

**District I**  
1625 N French St, Houston, TX 77002  
**District II**  
1301 W Grand Avenue, Artesia, NM 88210  
**District III**  
1000 Rio Brazos Road, Aztec, NM 87422  
**District IV**  
1220 S St Francis Dr, Santa Fe, NM 87505

**State of New Mexico**  
Energy Minerals and Natural Resources

Form **C-101**  
June 16, 2008

**Oil Conservation Division**  
1220 South St. Francis Dr.  
Santa Fe, NM 87505

Submit to appropriate District Office

☐ AMENDED REPORT

**APPLICATION FOR PERMIT TO DRILL, RE-ENTER, DEEPEN, PLUGBACK, OR ADD A ZONE**

<sup>1</sup> Operator Name and Address <b>Marathon Oil Company</b> <b>P.O. Box 3487 Houston, 77253-3487</b>		<sup>2</sup> OGRID Number <b>14021</b>
		<sup>3</sup> API Number <b>30 - 025-34286</b>
<sup>4</sup> Property Code <b>6398</b>	<sup>5</sup> Property Name <b>Hansen State</b>	<sup>6</sup> Well No <b>9</b>
<sup>9</sup> Proposed Pool 1 <b>Eunice-Monument-Grayburg-San Andres</b>		<sup>10</sup> Proposed Pool 2

**7 Surface Location**

UL or lot no <b>H</b>	Section <b>16</b>	Township <b>20-S</b>	Range <b>37E</b>	Lot Idn	Feet from the <b>2190'</b>	North/South line <b>North</b>	Feet from the <b>460'</b>	East/West line <b>East</b>	County <b>LEA</b>
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**8 Proposed Bottom Hole Location If Different From Surface**

UL or lot <b>A</b>	Section <b>16</b>	Township <b>20-S</b>	Range <b>37-E</b>	Lot Idn	Feet from the <b>390'</b>	North/South Line <b>North</b>	Feet from the <b>460'</b>	East/West line <b>East</b>	County <b>LEA</b>
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**Additional Well Information**

<sup>11</sup> Work Type Code <b>P</b>	<sup>12</sup> Well Type Code <b>O</b>	<sup>13</sup> Cable/Rotary <b>R</b>	<sup>14</sup> Lease Type Code <b>S</b>	<sup>15</sup> Ground Level Elevation <b>3544'</b>
<sup>16</sup> Multiple <b>N</b>	<sup>17</sup> Proposed Depth <b>4200'</b>	<sup>18</sup> Formation <b>San Andres</b>	<sup>19</sup> Contractor <b>Key Energy Services</b>	<sup>20</sup> Spud Date <b>9/08/2008</b>

**h,21 Proposed Casing and Cement Program**


Hole Size	Casing Size	Casing weight/foot	Setting Depth	Sacks of Cement	Estimated TOC
<b>7 7/8"</b>	<b>5 1/2"</b>	<b>15.5 &amp; 17#</b>	<b>1155'</b>	<b>595 sacks</b>	<b>Surface</b>
<b>12 1/4"</b>	<b>8 5/8"</b>	<b>32#</b>	<b>7836'</b>	<b>2270 sacks</b>	<b>Surface</b>

<sup>22</sup> Describe the proposed program. If this application is to DEEPEN or PLUG BACK, give the data on the present productive zone and proposed new productive zone. Describe the blowout prevention program, if any. Use additional sheets if necessary.

**Marathon Oil Company is proposing to plug back the Tubb-formation by setting a CIBP above of the Tubb @ 4200' in the Hansen State No. 9. We will then proceed with the plans to re-complete the well to the Eunice-Monument-Grayburg-San Andres pool. Please see attachment for the details of the work-over proposal. A C-102 Form for the Eunice Monument Grayburg San Andres is attached.**

**Permit Expires 2 Years From Approval  
Date Unless Drilling-Underway  
Plugback**

<sup>23</sup> I hereby certify that the information given above is true and complete to the best of my knowledge and belief

Signature:   
Printed name: **Rick R. Schell**

Title **Regulatory Compliance Representative**

E-mail Address **rrschell@Marathon Oil.com**

Date **1-Sept-2008**

Phone **713-296-3412**

**OIL CONSERVATION DIVISION**

Approved by

  
**PETROLEUM ENGINEER**

Title

Approval Date.

Expiration Date

**OCT 30 2008**

Conditions of Approval Attached ☐

RECEIVED

District I

1625 N. French Dr., Hobbs, NM 88240

District II

1301 W. Grand Avenue, Artesia, NM 88210

District III

1000 Rio Brazos Rd., Aztec, NM 87410

District IV

1220 S. St. Francis Dr., Santa Fe, NM 87505

State of New Mexico

Energy, Minerals & Natural Resources Department

OIL CONSERVATION DIVISION

1220 South St. Francis Dr.

Santa Fe, NM 87505

Form C-102

Revised October 12, 2005

Submit to Appropriate District Office

State Lease - 4 Copies

Fee Lease - 3 Copies

☐ AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

<sup>1</sup> API Number 30-025-34286	<sup>2</sup> Pool Code 23000	<sup>3</sup> Pool Name Eunice Monument Grayburg San Andres
<sup>4</sup> Property Code 6398	<sup>5</sup> Property Name Hansen State	<sup>6</sup> Well Number 9
<sup>7</sup> OGRID No. 014021	<sup>8</sup> Operator Name MARATHON OIL COMPANY	<sup>9</sup> Elevation 3544'

<sup>10</sup> Surface Location

UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
H	16	20 S	37E		2190	NORTH	460	EAST	LEA

<sup>11</sup> 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
<sup>12</sup> Dedicated Acres 40	<sup>13</sup> Joint or Infill N	<sup>14</sup> Consolidation Code	<sup>15</sup> Order No.						

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.

<sup>16</sup>						<sup>17</sup> OPERATOR CERTIFICATION <i>I hereby certify that the information contained herein is true and complete to the best of my knowledge and belief, and that this organization either owns a working interest or unleased mineral interest in the land including the proposed bottom hole location or has a right to drill this well at this location pursuant to a contract with an owner of such a mineral or working interest, or to a voluntary pooling agreement or a compulsory pooling order heretofore entered by the division.</i>  Signature: <u>Rick R. Schell</u> Date: <u>9-1-2008</u>  Printed Name: <u>RICK R. SCHELL</u>
						<sup>18</sup> SURVEYOR CERTIFICATION <i>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.</i>  Date of Survey Signature and Seal of Professional Surveyor.  Certificate Number

## Recompletion Procedure

Hansen State Well No. 9

2190' FNL, 460' FEL

Section 16, 20S-37E, UL "H"

Lea County, New Mexico

**WBS NO:** RW.08.17851

**Date:** July 17, 2008

**Purpose:** Recomplete to San Andres

**Elevation:** **KB:** 3557'

**PBTD:** 4200'

**GL:** 3544'

**TD:** 7836'

**Estimated Cost:** \$60,000

**Estimated Rig Days:** 6

**WI:** 100%

**NRI:** 87.5%

**Surface Casing:** 8-5/8", 32#, K-55 casing set at 1155'. Cemented w/ 595 sx. Circulated cement to surface (45 sx).

**Production Casing:** 5-1/2", 15.5/17#, K-55 LT&C casing to 7836'.  
Circulated 385 sx. TOC at surface'.  
(1<sup>st</sup> stage: 700 Sx Circ 150 Sx off DV tool)  
(2<sup>nd</sup> stage: 1500 Sx Circ 385 Sx to surface.)

**Production Tubing:** 2-7/8", 6.5#, J-55, EUE @4092, SN.

**Safety Issues:** High Concentration Of H<sub>2</sub>S Gas

### Tubular Performance/Capacities:

	ID (in.)	Drift (in.)	Burst (psi)	Collapse (psi)	Capacity (bbl/ft)
2-7/8" 6.5# J-55	2.441	2.347	5808	7680	.00579
5-1/2" 15.5# K-55	4.95	4.825	3848	4040	.0238
Tbg/Csg Annulus	-----	-----	-----	-----	.0158

## WORKOVER PROCEDURE

Hansen State Well No. 9

Lea County, New Mexico

### Procedure:

1. MIRU WSU. Install and test BOPE. Load wellbore full w/freshwater and test to 500 psi. PU end of tubing to 4090' and circulate a balance 3-bbl slug of acid from 4090' to 3950' using 15% NEFEHCL inhibited for 48-hours at 100 deg F. POOH with tubing and tools.
2. RU Baker Atlas electric line. Install and test pack-off to 1000psi. RU CBL/CCL logging tools and run cement bond log in well from CIBP to 2400'. Hold 1000 psi on well while running CBL. POOH with logging tools. Install pack-off. RIH with 3-1/8" slick gun with 311T charges loaded 2 SPF, phasing is not critical. Perforate from top-down to maximize benefit of acid. For depth control use newly ran CBL and correlate new CBL to Schlumberger Compensated Neutron Three Detector Density/NGT log dated 03/29/1998.

4010'-4013' (3', 4 holes)

4018'-4022' (4', 5 holes)

4036'-4040' (4', 5 holes)

4045'-4050' (5', 6 holes)

4055'-4057' (2', 3 holes)

4067'-4070' (3', 4 holes)

4082'-4086' (4', 5 holes)

San Andres 25 Net Feet – 32 Holes

After last gun has been shot, pump 5 bbls of fresh water down casing to flush excess acid.

3. RIH w/TBG and PKR. Set packer @ +/-3990' and establish injection into new perforations. Pump +/- 10 bbls of fresh water at maximum rate not to exceed 5000 psi using reverse unit or kill truck. Load and test backside to 500 psi. Swab test perforations for 1/2 day. If the perforations are not giving up fluid and not productive, plans will be to acidize as listed below. Otherwise, PWOP.
4. RU acid company. Need a minimum of 500 HHP on location. Pump +/- 35 bbls of 15% NEFEHCL inhibited for 4 hours at 100 deg F. Use a ball injector loaded with 50 (1.1 SG) ball sealers for acid diversion. Start off pumping 5 bbls of acid, then drop 1 ball for each 1/2-bbl of acid pumped. After last ball, pump remaining 5-bbls of acid. Pump at maximum rate (4-5 BPM is desired) not to exceed 5000 psi surface pressure. Displace acid with 30-bbls of fresh water.
5. Release packer and lower past bottom perforation to knock ball sealers off perforations. POOH.
6. RIH with production equipment, set pump intake +/- 10' off bottom, set tubing anchor above top perforation and PWOP.



**MARATHON OIL COMPANY**  
**MID-CONTINENT REGION**  
**MIDLAND OPERATIONS NORTHWEST NEW MEXICO**

**FIELD: MONUMENT**  
**LEASE: HANSEN STATE**  
**COUNTY: LEA**

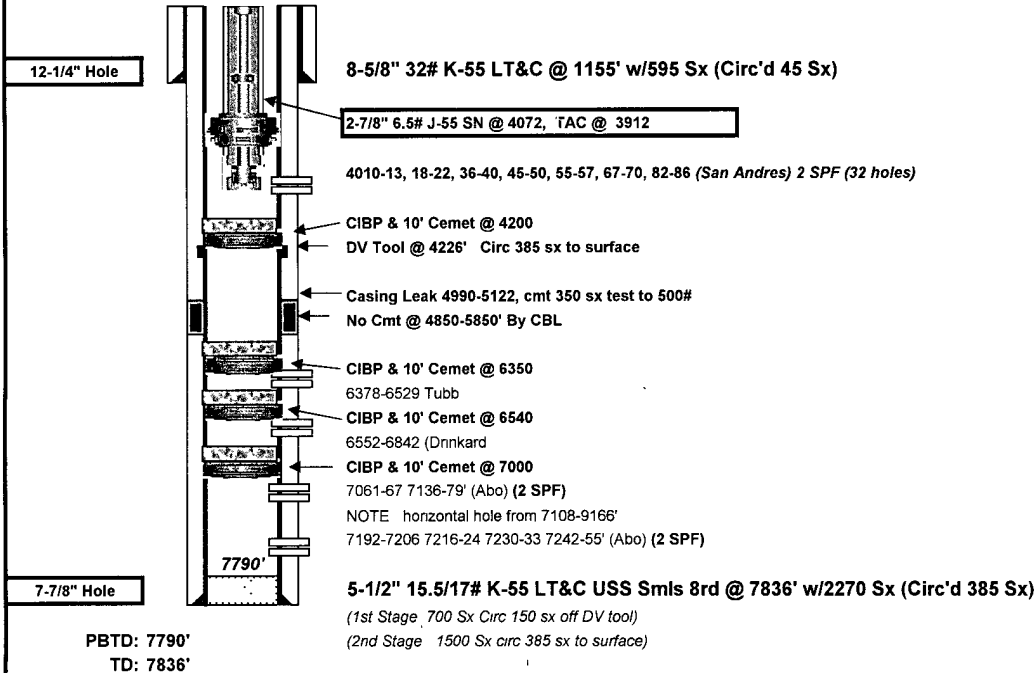
COMPLETED: 04/10/98

LOCATION: 2190' FNL & 460' FEL, SECTION 16, TOWNSHIP 20S, RANGE 37E, UNIT LETTER "H"

GL = 3544'  
KB = 3557'

SPUD: 03/10/98    Reach TD: 03/31/98  
API: 30-025-34286

**DATE: 9/24/2008**  
**BY: RS Bose**  
**WELL: 9**  
**STATE: NEW MEXICO**



**Formation Tops**

Yates	2495'
Queen	3354'
Grayburg	3595'
San Andres	3877'
Gloneta	5126'
Paddock	5203'
Blaineby	5677'
Tubb	6272'
Drnkard	6592'
Abo	6926'

**Well History**

- Apr '98    Perf'd (Abo) w/2 SPF @ 7192-7206, 16-24 30-33 & 42-55' Acdd same w/3800 Gal 15% Ferchek w/100 BS's AIR=5 25 BPM, AIP=5000#, ISIP=2305#, 5min=Vacuum, Pmax=6480#    Perfs broke down @ 6400#    Perf'd (Abo) w/2 SPF @ 7061-67 & 7136-39' Acdd same w/5500 Gal 15% Ferchek w/100 BS's AIR=7 6 BPM, AIP=500#, ISIP=Vacuum, Pmin=90#, Pmax=1185#    Acdd all Abo perfs 7061-7255' w/9000 Gal 15% Gelled Ferchek SC w/250 BS's AIR=11 87 BPM, Pmax=928#, 2210# on flush, on vacuum at end of job    Turned to production flowing thru 1/4" choke @ 10 BOPD & 7 BWPD
- May '98    Installed pumping equipment    Turned to production pumping thru 2-7/8" tubing
- May '99    Set CIBP @ 7120' Sqzd Abo perfs 7061-67' w/400 sx & 1000 gal flochek    DOC to 7120'    Cut window for horizontal drilling @ 7108-20' Drld 4-3/4" horizontal hole @ 7120-9166'    Acid washed lateral open hole 7380-9166' w/25,000 gal 15% Hcl & 160 mcf nitrogen    Well fldw 25 bbls fluid in one hour, then died
- July '99    Pushed CIBP in vertical hole from 7120' to 7790'    Perf'd (Abo) w/2 SPF - 17 holes @ 7060-68'    Acdd same w/2000 gal 20% Hcl in 70% nitrogen    Installed pumping equipment & returned to production pumping
- Sep '01    Locate casing leak at 4990-5112'    Cement leak with 350 sx, rev out 112 sx    Tst sqz to 500 psi
- Mar '08    Set CIBP @ 7000'    Selectively perforate in acid the Tubb and Drnkard from 6378-6842 with 49 holes    Acidize w/ diversion (perf ball sealers) using 80 bbls of 15% HCL    Test Drnkard, no BHP    Set CIBP @ 6540 with 10' cement and test Tubb    No oil or gas    Set CIBP @ 6350 w/ 10' cmt    Set CIBP at 4200' w/ 10' cement
- Sep '08    Perf San Andres in acid 4010-86 (32 holes) @ 2 SPF    PWOP