (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	K-55	8.765	8 ROUND	40	1,779.180			N				9.625	8.900	
CASING FLOAT COLLA	9.625	36.0	K-55	8.765	8 ROUND		1.200	1,779.18						9.625	8.900	
CASING JOINT(S)	9.625	36.0	K-55	8.765	8 ROUND	1	44.620	1,780.38		N				9.625	8.900	
CASING FLOAT SHOE	9.625	36.0	K-55	8.765	8 ROUND		1.200	1,825.00		N				9.625	8.900	

Non-Integral Casing Accessories

Accessory	Manufacturer	Number	Spacing (ft)	Interval		How Fixed
				Top (ft)	Bottom (ft)	
CENTRALIZER	GEMCO	12	128.0	351.0	1,800.0	CLAMPED

Marathon Oil Company

Cementing Report

Legal Well Name:	INDIAN HILLS UNIT NO. 37 "Y"			Spud Date:	12/19/2002
Common Well Name:	INDIAN HILLS UNIT NO. 37 "Y"	Report #:	2	Report Date:	12/30/2002
Event Name:	ORIGINAL DRILLING	Start:	12/13/2002	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: 1,825.0 (ft)	SQ TMD: (ft)	TMD Set:	Top Set: (ft)
Date Set: 12/30/2002	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:
		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: :	Disp Avg Rate: (bbl/min)	Returns:
Volume Excess %:	Start Slurry Displ: :	Disp Max Rate: (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: 520 (psi)	
To Cementing:	End Pump Date:	Press Bumped: 330 (psi)	Ann Flow After: N
Mud Circ Rate: (gpm)	Top Plug: N	Press Held: 5 (min)	Mixing Method:
Mud Circ Press: (psi)	Bottom Plug: Y	Float Held: Y	Density Meas By:

Mud Data

Type: FRESH WATER Density: 8.6 (ppg) Visc: 26 (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: 8.6 (ppg) Volume: 137.85 (bbl)

Stage No: 1 Slurry No: 1 of 4

Slurry Data

Fluid Type: LEAD	Description: FOAM		Class: CLASS C	Purpose: FILLER CEM
Slurry Interval: 213.00 (ft) To: 1,750.00 (ft)	Cmt Vol: 700 (sk)	Density: 14.8 (ppg)	Yield: 1.35 (ft³/sk)	Mix Water: 6.30 (gal/sk)
Water Source: Frac Tank	Slurry Vol:10.0 (bbl)	Water Vol: 6.3 (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 NO. 37 "Y"			Spud Date:	12/19/2002
Common Well Name:	INDIAN HILLS UNIT NO. 37 "Y"	Report #:	2	Report Date:	12/30/2002
Event Name:	ORIGINAL DRILLING	Start:	12/13/2002	End:	

Stage No: 1 Slurry No: 2 of 4

Slurry Data

Fluid Type: TAIL	Description: NEAT		Class: CLASS C	Purpose: SHOE INTEG	
Slurry Interval: 17,750.00 (ft)	To: 1,825.00 (ft)	Cmt Vol: 150 (sk)	Density: 14.8 (ppg)	Yield: 1.35 (ft³/sk)	Mix Water: 6.30 (gal/sk)
Water Source: Frac tank	Slurry Vol:10.0 (bbl)	Water Vol: 6.3 (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: 1 Slurry No: 3 of 4

Slurry Data

Fluid Type: SPACER	Description: FOAM		Class: CLASS C	Purpose: FILLER CEM	
Slurry Interval: 213.00 (ft)	To: 640.00 (ft)	Cmt Vol: 400 (sk)	Density: 14.8 (ppg)	Yield: 1.35 (ft³/sk)	Mix Water: 6.40 (gal/sk)
Water Source: Frac Tank	Slurry Vol: (bbl)	Water Vol: 6.3 (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: 1 Slurry No: 4 of 4

Slurry Data

Fluid Type: OTHER	Description:		Class:	Purpose:	
Slurry Interval: (ft)	To: (ft)	Cmt Vol: (sk)	Density: (ppg)	Yield: (ft³/sk)	Mix Water: (gal/sk)
Water Source:	Slurry Vol: (bbl)	Water Vol: (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)				

Marathon Oil Company

Cementing Report

Legal Well Name:	INDIAN HILLS UNIT NO. 37 "Y"			Spud Date:	12/19/2002
Common Well Name:	INDIAN HILLS UNIT NO. 37 "Y"	Report #:	2	Report Date:	12/30/2002
Event Name:	ORIGINAL DRILLING	Start:	12/13/2002	End:	

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

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

Remarks

1st stage cemented w/ 700 sks P+ nitrofied Tailed w/ 150 sks P+. Diplace csg & bumped plug @ 16:45. Did not cir. Pumped 400 sks P+ down back side, capped w/ 75 sks P+. Had no pressure.Waited on cement for 3 hr's . Checked annulas for pressure. None. Tagged back side @ 213' w/ 1" pipe & cemented w/ 100 sks P+ w/ 3% CaCl. 1st run. 2nd run tagged cement @ 135'. cement w/ 100 sks & cir to surface.Completed job on surface.

Marathon Oil Company

Casing Report

Legal Well Name:	INDIAN HILLS UNIT NO. 37 "Y"			Spud Date:	12/19/2002
Common Well Name:	INDIAN HILLS UNIT NO. 37 "Y"	Report #:	1	Report Date:	1/16/2003
Event Name:	ORIGINAL COMPLETION	Start:	12/13/2002	End:	

General Information

String Type: PRODUCTION CASING #1		Permanent Datum:	KELLY BUSHING	Hole Size:		Hole TMD:	8,825.0 (ft)
Hole TVD:	8,578.0 (ft)	KB-Datum:	0.00 (ft)	Water TMD:		Str Wt on Slips:	(lb)
Ground Level:	4,145.00 (ft)	CF Elevation:	(ft)	Liner Overlap:	(ft)	Max Hole Angle:	18.50 (°)
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: 8,828.080 (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	L-80	6.151	8 ROUND	2	83.810								6.276	
CASING JOINT(S)	7.000	23.0	L-80	6.241	8 ROUND	95	4,147.930	83.81							6.366	
CASING JOINT(S)	7.000	26.0	L-80	6.151	8 ROUND	103	4,548.340	4,231.74							6.276	
CASING FLOAT COLLA	7.000	26.0	L-80	6.151	8 ROUND		1.900	8,780.08		Y					6.276	
CASING JOINT(S)	7.000	26.0	L-80	6.151	8 ROUND	1	44.200	8,781.98		Y					6.276	
CASING FLOAT SHOE	7.000	26.0	L-80	6.151	8 ROUND		1.900	8,826.18		Y					6.276	

Non-Integral Casing Accessories

Accessory	Manufacturer	Number	Spacing (ft)	Interval		How Fixed
				Top (ft)	Bottom (ft)	
CENTRALIZER	GEMCO	26	45.0			CLAMPED

Marathon Oil Company

Cementing Report

Legal Well Name:	INDIAN HILLS UNIT NO. 37 "Y"			Spud Date:	12/19/2002
Common Well Name:	INDIAN HILLS UNIT NO. 37 "Y"	Report #:	2	Report Date:	1/16/2003
Event Name:	ORIGINAL COMPLETION	Start:	12/13/2002	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: 8,825.0 (ft)	SQ TMD: (ft)	TMD Set:	Top Set: (ft)
Date Set: 1/17/2003	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: :	Disp Avg Rate: (bbl/min)	Returns:
Volume Excess %: 60.00	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: 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: (°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 NO. 37 "Y"			Spud Date:	12/19/2002
Common Well Name:	INDIAN HILLS UNIT NO. 37 "Y"	Report #:	2	Report Date:	1/16/2003
Event Name:	ORIGINAL COMPLETION	Start:	12/13/2002	End:	

Stage No: 2 of 4

Type:	PRIM CMT 2ND STAGE	Start Mix Cmt:	12:30	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:	(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:	8.00 (bbl/min)	Returns:	100%
Volume Excess %:	60.00	Start Slurry Displ:	:	Disp Max Rate:	50.00 (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:	2,100 (psi)		
To Cementing:		End Pump Date:		Press Bumped:	2,300 (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 NO. 37 "Y"			Spud Date:	12/19/2002
Common Well Name:	INDIAN HILLS UNIT NO. 37 "Y"	Report #:	2	Report Date:	1/16/2003
Event Name:	ORIGINAL COMPLETION	Start:	12/13/2002	End:	

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: :	Disp Avg Rate: (bbl/min)	Returns:
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: N
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: Density: (ppg) Volume: (bbl)

Marathon Oil Company

Cementing Report

Legal Well Name:	INDIAN HILLS UNIT NO. 37 "Y"			Spud Date:	12/19/2002
Common Well Name:	INDIAN HILLS UNIT NO. 37 "Y"	Report #:	2	Report Date:	1/16/2003
Event Name:	ORIGINAL COMPLETION	Start:	12/13/2002	End:	

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: 30 (sk)	Density: 14.8 (ppg)	Yield: 1.35 (ft^3/sk)	Mix Water: 6.36 (gal/sk)
Water Source:		Slurry Vol: (bbl)	Water Vol: 10.0 (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	Shoe Test	Liner Top Test
Test Press: (psi)	Pressure: (ppge)	Liner Lap:
For: (min)	Tool:	Pos Test: (ppge) Tool:
Cement Found between	Open Hole: (ft)	Neg Test: (ppge) Tool:
Shoe and Collar:	Hrs Before Test:	Hrs Before Test:
		Cement Found on Tool:

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