

DATE IN 11/4/02	SUBMIT 11/24/02	ENGINEER	LOGGED IN KW	TYPE NSL	APP NO. 230945995
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ABOVE THIS LINE FOR DIVISION USE ONLY

NEW MEXICO OIL CONSERVATION DIVISION
 - Engineering Bureau -
 1220 South St. Francis Drive, Santa Fe, NM 87505



ADMINISTRATIVE APPLICATION CHECKLIST

THIS CHECKLIST IS MANDATORY FOR ALL ADMINISTRATIVE APPLICATIONS FOR EXCEPTIONS TO DIVISION RULES AND REGULATIONS WHICH REQUIRE PROCESSING AT THE DIVISION LEVEL IN SANTA FE

Application Acronyms:

[NSL-Non-Standard Location] [NSP-Non-Standard Proration Unit] [SD-Simultaneous Dedication]
 [DHC-Downhole Commingling] [CTB-Lease Commingling] [PLC-Pool/Lease Commingling]
 [PC-Pool Commingling] [OLS - Off-Lease Storage] [OLM-Off-Lease Measurement]
 [WFX-Waterflood Expansion] [PMX-Pressure Maintenance Expansion]
 [SWD-Salt Water Disposal] [IPI-Injection Pressure Increase]
 [EOR-Qualified Enhanced Oil Recovery Certification] [PPR-Positive Production Response]

[1] **TYPE OF APPLICATION** - Check Those Which Apply for [A]

[A] Location - Spacing Unit - Simultaneous Dedication
☒ NSL ☐ NSP ☐ SD

Check One Only for [B] or [C]

[B] Commingling - Storage - Measurement
☐ DHC ☐ CTB ☐ PLC ☐ PC ☐ OLS ☐ OLM

[C] Injection - Disposal - Pressure Increase - Enhanced Oil Recovery
☐ WFX ☐ PMX ☐ SWD ☐ IPI ☐ EOR ☐ PPR

[D] Other: Specify _____

[2] **NOTIFICATION REQUIRED TO:** - Check Those Which Apply, or Does Not Apply

- [A] ☐ Working, Royalty or Overriding Royalty Interest Owners
- [B] ☐ Offset Operators, Leaseholders or Surface Owner
- [C] ☐ Application is One Which Requires Published Legal Notice
- [D] ☐ Notification and/or Concurrent Approval by BLM or SLO
U.S. Bureau of Land Management - Commissioner of Public Lands, State Land Office
- [E] ☐ For all of the above, Proof of Notification or Publication is Attached, and/or,
- [F] ☐ Waivers are Attached

[3] **SUBMIT ACCURATE AND COMPLETE INFORMATION REQUIRED TO PROCESS THE TYPE OF APPLICATION INDICATED ABOVE.**

[4] **CERTIFICATION:** I hereby certify that the information submitted with this application for administrative approval is **accurate** and **complete** to the best of my knowledge. I also understand that **no action** will be taken on this application until the required information and notifications are submitted to the Division.

Note: Statement must be completed by an individual with managerial and/or supervisory capacity.

<u>S.F. Millican</u>	<u>[Signature]</u>	<u>Indian Basin Asset Team</u>	<u>10/29/02</u>
Print or Type Name	Signature	Title	Date
		<u>SFMillican@MarathonOil.com</u>	
		e-mail Address	



P.O. Box 552
Midland, TX 79702-0552
Telephone 915/682-1626

October 30, 2002

Mr. Richard Ezeanyim
Oil Conservation Division
1220 S. St. Francis Dr.
Santa Fe, New Mexico 87504

***RE: Indian Hills Unit Well No. 50 Unorthodox Location
1821' FSL & 2092' FWL, Sec. 16, Township 21 South, Range 24 East
Indian Basin Upper Pennsylvanian Associated Pool***

Dear Mr. Ezeanyim,

Attached is Marathon Oil Company's application for administrative approval of an unorthodox location for the proposed Indian Hills Unit Well No. 50.

If there is any additional information that you would like, please call me and I will have it faxed to you as soon as possible. A copy of this application has also been forwarded to Mr. Tom Kellahin, Legal Council for Marathon.

Thank you for taking the time to review our application,

Truly Yours,

A handwritten signature in black ink, appearing to read 'SFMillican'.

Steven F. Millican
Indian Basin Asset Team
Marathon Oil Company
(915) 687-8306 (direct)
(915) 559-4194 (mobile)
SFMillican@MarathonOil.com



P.O. Box 552
Midland, TX 79702-0552
Telephone 915/682-1626

October 30, 2002

Mr. Richard Ezeanyim
Oil Conservation Division
1220 S. St. Francis Dr.
Santa Fe, New Mexico 87504

***RE: Indian Hills Unit Well No. 50 Unorthodox Location
1821' FSL & 2092' FWL, Sec. 16, Township 21 South, Range 24 East
Indian Basin Upper Pennsylvanian Associated Pool***

Dear Mr. Ezeanyim,

By means of this application, Marathon Oil Company respectfully requests administrative approval for a non-standard location for the proposed Indian Hills Unit Well No. 50 with a location of 1821' FSL & 2092' FWL, Section 16, Township 21 South, Range 24 East, and to be dedicated to a standard 320 acre spacing unit consisting of the West half of Section 16. Marathon is proposing to drill this well to an unorthodox location in the Upper Pennsylvanian formation. This will be a vertical drill well.

Marathon proposes to complete the Indian Hills Unit Well No. 50 in the "Indian Basin Upper Pennsylvanian Associated Pool" as promulgated by the New Mexico Oil Conservation Division Order Nos. R-9922, R-9922-A, R-9922-B, R-9922-C, R-9922-D and R-9922-E and the general rules for the Associated Gas Pools of Southeast New Mexico as promulgated by Division Order No. R-5353. These rules require wells to be located no closer than 660 feet to the outer boundary of the proration/spacing unit and no closer than 330 feet to the governmental quarter/quarter section line or subdivision inner boundary. Indian Hills Unit Well No. 50 location is unorthodox because the location infringes upon both the 330 foot setback for a governmental quarter/quarter section line and the 660 foot setback from the Eastern outer boundary of the 320 acre standup gas proration unit dedicated to the West half of Section 16 (please see Attachment #1A - Well Location and Acreage Dedication Plats, Attachment #1B - Section 16 Quarter/Quarter Distance Map, Attachment #2 - Location Verification Map and Attachment #3 - Vicinity Map).

Participating Area:

The proposed well is located within the Indian Hills Unit Upper Pennsylvanian Participating Area (see Attachment #4). The Indian Hills Unit is operated by Marathon Oil Company. Indian Hills Unit Well No. 50 is proposed to be dedicated to a proration unit consisting of the West half of Section 16, Township 21 South, Range 24 East. The ownership of the West half 320 acre proration unit is identical to the East half of Section 16 which offsets the proposed unorthodox location in the Upper Pennsylvanian formation. Marathon Oil Company has a 99.54544% working interest while Nearburg Exploration has a 0.45456% working interest in both the West and East halves of Section 16.

Surface Issues:

Indian Hills Unit Well No. 50 is located on the Seven Rivers Hills. This area is subject to extreme topographic relief due to the rolling nature of the mesa (see Attachment #5 – East Indian Basin Topographical Map, and Attachment #6 – Seven Rivers Hills Topographical Map). Marathon attempted to find a standard drilling location within the N/2 SW/4 of Section 16 but was not able to because of extreme topographic relief. According to Section 7 of the “Stipulations for East Indian Basin Oil Field Development in the Roswell District, BLM” (please see Exhibit A, April 13, 1994, BLM Serial Number: NM-92026) states: “No well or plant sites will be allowed on slopes over 20 percent.” Based on this stipulation, the only acceptable location for Indian Hills Unit Well No. 50 was to extend the pad location from Indian Hills Unit Well No. 39 (API 30-015-32103) northeastward approximately 125’. This proved to be an acceptable surface location because it avoids extending onto a slope greater than 20% while achieving the BLM’s goal for minimizing surface disturbance under the East Indian Basin Environmental Assessment Area.

Geologic Issues:

The proposed Indian Hills Unit Well No. 50 is intended to serve as a northerly step-out well from the Indian Hills Unit Well No. 32 (API #30-015-31591) located 1293’ FSL & 660’ FWL of Section 16 and approved by Administrative Order NSL-4554, and the Indian Hills Unit Well No. 39 with a bottom hole location of 1242’ FSL & 1701’ FEL in Section 16.

The Indian Basin Upper Pennsylvanian Associated Pool is predominantly composed of dolomite and limestone sequences. With current technology, only the dolomite sequences have proven to be productive and economic. Moving north within Section 16, a transition occurs from productive dolomite to non-productive limestone. Indian Hills Unit Well No. 32 encountered 100% dolomite above the oil/water contact @ -4100’ subsea while the Indian Hills Unit Well No. 7 (API #30-015-20149) located at 2310’ FNL & 2121’ FWL encountered only 12% dolomite above the oil/water contact. The reservoir entry point for Indian Hills Unit No. 50 is planned to be located approximately 1600’ Northeast from Indian Hills Unit Well No. 32, and 1925’ South from Indian Hills Unit Well No. 7.

Although the transition from dolomite to limestone is expected to happen very quickly, the exact location of the transition is not known. Therefore, the proposed non-standard location carries equal Upper Pennsylvanian reservoir risk as would the nearest standard location in the N/2 SW/4 of Section 16. Thus, it is Marathon's opinion that the proposed location is geologically equal to the nearest standard location.

Reservoir Management Plan:

There is currently one (1) well, the Indian Hills Unit Well No. 32, that produces from the Indian Basin Upper Pennsylvanian Associated Pool in the West half of Section 16. The East half of Section 16 currently has one (1) producing Upper Pennsylvanian well, the Indian Hills Unit Well No. 39.

Marathon is entering its final anticipated infill development phase of the Indian Basin Upper Pennsylvanian Associated Gas Pool. The objective of this program is to infill drill the oil column from the current ~160-acre well density to an ~80-acre well density. It is Marathon's belief that the oil zone should be developed on tighter spacing than the current ~160 acre development of the gas zone. The proposed ~80-acre infill program will improve oil recovery while minimizing both economic and reservoir waste. Indian Hills Unit Well No. 50 will represent the 80-acre infill location for the SW/4 of Section 16 and will allow for optimal drainage of the remaining hydrocarbons.

Notifications:

It is Marathon's understanding that since the working interest and mineral ownership are the same in the gas proration unit for the proposed well and the affected offset gas proration unit, no waivers or notifications to offset owners are required.

Should you have any questions/comments/concerns, please contact me at (915) 687-8306.

Respectfully,

A handwritten signature in black ink, appearing to read 'S. Millican', written over a horizontal line.

Steven F. Millican
Indian Basin Asset Team
Marathon Oil Company

DISTRICT I
P.O. Box 1980, Hobbs, NM 88241-1980

State of New Mexico
Energy, Minerals and Natural Resources Department

Form C-102
Revised February 10, 1994
Submit to Appropriate District Office
State Lease - 4 Copies
Fee Lease - 3 Copies

DISTRICT II
P.O. Drawer DD, Artesia, NM 88211-0719

OIL CONSERVATION DIVISION

P.O. Box 2088
Santa Fe, New Mexico 87504-2088

DISTRICT III
1000 Rio Brazos Rd., Aztec, NM 87410

ATTACHMENT # 1-A

DISTRICT IV
P.O. BOX 2088, SANTA FE, N.M. 87504-2088

WELL LOCATION AND ACREAGE DEDICATION PLAT

☐ AMENDED REPORT

API Number	Pool Code	Pool Name
	33685	Indian Basin Upper Penn. Assoc.
Property Code	Property Name	Well Number
	INDIAN HILLS UNIT	50
OGRID No.	Operator Name	Elevation
14021	MARATHON OIL COMPANY	4118'

Surface Location

UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
K	16	21-S	24-E		1821'	SOUTH	2092'	WEST	EDDY

Bottom Hole Location If Different From Surface

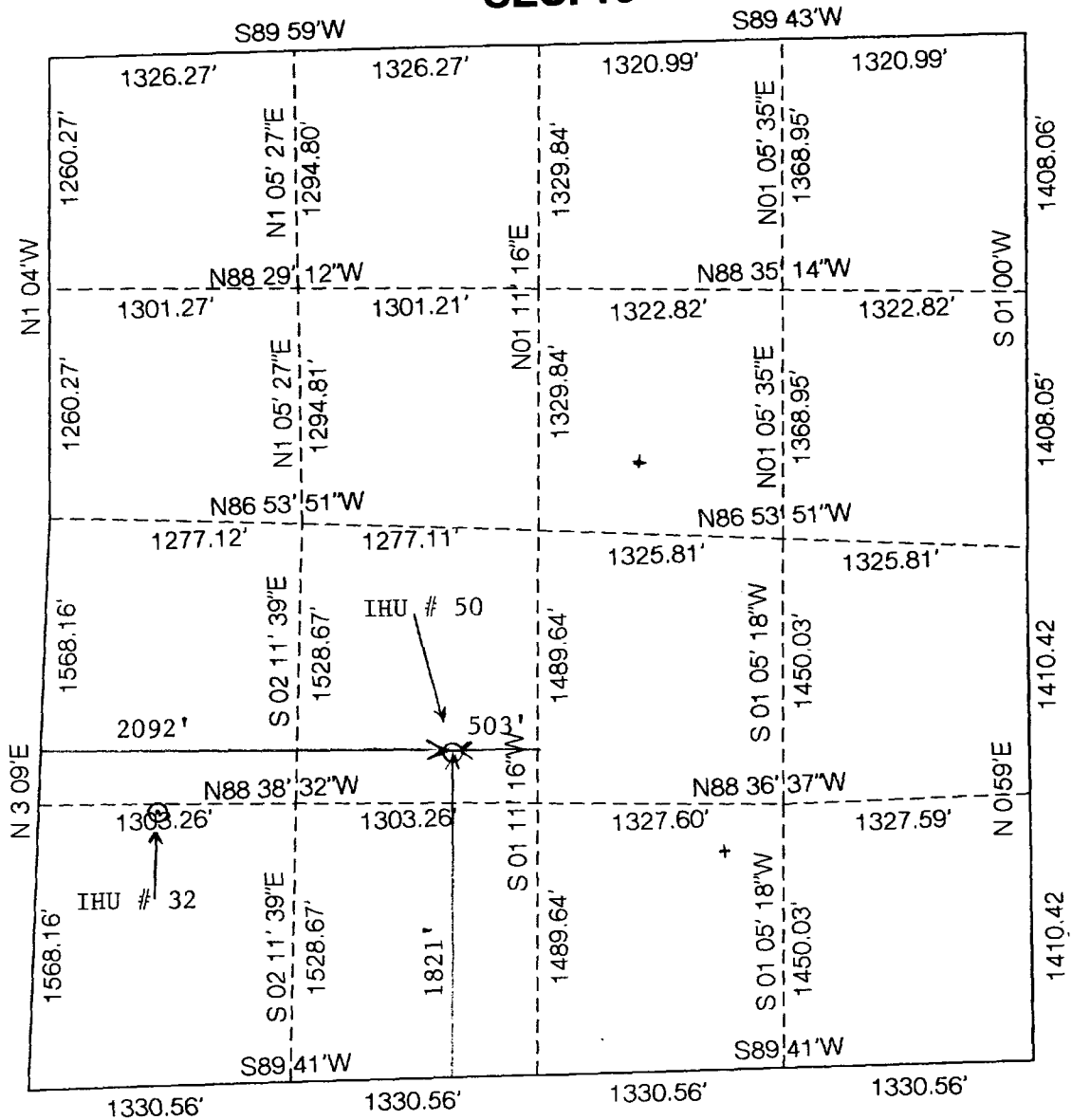
UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County

Dedicated Acres	Joint or Infill	Consolidation Code	Order No.
320 W/2			

NO ALLOWABLE WILL BE ASSIGNED TO THIS COMPLETION UNTIL ALL INTERESTS HAVE BEEN CONSOLIDATED
OR A NON-STANDARD UNIT HAS BEEN APPROVED BY THE DIVISION

<p>Standard Producing Area</p> <p>Non-Standard Producing Area</p> <p>Project Area</p> <p>IHU # 32</p> <p>GEODETIC COORDINATES NAD 27 NME Y = 537185.5 X = 446929.6 LAT. 32°28'36.18"N LONG. 104°30'19.54"W</p>	<p>OPERATOR CERTIFICATION</p> <p>I hereby certify the the information contained herein is true and complete to the best of my knowledge and belief.</p> <p><i>Jerry Fletcher</i> Signature Jerry Fletcher Printed Name Engineer Tech. Title 10/11/02 Date</p> <p>SURVEYOR CERTIFICATION</p> <p>I hereby certify that the well location shown on this plat was plotted from field notes of actual surveys made by me or under my supervision, and that the same is true and correct to the best of my belief.</p> <p>AUGUST 26, 2002</p> <p>Date Surveyed Signature & Seal of Professional Surveyor <i>Ronald J. Eidson</i> 9/5/02 02-11.0575</p> <p>Certificate No. RONALD J. EIDSON 3239 GARY EIDSON 12641</p>
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T21S R24E
SEC. 16



LOCATION VERIFICATION MAP

ATTACHMENT # 2



SCALE: 1" = 2000'

CONTOUR INTERVAL: 20'
MARTHA CREEK, N.M.
AZOTEA PEAK, N.M.

SEC. 16 TWP. 21-S RGE. 24-E

SURVEY N.M.P.M.

COUNTY EDDY

DESCRIPTION 1821' FSL 2092' FWL

ELEVATION 4118'

OPERATOR MARATHON OIL COMPANY

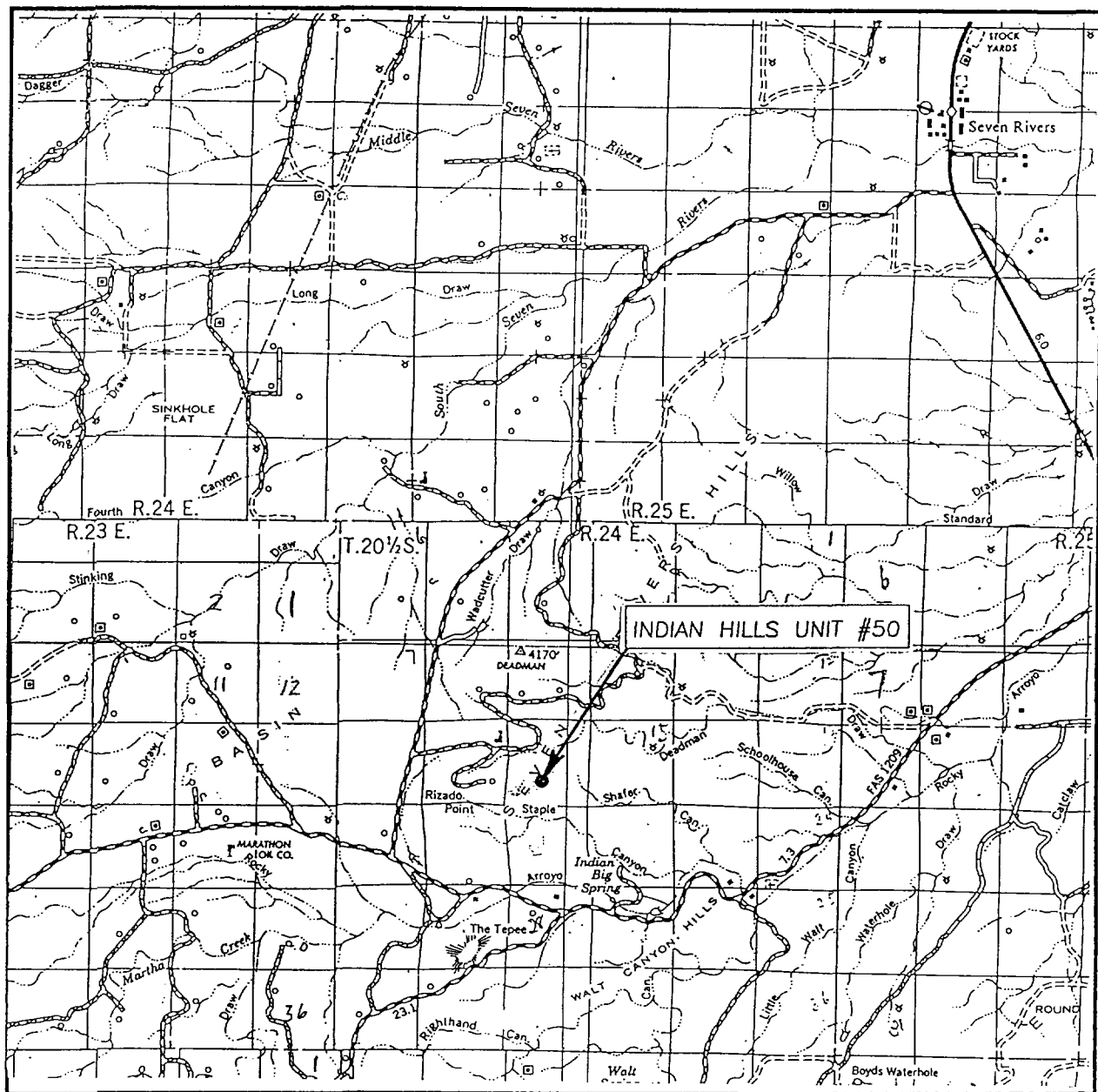
LEASE INDIAN HILLS UNIT

U.S.G.S. TOPOGRAPHIC MAP
MARTHA CREEK, AZOTEA PEAK, N.M.

JOHN WEST SURVEYING
HOBBS, NEW MEXICO
(505) 393-3117

VICINITY MAP

ATTACHMENT # 3



SCALE: 1" = 2 MILES

SEC. 16 TWP. 21-S RGE. 24-E

SURVEY N.M.P.M.

COUNTY EDDY

DESCRIPTION 1821' FSL 2092' FWL

ELEVATION 4118'

OPERATOR MARATHON OIL COMPANY

LEASE INDIAN HILLS UNIT

JOHN WEST SURVEYING
HOBBS, NEW MEXICO
(505) 393-3117

Attachment 4

T-21-S

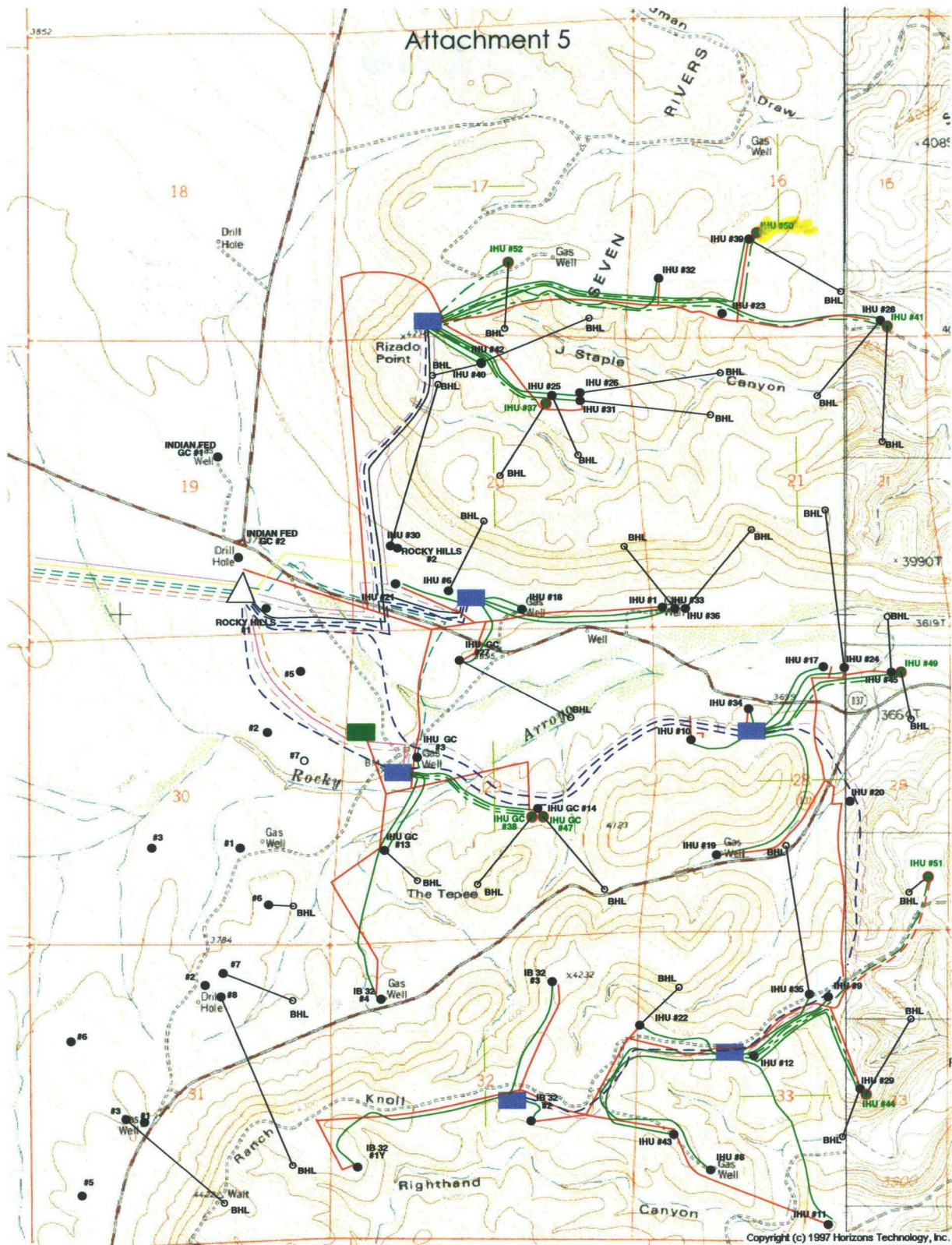


UPPER PENNSYLVANIAN PARTICIPATING AREA

R-24-E

10/2/02
UPPENPA.DWG
BY: GINNY LARKE

Attachment 5



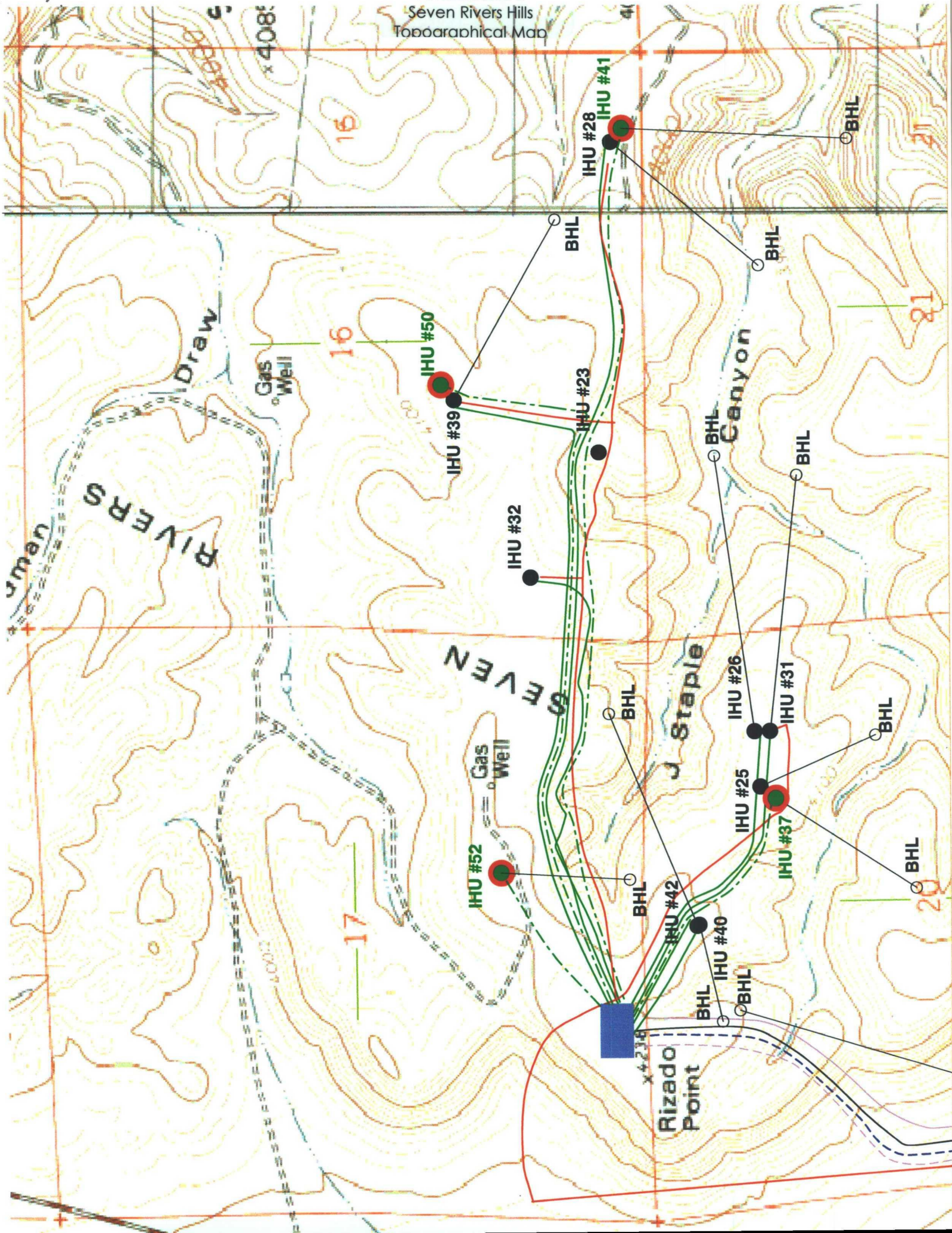
- PRODUCING WELLS
- POTENTIAL LOCATIONS
- EXISTING FLOWLINES
- - - PROPOSED FLOWLINES
- - - EXISTING ELECTRICAL LINES
- - - PROPOSED ELECTRIC LINES
- - - FLUID GATHERING SYSTEM
- - - OIL GATHERING SYSTEM
- - - PRORATION UNIT ORIENTATION
- - - LOW PRESSURE GAS GATHERING SYSTEM
- - - HIGH PRESSURE GAS GATHERING SYSTEM
- - - COMPRESSOR FUEL LINE
- - - COMPRESSOR DISCHARGE LINE
- - - PROPOSED MORROW GAS GATHERING SYSTEM
- - - SWD INJECTION LINE
- = = = ROADWAY
- △ CENTRAL FACILITY
- SATELLITE STATIONS
- COMPRESSOR STATION



MARATHON OIL COMPANY
SOUTHERN BUSINESS UNIT

EAST INDIAN BASIN
EDDY COUNTY, NEW MEXICO

Attachment 6
Seven Rivers Hills
Topographical Map



CMD :
OG5SEC2

ONGARD
INQUIRE REMARKS OF LAND BY SECTION

11/06/02 17:31:26
OGOWVJ -TPE4
PAGE NO: 1

Sec : 16 Twp : 21S Rng : 24E Section Type : NORMAL

U Lot/		Qtr	L	SRF SUB		OIL and GAS		ACTIVE	REMARKS
S L	Trot	Qtr	W	ACREAGE	OWNER	LEASE #			(may show restrictions codes)

A	NE4NE4	N	40.00	FD	ST	E0	7437	0002	
B	NW4NE4	N	40.00	FD	ST	E0	7437	0002	
C	NE4NW4	N	40.00	ST	ST	E0	7437	0002	
						GR	2032	0000	
D	NW4NW4	N	40.00	FD	ST	E0	7437	0002	
E	SW4NW4	N	40.00	ST	ST	E0	7437	0002	
						GR	1854	0000	
						GR	2032	0000	
F	SE4NW4	N	40.00	FD	ST	E0	7437	0002	
G	SW4NE4	N	40.00	FD	ST	E0	7437	0002	
H	SE4NE4	N	40.00	FD	ST	OG	6063	0002	

well No. 7 (20149) X Indi Bayi Monar Pro Go (648)

PF01 HELP	PF02 PREV	PF03 EXIT	PF04 GoTo	PF05	PF06
PF07 BKWD	PF08 FWD	PF09 PRINT	PF10 SDIV	PF11	PF12

CMD :
OG5SEC2

ONGARD
INQUIRE REMARKS OF LAND BY SECTION

11/06/02 17:31:44
OGOWVJ -TPE4
PAGE NO: 2

Sec : 16 Twp : 21S Rng : 24E Section Type : NORMAL

OIL and GAS									
U Lot/	Qtr	L	SRF	SUB	ACTIVE	REMARKS			
S L Trct	Qtr	W	ACREAGE	OWNER	LEASE #	(may show restrictions codes)			

I NE4SE4 N 40.00 ST ST E0 7437 0002
GR 1854 0000

J NW4SE4 N 40.00 ST ST GR 1854 0000
OG 6063 0002

sub K NE4SW4 N 40.00 ST ST E0 7437 0002) — No. 39 (32103) In IB - UPPER Pan (ass) ³³⁶⁸⁵
GR 1854 0000) E/2 320000

L NW4SW4 N 40.00 ST ST E1 0169 0003
GR 1854 0000

M SW4SW4 N 40.00 ST ST GR 1854 0000) #32 (31591) 320000 IB - UP (ASSOC)
OG 6063 0002) (w/2)
R2 7623 0000

PF01 HELP	PF02 PREV	PF03 EXIT	PF04 GoTo	PF05	PF06
PF07 BKWD	PF08 FWD	PF09 PRINT	PF10 SDIV	PF11	PF12

CMD :
OG5SEC2

ONGARD
INQUIRE REMARKS OF LAND BY SECTION

11/06/02 17:31:49
OGOWVJ -TPE4
PAGE NO: 3

Sec : 16 Twp : 21S Rng : 24E Section Type : NORMAL

OIL and GAS									
U Lot/	Qtr	L	SRF	SUB	ACTIVE	REMARKS			
S L Trct	Qtr	W	ACREAGE	OWNER	LEASE #	(may show restrictions codes)			
N	SE4SW4	N	40.00	ST ST	GR 1854 0000	#23 (30878) 640 acres FB-MARKROW			
					OG 6063 0002				
O	SW4SE4	N	40.00	ST ST	E1 0169 0003				
					GR 1854 0000				
P	SE4SE4	N	40.00	ST ST	GR 1854 0000				
					OG 6063 0002				

M0001: This is the last page

PF01 HELP	PF02 PREV	PF03 EXIT	PF04 GoTo	PF05	PF06
PF07 BKWD	PF08 FWD	PF09 PRINT	PF10 SDIV	PF11	PF12

CMD :
OG6CLOG

ONGARD
C105-WELL COMPLETION OR RECOMP CASING LOG

11/06/02 17:32:29
OGOWVJ -TPE4

OGRID Identifier : 151416 FASKEN OIL & RANCH LTD
Prop Identifier : 18234 INDIAN HILLS UNIT
API Well Identifier : 30 15 20149 Well No : 007
Surface Locn - UL : F Sec : 16 Twp : 21S Range : 24E Lot Idn :
Multiple comp (S/M/C): S TVD Depth (Feet) : 99999 MVD Depth (Feet):
Spud Date : P/A Date :
Casing/Linear Record:

S Size (inches)	Grade Weight (lb/ft)	Depth(ft) Top-Liner	Depth(ft) Bot-Liner	Hole Size (inches)	Cement (Sacks)	TOC (feet)	Code
99.000	99.0	99999.0	99999.0	99.000	9999	99999	C

E0043: Record found; Authority denied to MODIFY/ADD

PF01 HELP	PF02	PF03 EXIT	PF04 GoTo	PF05	PF06 CONFIRM
PF07	PF08	PF09 COMMENT	PF10 TLOG	PF11	PF12

CMD :
OG6CLOG

ONGARD
C105-WELL COMPLETION OR RECOMP CASING LOG

11/06/02 17:34:09
OGOWVJ -TPE4

OGRID Identifier : 14021 MARATHON OIL CO
Prop Identifier : 6409 INDIAN HILLS UNIT
API Well Identifier : 30 15 32103 Well No : 039
Surface Locn - UL : K Sec : 16 Twp : 21S Range : 24E Lot Idn :
Multiple comp (S/M/C): S TVD Depth (Feet) : 8918 MVD Depth (Feet): 8918
Spud Date : 03-10-2002 P/A Date :
Casing/Linear Record:

S Size (inches)	Grade Weight (lb/ft)	Depth(ft) Top-Liner	Depth(ft) Bot-Liner	Hole Size (inches)	Cement (Sacks)	TOC (feet)	Code
9.625	36.0	9999.0	1795.0	12.250	925	9999	C
7.000	26.0	0.0	8916.0	8.750	1795		C

E0043: Record found; Authority denied to MODIFY/ADD

PF01 HELP	PF02	PF03 EXIT	PF04 GoTo	PF05	PF06 CONFIRM
PF07	PF08	PF09 COMMENT	PF10 TLOG	PF11	PF12

CMD :
OG6CLOG

ONGARD
C105-WELL COMPLETION OR RECOMP CASING LOG

11/06/02 17:34:22
OGOWVJ -TPE4

OGRID Identifier : 14021 MARATHON OIL CO
Prop Identifier : 6409 INDIAN HILLS UNIT
API Well Identifier : 30 15 31591 Well No : 032
Surface Locn - UL : M Sec : 16 Twp : 21S Range : 24E Lot Idn :
Multiple comp (S/M/C): S TVD Depth (Feet) : 8700 MVD Depth (Feet): 8700
Spud Date : 03-03-2001 P/A Date :
Casing/Linear Record:

S Size (inches)	Grade Weight (lb/ft)	Depth(ft) Top-Liner	Depth(ft) Bot-Liner	Hole Size (inches)	Cement (Sacks)	TOC (feet)	Code
13.375	54.5	9999.0	1795.0	17.500	1400	9999	C
9.625	40.0	0.0	8700.0	12.250	2205		C

E0043: Record found; Authority denied to MODIFY/ADD

PF01 HELP	PF02	PF03 EXIT	PF04 GoTo	PF05	PF06 CONFIRM
PF07	PF08	PF09 COMMENT	PF10 TLOG	PF11	PF12

CMD : .
OG6CLOG

ONGARD
C105-WELL COMPLETION OR RECOMP CASING LOG

11/06/02 17:34:56
OGOWVJ -TPE4

OGRID Identifier : 151416 FASKEN OIL & RANCH LTD
Prop Identifier : 18234 INDIAN HILLS UNIT
API Well Identifier : 30 15 30878 Well No : 023
Surface Locn - UL : N Sec : 16 Twp : 21S Range : 24E Lot Idn :
Multiple comp (S/M/C): S TVD Depth (Feet) : 10050 MVD Depth (Feet): 10050
Spud Date : 01-23-2000 P/A Date :
Casing/Linear Record:

S Size (inches)	Grade Weight (lb/ft)	Depth(ft) Top-Liner	Depth(ft) Bot-Liner	Hole Size (inches)	Cement (Sacks)	TOC (feet)	Code
9.625	36.0	9999.0	1800.0	14.750	500	9999	C
7.000	23.0	0.0	8600.0	8.750	1025		C
4.500	99.0	8418.0	10050.0	9.990	200		C

E0043: Record found; Authority denied to MODIFY/ADD

PF01 HELP	PF02	PF03 EXIT	PF04 GoTo	PF05	PF06 CONFIRM
PF07	PF08	PF09 COMMENT	PF10 TLOG	PF11	PF12