

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

HOBBSOCD

FORM APPROVED
OMB NO. 1004-0135
Expires: July 31, 2010

JAN 05 2015

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.

RECEIVED

SUBMIT IN TRIPLICATE - Other instructions on reverse side.

1. Type of Well ☒ Oil Well ☐ Gas Well ☐ Other		5. Lease Serial No. NMNM106696
2. Name of Operator OXY USA INCORPORATED		6. If Indian, Allottee or Tribe Name
Contact: DAVID STEWART E-Mail: david_stewart@oxy.com		7. If Unit or CA/Agreement, Name and/or No. NMNM126140
3a. Address HOUSTON, TX 77210-4294	3b. Phone No. (include area code) Ph: 432.685.5717 Fx: 432.685.5742	8. Well Name and No. SPEAK EASY FEDERAL UNIT 3H
4. Location of Well (Footage, Sec., T., R., M., or Survey Description) Sec 2 T22S R32E NESE 1980FSL 330FEL 32.418885 N Lat, 103.637529 W Lon		9. API Well No. 30-025-42265-00-X1
		10. Field and Pool, or Exploratory BOOTLEG RIDGE
		11. County or Parish, and State LEA COUNTY, NM

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	Change to Original A
	☐ Convert to Injection	☐ Plug Back	☐ Water Disposal	PD

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 recompleat 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 recompleat 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 site is ready for final inspection.)

OXY USA Inc. respectfully requests approval for the following changes to the drilling plan:

1. Change the target formation from the Brushy Canyon to the 2nd Bone Spring.
2. Extend the BHL 150' past the west hardline to allow for our shoe track and perforating guns, see attached for amended C-102 plat and amended directional drilling plan.

Proposed TD - 15258'M 10770'V

3. Request casing design modification, to drill the well with smaller bit sizes:
14-3/4" surface hole w/ 11-3/4" csg, 10-5/8" intermediate hole w/ 8-5/8" csg and 7-7/8" production hole w/ 5-1/2" csg. Details are below.

14. I hereby certify that the foregoing is true and correct. Electronic Submission #278795 verified by the BLM Well Information System For OXY USA INCORPORATED, sent to the Hobbs Committed to AFMSS for processing by LINDA JIMENEZ on 11/20/2014 (15LJ0367SE)	
Name (Printed/Typed) DAVID STEWART	Title SR. REGULATORY ADVISOR
Signature (Electronic Submission)	Date 11/12/2014
APPROVED	
THIS SPACE FOR FEDERAL OR STATE OFFICE USE	
Approved By _____	Title /s/ Chris Walls
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	BUREAU OF LAND MANAGEMENT CARLSBAD 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.

** BLM REVISED ** BLM REVISED ** BLM REVISED ** BLM REVISED ** BLM REVISED **

JAN 07 2015

Additional data for EC transaction #278795 that would not fit on the form

32. Additional remarks, continued

a. Surface Casing

11-3/4" 47# J-55 BT&C new csg @ 0-1000', 14-3/4" hole w/ 8.6# mud

Coll Rating (psi)-1510 Burst Rating (psi)-3070
SF Coll-4.06 SF Burst-1.41 SF Ten-5.27

b. Intermediate Casing

8-5/8" 32# J-55 BT&C new csg @ 0-4750', 10-5/8" hole w/ 10.2# mud

Coll Rating (psi)-2530 Burst Rating (psi)-3930
SF Coll-2.58 SF Burst-1.24 SF Ten-2.19

c. Production Casing

5-1/2" 17# P-110 BT&C new csg @ 0-15258'M, 7-7/8" hole w/ 9.2# mud

Coll Rating (psi)-7460 Burst Rating (psi)-10640
SF Coll-1.50 SF Burst-1.72 SF Ten-2.12

Collapse and burst loads calculated using Stress Check with anticipated loads, see attached for design assumptions

4. Cement program adjustment to the new bit/casing sizes. Cement program modifications detailed below.

a. Surface - Circulate cement to surface w/ 440sx PP cmt w/ 1% CaCl₂ + .25#/sx Poly-E-Flake + 4% Bentonite, 13.5ppg 1.73 yield 951# 24hr CS 125% Excess followed by 240sx PP cmt w/ 2% CaCl₂, 14.8ppg 1.35 yield 1346# 24hr CS 125% Excess.

b. Intermediate - Circulate cement to surface w/ 890sx HES light PP cmt w/ 5% Salt + .35% HR-800 + .125#/sx Poly-E-Flake + 5#/sx Kol-Seal, 12.9ppg 1.88 yield 734# 24hs CS 105% Excess followed by 210sx PP cmt, 14.8ppg 1.33 yield 1849# 24hr CS 105% Excess.

c. Production - Circulate cement w/ 810sx Tuned Light (TM) system cmt w/ 3#/sx Kol-Seal + .125#/sx Poly-E-Flake + .8% HR-601, 9.76ppg (10.2ppg-downhole) 3.46 yield 788# 24hr CS 100% Excess followed by 760sx Super H cmt w/ 3#/sx salt + .1% HR-800 + .3% CFR-3 + .5% Halad(R)-344 + 2#/sx Kol-Seal, 13.2ppg 1.65 yield 701# 24hr CS 40% Excess.

DV tool @ 4800'. If cement comes to surface during first stage cement job we will drop the cancellation cone for the DV tool. Add second stage contingency cement in the event we do not circulate cement to surface during the first stage.

Contingency 2nd Stage - Cement w/ 400sx Econocement + 3#/sx salt, 12.4ppg 2.05 yield 500# 26hr CS 10% Excess followed by 100sx PP cmt, 14.8ppg 1.33 yield 1849# 24hr CS 10# excess

Description of Cement Additives: Calcium Chloride, Salt (Accelerator); CFR-3 (Dispersant); Bentonite (Light Weight Additive); Kol-Seal, Poly-E-Flake (Lost Circulation Additive); Halad-344 (Low Fluid Loss Control); HR-601, HR-800 (Retarder)
The above cement volumes could be revised pending the caliper measurement.

5. Additional Formation Estimated Formation Tops

Bone Spring - 8696'

1st Bone Spring - 9871'

2nd Bone Spring - 10121'

6. Mud Program

Depth	Mud WT.	Vis Sec	Fluid Loss	Type
0-1000'	8.4-8.9	32-36	NC	Fresh Water/Spud Mud
1000-4750'	9.8-10.2	28-35	NC	Cut Brine
4750-10135'	8.8-9.2	26-32	NC	Cut Brine
10135-15258'	9.2-9.4	32-50	NC	Cut Brine

7. Anticipated BHP 4954psi - Pressure Gradient .46psi

OXY USA Inc.
Speak Easy Federal Unit #3H

Casing Design Assumptions:

Burst Loads

CSG Test (Surface)

- Internal: Displacement fluid + 70% CSG Burst rating
- External: Pore Pressure from section TD to surface

CSG Test (Intermediate)

- Internal: Displacement fluid + 70% CSG Burst rating
- External: Pore Pressure from the Intermediate hole TD to Surface CSG shoe and MW of the drilling mud that was in the hole when the CSG was run to surface

CSG Test (Production)

- Internal: Fresh Water Displacement fluid + 80% CSG Burst rating
- External: Pore Pressure from the well TD the Intermediate CSG shoe and MW of the drilling mud that was in the hole when the CSG was run to surface

Gas Kick (Surface/Intermediate)

- Internal: Gas Kick based on Pore Pressure or Fracture Gradient @ CSG shoe with a gas 0.115psi/ft Gas gradient to surface while drilling the next hole section (e.g. Gas kick while drilling the production hole section is a burst load used to design the intermediate CSG)
- External: Pore Pressure from section TD to previous CSG shoe and MW of the drilling mud that was in the hole when the CSG was run to surface

Stimulation (Production)

- Internal: Displacement fluid + Max Frac treating pressure (not to exceed 80% CSG Burst rating)
- External: Pore Pressure from the well TD to the Intermediate CSG shoe and 8.5 ppg MWE to surface

Collapse Loads

Lost Circulation (Surface/Intermediate)

- Internal: Losses experienced while drilling the next hole section (e.g. losses while drilling the production hole section are used as a collapse load to design the intermediate CSG). After losses there will be a column of mud inside the CSG with an equivalent weight to the Pore Pressure of the lost circulation zone
- External: MW of the drilling mud that was in the hole when the CSG was run

Cementing (Surface/Intermediate/Production)

- Internal: Displacement Fluid
- External: Cement Slurries to TOC, MW to surface

Full Evacuation (Production)

- Internal: Atmospheric Pressure
- External: MW of the drilling mud that was in the hole when the CSG was run

Tension Loads

Running CSG (Surface/Intermediate/Production)

- Axial load of the buoyant weight of the string plus either 100 klb over-pull or string weight in air, whichever is less

Green Cement (Surface/Intermediate/Production)

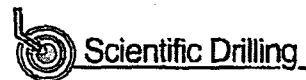
- Axial load of the buoyant weight of the string plus the cement plug bump pressure (Final displacement + 500 psi)

Burst, Collapse and Tensile SF are calculated using Landmark's Stress Check (Casing Design) software.

WD# 120925WL-e (Rev. 8) (KA)



Speakeasy Federal Unit 3H
SEFU 3H
Northing: 516803.60
Easting: 714711.30
Design #1

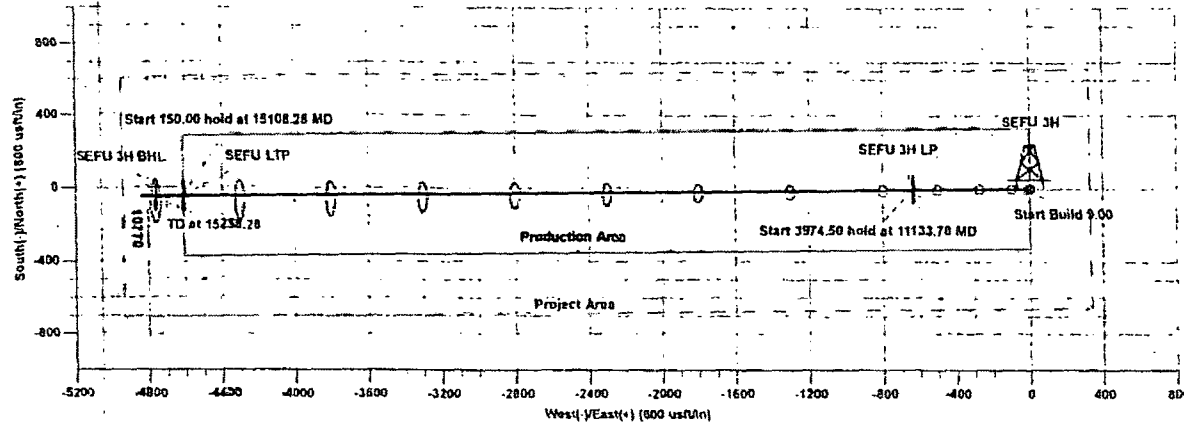
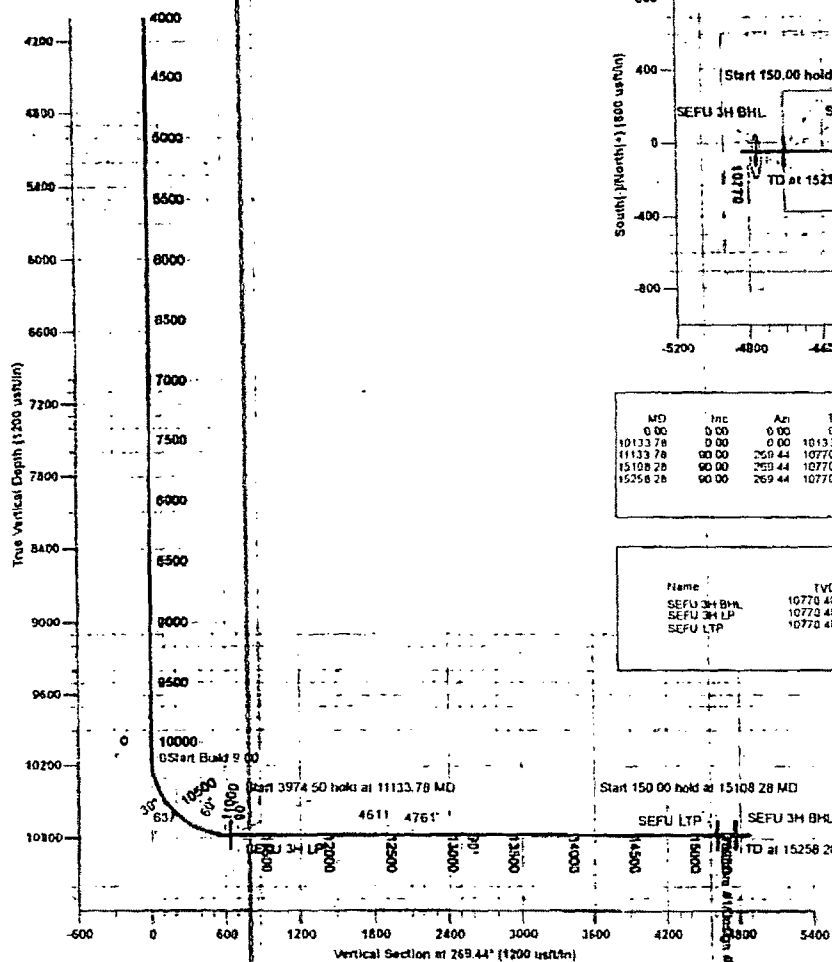


Aligns to Grid North
True North -0.37°
Magnetic North 6.67°

Magnetic Field
Strength 48410.5nT
Dip Angle 60.28°
Date 05/2014
Model IGRF2010

To convert Magnetic North to Grid, Add 6.67°
To convert True North to Grid, Subtract 0.37°

RKB 3611 Aduah
Gr 6 3646.40



SECTION DETAILS									
MD	Inc	An	TVD	+N/S	+E/W	Dleg	TFace	Vsect	Target
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
10133.78	0.00	0.00	10133.78	0.00	0.00	0.00	0.00	0.00	
11133.78	00.00	269.44	10770.40	-0.25	-636.59	9.00	269.44	636.62	
13108.28	90.00	269.44	10770.40	-45.30	-4610.90	0.00	0.00	4611.12	SEFU LTP
15258.28	90.00	269.44	10770.40	-45.77	-4760.89	0.00	0.00	4761.12	SEFU 3H BHL

WELL DETAILS SEFU 3H				
Ground Level		3646.40		
+N/S	+E/W	Northing	Easting	Latitude
0.00	0.00	516803.60	714711.30	32° 25' 7.967 N
				103° 30' 15.103 W

DESIGN TARGET DETAILS				
Name	TVD	+N/S	+E/W	Northing
SEFU 3H BHL	10770.40	-45.77	-4760.89	516756.83
SEFU 3H LP	10770.40	-0.25	-636.59	516797.35
SEFU LTP	10770.40	-45.30	-4610.90	516756.30

SITE DETAILS: Speakeasy Federal Unit 3H	
Site Centre Northing	516803.60
Easting	714711.30
Positional Uncertainty	0.00
Convergence	0.37
Local North Grid	

PROJECT DETAILS:	
Las County, New Mexico	
Geodetic System: US State Plane 1927 (Exact solution)	
Datum: NAD 1927 (NADCOM CONUS)	
Elevation: Clarke 1866	
Zone: New Mexico East 3001	
System Datum: Mean Sea Level	

Judge Fletcher
13.17, August 05 2014
Scientific Drilling Int'l
633 Rankin Ct
Houston, Tx 77073



Scientific Drilling, Int'l Planning Report

Database:	EDM 5000 1 Single User Db	Local Co-ordinate Reference:	Well SEFU 3H
Company:	OXY	TVD Reference:	RKB @ 3671.40usft
Project:	Lea County, New Mexico	MD Reference:	RKB @ 3671.40usft
Site:	Speakeasy Federal Unit 3H	North Reference:	Grid
Well:	SEFU 3H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Design #1		

Project:		Lea County, New Mexico	
Map System:	US State Plane 1927 (Exact solution)	System Datum:	Mean Sea Level
Geo Datum:	NAD 1927 (NADCON CONUS)		
Map Zone:	New Mexico East 3001		

Site		Speakeasy Federal Unit 3H			
Site Position:		Northing:	516,803.60 usft	Latitude:	32° 25' 7.987 N
From:	Map	Easting:	714,711.30 usft	Longitude:	103° 38' 15 108 W
Position Uncertainty:	0.00 usft	Slot Radius:	13-3/16 "	Grid Convergence:	0.37 "

Well:	SEFU 3H					
Well Position	+N/-S	0.00 usft	Northing:	516,803.60 usft	Latitude:	32° 25' 7.987 N
	+E/-W	0.00 usft	Easting:	714 711.30 usft	Longitude:	103° 38' 15 108 W
Position Uncertainty		0.00 usft	Wellhead Elevation:	0.00 usft	Ground Level:	3,646.40 usft

Wellbore:	Wellbore #1
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Magnetics:	Model Name	Sample Date	Declination	Dip Angle	Field Strength
	IGRF2010	8/5/2014	7.24	60.28	48,411

Design:	Design #1
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Audit Notes:				
Version:	Phase:	PROTOTYPE	Tie On Depth:	0.00

Vertical Section:	Depth From (TVD)	+N/-S	+E/-W	Direction
	(usft)	(usft)	(usft)	(°)
	10,770.40	0.00	0.00	269.44

Plan Section:	Measured	Inclination	Azimuth	Vertical	+N/-S	+E/-W	Dogleg	Build	Turn	TFO	Target
	Depth	(°)	(°)	Depth	(usft)	(usft)	Rate	Rate	Rate	(°)	
	(usft)			(usft)			(°/100usft)	(°/100usft)	(°/100usft)		
	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
	10,133.78	0.00	0.00	10,133.78	0.00	0.00	0.00	0.00	0.00	0.00	
	11,133.78	90.00	269.44	10,770.40	-6.25	-636.59	9.00	9.00	0.00	269.44	
	15,108.28	90.00	269.44	10,770.40	-45.30	-4,610.90	0.00	0.00	0.00	0.00	SEFU LTP
	15,258.28	90.00	269.44	10,770.40	-46.77	-4,760.89	0.00	0.00	0.00	0.00	SEFU 3H BHL



Scientific Drilling, Int'l Planning Report

Database:	EDM 5000.1 Single User Db	Local Co-ordinate Reference:	Well SEFU 3H
Company:	OXY	TVD Reference:	RKB @ 3671.40usft
Project:	Lea County, New Mexico	MD Reference:	RKB @ 3671.40usft
Site:	Speakeasy Federal Unit 3H	North Reference:	Grid
Well:	SEFU 3H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Design #1		

Planned Survey:

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
100.00	0.00	0.00	100.00	0.00	0.00	0.00	0.00	0.00	0.00
200.00	0.00	0.00	200.00	0.00	0.00	0.00	0.00	0.00	0.00
300.00	0.00	0.00	300.00	0.00	0.00	0.00	0.00	0.00	0.00
400.00	0.00	0.00	400.00	0.00	0.00	0.00	0.00	0.00	0.00
500.00	0.00	0.00	500.00	0.00	0.00	0.00	0.00	0.00	0.00
600.00	0.00	0.00	600.00	0.00	0.00	0.00	0.00	0.00	0.00
700.00	0.00	0.00	700.00	0.00	0.00	0.00	0.00	0.00	0.00
800.00	0.00	0.00	800.00	0.00	0.00	0.00	0.00	0.00	0.00
900.00	0.00	0.00	900.00	0.00	0.00	0.00	0.00	0.00	0.00
1,000.00	0.00	0.00	1,000.00	0.00	0.00	0.00	0.00	0.00	0.00
1,100.00	0.00	0.00	1,100.00	0.00	0.00	0.00	0.00	0.00	0.00
1,200.00	0.00	0.00	1,200.00	0.00	0.00	0.00	0.00	0.00	0.00
1,300.00	0.00	0.00	1,300.00	0.00	0.00	0.00	0.00	0.00	0.00
1,400.00	0.00	0.00	1,400.00	0.00	0.00	0.00	0.00	0.00	0.00
1,500.00	0.00	0.00	1,500.00	0.00	0.00	0.00	0.00	0.00	0.00
1,600.00	0.00	0.00	1,600.00	0.00	0.00	0.00	0.00	0.00	0.00
1,700.00	0.00	0.00	1,700.00	0.00	0.00	0.00	0.00	0.00	0.00
1,800.00	0.00	0.00	1,800.00	0.00	0.00	0.00	0.00	0.00	0.00
1,900.00	0.00	0.00	1,900.00	0.00	0.00	0.00	0.00	0.00	0.00
2,000.00	0.00	0.00	2,000.00	0.00	0.00	0.00	0.00	0.00	0.00
2,100.00	0.00	0.00	2,100.00	0.00	0.00	0.00	0.00	0.00	0.00
2,200.00	0.00	0.00	2,200.00	0.00	0.00	0.00	0.00	0.00	0.00
2,300.00	0.00	0.00	2,300.00	0.00	0.00	0.00	0.00	0.00	0.00
2,400.00	0.00	0.00	2,400.00	0.00	0.00	0.00	0.00	0.00	0.00
2,500.00	0.00	0.00	2,500.00	0.00	0.00	0.00	0.00	0.00	0.00
2,600.00	0.00	0.00	2,600.00	0.00	0.00	0.00	0.00	0.00	0.00
2,700.00	0.00	0.00	2,700.00	0.00	0.00	0.00	0.00	0.00	0.00
2,800.00	0.00	0.00	2,800.00	0.00	0.00	0.00	0.00	0.00	0.00
2,900.00	0.00	0.00	2,900.00	0.00	0.00	0.00	0.00	0.00	0.00
3,000.00	0.00	0.00	3,000.00	0.00	0.00	0.00	0.00	0.00	0.00
3,100.00	0.00	0.00	3,100.00	0.00	0.00	0.00	0.00	0.00	0.00
3,200.00	0.00	0.00	3,200.00	0.00	0.00	0.00	0.00	0.00	0.00
3,300.00	0.00	0.00	3,300.00	0.00	0.00	0.00	0.00	0.00	0.00
3,400.00	0.00	0.00	3,400.00	0.00	0.00	0.00	0.00	0.00	0.00
3,500.00	0.00	0.00	3,500.00	0.00	0.00	0.00	0.00	0.00	0.00
3,600.00	0.00	0.00	3,600.00	0.00	0.00	0.00	0.00	0.00	0.00
3,700.00	0.00	0.00	3,700.00	0.00	0.00	0.00	0.00	0.00	0.00
3,800.00	0.00	0.00	3,800.00	0.00	0.00	0.00	0.00	0.00	0.00
3,900.00	0.00	0.00	3,900.00	0.00	0.00	0.00	0.00	0.00	0.00
4,000.00	0.00	0.00	4,000.00	0.00	0.00	0.00	0.00	0.00	0.00
4,100.00	0.00	0.00	4,100.00	0.00	0.00	0.00	0.00	0.00	0.00
4,200.00	0.00	0.00	4,200.00	0.00	0.00	0.00	0.00	0.00	0.00
4,300.00	0.00	0.00	4,300.00	0.00	0.00	0.00	0.00	0.00	0.00
4,400.00	0.00	0.00	4,400.00	0.00	0.00	0.00	0.00	0.00	0.00
4,500.00	0.00	0.00	4,500.00	0.00	0.00	0.00	0.00	0.00	0.00
4,600.00	0.00	0.00	4,600.00	0.00	0.00	0.00	0.00	0.00	0.00
4,700.00	0.00	0.00	4,700.00	0.00	0.00	0.00	0.00	0.00	0.00
4,800.00	0.00	0.00	4,800.00	0.00	0.00	0.00	0.00	0.00	0.00
4,900.00	0.00	0.00	4,900.00	0.00	0.00	0.00	0.00	0.00	0.00
5,000.00	0.00	0.00	5,000.00	0.00	0.00	0.00	0.00	0.00	0.00
5,100.00	0.00	0.00	5,100.00	0.00	0.00	0.00	0.00	0.00	0.00
5,200.00	0.00	0.00	5,200.00	0.00	0.00	0.00	0.00	0.00	0.00
5,300.00	0.00	0.00	5,300.00	0.00	0.00	0.00	0.00	0.00	0.00



Scientific Drilling, Int'l Planning Report

Database:	EDM 5000.1 Single User Db	Local Co-ordinate Reference:	Well SEFU 3H
Company:	OXY	TVD Reference:	RKB @ 3671.40usft
Project:	Lea County, New Mexico	MD Reference:	RKB @ 3671.40usft
Site:	Speakeasy Federal Unit 3H	North Reference:	Grid
Well:	SEFU 3H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Design #1		

Planned Survey									
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N-S (usft)	+E-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)

5,400.00	0.00	0.00	5,400.00	0.00	0.00	0.00	0.00	0.00	0.00
5,500.00	0.00	0.00	5,500.00	0.00	0.00	0.00	0.00	0.00	0.00
5,600.00	0.00	0.00	5,600.00	0.00	0.00	0.00	0.00	0.00	0.00
5,700.00	0.00	0.00	5,700.00	0.00	0.00	0.00	0.00	0.00	0.00
5,800.00	0.00	0.00	5,800.00	0.00	0.00	0.00	0.00	0.00	0.00
5,900.00	0.00	0.00	5,900.00	0.00	0.00	0.00	0.00	0.00	0.00
6,000.00	0.00	0.00	6,000.00	0.00	0.00	0.00	0.00	0.00	0.00
6,100.00	0.00	0.00	6,100.00	0.00	0.00	0.00	0.00	0.00	0.00
6,200.00	0.00	0.00	6,200.00	0.00	0.00	0.00	0.00	0.00	0.00
6,300.00	0.00	0.00	6,300.00	0.00	0.00	0.00	0.00	0.00	0.00
6,400.00	0.00	0.00	6,400.00	0.00	0.00	0.00	0.00	0.00	0.00
6,500.00	0.00	0.00	6,500.00	0.00	0.00	0.00	0.00	0.00	0.00
6,600.00	0.00	0.00	6,600.00	0.00	0.00	0.00	0.00	0.00	0.00
6,700.00	0.00	0.00	6,700.00	0.00	0.00	0.00	0.00	0.00	0.00
6,800.00	0.00	0.00	6,800.00	0.00	0.00	0.00	0.00	0.00	0.00
6,900.00	0.00	0.00	6,900.00	0.00	0.00	0.00	0.00	0.00	0.00
7,000.00	0.00	0.00	7,000.00	0.00	0.00	0.00	0.00	0.00	0.00
7,100.00	0.00	0.00	7,100.00	0.00	0.00	0.00	0.00	0.00	0.00
7,200.00	0.00	0.00	7,200.00	0.00	0.00	0.00	0.00	0.00	0.00
7,300.00	0.00	0.00	7,300.00	0.00	0.00	0.00	0.00	0.00	0.00
7,400.00	0.00	0.00	7,400.00	0.00	0.00	0.00	0.00	0.00	0.00
7,500.00	0.00	0.00	7,500.00	0.00	0.00	0.00	0.00	0.00	0.00
7,600.00	0.00	0.00	7,600.00	0.00	0.00	0.00	0.00	0.00	0.00
7,700.00	0.00	0.00	7,700.00	0.00	0.00	0.00	0.00	0.00	0.00
7,800.00	0.00	0.00	7,800.00	0.00	0.00	0.00	0.00	0.00	0.00
7,900.00	0.00	0.00	7,900.00	0.00	0.00	0.00	0.00	0.00	0.00
8,000.00	0.00	0.00	8,000.00	0.00	0.00	0.00	0.00	0.00	0.00
8,100.00	0.00	0.00	8,100.00	0.00	0.00	0.00	0.00	0.00	0.00
8,200.00	0.00	0.00	8,200.00	0.00	0.00	0.00	0.00	0.00	0.00
8,300.00	0.00	0.00	8,300.00	0.00	0.00	0.00	0.00	0.00	0.00
8,400.00	0.00	0.00	8,400.00	0.00	0.00	0.00	0.00	0.00	0.00
8,500.00	0.00	0.00	8,500.00	0.00	0.00	0.00	0.00	0.00	0.00
8,600.00	0.00	0.00	8,600.00	0.00	0.00	0.00	0.00	0.00	0.00
8,700.00	0.00	0.00	8,700.00	0.00	0.00	0.00	0.00	0.00	0.00
8,800.00	0.00	0.00	8,800.00	0.00	0.00	0.00	0.00	0.00	0.00
8,900.00	0.00	0.00	8,900.00	0.00	0.00	0.00	0.00	0.00	0.00
9,000.00	0.00	0.00	9,000.00	0.00	0.00	0.00	0.00	0.00	0.00
9,100.00	0.00	0.00	9,100.00	0.00	0.00	0.00	0.00	0.00	0.00
9,200.00	0.00	0.00	9,200.00	0.00	0.00	0.00	0.00	0.00	0.00
9,300.00	0.00	0.00	9,300.00	0.00	0.00	0.00	0.00	0.00	0.00
9,400.00	0.00	0.00	9,400.00	0.00	0.00	0.00	0.00	0.00	0.00
9,500.00	0.00	0.00	9,500.00	0.00	0.00	0.00	0.00	0.00	0.00
9,600.00	0.00	0.00	9,600.00	0.00	0.00	0.00	0.00	0.00	0.00
9,700.00	0.00	0.00	9,700.00	0.00	0.00	0.00	0.00	0.00	0.00
9,800.00	0.00	0.00	9,800.00	0.00	0.00	0.00	0.00	0.00	0.00
9,900.00	0.00	0.00	9,900.00	0.00	0.00	0.00	0.00	0.00	0.00
10,000.00	0.00	0.00	10,000.00	0.00	0.00	0.00	0.00	0.00	0.00
10,100.00	0.00	0.00	10,100.00	0.00	0.00	0.00	0.00	0.00	0.00
10,199.78	0.00	0.00	10,199.78	0.00	0.00	0.00	0.00	0.00	0.00
10,150.00	1.46	269.44	10,150.00	0.00	-0.21	0.21	9.00	9.00	0.00
10,200.00	5.96	269.44	10,199.88	-0.03	-3.44	3.44	9.00	9.00	0.00
10,250.00	10.46	269.44	10,249.36	-0.10	-10.58	10.58	9.00	9.00	0.00
10,300.00	14.96	269.44	10,298.12	-0.21	-21.58	21.58	9.00	9.00	0.00
10,350.00	19.46	269.44	10,345.87	-0.36	-36.36	36.37	9.00	9.00	0.00



Scientific Drilling, Int'l Planning Report

Database:	EDM 5000 1 Single User Db	Local Co-ordinate Reference:	Well SEFU 3H
Company:	OXY	TVD Reference:	RKB @ 3671.40usft
Project:	Lea County, New Mexico	MD Reference:	RKB @ 3671.40usft
Site:	Speakeasy Federal Unit 3H	North Reference:	Grid
Well:	SEFU 3H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Design #1		

Planned Survey									
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
10,400.00	23.96	269.44	10,392.31	-0.54	-54.85	54.86	9.00	9.00	0.00
10,450.00	28.46	269.44	10,437.16	-0.76	-76.93	76.93	9.00	9.00	0.00
10,500.00	32.96	269.44	10,480.13	-1.01	-102.46	102.46	9.00	9.00	0.00
10,550.00	37.46	269.44	10,520.98	-1.29	-131.28	131.28	9.00	9.00	0.00
10,600.00	41.96	269.44	10,559.43	-1.60	-163.21	163.22	9.00	9.00	0.00
10,650.00	46.46	269.44	10,595.26	-1.95	-198.07	198.08	9.00	9.00	0.00
10,700.00	50.96	269.44	10,628.25	-2.31	-235.62	235.63	9.00	9.00	0.00
10,750.00	55.46	269.44	10,658.18	-2.71	-275.65	275.67	9.00	9.00	0.00
10,800.00	59.96	269.44	10,684.89	-3.12	-317.91	317.92	9.00	9.00	0.00
10,850.00	64.46	269.44	10,708.19	-3.56	-362.13	362.14	9.00	9.00	0.00
10,900.00	68.96	269.44	10,727.96	-4.01	-408.04	408.06	9.00	9.00	0.00
10,950.00	73.46	269.44	10,744.06	-4.47	-455.36	455.38	9.00	9.00	0.00
11,000.00	77.96	269.44	10,756.40	-4.95	-503.80	503.82	9.00	9.00	0.00
11,050.00	82.46	269.44	10,764.90	-5.43	-553.05	553.08	9.00	9.00	0.00
11,100.00	86.96	269.44	10,769.50	-5.92	-602.83	602.86	9.00	9.00	0.00
11,133.78	90.00	269.44	10,770.40	-6.25	-636.59	636.62	9.00	9.00	0.00
SEFU 3H LP									
11,200.00	90.00	269.44	10,770.40	-6.90	-702.81	702.84	0.00	0.00	0.00
11,300.00	90.00	269.44	10,770.40	-7.89	-802.80	802.84	0.00	0.00	0.00
11,400.00	90.00	269.44	10,770.40	-8.87	-902.80	902.84	0.00	0.00	0.00
11,500.00	90.00	269.44	10,770.40	-9.85	-1,002.79	1,002.84	0.00	0.00	0.00
11,600.00	90.00	269.44	10,770.40	-10.83	-1,102.79	1,102.84	0.00	0.00	0.00
11,700.00	90.00	269.44	10,770.40	-11.82	-1,202.78	1,202.84	0.00	0.00	0.00
11,800.00	90.00	269.44	10,770.40	-12.80	-1,302.78	1,302.84	0.00	0.00	0.00
11,900.00	90.00	269.44	10,770.40	-13.78	-1,402.77	1,402.84	0.00	0.00	0.00
12,000.00	90.00	269.44	10,770.40	-14.76	-1,502.77	1,502.84	0.00	0.00	0.00
12,100.00	90.00	269.44	10,770.40	-15.75	-1,602.76	1,602.84	0.00	0.00	0.00
12,200.00	90.00	269.44	10,770.40	-16.73	-1,702.76	1,702.84	0.00	0.00	0.00
12,300.00	90.00	269.44	10,770.40	-17.71	-1,802.75	1,802.84	0.00	0.00	0.00
12,400.00	90.00	269.44	10,770.40	-18.69	-1,902.75	1,902.84	0.00	0.00	0.00
12,500.00	90.00	269.44	10,770.40	-19.68	-2,002.74	2,002.84	0.00	0.00	0.00
12,600.00	90.00	269.44	10,770.40	-20.66	-2,102.74	2,102.84	0.00	0.00	0.00
12,700.00	90.00	269.44	10,770.40	-21.64	-2,202.73	2,202.84	0.00	0.00	0.00
12,800.00	90.00	269.44	10,770.40	-22.62	-2,302.73	2,302.84	0.00	0.00	0.00
12,900.00	90.00	269.44	10,770.40	-23.61	-2,402.72	2,402.84	0.00	0.00	0.00
13,000.00	90.00	269.44	10,770.40	-24.59	-2,502.72	2,502.84	0.00	0.00	0.00
13,100.00	90.00	269.44	10,770.40	-25.57	-2,602.71	2,602.84	0.00	0.00	0.00
13,200.00	90.00	269.44	10,770.40	-26.55	-2,702.71	2,702.84	0.00	0.00	0.00
13,300.00	90.00	269.44	10,770.40	-27.54	-2,802.70	2,802.84	0.00	0.00	0.00
13,400.00	90.00	269.44	10,770.40	-28.52	-2,902.70	2,902.84	0.00	0.00	0.00
13,500.00	90.00	269.44	10,770.40	-29.50	-3,002.69	3,002.84	0.00	0.00	0.00
13,600.00	90.00	269.44	10,770.40	-30.48	-3,102.69	3,102.84	0.00	0.00	0.00
13,700.00	90.00	269.44	10,770.40	-31.46	-3,202.69	3,202.84	0.00	0.00	0.00
13,800.00	90.00	269.44	10,770.40	-32.45	-3,302.68	3,302.84	0.00	0.00	0.00
13,900.00	90.00	269.44	10,770.40	-33.43	-3,402.68	3,402.84	0.00	0.00	0.00
14,000.00	90.00	269.44	10,770.40	-34.41	-3,502.67	3,502.84	0.00	0.00	0.00
14,100.00	90.00	269.44	10,770.40	-35.39	-3,602.67	3,602.84	0.00	0.00	0.00
14,200.00	90.00	269.44	10,770.40	-36.38	-3,702.66	3,702.84	0.00	0.00	0.00
14,300.00	90.00	269.44	10,770.40	-37.36	-3,802.66	3,802.84	0.00	0.00	0.00
14,400.00	90.00	269.44	10,770.40	-38.34	-3,902.65	3,902.84	0.00	0.00	0.00
14,500.00	90.00	269.44	10,770.40	-39.32	-4,002.65	4,002.84	0.00	0.00	0.00
14,600.00	90.00	269.44	10,770.40	-40.31	-4,102.64	4,102.84	0.00	0.00	0.00
14,700.00	90.00	269.44	10,770.40	-41.29	-4,202.64	4,202.84	0.00	0.00	0.00



Scientific Drilling, Int'l Planning Report

Database:	EDM 5000.1 Single User Db	Local Co-ordinate Reference:	Well SEFU 3H
Company:	OXY	TVD Reference:	RKB @ 3671.40usft
Project:	Lea County, New Mexico	MD Reference:	RKB @ 3671.40usft
Site:	Speakeasy Federal Unit 3H	North Reference:	Grid
Well:	SEFU 3H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Design #1		

Planned Survey									
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
14,800.00	90.00	269.44	10,770.40	-42.27	-4,302.63	4,302.84	0.00	0.00	0.00
14,900.00	90.00	269.44	10,770.40	-43.25	-4,402.63	4,402.84	0.00	0.00	0.00
15,000.00	90.00	269.44	10,770.40	-44.24	-4,502.62	4,502.84	0.00	0.00	0.00
15,108.28	90.00	269.44	10,770.40	-45.30	-4,610.90	4,611.12	0.00	0.00	0.00
SEFU LTP									
15,200.00	90.00	269.44	10,770.40	-46.20	-4,702.61	4,702.84	0.00	0.00	0.00
15,258.28	90.00	269.44	10,770.40	-46.77	-4,760.89	4,761.12	0.00	0.00	0.00
SEFU 3H BHL									

Design Targets									
Target Name	Dip Angle (°)	Dip Dir (°)	TVD (usft)	+N/-S (usft)	+E/-W (usft)	Northing (usft)	Easting (usft)	Latitude	Longitude
hit/miss target									
Shape									
SEFU 3H BHL	0.00	0.00	10,770.40	-46.77	-4,760.89	516,756.83	709,950.41	32° 25' 7.828 N	103° 39' 10.650 W
- plan hits target center									
- Point									
SEFU LTP	0.00	0.00	10,770.40	-45.30	-4,610.90	516,758.30	710,100.40	32° 25' 7.833 N	103° 39' 8.900 W
- plan hits target center									
- Point									
SEFU 3H LP	0.00	0.00	10,770.40	-6.25	-636.59	516,797.35	714,074.71	32° 25' 7.866 N	103° 38' 22.534 W
- plan hits target center									
- Point									