New Mexico Oil Conservation Division, District I
1625 N. French Drive
Hobbs, NM 88240

Form 3160-5
(March 2012)

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

FORM APPROVED
OMB No. 1004-0137
Expires: October 31, 2014

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 page 2.*

5. Lease Serial No.
NMLC-062178

6. If Indian, Allottee or Tribe Name

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

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

8. Well Name and No.
#523

2. Name of Operator
EOR Operating Company

9. API Well No.
30-041-20648

3a. Address
200 N. Loraine, STE 1440
Midland, TX 79701

3b. Phone No. *(include area code)*
432-687-0303

10. Field and Pool or Exploratory Area
Milnesand-San Andres

4. Location of Well *(Footage, Sec., T.,R.,M., or Survey Description)*
90 FNL & 90 FEL
Sec. 13, T. 08S, R. 34E

11. County or Parish, State
Roosevelt

12. CHECK THE 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
	☐ Alter Casing	☐ Fracture Treat	☐ Reclamation	☐ Well Integrity
☐ Subsequent Report	☐ Casing Repair	☐ New Construction	☐ Recomplete	☑ Other Extension Request
	☐ Change Plans	☐ Plug and Abandon	☐ Temporarily Abandon	
☐ Final Abandonment Notice	☐ 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 must 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 must be filed once testing has been completed. Final Abandonment Notices must be filed only after all requirements, including reclamation, have been completed and the operator has determined that the site is ready for final inspection.)

EOR Operating Company requests a 90 day extension (12/31/2013) to the attached approved NOI, expiring 10/5/2013.

EOR currently has plans to begin procedures on this well in the 4th quarter or end of the 3rd quarter and anticipates that a the 3 well package will run longer than the original approved date.

A representative of EOR Operating will contact BLM 24 hours prior to the beginning of procedures as well as any BOPE tests.

HOBBS OCD

AUG 16 2013

RECEIVED

APPROVED FOR 3 MONTH PERIOD
ENDING JAN 05 2014

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

Title Production/Regulatory Manager

Signature

Date 08/06/2013

THIS SPACE FOR FEDERAL OR STATE OFFICE USE

Approved by
/S/ DAVID R. GLASS

Title PETROLEUM ENGINEER

Date AUG 12 2013

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 ROSWELL FIELD OFFICE

Title 18 U.S.C. Section 1001 and Title 43 U.S.C. Section 1212, make 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.

(Instructions on page 2)

AUG 20 2013

RECEIVED OCT 17 2012

Form 3160-5
(March 2012)

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

OPERATOR'S COPY

FORM APPROVED
OMB No. 1004-0137
Expires: October 31, 2014

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 page 2.*

1. Type of Well ☑ Oil Well ☐ Gas Well ☐ Other	5. Lease Serial No. LC-062178
	6. If Indian, Allottee or Tribe Name
	7. If Unit of CA/Agreement, Name and/or No. Milnesand Unit
	8. Well Name and No. #523
2. Name of Operator EOR Operating Company	9. API Well No. 30-041-20648
3a. Address 200 N. Loraine STE 1440 Midland, TX 79701 3b. Phone No. *(include area code)* 432-687-0303	10. Field and Pool or Exploratory Area Milnesand-San Andres
4. Location of Well *(Footage, Sec., T.,R.,M., or Survey Description)* 90 FNL & 90 FEL Sec. 13 T- 08S, R- 34E	11. County or Parish, State Roosevelt

12. CHECK THE 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
	☐ Alter Casing	☐ Fracture Treat	☐ Reclamation	☐ Well Integrity
☐ Subsequent Report	☐ Casing Repair	☐ New Construction	☐ Recomplete	☑ Other Recomplete horizontally
	☐ Change Plans	☐ Plug and Abandon	☐ Temporarily Abandon	
☐ Final Abandonment Notice	☐ 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 must 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 must be filed once testing has been completed. Final Abandonment Notices must be filed only after all requirements, including reclamation, have been completed and the operator has determined that the site is ready for final inspection.)

The MSU #523 is currently producing from the San Andres perforations located @ 1240'-4286', 4544'-4560', 4578'-4579' & 4580'-4619'. Current PBTD is 4702'.
EOR Operating proposes the attached plans to recomplete this well horizontally in the San Andres formation.

A representative of EOR Operating will contact BLM 24 hours prior to the beginning of procedures as well as any BOPE tests.

This lateral will be drilled with a closed loop mud system. After milling out the casing window with clear water, the directional interval will be drilled with a polymer based fresh water system.

HOBBS OCD

AUG 16 2013

RECEIVED

APPROVED FOR 12 MONTH PERIOD
ENDING OCT 05 2013

14. I hereby certify that the foregoing is true and correct Name *(Printed/Typed)* Jana True	Title Mgr-Production/Regulatory
Signature Jana True	Date 09/21/2012

THIS SPACE FOR FEDERAL OR STATE OFFICE USE

Approved by David R. Glass	Title PETROLEUM ENGINEER	Date OCT 05 2012
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 ROSWELL FIELD OFFICE	

Title 18 U.S.C. Section 1001 and Title 43 U.S.C. Section 1212, make 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.

(Instructions on page 2)

SEE ATTACHED FOR
CONDITIONS OF APPROVAL

Weatherford

Drilling Services

Proposal

EOR OPERATING

MILNESAND UNIT 523

ROOSEVELT CO, NM

WELL FILE: **PLAN 1 DRAFT**

SEPTEMBER 12, 2012

Weatherford International, Ltd.
P.O. Box 61028
Midland, TX 79711 USA
+1.432.561.8892 Main
+1.432.561.8895 Fax
www.weatherford.com

EOR Operating

Milnesand Unit 523
Roosevelt Co, NM

SECTION DETAILS

Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	DLeg	TFace	VSec	Target
1	0.00	0.00	90.00	0.00	0.00	0.00	0.00	0.00	0.00	
2	4409.00	0.00	90.00	4409.00	0.00	0.00	0.00	90.00	0.00	
3	4424.00	2.00	90.00	4424.00	0.00	0.26	13.33	90.00	0.26	
4	4429.00	2.00	90.00	4428.99	0.00	0.44	0.00	0.00	0.44	
5	4781.31	90.08	90.00	4650.18	0.00	229.78	25.00	0.00	229.78	
6	9421.53	90.08	90.00	4644.00	0.00	4870.00	0.00	0.00	4870.00	PBHL

SITE DETAILS

Milnesand Unit 523

Site Centre Latitude: 33°37'41.700N
Longitude: 103°24'34.092W

Ground Level: 4250.00
Positional Uncertainty: 0.00
Convergence: 0.51

FIELD DETAILS

Roosevelt Co. NM (Nad 83)

Geodetic System: US State Plane Coordinate System 1983
Ellipsoid: GRS 1980
Zone: New Mexico, Eastern Zone
Magnetic Model: IGRF2010

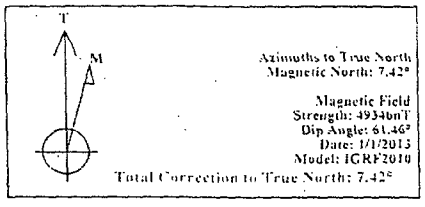
System Datum: Mean Sea Level
Local North: True North

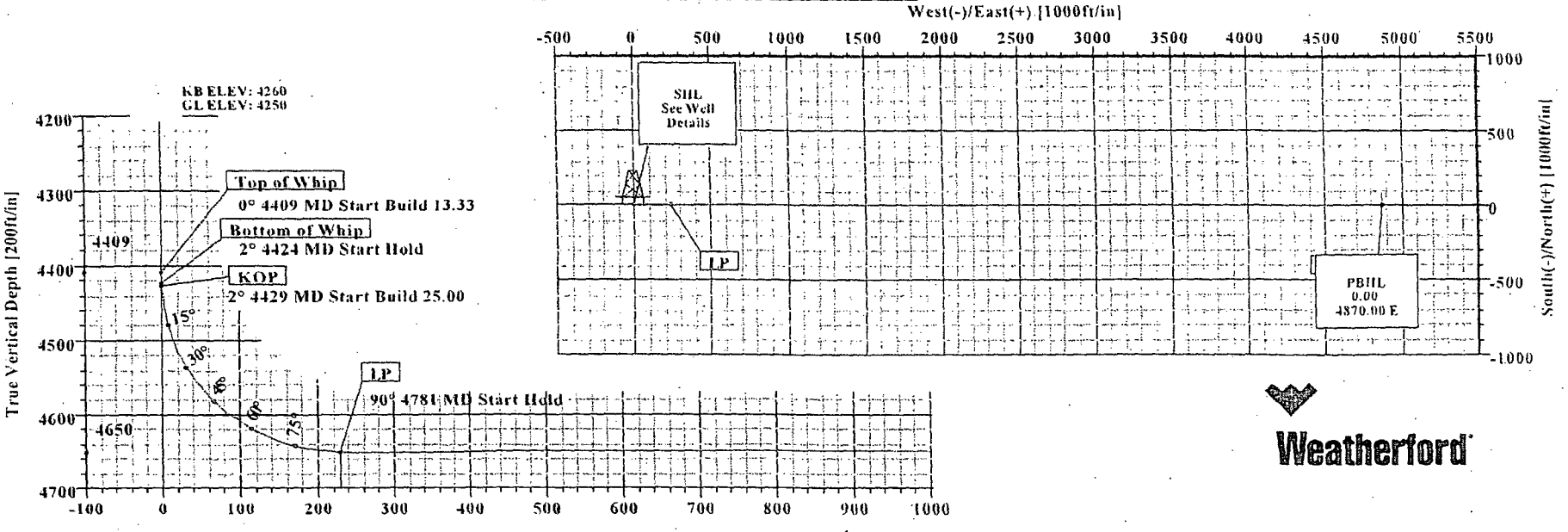
WELL DETAILS

Name	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Slot
MSU 523	0.00	0.00	957379.26	822554.38	33°37'41.700N	103°24'34.092W	N/A

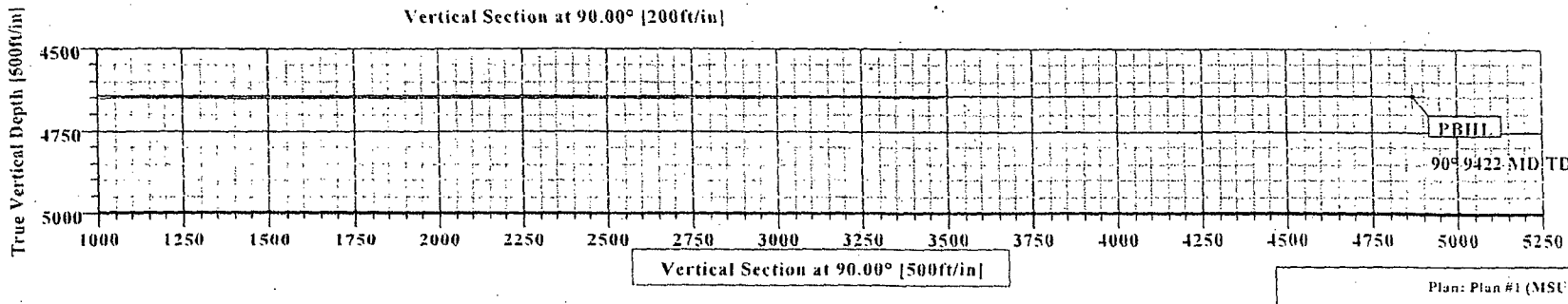
TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Northing	Easting	Shape
PBHL	4644.00	0.00	4870.00	957422.75	827424.19	Point





Weatherford



Plan: Plan #1 (MSU 523/1)

Created By: Patrick Rudolph Date: 9/12/2012

Weatherford International Ltd.

WFT Plan Report Lat, Long

Weatherford

Company:	EOR Operating	**Date:**	9/12/2012	**Time:** 12:13:24	**Page:** 1
Field:	Roosevelt Co, NM (Nad 83)	**Co-ordinate(NE) Reference:**	Well: MSU 523, True North		
Site:	Milnesand Unit 523	**Vertical (TVD) Reference:**	SITE 4260.0		
Well:	MSU 523	**Section (VS) Reference:**	Well (0.00N,0.00E,90.00Azi)		
Wellpath:	1	**Survey Calculation Method:**	Minimum Curvature	**Db:**	Sybase

Plan:	Plan #1	**Date Composed:**	9/12/2012
		Version:	1
Principal:	Yes	**Tied-to:**	From Surface

Field:	Roosevelt Co, NM (Nad 83)		
Map System:	US State Plane Coordinate System 1983	**Map Zone:**	New Mexico, Eastern Zone
Geo Datum:	GRS 1980	**Coordinate System:**	Well Centre
Sys Datum:	Mean Sea Level	**Geomagnetic Model:**	IGRF2010

Site:	Milnesand Unit 523				
Site Position:		**Northing:**	957379.26 ft	**Latitude:**	33 37 41.700 N
From:	Geographic	**Easting:**	822554.38 ft	**Longitude:**	103 24 34.092 W
Position Uncertainty:	0.00 ft			**North Reference:**	True
Ground Level:	4250.00 ft			**Grid Convergence:**	0.51 deg

Well:	MSU 523				**Slot Name:**		
Well Position:	+N/-S	0.00 ft	**Northing:**	957379.26 ft	**Latitude:**	33 37 41.700 N	
	+E/-W	0.00 ft	**Easting:**	822554.38 ft	**Longitude:**	103 24 34.092 W	
Position Uncertainty:		0.00 ft					

Wellpath:	1		**Drilled From:**	Surface	
			Tie-on Depth:	0.00 ft	
Current Datum:	SITE	**Height** 4260.00 ft	**Above System Datum:**	Mean Sea Level	
Magnetic Data:	1/1/2013		**Declination:**	7.42 deg	
Field Strength:	49346 nT		**Mag Dip Angle:**	61.46 deg	

Vertical Section:	Depth From (TVD) ft	+N/-S ft	+E/-W ft	Direction deg
	4644.00	0.00	0.00	90.00

Plan Section Information

MD ft	Incl deg	Azim deg	TVD ft	+N/-S ft	+E/-W ft	DLS deg/100ft	Build deg/100ft	Turn deg/100ft	TFO deg	Target
0.00	0.00	90.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
4409.00	0.00	90.00	4409.00	0.00	0.00	0.00	0.00	0.00	90.00	
4424.00	2.00	90.00	4424.00	0.00	0.26	13.33	13.33	0.00	90.00	
4429.00	2.00	90.00	4428.99	0.00	0.44	0.00	0.00	0.00	0.00	
4781.31	90.08	90.00	4650.18	0.00	229.78	25.00	25.00	0.00	0.00	
9421.53	90.08	90.00	4644.00	0.00	4870.00	0.00	0.00	0.00	0.00	PBHL

Survey

MD ft	Incl deg	Azim deg	TVD ft	N/S ft	E/W ft	VS ft	DLS deg/100ft	Lat	Min	Sec	Long	Min	Sec	Comment
4409.00	0.00	90.00	4409.00	0.00	0.00	0.00	0.00	33	37	41.700	103	24	34.092	Top of Whip
4424.00	2.00	90.00	4424.00	0.00	0.26	0.26	13.33	33	37	41.700	103	24	34.089	Bottom of W
4429.00	2.00	90.00	4428.99	0.00	0.44	0.44	0.00	33	37	41.700	103	24	34.087	KOP
4440.00	4.75	90.00	4439.97	0.00	1.08	1.08	25.00	33	37	41.700	103	24	34.079	
4460.00	9.75	90.00	4459.81	0.00	3.61	3.61	25.00	33	37	41.700	103	24	34.049	
4480.00	14.75	90.00	4479.35	0.00	7.85	7.85	25.00	33	37	41.700	103	24	33.999	
4500.00	19.75	90.00	4498.44	0.00	13.78	13.78	25.00	33	37	41.700	103	24	33.929	
4520.00	24.75	90.00	4516.95	0.00	21.35	21.35	25.00	33	37	41.700	103	24	33.840	
4540.00	29.75	90.00	4534.72	0.00	30.50	30.50	25.00	33	37	41.700	103	24	33.731	
4560.00	34.75	90.00	4551.63	0.00	41.17	41.17	25.00	33	37	41.700	103	24	33.605	
4580.00	39.75	90.00	4567.54	0.00	53.27	53.27	25.00	33	37	41.700	103	24	33.462	
4600.00	44.75	90.00	4582.34	0.00	66.72	66.72	25.00	33	37	41.700	103	24	33.303	
4620.00	49.75	90.00	4595.92	0.00	81.40	81.40	25.00	33	37	41.700	103	24	33.129	
4640.00	54.75	90.00	4608.16	0.00	97.21	97.21	25.00	33	37	41.700	103	24	32.942	
4660.00	59.75	90.00	4618.97	0.00	114.02	114.02	25.00	33	37	41.700	103	24	32.744	

Weatherford International Ltd.

WFT Plan Report Lat, Long

Weatherford

Company:	EOR Operating	**Date:** 9/12/2012	**Time:** 12:13:24	**Page:**	2
Field:	Roosevelt Co, NM (Nad 83)	**Co-ordinate(NE) Reference:**	Well: MSU 523, True North		
Site:	Milnesand Unit 523	**Vertical (TVD) Reference:**	SITE 4260.0		
Well:	MSU 523	**Section (VS) Reference:**	Well (0.00N,0.00E,90.00Azi)		
Wellpath:	1	**Survey Calculation Method:**	Minimum Curvature	**Db:**	Sybase

Survey

MD ft	Incl deg	Azim deg	TVD ft	N/S ft	E/W ft	VS ft	DLS deg/100ft	Lat	Min	Sec	Long	Min	Sec	Comment
4680.00	64.75	90.00	4628.28	0.00	131.72	131.72	25.00	33	37	41.700	103	24	32.534	
4700.00	69.75	90.00	4636.01	0.00	150.15	150.15	25.00	33	37	41.700	103	24	32.316	
4720.00	74.75	90.00	4642.11	0.00	169.20	169.20	25.00	33	37	41.700	103	24	32.091	
4740.00	79.75	90.00	4646.52	0.00	188.70	188.70	25.00	33	37	41.700	103	24	31.860	
4760.00	84.75	90.00	4649.22	0.00	208.51	208.51	25.00	33	37	41.700	103	24	31.626	
4781.31	90.08	90.00	4650.18	0.00	229.78	229.78	25.00	33	37	41.700	103	24	31.375	LP
4800.00	90.08	90.00	4650.16	0.00	248.48	248.48	0.00	33	37	41.700	103	24	31.153	
4900.00	90.08	90.00	4650.02	0.00	348.48	348.48	0.00	33	37	41.700	103	24	29.971	
5000.00	90.08	90.00	4649.89	0.00	448.48	448.48	0.00	33	37	41.700	103	24	28.788	
5100.00	90.08	90.00	4649.76	0.00	548.48	548.48	0.00	33	37	41.700	103	24	27.606	
5200.00	90.08	90.00	4649.62	0.00	648.48	648.48	0.00	33	37	41.700	103	24	26.423	
5300.00	90.08	90.00	4649.49	0.00	748.48	748.48	0.00	33	37	41.700	103	24	25.240	
5400.00	90.08	90.00	4649.36	0.00	848.48	848.48	0.00	33	37	41.700	103	24	24.058	
5500.00	90.08	90.00	4649.22	0.00	948.48	948.48	0.00	33	37	41.700	103	24	22.875	
5600.00	90.08	90.00	4649.09	0.00	1048.48	1048.48	0.00	33	37	41.700	103	24	21.693	
5700.00	90.08	90.00	4648.96	0.00	1148.48	1148.48	0.00	33	37	41.700	103	24	20.510	
5800.00	90.08	90.00	4648.82	0.00	1248.48	1248.48	0.00	33	37	41.700	103	24	19.327	
5900.00	90.08	90.00	4648.69	0.00	1348.48	1348.48	0.00	33	37	41.700	103	24	18.145	
6000.00	90.08	90.00	4648.56	0.00	1448.48	1448.48	0.00	33	37	41.700	103	24	16.962	
6100.00	90.08	90.00	4648.42	0.00	1548.48	1548.48	0.00	33	37	41.700	103	24	15.780	
6200.00	90.08	90.00	4648.29	0.00	1648.48	1648.48	0.00	33	37	41.700	103	24	14.597	
6300.00	90.08	90.00	4648.16	0.00	1748.48	1748.48	0.00	33	37	41.700	103	24	13.414	
6400.00	90.08	90.00	4648.02	0.00	1848.48	1848.48	0.00	33	37	41.699	103	24	12.232	
6500.00	90.08	90.00	4647.89	0.00	1948.48	1948.48	0.00	33	37	41.699	103	24	11.049	
6600.00	90.08	90.00	4647.76	0.00	2048.48	2048.48	0.00	33	37	41.699	103	24	9.867	
6700.00	90.08	90.00	4647.62	0.00	2148.48	2148.48	0.00	33	37	41.699	103	24	8.684	
6800.00	90.08	90.00	4647.49	0.00	2248.48	2248.48	0.00	33	37	41.699	103	24	7.502	
6900.00	90.08	90.00	4647.36	0.00	2348.48	2348.48	0.00	33	37	41.699	103	24	6.319	
7000.00	90.08	90.00	4647.23	0.00	2448.48	2448.48	0.00	33	37	41.699	103	24	5.136	
7100.00	90.08	90.00	4647.09	0.00	2548.48	2548.48	0.00	33	37	41.699	103	24	3.954	
7200.00	90.08	90.00	4646.96	0.00	2648.48	2648.48	0.00	33	37	41.699	103	24	2.771	
7300.00	90.08	90.00	4646.83	0.00	2748.48	2748.48	0.00	33	37	41.699	103	24	1.589	
7400.00	90.08	90.00	4646.69	0.00	2848.48	2848.48	0.00	33	37	41.699	103	24	0.406	
7500.00	90.08	90.00	4646.56	0.00	2948.48	2948.48	0.00	33	37	41.699	103	23	59.223	
7600.00	90.08	90.00	4646.43	0.00	3048.48	3048.48	0.00	33	37	41.699	103	23	58.041	
7700.00	90.08	90.00	4646.29	0.00	3148.48	3148.48	0.00	33	37	41.698	103	23	56.858	
7800.00	90.08	90.00	4646.16	0.00	3248.48	3248.48	0.00	33	37	41.698	103	23	55.676	
7900.00	90.08	90.00	4646.03	0.00	3348.47	3348.47	0.00	33	37	41.698	103	23	54.493	
8000.00	90.08	90.00	4645.89	0.00	3448.47	3448.47	0.00	33	37	41.698	103	23	53.310	
8100.00	90.08	90.00	4645.76	0.00	3548.47	3548.47	0.00	33	37	41.698	103	23	52.128	
8200.00	90.08	90.00	4645.63	0.00	3648.47	3648.47	0.00	33	37	41.698	103	23	50.945	
8300.00	90.08	90.00	4645.49	0.00	3748.47	3748.47	0.00	33	37	41.698	103	23	49.763	
8400.00	90.08	90.00	4645.36	0.00	3848.47	3848.47	0.00	33	37	41.698	103	23	48.580	
8500.00	90.08	90.00	4645.23	0.00	3948.47	3948.47	0.00	33	37	41.698	103	23	47.397	
8600.00	90.08	90.00	4645.09	0.00	4048.47	4048.47	0.00	33	37	41.697	103	23	46.215	
8700.00	90.08	90.00	4644.96	0.00	4148.47	4148.47	0.00	33	37	41.697	103	23	45.032	
8800.00	90.08	90.00	4644.83	0.00	4248.47	4248.47	0.00	33	37	41.697	103	23	43.850	
8900.00	90.08	90.00	4644.69	0.00	4348.47	4348.47	0.00	33	37	41.697	103	23	42.667	
9000.00	90.08	90.00	4644.56	0.00	4448.47	4448.47	0.00	33	37	41.697	103	23	41.484	
9100.00	90.08	90.00	4644.43	0.00	4548.47	4548.47	0.00	33	37	41.697	103	23	40.302	
9200.00	90.08	90.00	4644.30	0.00	4648.47	4648.47	0.00	33	37	41.697	103	23	39.119	
9300.00	90.08	90.00	4644.16	0.00	4748.47	4748.47	0.00	33	37	41.696	103	23	37.937	
9400.00	90.08	90.00	4644.03	0.00	4848.47	4848.47	0.00	33	37	41.696	103	23	36.754	

Weatherford International Ltd.

WFT Plan Report Lat, Long

Weatherford

Company:	EOR Operating	Date: 9/12/2012	Time: 12:13:24	Page:	3
Field:	Roosevelt Co, NM (Nad 83)	Co-ordinate(NE) Reference:	Well: MSU 523, True North		
Site:	Milnesand Unit 523	Vertical (TVD) Reference:	SITE 4260.0		
Well:	MSU 523	Section (VS) Reference:	Well (0.00N,0.00E,90.00Azi)		
Wellpath:	1	Survey Calculation Method:	Minimum Curvature	Db:	Sybase

Survey

MD ft	Incl deg	Azim deg	TVD ft	N/S ft	E/W ft	VS ft	DLS deg/100ft	Lat	Min	Sec	Long	Min	Sec	Comment
9421.53	90.08	90.00	4644.00	0.00	4870.00	4870.00	0.00	33	37	41.696	103	23	36.499	PBHL

Targets

Name	Description Dip.	Dir.	TVD ft	+N/-S ft	+E/-W ft	Map Northing ft	Map Easting ft	<--- Latitude ---> Deg	Min	Sec	<--- Longitude ---> Deg	Min	Sec
PBHL			4644.00	0.00	4870.00	957422.75	827424.19	33	37	41.696 N	103	23	36.499 W

Casing Points

MD	TVD	Diameter	Hole Size	Name

Formations

MD	TVD	Formations	Lithology	Dip Angle	Dip Direction

Annotation

MD ft	TVD ft	
4409.00	4409.00	Top of Whip
4424.00	4424.00	Bottom of Whip
4429.00	4428.99	KOP
4781.31	4650.18	LP
9421.52	4644.00	PBHL

Weatherford

Weatherford Drilling Services

GeoDec v5.03

Report Date:	September 18, 2012
Job Number:	
Customer:	EOR Operating
Well Name:	Milnesand Unit MSU 523
API Number:	
Rig Name:	
Location:	Roosevelt Co, NM
Block:	
Engineer:	Patrick Rudolph

Geodetic Latitude / Longitude	Geodetic Latitude / Longitude
System: Latitude / Longitude	System: Latitude / Longitude
Projection: Geodetic Latitude and Longitude	Projection: Geodetic Latitude and Longitude
Datum: North American Datum 1983	Datum: North American Datum 1983
Ellipsoid: GRS 1980	Ellipsoid: GRS 1980
Latitude 33.6282500 DEG	Latitude 33.6282500 DEG
Longitude -103.4094700 DEG	Longitude -103.4094700 DEG

Geodetic Location WGS84		Elevation =	0.0 Meters
Latitude =	33.62825° N		33° 37 min 41.700 sec
Longitude =	103.40947° W		103° 24 min 34.092 sec

Magnetic Declination =	7.42°	[True North Offset]	
Local Gravity =	.9989 g	CheckSum =	6615
Local Field Strength =	49342 nT	Magnetic Vector X =	23376 nT
Magnetic Dip =	61.46°	Magnetic Vector Y =	3045 nT
Magnetic Model =	IGRF-2010g11	Magnetic Vector Z =	43346 nT
Spud Date =	Jan 01, 2013	Magnetic Vector H =	23574 nT

Signed:_____ Date:_____

PECOS DISTRICT - RFO
CONDITIONS OF APPROVAL

OPERATORS NAME: **EOR Operating Co.**
LEASE NO.: **LC-062178**
WELL NAME & NO: **Milnesand Unit Well No. 523**
SURFACE HOLE FOOTAGE: **90' FNL & 90' FEL Section 13, T. 8 S., R. 34 E., NMPM**
BOTTOM HOLE FOOTAGE: **90' FNL & 500' FEL Section 18, T. 8 S., R. 35 E., NMPM**
COUNTY: **Roosevelt County, New Mexico**

PRAIRIE CHICKENS

No surface use is allowed during the following time periods; unless otherwise specified. This stipulation does not apply to the operation and maintenance of production facilities.

On the land described below:

For the purpose of: Protecting Lesser Prairie-Chickens

Drilling for oil and gas, and 3-D geophysical exploration operations will not be allowed in Lesser Prairie Chicken Habitat during the period of March 1 through June 15, each year. During that period, between 3:00 a.m. and 9:00 a.m., other activities that produce noise and involve human activity, such as geophysical exploration other than 3-D operations, and pipeline, road, and well pad construction, will not be allowed. Noise producing activities which do not require a human presence, such as venting, flaring, or pumping, are exempt from the 3:00 a.m. and 9:00 a.m. restriction. Regardless of the time of the year, exhaust noise from pump jack engine must be muffled or otherwise controlled so as not to exceed 75 db measured at 30 feet from the source of the noise.

A. DRILLING OPERATIONS REQUIREMENTS

1. Call the Roswell Field Office, 2909 West Second St., Roswell, NM 88201. During office hours call (575) 627-0205 or after office hours call (575) 420-2832. Engineer on call during office hours call (575) 627-0275 or after office hours call (575) 626-5749.

2. The BLM is to be notified a minimum of 24 hours in advance for a representative to witness:

   a. Entering The Wellbore With The Drill Bit.
   b. Setting And/Or Cementing Any Casing String That May Be Run
   c. BOPE Tests

3. Unless the production casing has been run and cemented or the well has been properly plugged, the drilling rig shall not be removed from over the hole without prior approval.

PECOS DISTRICT - RFO
CONDITIONS OF APPROVAL

OPERATORS NAME: **EOR Operating Co.**
LEASE NO.: **LC-062178**
WELL NAME & NO: **Milnesand Unit Well No. 523**
SURFACE HOLE FOOTAGE: **90' FNL & 90' FEL Section 13, T. 8 S., R. 34 E., NMPM**
BOTTOM HOLE FOOTAGE: **90' FNL & 500' FEL Section 18, T. 8 S., R. 35 E., NMPM**
COUNTY: **Roosevelt County, New Mexico**

4. This lateral will be drilled with a closed loop mud system. After milling out the **5-1/2** inch production casing window with clear fresh water, the directional interval will be drilled with a **4-3/4** inch bit using a polymer based fresh water system.

B. CASING

1. There is no required fill of cement behind the **3-1/2** inch production liner since packers with frac ports will be used for lateral and will not require cementing.

2. If hardband drill pipe is rotated inside casing, returns will be monitored for metal. If metal is found in samples, drill pipe will be pulled and rubber protectors which have a larger diameter than the tool joints of the drill pipe will be installed prior to continuing drilling operations.

3. Any casing set shall be new or reconditioned and tested casing and meet API standards for new casing. The use of reconditioned and tested casing shall be subject to approval by the authorized officer. Approval will be contingent upon the wall thickness of any casing being verified to be at least 87-1/2 per cent of the nominal wall thickness of new casing.

C. PRESSURE CONTROL:

1. Before milling out the **5-1/2** inch production casing window, the blowout preventer assembly shall consist of a minimum of One Annular Preventer or Two Ram-Type Preventers and a Kelly Cock/Stabbing Valve.

2. Before milling out the **5-1/2** inch production casing window, minimum working pressure of the blowout preventer and related equipment (BOPE) shall be **2000** psi.

3. The BOPE shall be installed before milling out the **5-1/2** inch production casing window and shall be tested as described in Onshore Order No. 2. Any equipment failing to test satisfactorily shall be repaired or replaced.

a. The BLM Roswell Field office shall be notified a minimum of 24 hours in advance for a representative to witness the tests.

b. The BOP/BOPE test shall include a low pressure test from 250 to 300 psi. The test will be held for a minimum of 10 minutes if test is done with a test plug and 30 minutes without a test plug.

PECOS DISTRICT - RFO
CONDITIONS OF APPROVAL

OPERATORS NAME: **EOR Operating Co.**
LEASE NO.: **LC-062178**
WELL NAME & NO: **Milnesand Unit Well No. 523**
SURFACE HOLE FOOTAGE: **90' FNL & 90' FEL Section 13, T. 8 S., R. 34 E., NMPM**
BOTTOM HOLE FOOTAGE: **90' FNL & 500' FEL Section 18, T. 8 S., R. 35 E., NMPM**
COUNTY: **Roosevelt County, New Mexico**

c. All tests are required to be recorded on a calibrated test chart. A copy of the BOP/BOPE test will be submitted to the BLM Roswell Field Office at 2909 West Second Street, Roswell, New Mexico 88201.

d. Testing fluid must be water or an appropriate clear liquid suitable for sub-freezing temperatures. Use of drilling mud for testing is not permitted since it can mask small leaks.

e. Testing must be done in a safe workman like manner. Hard line connections shall be required.

D. MUD PROGRAM REQUIREMENTS:

The drilling operations of this well will be conducted in accordance with the Onshore Oil and Gas Order No. 2 as provided in 43 CFR 3164.1. This includes well control equipment and its testing, mud system and associated equipment, and the casing and cementing.

a. Sufficient quantities of mud materials shall be maintained at the well site, at all times, for the purpose of assuring well control.

b. A mud test shall be performed at least every 24 hours after mudding up to determine, as applicable density, viscosity, gel strength, filtration, and PH.

c. Visual mud monitoring equipment shall be in place to detect volume changes indicating loss or gain of circulating fluid volume.

E. SPECIAL STIPULATION:

If frac ponds are necessary submit for approval a right-of-way application or sundry notice (Form 3160-5) to the BLM, Roswell Field Office 2909 West Second, Roswell, NM 88201. If frac pond is located on private/State surface and support the enhanced production of federal minerals BLM approval is necessary.

The frac pond will only be authorized to contain freshwater and testing of water quality is required. Additives are not allowed without consent of the authorized officer. If at any time the water in the frac pond becomes polluted with salts or other contaminants, use of the frac pond will cease and desist, and all liquids will be removed from the frac pond and disposed of properly. Mineral materials extracted during construction of the frac pond will be stored on-location and/or used for constructing the frac pond.

Full implementation and enforcement of these procedures begins November 15, 2010.

1. For On-Lease Proposals: Submit Form 3160-5 describing any surface disturbance associated with the project. The length and width of the pond floor, expected depth, and the exterior dimensions of the finished pond (with completed berms) must be stated. If a new road is required to access the pond, this will be described in total length and desired width.

   For Off-Lease or Third Party Proposals (ROW): Submit SF-299 "Application for Transportation and Utility Systems." All other procedures described herein will be applicable to freshwater ponds applied for under rights-of-way.

2. List all wells to be serviced by the pond. Tell us the route of your pipeline from the pond to the target well(s).

3. Tell us how the freshwater is to be transported to the pond (trucked, pipeline). A route description is sufficient for lines following existing roads.

4. Attach a survey plat of the proposed pond location. The plat shall depict the exterior dimensions of the pond, the center of the topsoil stockpile as well as the legal land description. When the pond is co-located with an existing or approved well location, show the location of that well as a point of reference on the survey plat.

5. Location stakes at each corner will indicate the inside perimeter of the pond (4-stakes), the maximum width of disturbance including berm walls (4-stakes), and 1 stake to show the center of the topsoil stockpile.

6. Attach a diagram of the project (sample attached as enclosure 2). The diagram will depict the pond dimensions with berms, the location of the stockpiled topsoil, and a North arrow. If a road is requested, depict how the road enters the project area.

An on-site inspection of your proposed project is required. One of our Natural Resource Specialists will contact you to schedule a site visit.