Carlsbad Field Office
OCD Artesia

HIGH CAVEKARST

ATS-15-202

Form 3160-3
(March 2012)

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

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

APPLICATION FOR PERMIT TO DRILL OR REENTER

5. Lease Serial No. NMNM-0554216

6. If Indian, Allotee or Tribe Name

1a. Type of work: ☑ DRILL ☐ REENTER

7. If Unit or CA Agreement, Name and No.

1b. Type of Well: ☑ Oil Well ☐ Gas Well ☐ Other ☑ Single Zone ☐ Multiple Zone

8. Lease Name and Well No. 316027
LIBRA 15 FEDERAL #2H

2. Name of Operator OXY USA WTP LP

9. API Well No. 30-015-43669

3a. Address P.O. BOX 4294
HOUSTON, TX 77210

3b. Phone No. (include area code)
713-513-6640

10. Field and Pool, or Exploratory
AVALON; BONE SPRING, EAST (3713)

4. Location of Well (Report location clearly and in accordance with any State requirements.*)
At surface 2295' FNL & 295' FWL; SWNW (E)
At proposed prod. zone 2210' FNL & 180' FWL; SWNW (E)

11. Sec., T. R. M. or Blk. and Survey or Area
SH = SEC 14, T20S, ~~R26E~~ R28E
BH = SEC 15, T20S, ~~R26E~~ R28E

14. Distance in miles and direction from nearest town or post office*
15 MILES FROM CARLSBAD, NM

12. County or Parish
EDDY COUNTY

13. State
NM

15. Distance from proposed* location to nearest property or lease line, ft. (Also to nearest drlg. unit line, if any) 180'

16. No. of acres in lease
360

17. Spacing Unit dedicated to this well
160

18. Distance from proposed location* to nearest well, drilling, completed, applied for, on this lease, ft. 300'

19. Proposed Depth
12622' MD / 7430' TVD

20. BLM/BIA Bond No. on file
NMB000882 / ESB~~000226~~ 000226

21. Elevations (Show whether DF, KDB, RT, GL, etc.)
3258'

22. Approximate date work will start*
04/01/2015

23. Estimated duration
20 DAYS

24. Attachments

The following, completed in accordance with the requirements of Onshore Oil and Gas Order No.1, must be attached to this form:

1. Well plat certified by a registered surveyor.
2. A Drilling Plan.
3. A Surface Use Plan (if the location is on National Forest System Lands, the SUPO must be filed with the appropriate Forest Service Office).
4. Bond to cover the operations unless covered by an existing bond on file (see Item 20 above).
5. Operator certification
6. Such other site specific information and/or plans as may be required by the BLM.

25. Signature [signature] Name (Printed/Typed) JENNIFER DUARTE (jennifer_duarte@oxy.com) Date 11/18/2014

Title REGULATORY SPECIALIST

Approved by (Signature) /s/ STEPHEN J. CAFFEY Name (Printed/Typed) Date MAR 02 2016

Title FOR FIELD MANAGER Office BLM-CARLSBAD FIELD OFFICE

Application approval 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.
Conditions of approval, if any, are attached. APPROVAL FOR TWO YEARS

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.

(Continued on page 2)

*(Instructions on page 2)

APPROVAL SUBJECT TO GENERAL REQUIREMENTS AND SPECIAL STIPULATIONS ATTACHED

SEE ATTACHED FOR CONDITIONS OF APPROVAL

UBD 3/9/2016

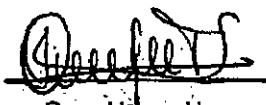
NM OIL CONSERVATION
ARTESIA DISTRICT
MAR 08 2016
RECEIVED

Capitan Controlled Water Basin

Witness Surface & Intermediate Casing

OPERATOR CERTIFICATION

I hereby certify that I, or someone under my direct supervision, have inspected the drill site and access route proposed herein; that I am familiar with the conditions that presently exist; that I have full knowledge of State and Federal laws applicable to this operation; that the statements made in this APD package are, to the best of my knowledge, true and correct; and that the work associated with the operations proposed herein will be performed in conformity with this APD package and the terms and conditions under which it is approved. I also certify that I, or the company I represent, am responsible for the operations conducted under this application. These statements are subject to the provisions of 18 U.S.C. 1001 for the filing of false statements. Executed this 31 day of March 2015.

Signature: 

Name: Omar Lisigurski

Position: Reservoir Management Team Leader

Address: 5 Greenway Plaza, Suite 110, Houston, TX 77046

Telephone: 713-215-7506

E-mail: (optional): omar_lisigurski@oxy.com

Company: Occidental Permian LP/OXY USA Inc./OXY USA WTP LP

Field Representative (if not above signatory): Dusty Weaver

Address (if different from above): P.O. Box 50250 Midland, TX 79710

Telephone (if different from above): 432-685-5723

E-mail (if different from above): calvin_weaver@oxy.com

District I
1625 N French Dr., Hobbs, NM 88240
Phone: (575) 393-6161 Fax: (575) 393-0720
District II
811 S. First St., Artesia, NM 88210
Phone: (575) 748-1283 Fax: (575) 748-9720
District III
1000 Rio Brazos Road, Aztec, NM 87410
Phone: (505) 334-6178 Fax: (505) 334-6170
District IV
1220 S. St. Francis Dr., Santa Fe, NM 87505
Phone: (505) 476-3460 Fax: (505) 476-3462

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 August 1, 2011
Submit one copy to appropriate District Office

☐ *AMENDED REPORT*

WELL LOCATION AND ACREAGE DEDICATION PLAT

API Number	Pool Code	Pool Name
30-015-43669	3713	Avalon; Bone Spring, East

Property Code	Property Name	Well Number
316027	LIBRA "15" FEDERAL	2H

OGRID No.	Operator Name	Elevation
192463	OXY USA WTP LP	3258.1'

Surface Location

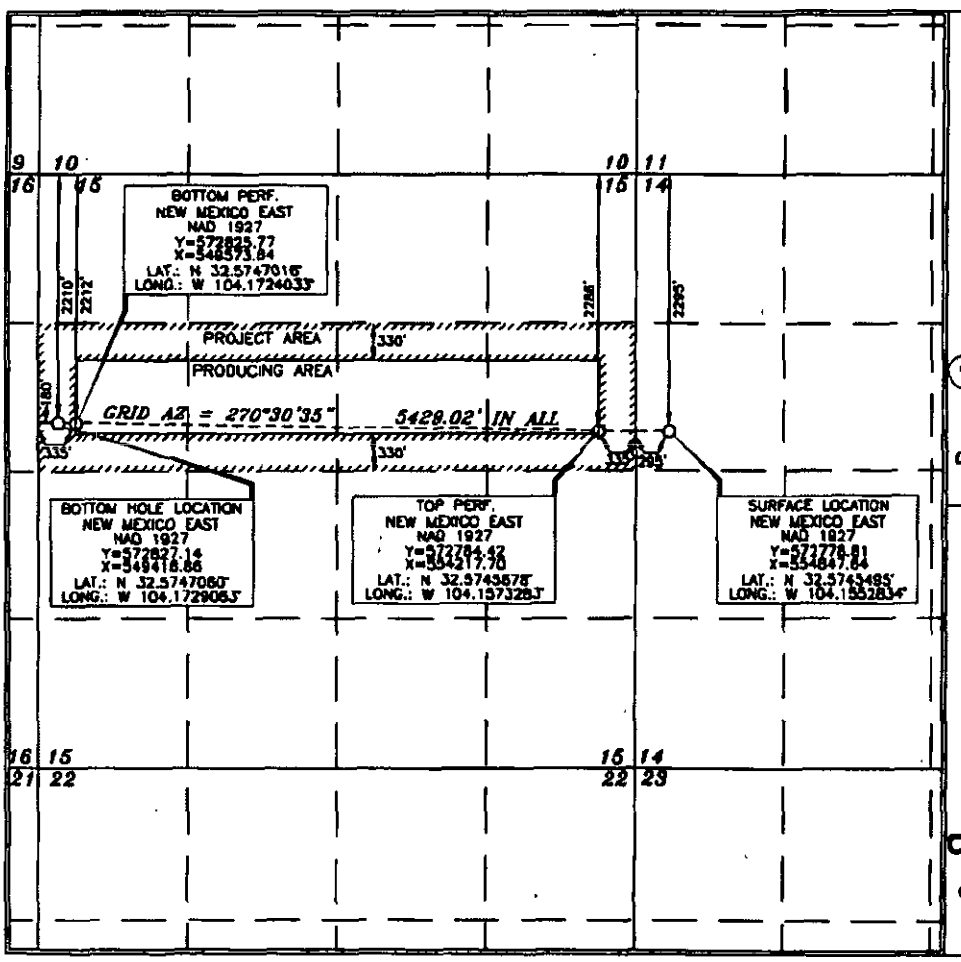
UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
E	14	20 SOUTH	28 EAST, N.M.P.M.		2295'	NORTH	295'	WEST	EDDY

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
E	15	20 SOUTH	28 EAST, N.M.P.M.		2210'	NORTH	180'	WEST	EDDY

Dedicated Acres	Joint or Infill	Consolidation Code	Order No.
160			

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.



OPERATOR CERTIFICATION

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.

Jennifer Duarte 11/17/14
Signature Date

Jennifer Duarte
Printed Name

jennifer_duarte@oxy.com
E-mail Address

SURVEYOR CERTIFICATION

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.

SEPTEMBER 2, 2014
Date of Survey

Signature and Seal of Professional Surveyor

GARY J. ASH
NEW MEXICO
15079
PROFESSIONAL LAND SURVEYOR

Gary J. Ash 9/22/2014
Certificate Number 15079

WO# 140714WL-b (Rev. A) (KA)

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State of New Mexico
Energy, Minerals & Natural Resources Department
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1220 South St. Francis Dr.
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Form C-102
Revised August 1, 2011
Submit one copy to appropriate District Office

☐ *AMENDED REPORT*

WELL LOCATION AND ACREAGE DEDICATION PLAT

API Number	Pool Code	Pool Name
	3713	Avalon; Bone Spring, East

Property Code	Property Name	Well Number
	LIBRA "15" FEDERAL	2H

OGRID No.	Operator Name	Elevation
192463	OXY USA WTP LP	3258.1'

Surface Location

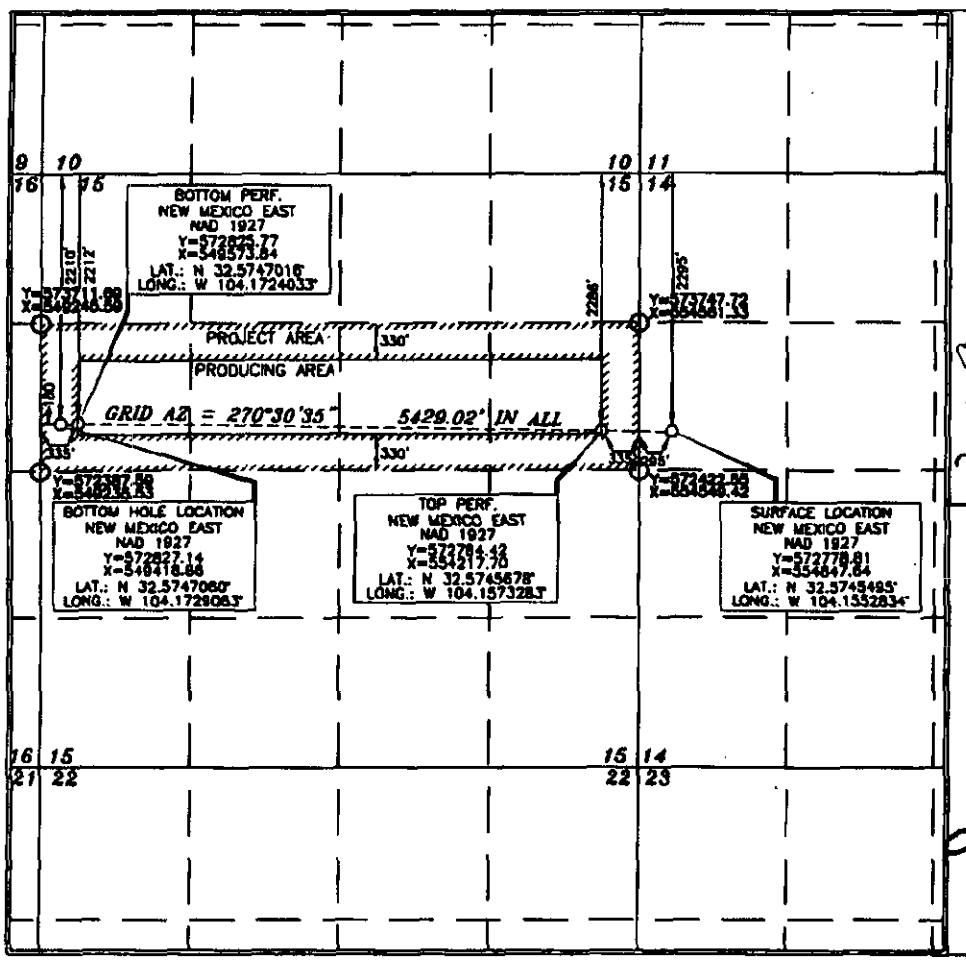
UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
E	14	20 SOUTH	28 EAST, N.M.P.M.		2295'	NORTH	295'	WEST	EDDY

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
E	15	20 SOUTH	28 EAST, N.M.P.M.		2210'	NORTH	180'	WEST	EDDY

Dedicated Acres	Joint or Infill	Consolidation Code	Order No.
160			

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.



OPERATOR CERTIFICATION

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Signature 11/17/14

Jennifer Duarte

Printed Name

jennifer_duarte@oxy.com

E-mail Address

SURVEYOR CERTIFICATION

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.

15079

SEPTEMBER 2, 2014

Date of Survey

Signature and Seal of Professional Surveyor

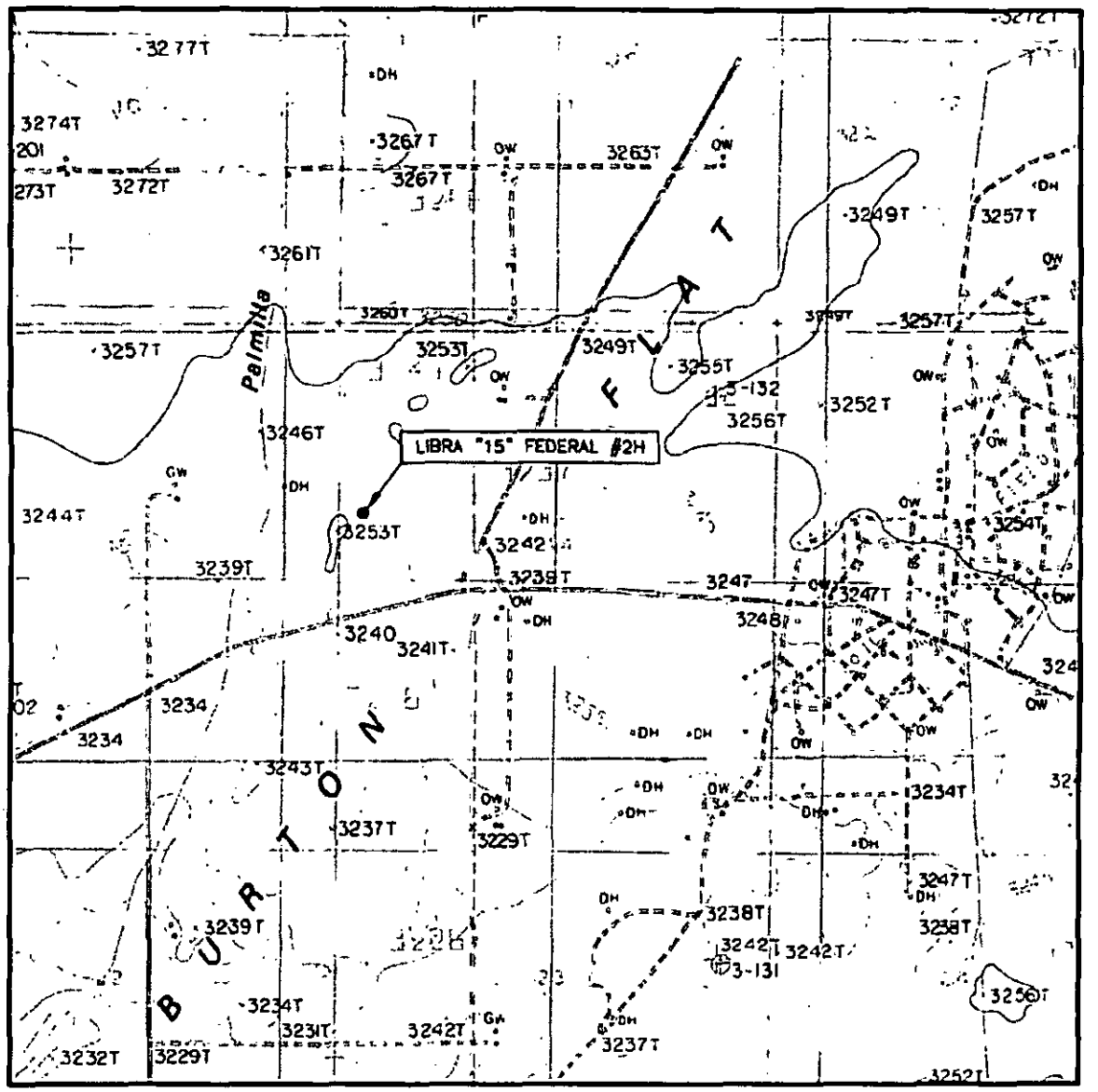
NEW MEXICO PROFESSIONAL LAND SURVEYOR

Certificate Number 15079

9/22/2014

WO# 140714WL-b-XY (Rev. A) (KA)

LOCATION VERIFICATION MAP



SCALE: 1" = 2000'

CONTOUR INTERVAL: 10'

SEC. 14 TWP. 20-S RGE. 28-E

SURVEY N.M.P.M.

COUNTY EDDY

DESCRIPTION 2295' FNL & 295' FWL

ELEVATION 3258.1'

OPERATOR OXY USA WTP LP

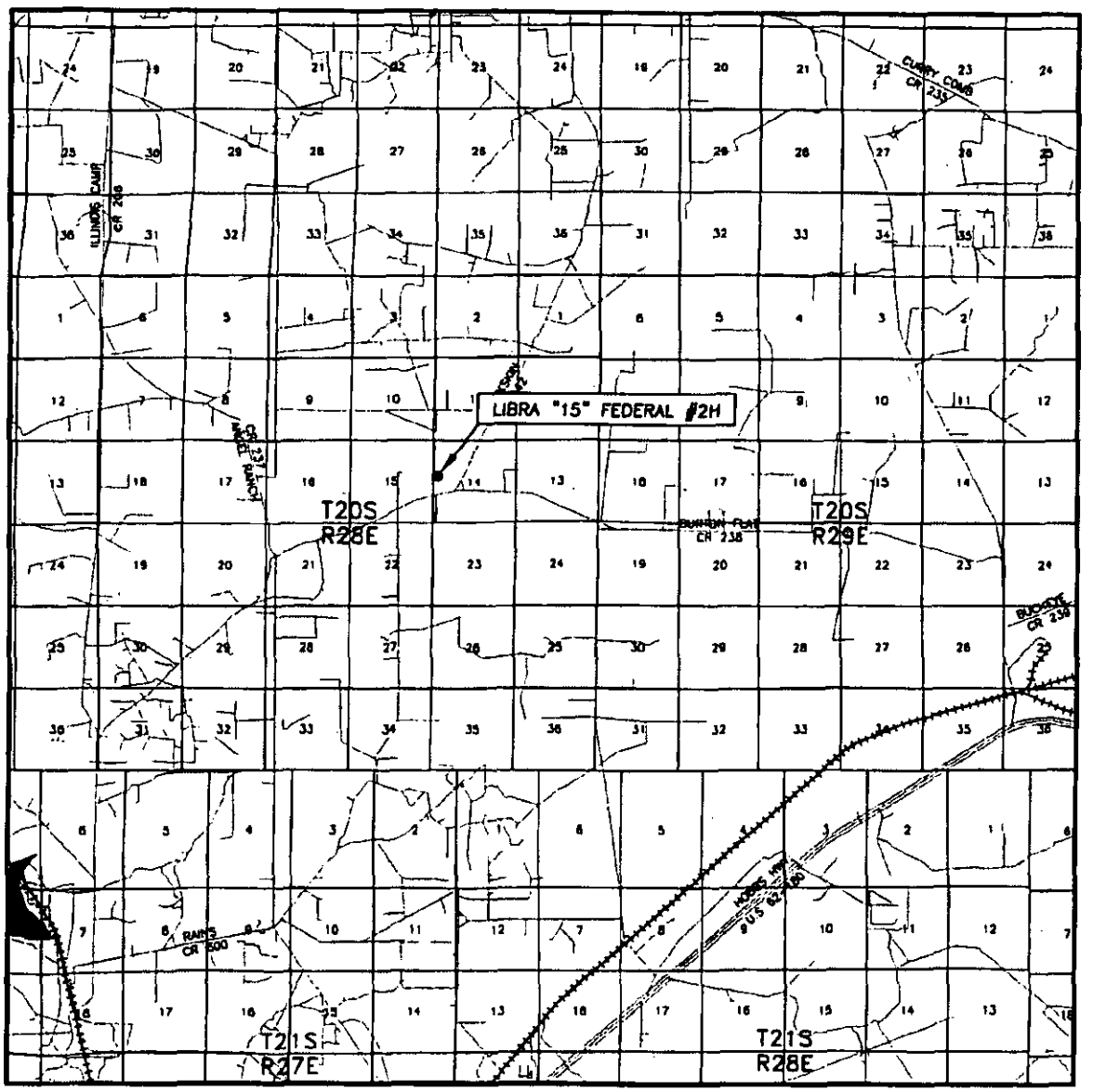
LEASE LIBRA "15" FEDERAL #2H

U.S.G.S. TOPOGRAPHIC MAP
ANGEL DRAW, N.M.

Asel Surveying

P.O. BOX 393 - 310 W. TAYLOR
HOBBS, NEW MEXICO - 575-393-9146

VICINITY MAP



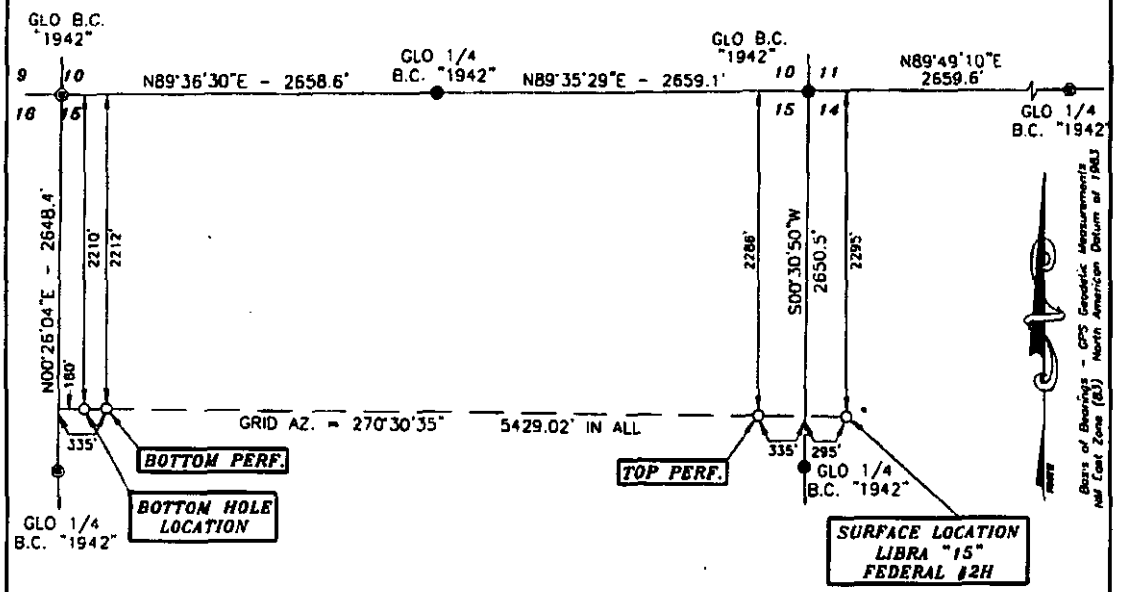
SEC. 14 TWP. 20-S RGE. 28-E
SURVEY N.M.P.M.
COUNTY EDDY
DESCRIPTION 2295' FNL & 295' FWL
ELEVATION 3258.1'
OPERATOR OXY USA WTP LP
LEASE LIBRA "15" FEDERAL #2H

SCALE: 1" = 2 MILES

Asel Surveying
P.O. BOX 393 - 310 W. TAYLOR
HOBBS, NEW MEXICO - 575-393-9146

DIRECTIONS BEGINNING AT THE INTERSECTION OF U.S. HWY. #62 AND EDDY COUNTY ROAD #238 (BURTON FLAT ROAD), GO NORTH ON EDDY COUNTY ROAD #238 FOR 2.1 MILES, GO WEST FOR 7.1 MILES, TURN RIGHT ON PROPOSED ROAD AND GO NORTH FOR 1145.1 FEET, TURN RIGHT AND GO EAST FOR 51.4 FEET TO LOCATION.

SECTIONS 14 & 15, TOWNSHIP 20 SOUTH, RANGE 28 EAST, N.M.P.M.,
EDDY COUNTY NEW MEXICO



DRIVING DIRECTIONS:
BEGINNING AT THE INTERSECTION OF U.S. HWY. #62 AND EDDY COUNTY ROAD #238 (BURTON FLAT ROAD), GO NORTH ON EDDY COUNTY ROAD #238 FOR 2.1 MILES, GO WEST FOR 7.1 MILES, TURN RIGHT ON PROPOSED ROAD AND GO NORTH FOR 1145.1 FEET, TURN RIGHT AND GO EAST FOR 51.4 FEET TO LOCATION.

TERRY J ASEL NEW MEXICO 15079 REGISTERED PROFESSIONAL LAND SURVEYOR

LEGEND
● - DENOTES FOUND MONUMENT AS NOTED

1000' 0 1000' 2000' FEET
SCALE: 1"=1000'

SURVEYORS CERTIFICATE

I, TERRY J. ASEL, NEW MEXICO PROFESSIONAL SURVEYOR NO. 15079, DO HEREBY CERTIFY THAT I CONDUCTED AND AM RESPONSIBLE FOR THIS SURVEY, THAT THIS SURVEY IS TRUE AND CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF, AND MEETS THE "MINIMUM STANDARDS FOR SURVEYING IN NEW MEXICO" AS ADOPTED BY THE NEW MEXICO STATE BOARD OF REGISTRATION FOR PROFESSIONAL ENGINEERS AND SURVEYORS.

Terry J. Asel N.M. R.P.L.S. No. 15079 9/22/2014

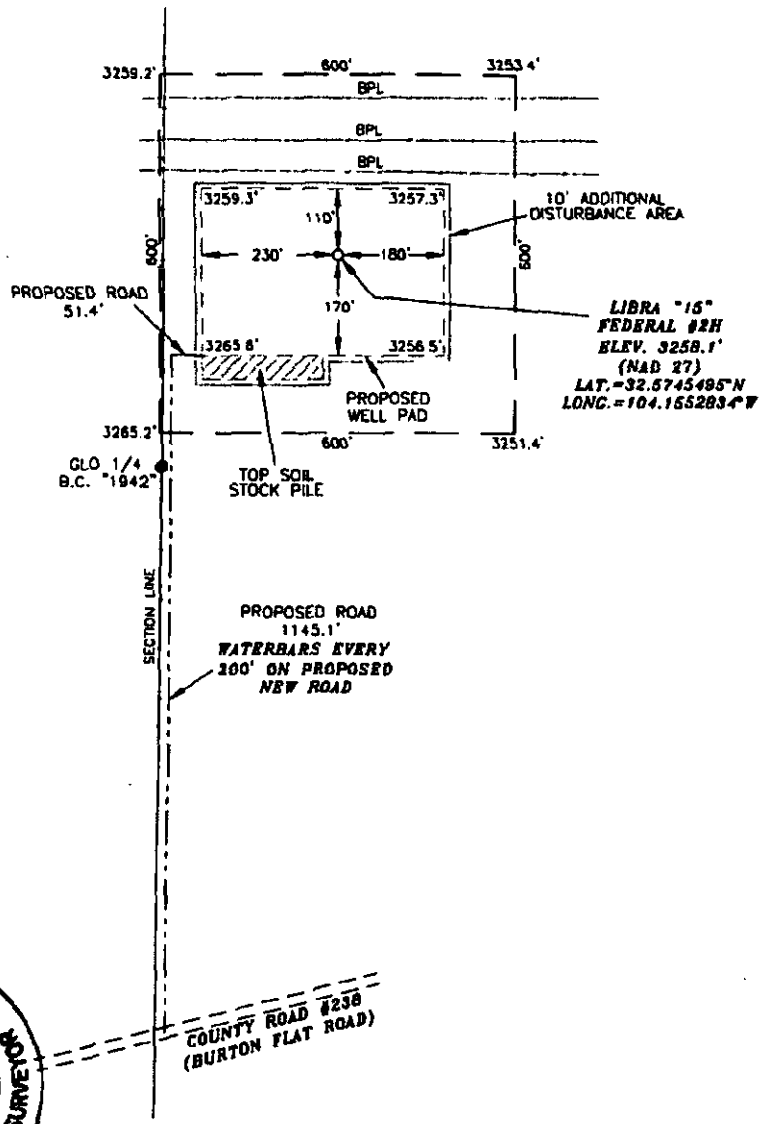
Asel Surveying
P.O. BOX 393 - 310 W. TAYLOR
HOBBS, NEW MEXICO - 575-393-9146

OXY USA WTP LP

LIBRA "15" FEDERAL #2H LOCATED AT 2295' FNL & 295' FWL IN SECTION 14, TOWNSHIP 20 SOUTH, RANGE 28 EAST, N.M.P.M., EDDY COUNTY, NEW MEXICO

Survey Date: 09/02/14	Sheet 1 of 1 Sheets	
W.O. Number: 140714WL-b (Rev. A)	Drawn By: KA	Rev: A
Date: 09/03/14	140714WL-b	Scale: 1"=1000'

OXY USA INC.
LIBRA "15" FEDERAL #2H
SITE PLAN



TERRY J ASEL NEW MEXICO 15079 REGISTERED PROFESSIONAL LAND SURVEYOR

SURVEYORS CERTIFICATE

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Terry J. Asel 9/22/2014

Terry J. Asel, N.M. R.P.L.S. No. 15079

LEGEND

- DENOTES STOCK PILE AREA
- - - - DENOTES PROPOSED WELL PAD
—·—·— DENOTES PROPOSED ROAD

300' 0 300' 600' FEET

SCALE: 1"=300'

Asel Surveying

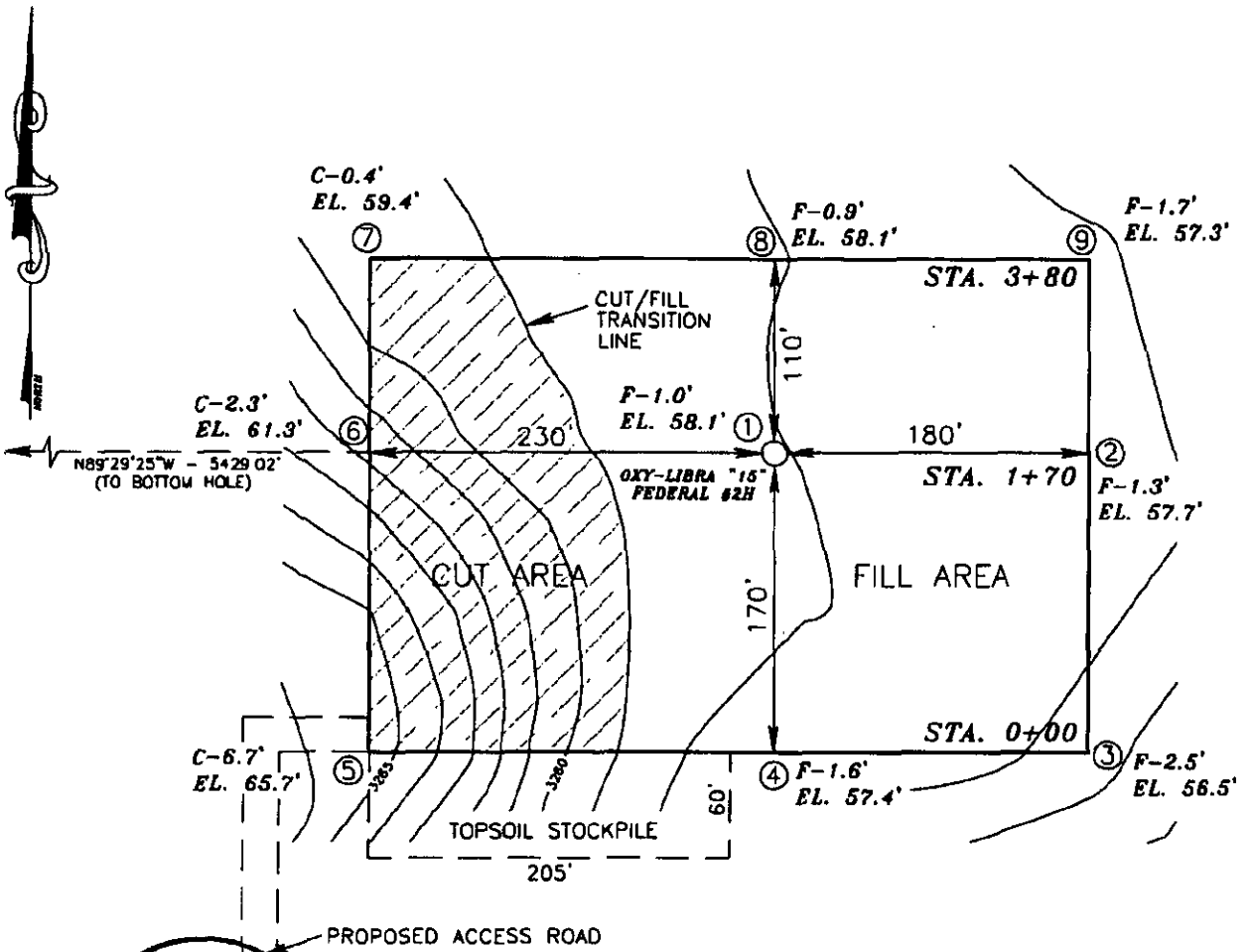
P.O. BOX 393 - 310 W. TAYLOR
HOBBS, NEW MEXICO - 575-393-9146

OXY USA WTP LP

LIBRA "15" FEDERAL #2H WELL PAD LOCATED AT 2295' FNL & 295' FWL IN SECTION 14, TOWNSHIP 20 SOUTH, RANGE 28 EAST, N.M.P.M., EDDY COUNTY, NEW MEXICO

Survey Date: 09/02/14	Sheet 1 of 1 Sheets	
W.O. Number: 140714WL-b (Rev. A)	Drawn By: KA	Rev: A
Date: 09/03/14	140714WL-b	Scale:1"=300'

OXY USA INC.
LIBRA "15" FEDERAL #2H
LOCATION LAYOUT



CONTOUR INTERVAL: 1.00'
ELEV. UNGRADED GROUND AT LOC. STAKE=3258.0'
FINISHED GRADE ELEV. AT LOC. STAKE=3259.0'

TERRY J ASEL NEW MEXICO 15079 REGISTERED PROFESSIONAL LAND SURVEYOR

SURVEYORS CERTIFICATE

I, TERRY J. ASEL, NEW MEXICO PROFESSIONAL SURVEYOR NO. 15079, DO HEREBY CERTIFY THAT I CONDUCTED AND AM RESPONSIBLE FOR THIS SURVEY, THAT THIS SURVEY IS TRUE AND CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF, AND MEETS THE "MINIMUM STANDARDS FOR SURVEYING IN NEW MEXICO" AS ADOPTED BY THE NEW MEXICO STATE BOARD OF REGISTRATION FOR PROFESSIONAL ENGINEERS AND SURVEYORS.

Terry J. Asel 9/22/2014

Terry J. Asel, N.M. R.P.L.S. No. 15079

Asel Surveying

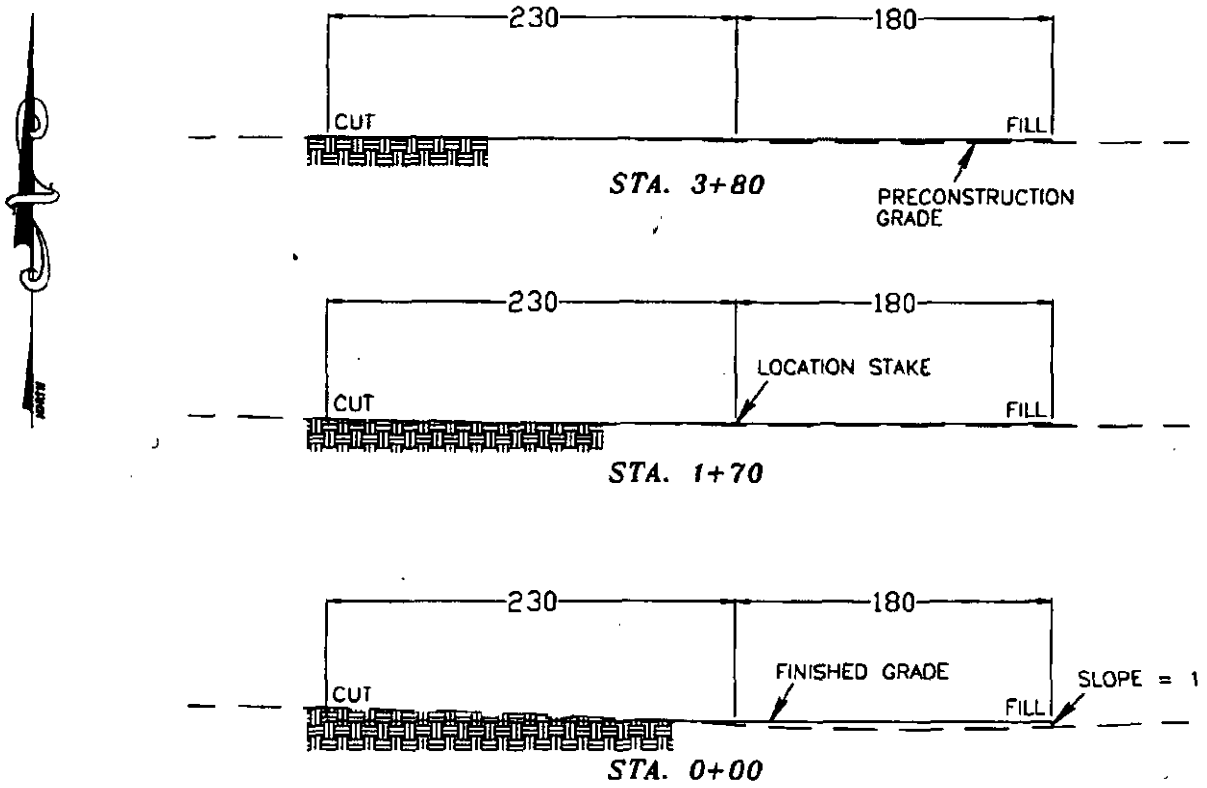
P.O. BOX 393 - 310 W. TAYLOR
HOBBS, NEW MEXICO - 575-393-9146

OXY USA WTP LP

LIBRA "15" FEDERAL #2H WELL PAD LOCATED AT 2295' FNL & 295' FWL IN SECTION 14, TOWNSHIP 20 SOUTH, RANGE 28 EAST, N.M.P.M., EDDY COUNTY, NEW MEXICO

Survey Date: 09/16/14	Sheet 1 of 2 Sheets	
W.O. Number: 140916TOPO	Drawn By: KA	Rev:
Date: 09/19/14	140916TOPO	Scale:1"=100'

OXY USA INC.
LIBRA "15" FEDERAL #2H
TYPICAL CROSS SECTIONS



APPROXIMATE EARTHWORK QUANTITIES	
(3") TOPSOIL STRIPPING	±1063 Cu. Yds.
REMAINING LOCATION	±5353 Cu. Yds.
TOTAL CUT	±6416 Cu. Yds.
FILL	±5353 Cu. Yds.
EXCESS MATERIAL	±1063 Cu. Yds.
TOPSOIL	±1063 Cu. Yds.
EXCESS UNBALANCE (AFTER INTERIM REHABILITATION)	0 Cu. Yds.

APPROXIMATE SURFACE DISTURBANCE AREAS		
	DISTANCE	ACRES
WELL SITE DISTURBANCE	NA	±3.58
ACCESS ROAD DISTURBANCE	±1196.5	±0.55
PIPELINE DISTURBANCE	NA	NA
POWER LINE DISTURBANCE	NA	NA
TOTAL DISTURBANCE	±1196.5	±4.13

SURVEYORS CERTIFICATE

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TERRY J ASEL NEW MEXICO 15079 REGISTERED PROFESSIONAL LAND SURVEYOR

Terry J. Asel 9/22/2014

Terry J. Asel N.M. R.P.L.S. No. 15079

Asel Surveying

P.O. BOX 393 - 310 W. TAYLOR
HOBBS, NEW MEXICO - 575-393-9146

OXY USA WTP LP

LIBRA "15" FEDERAL #2H WELL PAD LOCATED AT 2295' FNL & 295' FWL IN SECTION 14, TOWNSHIP 20 SOUTH, RANGE 28 EAST, N.M.P.M., EDDY COUNTY, NEW MEXICO

Survey Date: 09/16/14	Sheet 2 of 2 Sheets	
W.O. Number: 140916TOPO	Drawn By: KA	Rev:
Date: 09/19/14	140916TOPO	Scale:1"=100'

OXY USA WTP LP
LIBRA 15 FED 2H
APD DATA

OPERATOR NAME / NUMBER: OXY USA WTP LP

LEASE NAME / NUMBER: LIBRA 15 FED 2H

STATE: NM **COUNTY:** EDDY

SURFACE LOCATION: 2295' FNL & 295' FWL, Sec 14, T20S, R28E

BOTTOM HOLE LOCATION: 2210' FNL & 180' FWL, Sec 15, T20S, R28E

APPROX GR ELEV: 3258.1'

EST KB ELEV: 3283.1' (25' KB-GL)

1. **GEOLOGIC NAME OF SURFACE FORMATION**
   a. Permian

2. **ESTIMATED TOPS OF GEOLOGICAL MARKERS & DEPTHS OF ANTICIPATED FRESH WATER, OIL OR GAS**

Formation	TVD – RKB	Expected Fluids
Rustler	250	---
T. Salt (Salado)	400	---
B. Salt (Tansill)	700	---
T. Yates	880	Form Water
T. Capitan Reef	1075	Form Water
T. Delaware	3050	Oil/Gas
T. Brushy Canyon	3530	
T. Bone Spring	5040	Oil/Gas
T. 1st Bone Spring Sand	6415	Oil/Gas
T. 2nd Bone Spring Lime	6625	Oil/Gas
T. 2nd Bone Spring Sand	7255	Oil/Gas
Landing Point (2nd BS Sand)	7500	Oil/Gas
BHL	7430	Oil/Gas

- **Fresh water may be present above the Rustler formation. Surface casing will be set below the top of the Rustler to protect any possible fresh water.**

GREATEST PROJECTED TD "HZ": 12,622' MD / 7430' TVD
OBJECTIVE: 2nd Bone Spring Sand

3. CASING PROGRAM

Surface Casing ran in a 18.5" hole filled with 8.50 ppg mud

Hole Size (in)	Interval (ft)	OD (in)	Wt (ppf)	Grade	Conn	ID (in)	Condition	Burst (psi)	Collapse (psi)	Burst SF	Coll SF	Ten SF
18.5	~~300~~ 350	16	75	J55	BTC	15.124	New	2630	1020	1.43	10.43	6.01

1st Intermediate Casing ran in a 14.75" hole filled with 10.2 ppg mud

Hole Size (in)	Interval (ft)	OD (in)	Wt (ppf)	Grade	Conn	ID (in)	Condition	Burst (psi)	Collapse (psi)	Burst SF	Coll SF	Ten SF
14.75	~~1200~~ 1300	11.75	47	J55	BTC	11.000	New	3070	1510	1.37	5.14	3.15

2nd Intermediate Casing ran in a 10.625" hole filled with 8.5 ppg mud

Hole Size (in)	Interval (ft)	OD (in)	Wt (ppf)	Grade	Conn	ID (in)	Condition	Burst (psi)	Collapse (psi)	Burst SF	Coll SF	Ten SF
10.625	3100	8.625	32	J55	BTC	7.921*	New	3930	2530	1.39	3.16	2.25

Production Casing ran in a 7.875" hole filled with 9.0 ppg mud

Hole Size (in)	Interval (ft)	OD (in)	Wt (ppf)	Grade	Conn	ID (in)	Condition	Burst (psi)	Collapse (psi)	Burst SF	Coll SF	Ten SF
7.875	12,622	5.500	17	P110	BTC	4.892	New	10640	7460	2.06	2.57	1.98

*SPECIAL DRIFT TO 7.875"

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: 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 pressure + 500 psi)

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

4. CEMENT PROGRAM:

Surface Interval

Interval	Amount sx	Ft of Fill	Type	Gal/Sk	PPG	Ft^3/sk	24 Hr Comp
Lead: 0' – ~~300'~~ 350 (150% Excess)	310	300	Premium Plus Cement with 2% Calcium Chloride (Accelerator)	6.39	14.8	1.35	1326

1st Intermediate Interval

Interval	Amount sx	Ft of Fill	Type	Gal/Sk	PPG	Ft^3/sk	24 Hr Comp
Lead: 0' – 700' (180% Excess)	350	700	Halliburton Light Premium Plus Cement with 5% Salt (Salt), 5 lbm/sk Kol-Seal (Lost Circulation Additive), 0.125 lbm/sk Poly-E-Flake (Lost Circulation Additive)	9.59	12.9	1.88	760
Tail: 700' – 1200' (105% Excess)	350	500	Premium Plus Cement with 1 % Calcium Cloride (Accelerator)	6.36	14.8	1.34	1650

2nd Intermediate Interval

Interval	Amount sx	Ft of Fill	Type	Gal/Sk	PPG	Ft^3/sk	24 Hr Comp
Lead: 0' – 2513' (180% Excess)	450	2513	Halliburton Light Premium Plus Cement with 5% Salt (Salt), 5 lbm/sk Kol-Seal (Lost Circulation Additive), 0.125 lbm/sk Poly-E-Flake (Lost Circulation Additive)	9.59	12.9	1.88	760
Tail: 2513' – 3100' (105% Excess)	200	587	Premium Plus Cement with 1 % Calcium Cloride (Accelerator)	6.36	14.8	1.34	1650

Post Tool will be placed at 1250' for contingency. If returns are not lost during first stage, DV cancellation plug will be run and 2nd stage cancelled. If returns are lost during first stage, the post tool will be opened and contingency recipe for 2nd stage will be pumped as follows:

Interval	Amount sx	Ft of Fill	Type	Gal/Sk	PPG	Ft^3/sk	24 Hr Comp
Lead: 0' – 1250' (30% Excess)	220	1250	Halliburton Light Premium Plus Cement with 5% Salt (Salt), 5 lbm/sk Kol-Seal (Lost Circulation Additive), 0.125 lbm/sk Poly-E-Flake (Lost Circulation Additive)	9.59	12.9	1.88	760

Production Casing

Interval	Amount sx	Ft of Fill	Type	Gal/Sk	PPG	Ft^3/sk	24 Hr Comp
Lead: 2600' – 6783' (100% Excess)	380	4173	Tuned Light Cement 3 lbm/sk Kol-Seal, 0.125 lbm/sk Poly-E-Flake 0.65% SCR-100	17.53	9.8 (Surf.) 10.2 (Down hole)	3.662	788
Tail: 6783' – 12622' (30% Excess)	790	5636	Super H Cement with 0.5 % Halad(R)-344 (Low Fluid Loss Control), 0.4 % CFR-3 (Dispersant), 3 lbm/sk Salt (Salt), 0.2 % HR-800 (Retarder), 0.125 lbm/sk Poly-E-Flake (Lost Circulation Additive)	8.55	13.2	1.64	1673

The volumes indicated above may be revised depending on caliper measurement.
Production Interval

5. DIRECTIONAL PLAN

Please see attached directional plan

6. PRESSURE CONTROL EQUIPMENT

Surface: 0 – 300' None.

Intermediate1: 0 - 1200' Operator shale request a variance to use a 2M Annular Diverter for the 1st intermediate hole as Onshore Order 2 requires a BOP. The diverter will be lined up to the panic line on the same choke manifold.

2nd Intermediate and Production: 3100' MD/TVD – 12,622' MD / 7,430' TVD . 2nd Intermediate and Production hole will be drilled with a 13-5/8" 10M three ram stack with a 5M annular preventer and a 5M Choke Manifold.

a. All BOP's and associated equipment will be tested in accordance with Onshore Order #2 (250/5000 psi on rams for 10 minutes each and 250/3500 psi for 10 minutes for annular preventer, equal to 70% of working pressure) with a third party BOP testing service before drilling out the surface casing shoe. A Multibowl wellhead system will be used in this well therefore the BOPE test will cover the test requirements for the 2nd Intermediate and Production sections.
b. The Surface and Intermediate casings strings will be tested to 70% of their burst rating for 30 minutes. This will also test the seals of the lock down pins that hold the pack-off in place in the Multibowl wellhead system.
c. Pipe rams will be function tested every 24 hours and blind rams will be tested each time the drill pipe is out of the hole. These functional tests will be documented on the daily driller's log. A 2" kill line and 3" choke line will be accommodated on the drilling spool below the ram-type BOP.
d. The BOPE test will be repeated within 30 days of the original test, on the first trip, if drilling the 2nd Intermediate or Production section takes more time than planned.

e. Other accessory BOP equipment will include a floor safety valve, choke lines, and choke manifold having a 5000 psi working pressure rating and tested to 5000 psi.
f. The Operator also requests a variance to connect the BOP choke outlet to the choke manifold using a co-flex hose manufactured by Contitech Rubber Industrial KFT. It is a 3" ID x 35' flexible hose with a 10,000 psi working pressure. It has been tested to 15,000 psi and is built to API Spec 16C. Once the flex line is installed it will be tied down with safety clamps (certifications attached).
g. BOP & Choke manifold diagrams attached.

7. MUD PROGRAM:

Depth	Mud Wt ppg	Vis Sec	Fluid Loss	Type System
0 – 300'	8.4 – 8.9	32 – 34	NC	Fresh Water /Spud Mud
300' – 1300'	9.8 – 10	28 – 29	NC	Brine Water
1300' – 3100'	8.6 - 8.8	28- 29	NC	Fresh Water
3100' – 6600'	8.8 – 9.0	28- 29	NC	Fresh Water
6600' - TD	9.0 – 9.2	50 - 50	8 - 15	LSND

Remarks: Pump high viscosity sweeps as needed for hole cleaning. The mud system will be monitored visually/manually as well as with an electronic PVT. The necessary mud products for additional weight and fluid loss control will be on location at all times.

Appropriately weighted mud will be used to isolate potential gas, oil, and water zones until such time as casing can be cemented into place for zonal isolation.

8. AUXILIARY WELL CONTROL AND MONITORING EQUIPMENT

a. A full opening drill pipe stabbing valve having the appropriate connections will be on the rig floor unobstructed and readily accessible at all times.

9. POTENTIAL HAZARDS:

a. H2S detection equipment will be in operation after drilling out the surface casing shoe until the production casing has been cemented. Breathing equipment will be on location from drilling out the surface shoe until production casing is cemented. If H2S is encountered the operator will comply with Onshore Order #6. Measured amounts and formations will be reported to the BLM.
b. No abnormal temperatures or pressures are anticipated. The highest anticipated pressure gradient is **0.54 psi/ft.** Maximum anticipated bottom hole pressure is **3700 psi.**
c. All personnel will be familiar with all aspects of safe operation of equipment being used to drill this well. Adequate flare lines will be installed off the mud/gas separator where gas may be flared safely.

10. WIRELINE LOGGING / MUD LOGGING / LWD

a. Wireline Logging: Triple Combo (GR, Den/Neu/Resist.) from KOP to Surface.
b. Mud loggers to be rigged up from surface casing shoe to TD
c. Acquire GR while drilling, from Intermediate casing shoe to TD

11. ANTICIPATED STARTING DATE AND DURATION OF OPERATIONS

Road and location construction will begin after the BLM has approved the APD. Anticipated spud date will be as soon as possible after BLM approval and as soon as a rig will be available. Move in operations and drilling is expected to take 35 days. If production casing is run, then an additional 30 days will be needed to complete the well and construct surface facilities and/or lay flow lines in order to place well on production.

COMPANY PERSONNEL:

Name	Title	Office Phone	Mobile Phone
Ricardo Viloria	Drilling Engineer	(713)366-5063	(832) 763-8728
Sebastian Millan	Drilling Engineer Supervisor	(713)350-4950	(832) 528-3268
Roger Allen	Drilling Superintendent	(713)215-7617	(281) 682-3919
Oscar Quintero	Drilling Manager	(713)985-6343	(713) 689-4946

OXY

Eddy County, NM (NAD 27 NME)
Libra 15 Federal 2H
2H

OH

Plan: Plan #1

Standard Planning Report

23 October, 2014

Scientific Drilling

OXY Permian

Libra 15 Federal 2H
Eddy County, NM (NAD 27 NME)
Northing: 572778.81
Easting: 554847.64
Plan #1

KB @ 3283.1usft
Gr @ 3258.1

T G M

To convert Magnetic North to Grid, Add 7.55°
To convert True North to Grid, Subtract 0.10°

Azimuths to Grid North
True North: -0.10°
Magnetic North: 7.55°

Magnetic Field
Strength: 48380.1snT
Dip Angle: 60.32°
Date: 10/23/2014
Model: BGGM2014

WELL DETAILS 2H

Ground Level: 3258.1

+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
0.0	0.0	572778.81	554847.64	32° 34' 28.378 N	104° 8' 19.020 W

SECTION DETAILS

MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	VSect
0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.0
6783.8	0.00	0.00	6783.8	0.0	0.0	0.00	0.00	0.0
7919.4	90.85	270.51	7499.9	6.5	-726.8	8.00	270.51	726.8
12622.1	90.85	270.51	7430.0	48.3	-5428.8	0.00	0.00	5429.0

DESIGN TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Northing	Easting
L15 Fed 2H BHL	7430.0	48.3	-5428.8	572827.14	549418.86
L15 Fed 2H LTP	7432.3	47.0	-5273.6	572825.77	549573.84
L15 Fed 2H FTP	7500.0	5.6	-629.9	572784.42	554217.70

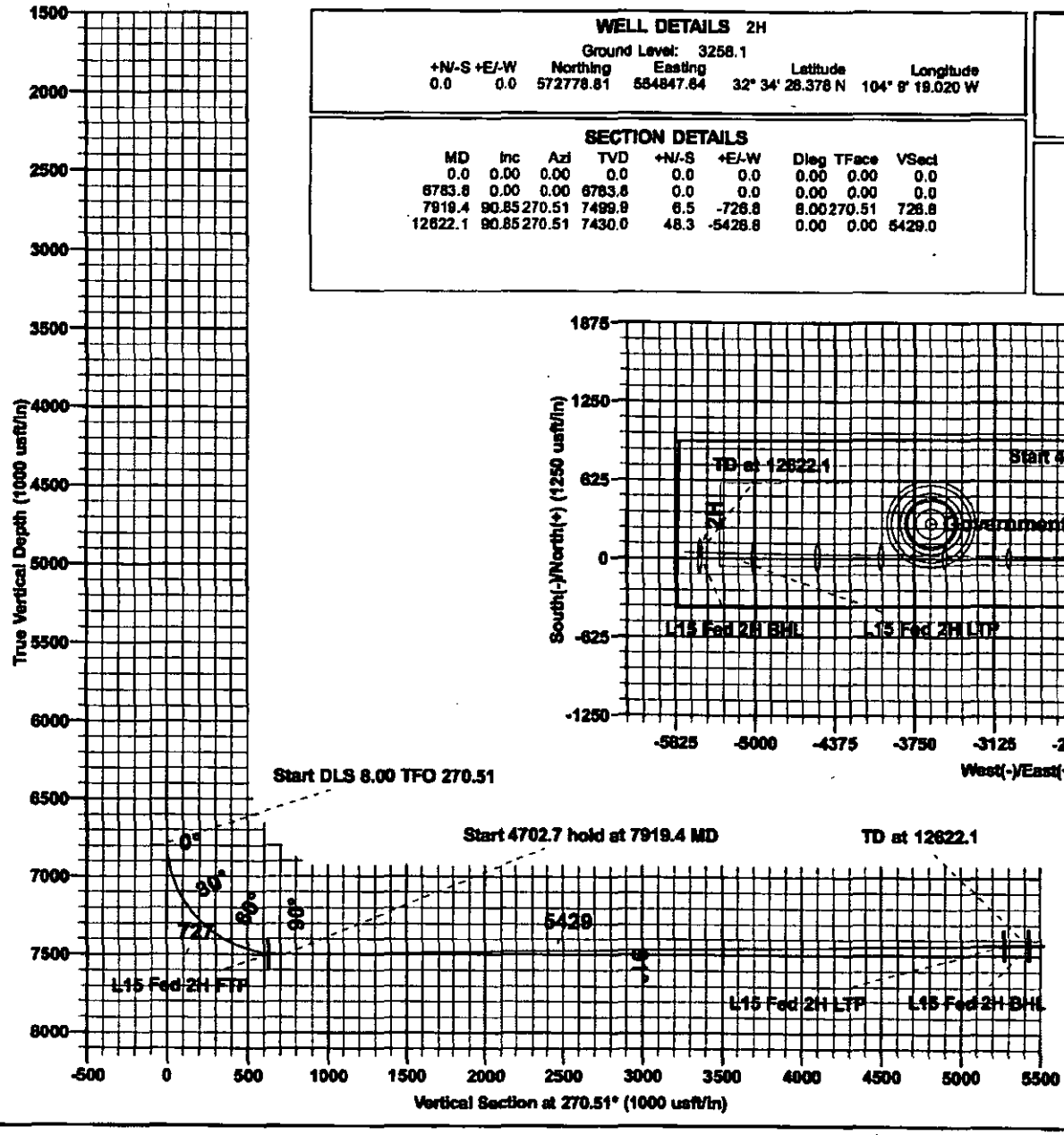
PROJECT DETAILS:

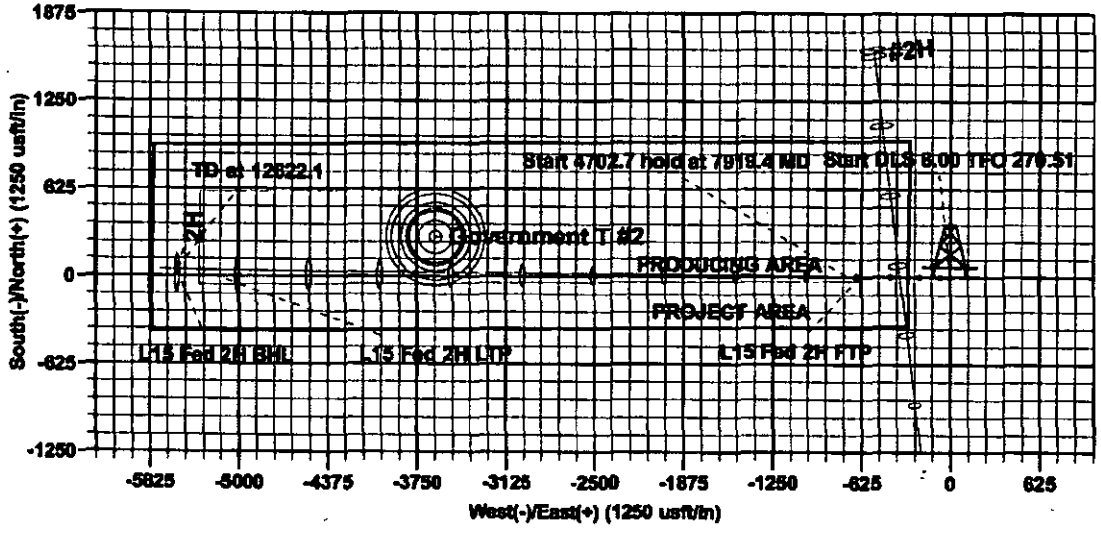
Eddy County, NM (NAD 27 NME)
Geodetic System: US State Plane 1927 (Exact solution)
Datum: NAD 1927 (NADCON CONUS)
Ellipsoid: Clarke 1866
Zone: New Mexico East 3001
System Datum: Mean Sea Level

SITE DETAILS:

Libra 15 Federal 2H
Site Centre Northing: 572778.81
Easting: 554847.64

Positional Uncertainty: 0.0
Convergence: 0.10
Local North: Grid





Database:	Midland District	Local Co-ordinate Reference:	Well 2H
Company:	OXY	TVD Reference:	KB @ 3283.1usft
Project:	Eddy County, NM (NAD 27 NME)	MD Reference:	KB @ 3283.1usft
Site:	Libra 15 Federal 2H	North Reference:	Grid
Well:	2H	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	Plan #1		

Project	Eddy County, NM (NAD 27 NME), 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	Libra 15 Federal 2H				
Site Position:		Northing:	572,778.81 usft	Latitude:	32° 34' 28.378 N
From:	Map	Easting:	554,847.64 usft	Longitude:	104° 9' 19.020 W
Position Uncertainty:	0.0 usft	Slot Radius:	13-3/16 "	Grid Convergence:	0.10 °

Well	2H					
Well Position	+N/-S	0.0 usft	Northing:	572,778.81 usft	Latitude:	32° 34' 28.378 N
	+E/-W	0.0 usft	Easting:	554,847.64 usft	Longitude:	104° 9' 19.020 W
Position Uncertainty		0.0 usft	Wellhead Elevation:	0.0 usft	Ground Level:	3,258.1 usft

Wellbore	OH				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	BGGM2014	10/23/2014	7.64	60.32	48,380

Design	Plan #1				
Audit Notes:					
Version:		Phase:	PROTOTYPE	Tie On Depth:	0.0
Vertical Section:	Depth From (TVD) (usft)	+N/-S (usft)	+E/-W (usft)	Direction (°)	
	0.0	0.0	0.0	270.51	

Plan Sections

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	TFO (°)	Target
0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.00	0.00	
6,783.8	0.00	0.00	6,783.8	0.0	0.0	0.00	0.00	0.00	0.00	
7,919.4	90.85	270.51	7,499.9	6.5	-726.8	8.00	8.00	-7.88	270.51	
12,622.1	90.85	270.51	7,430.0	48.3	-5,428.8	0.00	0.00	0.00	0.00	L15 Fed 2H BHL

Database:	Midland District	**Local Co-ordinate Reference:**	Well 2H
Company:	OXY	**TVD Reference:**	KB @ 3283.1usft
Project:	Eddy County, NM (NAD 27 NME)	**MD Reference:**	KB @ 3283.1usft
Site:	Libra 15 Federal 2H	**North Reference:**	Grid
Well:	2H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	OH		
Design:	Plan #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)
0.0	0.00	0.00	0.0	0.0	0.0	0.0	0.00	0.00	0.00
100.0	0.00	0.00	100.0	0.0	0.0	0.0	0.00	0.00	0.00
200.0	0.00	0.00	200.0	0.0	0.0	0.0	0.00	0.00	0.00
300.0	0.00	0.00	300.0	0.0	0.0	0.0	0.00	0.00	0.00
400.0	0.00	0.00	400.0	0.0	0.0	0.0	0.00	0.00	0.00
500.0	0.00	0.00	500.0	0.0	0.0	0.0	0.00	0.00	0.00
600.0	0.00	0.00	600.0	0.0	0.0	0.0	0.00	0.00	0.00
700.0	0.00	0.00	700.0	0.0	0.0	0.0	0.00	0.00	0.00
800.0	0.00	0.00	800.0	0.0	0.0	0.0	0.00	0.00	0.00
900.0	0.00	0.00	900.0	0.0	0.0	0.0	0.00	0.00	0.00
1,000.0	0.00	0.00	1,000.0	0.0	0.0	0.0	0.00	0.00	0.00
1,100.0	0.00	0.00	1,100.0	0.0	0.0	0.0	0.00	0.00	0.00
1,200.0	0.00	0.00	1,200.0	0.0	0.0	0.0	0.00	0.00	0.00
1,300.0	0.00	0.00	1,300.0	0.0	0.0	0.0	0.00	0.00	0.00
1,400.0	0.00	0.00	1,400.0	0.0	0.0	0.0	0.00	0.00	0.00
1,500.0	0.00	0.00	1,500.0	0.0	0.0	0.0	0.00	0.00	0.00
1,600.0	0.00	0.00	1,600.0	0.0	0.0	0.0	0.00	0.00	0.00
1,700.0	0.00	0.00	1,700.0	0.0	0.0	0.0	0.00	0.00	0.00
1,800.0	0.00	0.00	1,800.0	0.0	0.0	0.0	0.00	0.00	0.00
1,900.0	0.00	0.00	1,900.0	0.0	0.0	0.0	0.00	0.00	0.00
2,000.0	0.00	0.00	2,000.0	0.0	0.0	0.0	0.00	0.00	0.00
2,100.0	0.00	0.00	2,100.0	0.0	0.0	0.0	0.00	0.00	0.00
2,200.0	0.00	0.00	2,200.0	0.0	0.0	0.0	0.00	0.00	0.00
2,300.0	0.00	0.00	2,300.0	0.0	0.0	0.0	0.00	0.00	0.00
2,400.0	0.00	0.00	2,400.0	0.0	0.0	0.0	0.00	0.00	0.00
2,500.0	0.00	0.00	2,500.0	0.0	0.0	0.0	0.00	0.00	0.00
2,600.0	0.00	0.00	2,600.0	0.0	0.0	0.0	0.00	0.00	0.00
2,700.0	0.00	0.00	2,700.0	0.0	0.0	0.0	0.00	0.00	0.00
2,800.0	0.00	0.00	2,800.0	0.0	0.0	0.0	0.00	0.00	0.00
2,900.0	0.00	0.00	2,900.0	0.0	0.0	0.0	0.00	0.00	0.00
3,000.0	0.00	0.00	3,000.0	0.0	0.0	0.0	0.00	0.00	0.00
3,100.0	0.00	0.00	3,100.0	0.0	0.0	0.0	0.00	0.00	0.00
3,200.0	0.00	0.00	3,200.0	0.0	0.0	0.0	0.00	0.00	0.00
3,300.0	0.00	0.00	3,300.0	0.0	0.0	0.0	0.00	0.00	0.00
3,400.0	0.00	0.00	3,400.0	0.0	0.0	0.0	0.00	0.00	0.00
3,500.0	0.00	0.00	3,500.0	0.0	0.0	0.0	0.00	0.00	0.00
3,600.0	0.00	0.00	3,600.0	0.0	0.0	0.0	0.00	0.00	0.00
3,700.0	0.00	0.00	3,700.0	0.0	0.0	0.0	0.00	0.00	0.00
3,800.0	0.00	0.00	3,800.0	0.0	0.0	0.0	0.00	0.00	0.00
3,900.0	0.00	0.00	3,900.0	0.0	0.0	0.0	0.00	0.00	0.00
4,000.0	0.00	0.00	4,000.0	0.0	0.0	0.0	0.00	0.00	0.00
4,100.0	0.00	0.00	4,100.0	0.0	0.0	0.0	0.00	0.00	0.00
4,200.0	0.00	0.00	4,200.0	0.0	0.0	0.0	0.00	0.00	0.00
4,300.0	0.00	0.00	4,300.0	0.0	0.0	0.0	0.00	0.00	0.00
4,400.0	0.00	0.00	4,400.0	0.0	0.0	0.0	0.00	0.00	0.00
4,500.0	0.00	0.00	4,500.0	0.0	0.0	0.0	0.00	0.00	0.00
4,600.0	0.00	0.00	4,600.0	0.0	0.0	0.0	0.00	0.00	0.00
4,700.0	0.00	0.00	4,700.0	0.0	0.0	0.0	0.00	0.00	0.00
4,800.0	0.00	0.00	4,800.0	0.0	0.0	0.0	0.00	0.00	0.00
4,900.0	0.00	0.00	4,900.0	0.0	0.0	0.0	0.00	0.00	0.00
5,000.0	0.00	0.00	5,000.0	0.0	0.0	0.0	0.00	0.00	0.00
5,100.0	0.00	0.00	5,100.0	0.0	0.0	0.0	0.00	0.00	0.00
5,200.0	0.00	0.00	5,200.0	0.0	0.0	0.0	0.00	0.00	0.00
5,300.0	0.00	0.00	5,300.0	0.0	0.0	0.0	0.00	0.00	0.00

Database:	Midland District	**Local Co-ordinate Reference:**	Well 2H
Company:	OXY	**TVD Reference:**	KB @ 3283.1usft
Project:	Eddy County, NM (NAD 27 NME)	**MD Reference:**	KB @ 3283.1usft
Site:	Libra 15 Federal 2H	**North Reference:**	Grid
Well:	2H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	OH		
Design:	Plan #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)
5,400.0	0.00	0.00	5,400.0	0.0	0.0	0.0	0.00	0.00	0.00
5,500.0	0.00	0.00	5,500.0	0.0	0.0	0.0	0.00	0.00	0.00
5,600.0	0.00	0.00	5,600.0	0.0	0.0	0.0	0.00	0.00	0.00
5,700.0	0.00	0.00	5,700.0	0.0	0.0	0.0	0.00	0.00	0.00
5,800.0	0.00	0.00	5,800.0	0.0	0.0	0.0	0.00	0.00	0.00
5,900.0	0.00	0.00	5,900.0	0.0	0.0	0.0	0.00	0.00	0.00
6,000.0	0.00	0.00	6,000.0	0.0	0.0	0.0	0.00	0.00	0.00
6,100.0	0.00	0.00	6,100.0	0.0	0.0	0.0	0.00	0.00	0.00
6,200.0	0.00	0.00	6,200.0	0.0	0.0	0.0	0.00	0.00	0.00
6,300.0	0.00	0.00	6,300.0	0.0	0.0	0.0	0.00	0.00	0.00
6,400.0	0.00	0.00	6,400.0	0.0	0.0	0.0	0.00	0.00	0.00
6,500.0	0.00	0.00	6,500.0	0.0	0.0	0.0	0.00	0.00	0.00
6,600.0	0.00	0.00	6,600.0	0.0	0.0	0.0	0.00	0.00	0.00
6,700.0	0.00	0.00	6,700.0	0.0	0.0	0.0	0.00	0.00	0.00
6,783.8	0.00	0.00	6,783.8	0.0	0.0	0.0	0.00	0.00	0.00
6,800.0	1.30	270.51	6,800.0	0.0	-0.2	0.2	8.00	8.00	0.00
6,850.0	5.30	270.51	6,849.9	0.0	-3.1	3.1	8.00	8.00	0.00
6,900.0	9.30	270.51	6,899.5	0.1	-9.4	9.4	8.00	8.00	0.00
6,950.0	13.30	270.51	6,948.5	0.2	-19.2	19.2	8.00	8.00	0.00
7,000.0	17.30	270.51	6,996.7	0.3	-32.4	32.4	8.00	8.00	0.00
7,050.0	21.30	270.51	7,043.9	0.4	-48.9	48.9	8.00	8.00	0.00
7,100.0	25.30	270.51	7,089.8	0.6	-68.7	68.7	8.00	8.00	0.00
7,150.0	29.30	270.51	7,134.3	0.8	-91.8	91.8	8.00	8.00	0.00
7,200.0	33.30	270.51	7,177.0	1.0	-117.6	117.6	8.00	8.00	0.00
7,250.0	37.30	270.51	7,217.8	1.3	-146.4	146.5	8.00	8.00	0.00
7,300.0	41.30	270.51	7,256.5	1.6	-178.1	178.1	8.00	8.00	0.00
7,350.0	45.30	270.51	7,292.8	1.9	-212.4	212.4	8.00	8.00	0.00
7,400.0	49.30	270.51	7,326.7	2.2	-249.1	249.1	8.00	8.00	0.00
7,450.0	53.30	270.51	7,358.0	2.6	-288.1	288.1	8.00	8.00	0.00
7,500.0	57.30	270.51	7,386.5	2.9	-329.2	329.2	8.00	8.00	0.00
7,550.0	61.30	270.51	7,412.0	3.3	-372.2	372.2	8.00	8.00	0.00
7,600.0	65.30	270.51	7,434.5	3.7	-416.9	416.9	8.00	8.00	0.00
7,650.0	69.30	270.51	7,453.7	4.1	-463.0	463.0	8.00	8.00	0.00
7,700.0	73.30	270.51	7,469.6	4.5	-510.3	510.3	8.00	8.00	0.00
7,750.0	77.30	270.51	7,482.5	5.0	-558.7	558.7	8.00	8.00	0.00
7,800.0	81.30	270.51	7,491.7	5.4	-607.8	607.8	8.00	8.00	0.00
7,850.0	85.30	270.51	7,497.6	5.9	-657.5	657.5	8.00	8.00	0.00
7,900.0	89.30	270.51	7,499.9	6.3	-707.4	707.4	8.00	8.00	0.00
7,919.4	90.86	270.51	7,499.9	6.5	-726.8	726.8	8.00	8.00	0.00
8,000.0	90.85	270.51	7,498.7	7.2	-807.4	807.4	0.00	0.00	0.00
8,100.0	90.85	270.51	7,497.2	8.1	-907.3	907.4	0.00	0.00	0.00
8,200.0	90.85	270.51	7,495.7	9.0	-1,007.3	1,007.4	0.00	0.00	0.00
8,300.0	90.85	270.51	7,494.3	9.9	-1,107.3	1,107.4	0.00	0.00	0.00
8,400.0	90.85	270.51	7,492.8	10.7	-1,207.3	1,207.3	0.00	0.00	0.00
8,500.0	90.85	270.51	7,491.3	11.6	-1,307.3	1,307.3	0.00	0.00	0.00
8,600.0	90.85	270.51	7,489.8	12.5	-1,407.3	1,407.3	0.00	0.00	0.00
8,700.0	90.85	270.51	7,488.3	13.4	-1,507.3	1,507.3	0.00	0.00	0.00
8,800.0	90.85	270.51	7,486.8	14.3	-1,607.2	1,607.3	0.00	0.00	0.00
8,900.0	90.85	270.51	7,485.3	15.2	-1,707.2	1,707.3	0.00	0.00	0.00
9,000.0	90.85	270.51	7,483.9	16.1	-1,807.2	1,807.3	0.00	0.00	0.00
9,100.0	90.85	270.51	7,482.4	17.0	-1,907.2	1,907.3	0.00	0.00	0.00
9,200.0	90.85	270.51	7,480.9	17.9	-2,007.2	2,007.3	0.00	0.00	0.00
9,300.0	90.85	270.51	7,479.4	18.8	-2,107.2	2,107.2	0.00	0.00	0.00
9,400.0	90.85	270.51	7,477.9	19.6	-2,207.1	2,207.2	0.00	0.00	0.00

Database:	Midland District	**Local Co-ordinate Reference:**	Well 2H
Company:	OXY	**TVD Reference:**	KB @ 3283.1usft
Project:	Eddy County, NM (NAD 27 NME)	**MD Reference:**	KB @ 3283.1usft
Site:	Libra 15 Federal 2H	**North Reference:**	Grid
Well:	2H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	OH		
Design:	Plan #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)
9,500.0	90.85	270.51	7,476.4	20.5	-2,307.1	2,307.2	0.00	0.00	0.00
9,600.0	90.85	270.51	7,474.9	21.4	-2,407.1	2,407.2	0.00	0.00	0.00
9,700.0	90.85	270.51	7,473.4	22.3	-2,507.1	2,507.2	0.00	0.00	0.00
9,800.0	90.85	270.51	7,472.0	23.2	-2,607.1	2,607.2	0.00	0.00	0.00
9,900.0	90.85	270.51	7,470.5	24.1	-2,707.1	2,707.2	0.00	0.00	0.00
10,000.0	90.85	270.51	7,469.0	25.0	-2,807.1	2,807.2	0.00	0.00	0.00
10,100.0	90.85	270.51	7,467.5	25.9	-2,907.0	2,907.2	0.00	0.00	0.00
10,200.0	90.85	270.51	7,466.0	26.8	-3,007.0	3,007.1	0.00	0.00	0.00
10,300.0	90.85	270.51	7,464.5	27.7	-3,107.0	3,107.1	0.00	0.00	0.00
10,400.0	90.85	270.51	7,463.0	28.6	-3,207.0	3,207.1	0.00	0.00	0.00
10,500.0	90.85	270.51	7,461.6	29.4	-3,307.0	3,307.1	0.00	0.00	0.00
10,600.0	90.85	270.51	7,460.1	30.3	-3,407.0	3,407.1	0.00	0.00	0.00
10,700.0	90.85	270.51	7,458.6	31.2	-3,507.0	3,507.1	0.00	0.00	0.00
10,800.0	90.85	270.51	7,457.1	32.1	-3,606.9	3,607.1	0.00	0.00	0.00
10,900.0	90.85	270.51	7,455.6	33.0	-3,706.9	3,707.1	0.00	0.00	0.00
11,000.0	90.85	270.51	7,454.1	33.9	-3,806.9	3,807.1	0.00	0.00	0.00
11,100.0	90.85	270.51	7,452.6	34.8	-3,906.9	3,907.0	0.00	0.00	0.00
11,200.0	90.85	270.51	7,451.1	35.7	-4,006.9	4,007.0	0.00	0.00	0.00
11,300.0	90.85	270.51	7,449.7	36.6	-4,106.9	4,107.0	0.00	0.00	0.00
11,400.0	90.85	270.51	7,448.2	37.5	-4,206.8	4,207.0	0.00	0.00	0.00
11,500.0	90.85	270.51	7,446.7	38.3	-4,306.8	4,307.0	0.00	0.00	0.00
11,600.0	90.85	270.51	7,445.2	39.2	-4,406.8	4,407.0	0.00	0.00	0.00
11,700.0	90.85	270.51	7,443.7	40.1	-4,506.8	4,507.0	0.00	0.00	0.00
11,800.0	90.85	270.51	7,442.2	41.0	-4,606.8	4,607.0	0.00	0.00	0.00
11,900.0	90.85	270.51	7,440.7	41.9	-4,706.8	4,707.0	0.00	0.00	0.00
12,000.0	90.85	270.51	7,439.2	42.8	-4,806.8	4,806.9	0.00	0.00	0.00
12,100.0	90.85	270.51	7,437.8	43.7	-4,906.7	4,906.9	0.00	0.00	0.00
12,200.0	90.85	270.51	7,436.3	44.6	-5,006.7	5,006.9	0.00	0.00	0.00
12,300.0	90.85	270.51	7,434.8	45.5	-5,106.7	5,106.9	0.00	0.00	0.00
12,400.0	90.85	270.51	7,433.3	46.4	-5,206.7	5,206.9	0.00	0.00	0.00
12,500.0	90.85	270.51	7,431.8	47.2	-5,306.7	5,306.9	0.00	0.00	0.00
12,600.0	90.85	270.51	7,430.3	48.1	-5,406.7	5,406.9	0.00	0.00	0.00
12,622.1	90.85	270.51	7,430.0	48.3	-5,428.8	5,429.0	0.00	0.00	0.00

Design Targets

Target Name - hit/miss target - Shape	Dip Angle (°)	Dip Dir. (°)	TVD (usft)	+N/-S (usft)	+E/-W (usft)	Northing (usft)	Easting (usft)	Latitude	Longitude
L15 Fed 2H BHL - plan hits target center - Point	0.00	0.00	7,430.0	48.3	-5,428.8	572,827.14	549,418.86	32° 34' 28.942 N	104° 10' 22.463 W
L15 Fed 2H LTP - plan hits target center - Point	0.00	0.00	7,432.3	47.0	-5,273.8	572,825.77	549,573.84	32° 34' 28.926 N	104° 10' 20.652 W
L15 Fed 2H FTP - plan misses target center by 5.2usft at 7823.0usft MD (7494.9 TVD, 5.6 N, -630.5 E) - Point	0.00	0.00	7,500.0	5.6	-629.9	572,784.42	554,217.70	32° 34' 28.444 N	104° 9' 26.382 W

OXY

Eddy County, NM (NAD 27 NME)
Libra 15 Federal 2H
2H

OH
Plan #1

Anticollision Report

23 October, 2014

Scientific Drilling

DXY Permian

Libra 15 Federal 2H
Eddy County, NM (NAD 27 NME)
Northing: 572778.81
Easting: 554847.64
Plan #1

To convert Magnetic North to Grid, Add 7.55°
To convert True North to Grid, Subtract 0.10°

Azimuths to Grid North
True North: -0.10°
Magnetic North: 7.55°

Magnetic Field
Strength: 48380.1snT
Dip Angle: 60.32°
Date: 10/23/2014
Model: BGGM2014

WELL DETAILS 2H

Ground Level: 3258.1

+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
0.0	0.0	572778.81	554847.64	32° 34' 28.378 N	104° 9' 19.020 W

PROJECT DETAILS:
Eddy County, NM (NAD 27 NME)
Geodetic System: US State Plane 1927 (Exact solution)
Datum: NAD 1927 (NADCON CONUS)
Ellipsoid: Clarke 1866
Zone: New Mexico East 3001
System Datum: Mean Sea Level

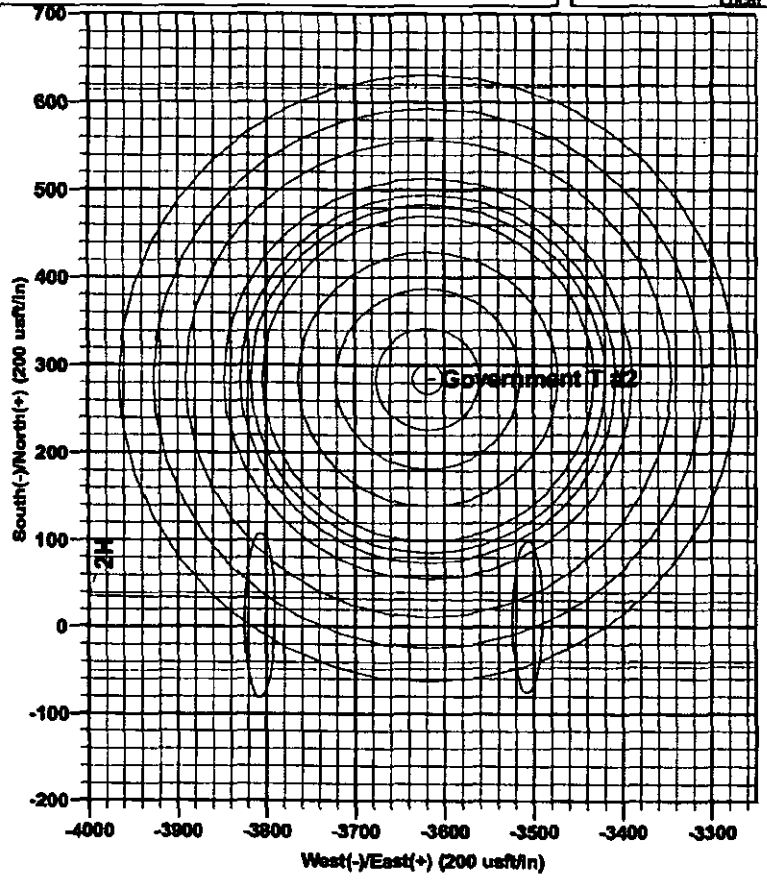
WELL DETAILS Government T #2

Ground Level: 3251.0

+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
284.6	3618.0	573063.39	551229.82	32° 34' 31.252	104° 10' 1.297 W

SITE DETAILS:
Libra 15 Federal 2H
Site Centre Northing: 572778.81
Easting: 554847.64

Positional Uncertainty: 0.0
Convergence: 0.10
Local North: Grid



Anticollision Report

Company:	OXY	**Local Co-ordinate Reference:**	Well 2H
Project:	Eddy County, NM (NAD 27 NME)	**TVD Reference:**	KB @ 3283.1usft
Reference Site:	Libra 15 Federal 2H	**MD Reference:**	KB @ 3283.1usft
Site Error:	0.0 usft	**North Reference:**	Grid
Reference Well:	2H	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.0 usft	**Output errors are at**	2.00 sigma
Reference Wellbore	OH	**Database:**	Midland District
Reference Design:	Plan #1	**Offset TVD Reference:**	Offset Datum

Reference	Plan #1		
Filter type:	NO GLOBAL FILTER: Using user defined selection & filtering criteria		
Interpolation Method:	MD Interval 100.0usft	**Error Model:**	ISCWSA
Depth Range:	Unlimited	**Scan Method:**	Closest Approach 3D
Results Limited by:	Maximum center-center distance of 10,000.0 usft	**Error Surface:**	Circular Conic
Warning Levels Evaluated at:	2.00 Sigma	**Casing Method:**	Not applied

Survey Tool Program **Date** 10/23/2014

From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description
0.0	12,822.1	Plan #1 (OH)	SDI MWD	SDI MWD - Standard ver 1.0.1

Summary

Site Name Offset Well - Wellbore - Design	Reference Measured Depth (usft)	Offset Measured Depth (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Separation Factor	Warning
Government AA COM 2H						
#2H - OH - Baker Plan	7,803.0	12,253.7	1,729.0	1,644.0	20.347	CC, ES
#2H - OH - Baker Plan	8,400.0	12,328.8	1,908.2	1,810.6	19.537	SF
Libra 15 Federal 2H						
Government T #2 - OH - As Drilled	10,813.3	7,439.3	252.5	-62.1	0.803	SF 1.0 - Level 4 MOC, CC, E

Offset Design Government AA COM 2H - #2H - OH - Baker Plan — **Offset Site Error:** 0.0 usft

Survey Program: 0-MWD — **Offset Well Error:** 0.0 usft

Reference Measured Depth (usft)	Reference Vertical Depth (usft)	Offset Measured Depth (usft)	Offset Vertical Depth (usft)	Semi Major Axis Reference (usft)	Semi Major Axis Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	Offset Wellbore Centre +E/-W (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
0.0	0.0	0.0	0.0	0.0	0.0	179.55	-3,196.1	24.9	3,196.6				
100.0	100.0	47.9	47.9	0.1	0.1	179.55	-3,196.1	24.9	3,196.2	3,196.1	0.14	N/A	
200.0	200.0	147.9	147.9	0.3	0.2	179.55	-3,196.1	24.9	3,196.2	3,195.7	0.53	6.040 844	
300.0	300.0	247.9	247.9	0.5	0.4	179.55	-3,196.1	24.9	3,196.2	3,195.2	0.98	3,265 996	
400.0	400.0	347.9	347.9	0.8	0.7	179.55	-3,196.1	24.9	3,196.2	3,194.8	1.43	2,237.984	
500.0	500.0	447.9	447.9	1.0	0.9	179.55	-3,196.1	24.9	3,196.2	3,194.3	1.88	1,702.196	
600.0	600.0	547.9	547.9	1.2	1.1	179.55	-3,196.1	24.9	3,196.2	3,193.8	2.33	1,373.397	
700.0	700.0	647.9	647.9	1.4	1.3	179.55	-3,196.1	24.9	3,196.2	3,193.4	2.78	1,151.056	
800.0	800.0	747.9	747.9	1.7	1.6	179.55	-3,196.1	24.9	3,196.2	3,193.0	3.23	990.675	
900.0	900.0	847.9	847.9	1.9	1.8	179.55	-3,196.1	24.9	3,196.2	3,192.5	3.68	869.621	
1,000.0	1,000.0	947.9	947.9	2.1	2.0	179.55	-3,196.1	24.9	3,196.2	3,192.1	4.13	774.771	
1,100.0	1,100.0	1,047.9	1,047.9	2.3	2.2	179.55	-3,196.1	24.9	3,196.2	3,191.6	4.57	698.642	
1,200.0	1,200.0	1,147.9	1,147.9	2.6	2.5	179.55	-3,196.1	24.9	3,196.2	3,191.2	5.02	636.134	
1,300.0	1,300.0	1,247.9	1,247.9	2.8	2.7	179.55	-3,196.1	24.9	3,196.2	3,190.7	5.47	583.894	
1,400.0	1,400.0	1,347.9	1,347.9	3.0	2.9	179.55	-3,196.1	24.9	3,196.2	3,190.3	5.92	539.582	
1,500.0	1,500.0	1,447.9	1,447.9	3.2	3.1	179.55	-3,196.1	24.9	3,196.2	3,189.8	6.37	501.522	
1,600.0	1,600.0	1,547.9	1,547.9	3.5	3.4	179.55	-3,196.1	24.9	3,196.2	3,189.4	6.82	468.477	
1,700.0	1,700.0	1,647.9	1,647.9	3.7	3.6	179.55	-3,196.1	24.9	3,196.2	3,188.9	7.27	439.518	
1,800.0	1,800.0	1,747.9	1,747.9	3.9	3.8	179.55	-3,196.1	24.9	3,196.2	3,188.5	7.72	413.930	
1,900.0	1,900.0	1,847.9	1,847.9	4.1	4.0	179.55	-3,196.1	24.9	3,196.2	3,188.0	8.17	391.158	
2,000.0	2,000.0	1,947.9	1,947.9	4.4	4.3	179.55	-3,196.1	24.9	3,196.2	3,187.6	8.62	370.761	
2,100.0	2,100.0	2,047.9	2,047.9	4.6	4.5	179.55	-3,196.1	24.9	3,196.2	3,187.1	9.07	352.365	

CC - Min centre to center distance or covergent point, SF - min separation factor, ES - min ellipse separation

Anticollision Report

Company:	OXY	**Local Co-ordinate Reference:**	Well 2H
Project:	Eddy County, NM (NAD 27 NME)	**TVD Reference:**	KB @ 3283.1usft
Reference Site:	Libra 15 Federal 2H	**MD Reference:**	KB @ 3283.1usft
Site Error:	0.0 usft	**North Reference:**	Grid
Reference Well:	2H	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.0 usft	**Output errors are at**	2.00 sigma
Reference Wellbore	OH	**Database:**	Midland District
Reference Design:	Plan #1	**Offset TVD Reference:**	Offset Datum

Offset Design Government AA COM 2H - #2H - OH - Baker Plan — Offset Site Error: 0.0 usft

Survey Program: 0-MWD — Offset Well Error: 0.0 usft

Reference Measured Depth (usft)	Reference Vertical Depth (usft)	Offset Measured Depth (usft)	Offset Vertical Depth (usft)	Semi Major Axis Reference (usft)	Semi Major Axis Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	Offset Wellbore Centre +E/-W (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
2,200.0	2,200.0	2,147.9	2,147.9	4.8	4.7	179.55	-3,196.1	24.9	3,196.2	3,186.7	9.52	335.745	
2,300.0	2,300.0	2,247.9	2,247.9	5.0	4.9	179.55	-3,196.1	24.9	3,196.2	3,186.2	9.97	320.608	
2,400.0	2,400.0	2,347.9	2,347.9	5.3	5.2	179.55	-3,196.1	24.9	3,196.2	3,185.8	10.42	306.773	
2,500.0	2,500.0	2,447.9	2,447.9	5.5	5.4	179.55	-3,196.1	24.9	3,196.2	3,185.3	10.87	294.084	
2,600.0	2,600.0	2,547.9	2,547.9	5.7	5.6	179.55	-3,196.1	24.9	3,196.2	3,184.9	11.32	282.404	
2,700.0	2,700.0	2,647.9	2,647.9	5.9	5.8	179.55	-3,196.1	24.9	3,196.2	3,184.4	11.77	271.615	
2,800.0	2,800.0	2,747.9	2,747.9	6.2	6.1	179.55	-3,196.1	24.9	3,196.2	3,184.0	12.22	261.621	
2,900.0	2,900.0	2,847.9	2,847.9	6.4	6.3	179.55	-3,196.1	24.9	3,196.2	3,183.5	12.67	252.336	
3,000.0	3,000.0	2,947.9	2,947.9	6.6	6.5	179.55	-3,196.1	24.9	3,196.2	3,183.1	13.12	243.668	
3,100.0	3,100.0	3,047.9	3,047.9	6.8	6.7	179.55	-3,196.1	24.9	3,196.2	3,182.6	13.57	235.612	
3,200.0	3,200.0	3,147.9	3,147.9	7.1	7.0	179.55	-3,196.1	24.9	3,196.2	3,182.2	14.02	228.055	
3,300.0	3,300.0	3,247.9	3,247.9	7.3	7.2	179.55	-3,196.1	24.9	3,196.2	3,181.7	14.46	220.968	
3,400.0	3,400.0	3,347.9	3,347.9	7.5	7.4	179.55	-3,196.1	24.9	3,196.2	3,181.3	14.91	214.307	
3,500.0	3,500.0	3,447.9	3,447.9	7.7	7.6	179.55	-3,196.1	24.9	3,196.2	3,180.8	15.36	208.037	
3,600.0	3,600.0	3,547.9	3,547.9	8.0	7.9	179.55	-3,196.1	24.9	3,196.2	3,180.4	15.81	202.123	
3,700.0	3,700.0	3,647.9	3,647.9	8.2	8.1	179.55	-3,196.1	24.9	3,196.2	3,179.9	16.26	196.536	
3,800.0	3,800.0	3,747.9	3,747.9	8.4	8.3	179.55	-3,196.1	24.9	3,196.2	3,179.5	16.71	191.249	
3,900.0	3,900.0	3,847.9	3,847.9	8.6	8.5	179.55	-3,196.1	24.9	3,196.2	3,179.0	17.16	186.240	
4,000.0	4,000.0	3,947.9	3,947.9	8.9	8.8	179.55	-3,196.1	24.9	3,196.2	3,178.6	17.61	181.486	
4,100.0	4,100.0	4,047.9	4,047.9	9.1	9.0	179.55	-3,196.1	24.9	3,196.2	3,178.1	18.06	176.969	
4,200.0	4,200.0	4,147.9	4,147.9	9.3	9.2	179.55	-3,196.1	24.9	3,196.2	3,177.7	18.51	172.671	
4,300.0	4,300.0	4,247.9	4,247.9	9.5	9.4	179.55	-3,196.1	24.9	3,196.2	3,177.2	18.96	168.577	
4,400.0	4,400.0	4,347.9	4,347.9	9.7	9.7	179.55	-3,196.1	24.9	3,196.2	3,176.8	19.41	164.673	
4,500.0	4,500.0	4,447.9	4,447.9	10.0	9.9	179.55	-3,196.1	24.9	3,196.2	3,176.3	19.86	160.945	
4,600.0	4,600.0	4,547.9	4,547.9	10.2	10.1	179.55	-3,196.1	24.9	3,196.2	3,175.9	20.31	157.383	
4,700.0	4,700.0	4,647.9	4,647.9	10.4	10.3	179.55	-3,196.1	24.9	3,196.2	3,175.4	20.76	153.974	
4,800.0	4,800.0	4,747.9	4,747.9	10.6	10.6	179.55	-3,196.1	24.9	3,196.2	3,175.0	21.21	150.711	
4,900.0	4,900.0	4,847.9	4,847.9	10.9	10.8	179.55	-3,196.1	24.9	3,196.2	3,174.5	21.66	147.582	
5,000.0	5,000.0	4,947.9	4,947.9	11.1	11.0	179.55	-3,196.1	24.9	3,196.2	3,174.1	22.11	144.581	
5,100.0	5,100.0	5,047.9	5,047.9	11.3	11.2	179.55	-3,196.1	24.9	3,196.2	3,173.7	22.56	141.700	
5,200.0	5,200.0	5,147.9	5,147.9	11.5	11.5	179.55	-3,196.1	24.9	3,196.2	3,173.2	23.01	138.931	
5,300.0	5,300.0	5,247.9	5,247.9	11.8	11.7	179.55	-3,196.1	24.9	3,196.2	3,172.8	23.46	136.269	
5,400.0	5,400.0	5,347.9	5,347.9	12.0	11.9	179.55	-3,196.1	24.9	3,196.2	3,172.3	23.90	133.706	
5,500.0	5,500.0	5,447.9	5,447.9	12.2	12.1	179.55	-3,196.1	24.9	3,196.2	3,171.9	24.35	131.238	
5,600.0	5,600.0	5,547.9	5,547.9	12.4	12.4	179.55	-3,196.1	24.9	3,196.2	3,171.4	24.80	128.859	
5,700.0	5,700.0	5,647.9	5,647.9	12.7	12.6	179.55	-3,196.1	24.9	3,196.2	3,171.0	25.25	126.566	
5,800.0	5,800.0	5,747.9	5,747.9	12.9	12.8	179.55	-3,196.1	24.9	3,196.2	3,170.5	25.70	124.352	
5,900.0	5,900.0	5,847.9	5,847.9	13.1	13.0	179.55	-3,196.1	24.9	3,196.2	3,170.1	26.15	122.215	
6,000.0	6,000.0	5,947.9	5,947.9	13.3	13.3	179.55	-3,196.1	24.9	3,196.2	3,169.6	26.60	120.149	
6,100.0	6,100.0	12,176.6	9,150.0	13.6	62.0	-96.72	-40.9	-347.1	3,121.7	3,046.1	75.62	41.282	
6,200.0	6,200.0	12,176.6	9,150.0	13.8	62.0	-96.72	-40.9	-347.1	3,022.4	2,946.5	75.84	39.850	
6,300.0	6,300.0	12,176.6	9,150.0	14.0	62.0	-96.72	-40.9	-347.1	2,923.1	2,847.0	76.07	38.426	
6,400.0	6,400.0	12,176.6	9,150.0	14.2	62.0	-96.72	-40.9	-347.1	2,823.8	2,747.5	76.29	37.012	
6,500.0	6,500.0	12,176.6	9,150.0	14.5	62.0	-96.72	-40.9	-347.1	2,724.5	2,648.1	76.52	35.607	
6,600.0	6,600.0	12,176.6	9,150.0	14.7	62.0	-96.72	-40.9	-347.1	2,625.5	2,548.7	76.74	34.211	
6,700.0	6,700.0	12,176.6	9,150.0	14.9	62.0	-96.72	-40.9	-347.1	2,526.4	2,449.4	76.97	32.824	
6,800.0	6,800.0	12,176.9	9,150.0	15.1	62.0	-8.56	-40.9	-347.1	2,427.4	2,350.2	77.19	31.446	
6,900.0	6,899.5	12,178.0	9,150.0	15.3	62.1	-132.28	-39.7	-347.2	2,327.8	2,250.2	77.41	30.058	
7,000.0	6,996.7	12,180.9	9,150.0	15.6	62.1	-173.58	-36.9	-347.6	2,228.1	2,150.4	77.68	28.684	
7,100.0	7,089.8	12,185.5	9,150.0	15.8	62.2	-176.89	-32.3	-348.1	2,130.9	2,052.9	78.00	27.320	
7,200.0	7,177.0	12,191.6	9,150.0	16.1	62.3	-178.17	-26.2	-348.8	2,038.5	1,960.1	78.41	25.998	
7,300.0	7,256.5	12,199.3	9,150.0	16.5	62.4	-178.62	-18.6	-349.7	1,953.3	1,874.4	78.95	24.741	

CC - Min centre to center distance or covergent point, SF - min separation factor, ES - min ellipse separation

Anticollision Report

Company:	OXY	**Local Co-ordinate Reference:**	Well 2H
Project:	Eddy County, NM (NAD 27 NME)	**TVD Reference:**	KB @ 3283.1usft
Reference Site:	Libra 15 Federal 2H	**MD Reference:**	KB @ 3283.1usft
Site Error:	0.0 usft	**North Reference:**	Grid
Reference Well:	2H	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.0 usft	**Output errors are at**	2.00 sigma
Reference Wellbore	OH	**Database:**	Midland District
Reference Design:	Plan #1	**Offset TVD Reference:**	Offset Datum

Offset Design Government AA COM 2H - #2H - OH - Baker Plan — Offset Site Error: 0.0 usft

Survey Program: 0-MWD — Offset Well Error: 0.0 usft

Reference Measured Depth (usft)	Reference Vertical Depth (usft)	Offset Measured Depth (usft)	Offset Vertical Depth (usft)	Semi Major Axis Reference (usft)	Semi Major Axis Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	Offset Wellbore Centre +E/-W (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
7,400.0	7,329.7	12,208.2	9,150.0	17.1	62.6	-179.48	-9.8	-350.7	1,873.2	1,798.5	79.87	23.575	
7,500.0	7,386.5	12,218.3	9,150.0	17.8	62.6	-179.89	0.3	-351.9	1,815.6	1,736.2	80.61	22.526	
7,600.0	7,434.5	12,229.3	9,150.0	18.8	63.0	179.72	11.2	-353.2	1,766.8	1,687.9	81.80	21.523	
7,700.0	7,469.8	12,241.1	9,150.0	20.1	63.2	179.34	22.9	-354.5	1,739.4	1,658.2	83.25	20.894	
7,800.0	7,491.7	12,253.4	9,150.0	21.5	63.4	178.94	35.1	-356.0	1,729.0	1,644.1	84.92	20.360	
7,803.0	7,492.2	12,253.7	9,150.0	21.5	63.4	178.93	35.5	-356.1	1,729.0	1,644.0	84.98	20.347	CC, ES
7,900.0	7,498.9	12,265.9	9,150.0	23.2	63.6	178.51	47.5	-357.5	1,738.2	1,651.5	86.77	20.032	
8,000.0	7,498.7	12,278.5	9,150.0	24.9	63.8	178.06	60.0	-358.0	1,782.2	1,673.4	88.79	19.854	
8,100.0	7,497.2	12,291.1	9,150.0	26.6	64.1	177.66	72.5	-360.4	1,791.6	1,700.7	90.86	19.716	
8,200.0	7,495.7	12,303.7	9,150.0	28.8	64.3	177.24	85.0	-361.9	1,825.9	1,732.9	93.06	19.621	
8,300.0	7,494.3	12,316.2	9,150.0	30.8	64.5	176.82	97.6	-363.4	1,864.9	1,769.8	95.34	19.561	
8,400.0	7,492.8	12,328.8	9,150.0	32.9	64.7	176.40	110.1	-364.9	1,908.2	1,810.6	97.67	19.537	SF
8,500.0	7,491.3	12,341.4	9,150.0	35.1	65.0	175.98	122.6	-366.3	1,955.6	1,855.6	100.06	19.544	
8,600.0	7,489.8	12,354.0	9,150.0	37.3	65.2	175.56	135.1	-367.8	2,006.8	1,904.4	102.50	19.580	
8,700.0	7,488.3	12,366.6	9,150.0	39.6	65.4	175.14	147.6	-369.3	2,061.6	1,956.8	104.96	19.641	
8,800.0	7,486.8	12,379.2	9,150.0	41.8	65.6	174.72	160.1	-370.8	2,119.5	2,012.0	107.46	19.723	
8,900.0	7,485.3	12,391.8	9,150.0	44.1	65.8	174.30	172.6	-372.2	2,180.4	2,070.4	109.98	19.825	
9,000.0	7,483.9	12,404.4	9,150.0	46.5	66.1	173.89	185.1	-373.7	2,244.1	2,131.6	112.53	19.942	
9,100.0	7,482.4	12,417.0	9,150.0	48.8	66.3	173.47	197.6	-375.2	2,310.2	2,195.1	115.09	20.073	
9,200.0	7,480.9	12,429.6	9,150.0	51.2	66.5	173.05	210.1	-376.7	2,378.7	2,261.0	117.67	20.218	
9,300.0	7,479.4	12,442.1	9,150.0	53.5	66.7	172.64	222.6	-378.1	2,449.2	2,329.0	120.26	20.368	
9,400.0	7,477.9	12,454.7	9,150.0	55.9	67.0	172.22	235.1	-379.6	2,521.7	2,398.9	122.87	20.524	
9,500.0	7,476.4	12,467.3	9,150.0	58.3	67.2	171.81	247.6	-381.1	2,596.0	2,470.5	125.48	20.689	
9,600.0	7,474.9	12,479.9	9,150.0	60.7	67.4	171.40	260.1	-382.6	2,671.9	2,543.8	128.10	20.857	
9,700.0	7,473.4	12,492.5	9,150.0	63.1	67.6	170.99	272.6	-384.0	2,749.2	2,618.5	130.74	21.029	
9,800.0	7,472.0	12,505.1	9,150.0	65.5	67.9	170.58	285.1	-385.5	2,828.0	2,694.6	133.38	21.203	
9,900.0	7,470.5	12,517.7	9,150.0	67.9	68.1	170.17	297.6	-387.0	2,908.0	2,771.9	136.02	21.379	
10,000.0	7,469.0	12,530.3	9,150.0	70.4	68.3	169.76	310.1	-388.4	2,989.1	2,850.4	138.67	21.555	
10,100.0	7,467.6	12,542.9	9,150.0	72.8	68.5	169.35	322.6	-389.9	3,071.3	2,929.9	141.33	21.731	
10,200.0	7,466.0	12,555.4	9,150.0	75.2	68.8	168.94	335.1	-391.4	3,154.5	3,010.5	143.99	21.907	
10,300.0	7,464.5	12,568.0	9,150.0	77.7	69.0	168.54	347.6	-392.9	3,238.5	3,091.9	146.66	22.082	
10,400.0	7,463.0	12,580.6	9,150.0	80.1	69.2	168.13	360.1	-394.3	3,323.4	3,174.1	149.33	22.255	
10,500.0	7,461.6	12,593.2	9,150.0	82.6	69.4	167.73	372.6	-395.8	3,409.1	3,257.1	152.01	22.429	
10,600.0	7,460.1	12,605.8	9,150.0	85.0	69.6	167.33	385.1	-397.3	3,495.5	3,340.8	154.68	22.599	
10,700.0	7,458.6	12,618.4	9,150.0	87.5	69.9	166.93	397.6	-398.8	3,582.6	3,425.2	157.36	22.766	
10,800.0	7,457.1	12,631.0	9,150.0	90.0	70.1	166.53	410.1	-400.2	3,670.3	3,510.2	160.05	22.932	
10,900.0	7,455.6	12,643.6	9,150.0	92.4	70.3	166.13	422.6	-401.7	3,758.5	3,595.8	162.73	23.096	
11,000.0	7,454.1	12,656.2	9,150.0	94.9	70.5	165.74	435.1	-403.2	3,847.3	3,681.9	165.42	23.257	
11,100.0	7,452.6	12,668.7	9,150.0	97.3	70.8	166.34	447.6	-404.7	3,936.6	3,768.5	168.11	23.416	
11,200.0	7,451.1	12,681.3	9,150.0	99.8	71.0	164.95	460.1	-406.1	4,026.3	3,855.5	170.81	23.573	
11,300.0	7,449.7	12,693.9	9,150.0	102.3	71.2	164.55	472.6	-407.6	4,116.5	3,943.0	173.50	23.726	
11,400.0	7,448.2	12,706.5	9,150.0	104.8	71.4	164.16	485.1	-409.1	4,207.1	4,030.9	176.20	23.877	
11,500.0	7,446.7	12,719.1	9,150.0	107.2	71.7	163.77	497.6	-410.6	4,298.1	4,119.2	178.89	24.026	
11,600.0	7,445.2	12,731.7	9,150.0	109.7	71.9	163.39	510.1	-412.0	4,389.4	4,207.8	181.59	24.171	
11,700.0	7,443.7	12,744.3	9,150.0	112.2	72.1	163.00	522.6	-413.5	4,481.1	4,296.8	184.30	24.315	
11,800.0	7,442.2	12,756.9	9,150.0	114.7	72.3	162.62	535.1	-415.0	4,573.0	4,386.0	187.00	24.456	
11,900.0	7,440.7	12,769.5	9,150.0	117.1	72.6	162.23	547.6	-416.5	4,665.3	4,475.6	189.70	24.593	
12,000.0	7,439.2	12,782.0	9,150.0	119.6	72.8	161.85	560.1	-417.9	4,757.8	4,565.4	192.41	24.728	
12,100.0	7,437.8	12,794.6	9,150.0	122.1	73.0	161.47	572.6	-419.4	4,850.7	4,655.6	195.11	24.861	
12,200.0	7,436.3	12,807.2	9,150.0	124.6	73.2	161.09	585.2	-420.9	4,943.7	4,745.9	197.82	24.991	
12,300.0	7,434.8	12,819.8	9,150.0	127.1	73.5	160.72	597.7	-422.3	5,037.0	4,836.5	200.53	25.119	
12,400.0	7,433.3	12,832.4	9,150.0	129.6	73.7	160.34	610.2	-423.8	5,130.5	4,927.3	203.24	25.244	

CC - Min centre to center distance or covergent point, SF - min separation factor, ES - min ellipse separation

Anticollision Report

Company:	OXY	**Local Co-ordinate Reference:**	Well 2H
Project:	Eddy County, NM (NAD 27 NME)	**TVD Reference:**	KB @ 3283.1usft
Reference Site:	Libra 15 Federal 2H	**MD Reference:**	KB @ 3283.1usft
Site Error:	0.0 usft	**North Reference:**	Grid
Reference Well:	2H	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.0 usft	**Output errors are at**	2.00 sigma
Reference Wellbore	OH	**Database:**	Midland District
Reference Design:	Plan #1	**Offset TVD Reference:**	Offset Datum

Offset Design Government AA COM 2H - #2H - OH - Baker Plan — Offset Site Error: 0.0 usft

Survey Program: 0-MWD — Offset Well Error: 0.0 usft

Reference Measured Depth (usft)	Reference Vertical Depth (usft)	Offset Measured Depth (usft)	Offset Vertical Depth (usft)	Semi Major Axis Reference (usft)	Semi Major Axis Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	Offset Wellbore Centre +E/-W (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
12,600.0	7,431.8	12,645.0	9,150.0	132.0	73.9	159.97	622.7	-425.3	5,224.3	5,018.3	205.95	25.367	
12,600.0	7,430.3	12,657.6	9,150.0	134.5	74.1	159.60	635.2	-425.5	5,318.2	5,109.5	208.66	25.486	
12,622.1	7,430.0	12,660.4	9,150.0	135.1	74.2	159.52	637.9	-427.1	5,339.0	5,129.7	209.26	25.514	

Anticollision Report

Company:	OXY	**Local Co-ordinate Reference:**	Well 2H
Project:	Eddy County, NM (NAD 27 NME)	**TVD Reference:**	KB @ 3283.1usft
Reference Site:	Libra 15 Federal 2H	**MD Reference:**	KB @ 3283.1usft
Site Error:	0.0 usft	**North Reference:**	Grid
Reference Well:	2H	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.0 usft	**Output errors are at**	2.00 sigma
Reference Wellbore	OH	**Database:**	Midland District
Reference Design:	Plan #1	**Offset TVD Reference:**	Offset Datum

Offset Design Libra 15 Federal 2H - Government T #2 - OH - As Drilled — Offset Site Error: 0.0 usft

Survey Program: 60-Inclinometer1 — Offset Well Error: 0.0 usft

Reference Measured Depth (usft)	Reference Vertical Depth (usft)	Offset Measured Depth (usft)	Offset Vertical Depth (usft)	Semi Major Axis Reference (usft)	Semi Major Axis Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	Offset Wellbore Centre +E/-W (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
0.0	0.0	0.0	0.0	0.0	0.0	-85.50	284.6	-3,618.0	3,629.2				
100.0	100.0	81.4	81.4	0.1	1.9	-85.50	284.6	-3,618.0	3,629.2	3,628.1	1.13	3,217.257	
181.0	181.0	162.6	162.6	0.3	3.4	-85.50	284.5	-3,618.0	3,629.2	3,625.5	3.63	999.600	
200.0	200.0	181.6	181.6	0.3	3.9	-85.50	284.5	-3,618.0	3,629.2	3,624.9	4.24	855.121	
300.0	300.0	283.1	283.1	0.5	7.0	-85.51	284.2	-3,618.0	3,629.2	3,621.6	7.53	480.567	
400.0	400.0	382.2	382.2	0.8	10.0	-85.51	283.9	-3,618.0	3,629.1	3,618.3	10.79	336.483	
428.1	428.1	410.0	410.0	0.8	10.9	-85.51	283.9	-3,618.0	3,629.1	3,617.4	11.69	310.334	
500.0	500.0	481.2	481.2	1.0	13.0	-85.51	284.0	-3,618.0	3,629.1	3,615.1	14.02	258.879	
600.0	600.0	580.3	580.3	1.2	16.0	-85.51	284.4	-3,618.0	3,629.2	3,611.9	17.25	210.370	
700.0	700.0	681.5	681.5	1.4	19.1	-85.50	284.7	-3,618.0	3,629.2	3,608.6	20.55	176.610	
800.0	800.0	781.8	781.8	1.7	22.2	-85.50	284.8	-3,618.0	3,629.2	3,605.4	23.82	152.362	
900.0	900.0	882.1	882.0	1.9	25.2	-85.50	284.8	-3,618.0	3,629.2	3,602.1	27.09	133.964	
1,000.0	1,000.0	982.4	982.3	2.1	28.3	-85.50	284.7	-3,618.0	3,629.2	3,598.8	30.36	119.535	
1,100.0	1,100.0	1,082.5	1,082.4	2.3	31.3	-85.50	284.5	-3,618.0	3,629.2	3,595.6	33.63	107.930	
1,200.0	1,200.0	1,182.2	1,182.1	2.6	34.3	-85.51	284.4	-3,618.0	3,629.2	3,592.3	36.88	98.410	
1,278.1	1,278.1	1,257.0	1,257.0	2.7	36.6	-85.51	284.4	-3,618.0	3,629.2	3,589.8	39.32	92.300	
1,300.0	1,300.0	1,281.9	1,281.8	2.8	37.3	-85.51	284.4	-3,618.0	3,629.2	3,589.0	40.13	90.433	
1,400.0	1,400.0	1,381.6	1,381.5	3.0	40.4	-85.50	284.4	-3,618.0	3,629.2	3,585.8	43.38	83.654	
1,500.0	1,500.0	1,480.8	1,480.7	3.2	43.4	-85.50	284.7	-3,618.0	3,629.2	3,582.6	46.62	77.844	
1,600.0	1,600.0	1,581.3	1,581.2	3.5	46.4	-85.50	285.0	-3,618.0	3,629.2	3,579.3	49.90	72.733	
1,700.0	1,700.0	1,681.8	1,681.7	3.7	49.5	-85.49	285.1	-3,618.0	3,629.2	3,576.1	53.18	68.250	
1,800.0	1,800.0	1,782.3	1,782.3	3.9	52.5	-85.49	285.1	-3,618.0	3,629.2	3,572.8	56.45	64.268	
1,900.0	1,900.0	1,882.8	1,882.8	4.1	55.6	-85.50	284.9	-3,618.0	3,629.2	3,569.5	59.73	60.760	
2,000.0	2,000.0	1,982.6	1,982.5	4.4	58.6	-85.50	284.5	-3,618.0	3,629.2	3,566.2	62.99	57.622	
2,100.0	2,100.0	2,082.3	2,082.2	4.6	61.7	-85.51	284.4	-3,618.0	3,629.2	3,562.9	66.24	54.790	
2,200.0	2,200.0	2,182.1	2,182.0	4.8	64.7	-85.51	284.3	-3,618.0	3,629.2	3,559.7	69.49	52.225	
2,227.5	2,227.5	2,209.5	2,209.4	4.9	65.5	-85.51	284.3	-3,618.0	3,629.2	3,558.8	70.39	51.551	
2,300.0	2,300.0	2,281.5	2,281.7	5.0	67.7	-85.51	284.3	-3,618.0	3,629.2	3,556.4	72.75	49.889	
2,400.0	2,400.0	2,381.5	2,381.5	5.3	70.7	-85.50	284.4	-3,618.0	3,629.2	3,553.2	76.00	47.753	
2,500.0	2,500.0	2,483.7	2,483.5	5.5	73.8	-85.50	284.4	-3,618.0	3,629.2	3,549.8	79.33	45.780	
2,600.0	2,600.0	2,583.0	2,582.8	5.7	76.9	-85.51	284.0	-3,618.0	3,629.1	3,546.6	82.58	43.955	
2,700.0	2,700.0	2,682.2	2,682.1	5.9	79.9	-85.52	283.8	-3,618.0	3,629.1	3,543.3	85.80	42.266	
2,722.5	2,722.5	2,704.5	2,704.4	6.0	80.6	-85.52	283.8	-3,618.0	3,629.1	3,542.6	86.53	41.940	
2,800.0	2,800.0	2,781.5	2,781.3	6.2	82.9	-85.51	283.9	-3,618.0	3,629.1	3,540.1	89.04	40.758	
2,900.0	2,900.0	2,880.7	2,880.5	6.4	85.9	-85.51	284.2	-3,618.0	3,629.2	3,536.9	92.26	39.328	
3,000.0	3,000.0	2,979.8	2,979.7	6.6	88.9	-85.50	284.6	-3,618.0	3,629.2	3,533.7	95.52	37.996	
3,100.0	3,100.0	3,080.9	3,080.7	6.8	92.0	-85.49	285.4	-3,618.0	3,629.3	3,530.4	98.81	36.730	
3,200.0	3,200.0	3,181.8	3,181.7	7.1	95.0	-85.49	285.7	-3,618.0	3,629.3	3,527.2	102.10	35.546	
3,300.0	3,300.0	3,282.9	3,282.8	7.3	98.1	-85.49	285.5	-3,618.0	3,629.3	3,523.9	105.39	34.435	
3,400.0	3,400.0	3,384.0	3,383.8	7.5	101.2	-85.50	285.0	-3,618.0	3,629.2	3,520.6	108.69	33.391	
3,500.0	3,500.0	3,482.6	3,482.4	7.7	104.2	-85.50	284.5	-3,618.0	3,629.2	3,517.3	111.91	32.430	
3,600.0	3,600.0	3,582.4	3,582.2	8.0	107.2	-85.51	284.4	-3,618.0	3,629.2	3,514.0	115.16	31.513	
3,700.0	3,700.0	3,682.2	3,681.9	8.2	110.2	-85.51	284.3	-3,618.0	3,629.2	3,510.7	118.42	30.647	
3,710.4	3,710.4	3,692.5	3,692.3	8.2	110.6	-85.51	284.3	-3,618.0	3,629.2	3,510.4	118.75	30.560	
3,800.0	3,800.0	3,781.9	3,781.7	8.4	113.3	-85.51	284.3	-3,618.0	3,629.2	3,507.5	121.67	29.828	
3,900.0	3,900.0	3,881.6	3,881.4	8.6	116.3	-85.50	284.5	-3,618.0	3,629.2	3,504.3	124.92	29.061	
4,000.0	4,000.0	3,982.6	3,982.4	8.9	119.4	-85.50	284.5	-3,618.0	3,629.2	3,501.0	128.22	28.305	
4,100.0	4,100.0	4,082.3	4,082.1	9.1	122.4	-85.51	284.4	-3,618.0	3,629.2	3,497.7	131.47	27.605	
4,182.9	4,182.9	4,165.0	4,164.8	9.2	124.9	-85.51	284.4	-3,618.0	3,629.2	3,495.7	133.51	27.182	
4,200.0	4,200.0	4,182.0	4,181.9	9.3	125.4	-85.51	284.4	-3,618.0	3,629.2	3,494.4	134.72	26.938	
4,300.0	4,300.0	4,281.7	4,281.5	9.5	128.4	-85.50	284.5	-3,618.0	3,629.2	3,491.2	137.97	26.303	
4,400.0	4,400.0	4,381.6	4,381.4	9.7	131.5	-85.50	284.6	-3,618.0	3,629.2	3,488.0	141.23	25.697	

CC - Min centre to center distance or covergent point, SF - min separation factor, ES - min ellipse separation

Anticollision Report

Company:	OXY	**Local Co-ordinate Reference:**	Well 2H
Project:	Eddy County, NM (NAD 27 NME)	**TVD Reference:**	KB @ 3283.1usft
Reference Site:	Libra 15 Federal 2H	**MD Reference:**	KB @ 3283.1usft
Site Error:	0.0 usft	**North Reference:**	Grid
Reference Well:	2H	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.0 usft	**Output errors are at**	2.00 sigma
Reference Wellbore	OH	**Database:**	Midland District
Reference Design:	Plan #1	**Offset TVD Reference:**	Offset Datum

Offset Design Libra 15 Federal 2H - Government T #2 - OH - As Drilled — Offset Site Error: 0.0 usft

Survey Program: 90-Inclinometer1 — Offset Well Error: 0.0 usft

Reference Measured Depth (usft)	Reference Vertical Depth (usft)	Offset Measured Depth (usft)	Offset Vertical Depth (usft)	Semi Major Axis Reference (usft)	Semi Major Axis Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	Offset Wellbore Centre +E/-W (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
4,900.0	4,900.0	4,481.8	4,481.6	10.0	134.5	-85.50	284.6	-3,618.0	3,629.2	3,484.7	144.50	25.115	
4,900.0	4,900.0	4,582.1	4,581.9	10.2	137.6	-85.50	284.6	-3,618.0	3,629.2	3,481.4	147.77	24.560	
4,700.0	4,700.0	4,682.4	4,682.1	10.4	140.6	-85.50	284.6	-3,618.0	3,629.2	3,478.2	151.04	24.025	
4,800.0	4,800.0	4,782.7	4,782.4	10.6	143.7	-85.50	284.7	-3,618.0	3,629.2	3,474.9	154.31	23.519	
4,852.8	4,852.8	4,835.6	4,835.3	10.8	145.3	-85.50	284.6	-3,618.0	3,629.2	3,473.1	156.04	23.259	
4,900.0	4,900.0	4,881.7	4,881.4	10.9	146.7	-85.50	284.7	-3,618.0	3,629.2	3,471.6	157.54	23.036	
5,000.0	5,000.0	4,982.0	4,981.7	11.1	149.7	-85.50	284.8	-3,618.0	3,629.2	3,468.4	160.81	22.568	
5,100.0	5,100.0	5,082.3	5,082.0	11.3	152.8	-85.50	284.8	-3,618.0	3,629.2	3,465.1	164.08	22.118	
5,200.0	5,200.0	5,182.5	5,182.2	11.5	155.8	-85.50	284.8	-3,618.0	3,629.2	3,461.8	167.35	21.686	
5,300.0	5,300.0	5,282.8	5,282.5	11.8	158.9	-85.50	284.8	-3,618.0	3,629.2	3,458.6	170.62	21.270	
5,310.3	5,310.3	5,291.9	5,291.6	11.8	159.1	-85.50	284.8	-3,618.0	3,629.2	3,458.3	170.92	21.233	
5,400.0	5,400.0	5,381.9	5,381.6	12.0	161.9	-85.50	284.7	-3,618.0	3,629.2	3,455.3	173.88	20.875	
5,500.0	5,500.0	5,482.2	5,481.9	12.2	164.9	-85.50	284.8	-3,618.0	3,629.2	3,452.1	177.13	20.489	
5,600.0	5,600.0	5,582.5	5,582.2	12.4	168.0	-85.50	284.8	-3,618.0	3,629.2	3,448.8	180.40	20.118	
5,700.0	5,700.0	5,682.8	5,682.5	12.7	171.0	-85.50	284.8	-3,618.0	3,629.2	3,445.5	183.67	19.759	
5,800.0	5,800.0	5,783.3	5,783.0	12.9	174.1	-85.61	283.8	-3,618.0	3,629.1	3,442.2	186.97	19.410	
5,900.0	5,900.0	5,883.0	5,882.6	13.1	177.1	-85.52	283.4	-3,618.0	3,629.1	3,439.9	190.20	19.081	
5,953.8	5,953.8	5,936.1	5,936.7	13.2	178.7	-85.52	283.3	-3,618.0	3,629.1	3,437.2	191.93	18.908	
6,000.0	6,000.0	5,981.6	5,981.3	13.3	180.1	-85.52	283.4	-3,618.0	3,629.1	3,435.7	193.42	18.763	
6,100.0	6,100.0	6,080.3	6,080.0	13.6	183.1	-85.52	283.8	-3,618.0	3,629.1	3,432.5	196.64	18.456	
6,200.0	6,200.0	6,181.7	6,181.3	13.8	186.1	-85.50	284.6	-3,618.0	3,629.2	3,429.2	199.94	18.151	
6,300.0	6,300.0	6,282.3	6,281.9	14.0	189.2	-85.50	284.7	-3,618.0	3,629.2	3,426.0	203.22	17.856	
6,373.4	6,373.4	6,356.2	6,355.8	14.2	191.4	-85.50	284.6	-3,618.0	3,629.2	3,423.6	205.63	17.649	
6,400.0	6,400.0	6,380.0	6,379.6	14.2	192.2	-85.50	284.6	-3,618.0	3,629.2	3,422.8	206.41	17.582	
6,481.6	6,481.6	6,463.0	6,462.6	14.4	194.7	-85.51	284.3	-3,618.0	3,629.2	3,420.0	209.12	17.355	
6,500.0	6,500.0	6,480.5	6,480.2	14.5	195.2	-85.61	284.3	-3,618.0	3,629.2	3,419.5	209.69	17.307	
6,600.0	6,600.0	6,581.7	6,581.3	14.7	198.3	-85.50	284.5	-3,618.0	3,629.2	3,416.2	212.99	17.040	
6,700.0	6,700.0	6,683.2	6,682.7	14.9	201.4	-85.50	284.5	-3,618.0	3,629.2	3,412.9	216.29	16.779	
6,800.0	6,800.0	6,782.4	6,781.9	15.1	204.4	3.99	284.6	-3,618.0	3,629.0	3,409.5	219.53	16.531	
6,900.0	6,899.5	6,881.9	6,881.4	15.3	207.4	4.05	284.6	-3,618.0	3,619.8	3,397.1	222.75	16.251	
7,000.0	6,998.7	6,979.1	6,978.6	15.6	210.4	4.21	284.6	-3,618.0	3,596.9	3,371.0	225.91	15.921	
7,100.0	7,098.8	7,072.2	7,071.7	15.8	213.2	4.49	284.6	-3,618.0	3,560.7	3,331.7	228.98	15.550	
7,200.0	7,177.0	7,159.4	7,158.9	16.1	215.8	4.83	284.6	-3,618.0	3,511.9	3,280.0	231.93	15.142	
7,300.0	7,256.5	7,238.7	7,238.1	16.5	218.2	5.57	284.6	-3,618.0	3,451.5	3,216.8	234.75	14.703	
7,400.0	7,326.7	7,309.7	7,309.2	17.1	220.4	6.56	284.6	-3,618.0	3,380.7	3,143.2	237.47	14.237	
7,500.0	7,388.5	7,368.5	7,368.0	17.8	222.2	8.08	284.7	-3,618.0	3,300.8	3,060.8	240.01	13.753	
7,600.0	7,434.5	7,416.7	7,416.2	18.6	223.6	10.66	284.7	-3,618.0	3,213.5	2,971.0	242.49	13.253	
7,700.0	7,469.6	7,452.2	7,451.6	20.1	224.7	15.77	284.7	-3,618.0	3,120.3	2,875.5	244.78	12.747	
7,800.0	7,491.7	7,474.3	7,473.7	21.5	225.4	29.98	284.7	-3,618.0	3,023.1	2,778.2	246.92	12.243	
7,900.0	7,499.9	7,482.5	7,482.0	23.2	225.6	81.96	284.7	-3,618.0	2,923.9	2,678.1	248.80	11.752	
8,000.0	7,496.7	7,481.3	7,480.7	24.9	225.6	99.43	284.7	-3,618.0	2,824.3	2,573.8	250.53	11.274	
8,100.0	7,497.2	7,479.9	7,479.2	26.6	225.6	99.10	284.7	-3,618.0	2,724.7	2,472.4	252.36	10.797	
8,200.0	7,495.7	7,478.3	7,477.7	28.8	225.5	98.77	284.7	-3,618.0	2,625.2	2,370.8	254.29	10.324	
8,300.0	7,494.3	7,476.8	7,476.2	30.8	225.5	98.44	284.7	-3,618.0	2,525.7	2,269.4	256.30	9.854	
8,400.0	7,492.8	7,475.3	7,474.7	32.9	225.4	98.10	284.7	-3,618.0	2,426.2	2,167.9	258.37	9.391	
8,500.0	7,491.3	7,473.8	7,473.3	35.1	225.4	97.77	284.7	-3,618.0	2,326.8	2,066.3	260.49	8.932	
8,600.0	7,489.8	7,472.4	7,471.8	37.3	225.3	97.44	284.7	-3,618.0	2,227.4	1,964.8	262.66	8.480	
8,700.0	7,488.3	7,470.9	7,470.3	39.6	225.3	97.10	284.7	-3,618.0	2,128.1	1,863.3	264.88	8.035	
8,800.0	7,486.8	7,469.4	7,468.8	41.8	225.2	96.77	284.7	-3,618.0	2,028.9	1,761.8	267.09	7.596	
8,900.0	7,485.3	7,467.9	7,467.3	44.1	225.2	96.44	284.7	-3,618.0	1,929.7	1,660.4	269.34	7.165	
9,000.0	7,483.9	7,466.4	7,465.8	46.5	225.2	96.10	284.7	-3,618.0	1,830.5	1,559.0	271.62	6.740	
9,100.0	7,482.4	7,464.9	7,464.3	48.8	225.1	95.77	284.7	-3,618.0	1,731.5	1,457.7	273.91	6.322	

CC - Min centre to center distance or covergent point, SF - min separation factor, ES - min ellipse separation

Anticollision Report

Company:	OXY	**Local Co-ordinate Reference:**	Well 2H
Project:	Eddy County, NM (NAD 27 NME)	**TVD Reference:**	KB @ 3283.1usft
Reference Site:	Libra 15 Federal 2H	**MD Reference:**	KB @ 3283.1usft
Site Error:	0.0 usft	**North Reference:**	Grid
Reference Well:	2H	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.0 usft	**Output errors are at**	2.00 sigma
Reference Wellbore	OH	**Database:**	Midland District
Reference Design:	Plan #1	**Offset TVD Reference:**	Offset Datum

Offset Design Libra 15 Federal 2H - Government T #2 - OH - As Drilled — Offset Site Error: 0.0 usft

Survey Program: 80-Inclinometer1 — Offset Well Error: 0.0 usft

Reference Measured Depth (usft)	Reference Vertical Depth (usft)	Offset Measured Depth (usft)	Offset Vertical Depth (usft)	Semi Major Axis Reference (usft)	Semi Major Axis Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	Offset Wellbore Centre +E/-W (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
9,200.0	7,460.9	7,463.4	7,462.8	51.2	225.1	95.43	284.7	-3,618.0	1,832.8	1,356.6	276.22	5.911	
9,300.0	7,470.4	7,461.9	7,461.3	53.5	225.0	96.09	284.7	-3,618.0	1,834.1	1,258.5	278.64	6.508	
9,400.0	7,477.9	7,460.4	7,459.8	55.9	225.0	94.76	284.7	-3,618.0	1,435.8	1,164.7	280.88	5.111	
9,500.0	7,476.4	7,458.9	7,458.3	58.3	224.9	94.42	284.7	-3,618.0	1,337.2	1,064.0	283.22	4.721	
9,600.0	7,474.9	7,457.4	7,456.8	60.7	224.9	94.08	284.7	-3,618.0	1,239.2	963.6	285.58	4.339	
9,700.0	7,473.4	7,456.9	7,455.3	63.1	224.8	93.75	284.7	-3,618.0	1,141.5	863.5	287.94	3.964	
9,800.0	7,472.0	7,454.4	7,453.8	65.5	224.8	93.41	284.7	-3,618.0	1,044.2	763.9	290.31	3.597	
9,900.0	7,470.5	7,452.9	7,452.3	67.9	224.7	93.07	284.7	-3,618.0	947.5	664.8	292.69	3.237	
10,000.0	7,469.0	7,451.4	7,450.8	70.4	224.7	92.73	284.7	-3,618.0	851.5	566.5	295.07	2.886	
10,100.0	7,467.5	7,450.0	7,449.4	72.8	224.7	92.40	284.7	-3,618.0	756.8	469.2	297.48	2.544	
10,200.0	7,466.0	7,448.5	7,447.9	75.2	224.6	92.06	284.7	-3,618.0	663.2	383.4	299.85	2.212	
10,300.0	7,464.5	7,447.0	7,446.4	77.7	224.6	91.72	284.7	-3,618.0	572.0	269.8	302.25	1.893	SF 2.0 - Survey every 100 ft
10,400.0	7,463.0	7,445.5	7,444.9	80.1	224.5	91.38	284.7	-3,618.0	484.3	179.7	304.65	1.590	SF 2.0 - Survey every 100 ft
10,500.0	7,461.6	7,444.0	7,443.4	82.6	224.5	91.04	284.7	-3,618.0	402.4	95.3	307.06	1.310	SF 1.5 - Level 3 MOC
10,600.0	7,460.1	7,442.5	7,441.9	85.0	224.4	90.70	284.7	-3,618.0	330.5	21.1	309.47	1.068	SF 1.5 - Level 3 MOC
10,700.0	7,458.6	7,441.0	7,440.4	87.5	224.4	90.37	284.7	-3,618.0	279.8	-35.1	311.88	0.897	SF 1.0 - Level 4 MOC
10,800.0	7,457.1	7,439.5	7,438.9	90.0	224.3	90.03	284.7	-3,618.0	252.9	-61.4	314.29	0.805	SF 1.0 - Level 4 MOC
10,813.3	7,456.9	7,439.3	7,438.7	90.3	224.3	89.98	284.7	-3,618.0	252.5	-62.1	314.61	0.803	SF 1.0 - Level 4 MOC, CC, ES, SF
10,900.0	7,455.6	7,438.0	7,437.4	92.4	224.3	89.69	284.7	-3,618.0	267.0	-49.7	316.71	0.843	SF 1.0 - Level 4 MOC
11,000.0	7,454.1	7,436.5	7,435.9	94.9	224.2	89.35	284.7	-3,618.0	314.0	-5.1	319.13	0.984	SF 1.0 - Level 4 MOC
11,100.0	7,452.6	7,435.0	7,434.4	97.3	224.2	89.01	284.7	-3,618.0	382.0	60.5	321.55	1.188	SF 1.5 - Level 3 MOC
11,200.0	7,451.1	7,433.5	7,432.9	99.8	224.2	88.67	284.7	-3,618.0	461.8	137.8	323.97	1.425	SF 1.5 - Level 3 MOC
11,300.0	7,449.7	7,432.0	7,431.5	102.3	224.1	88.33	284.7	-3,618.0	548.2	221.6	326.39	1.680	SF 2.0 - Survey every 100 ft
11,400.0	7,448.2	7,430.5	7,430.0	104.8	224.1	88.00	284.7	-3,618.0	638.8	309.8	328.82	1.942	SF 2.0 - Survey every 100 ft
11,500.0	7,446.7	7,429.1	7,428.5	107.2	224.0	87.66	284.7	-3,618.0	731.6	400.3	331.25	2.208	
11,600.0	7,445.2	7,427.6	7,427.0	109.7	224.0	87.32	284.7	-3,618.0	826.1	492.4	333.68	2.476	
11,700.0	7,443.7	7,426.1	7,425.5	112.2	223.9	86.98	284.7	-3,618.0	921.8	585.7	336.11	2.743	
11,800.0	7,442.2	7,424.6	7,424.0	114.7	223.9	86.65	284.7	-3,618.0	1,018.4	679.8	338.54	3.008	
11,900.0	7,440.7	7,423.1	7,422.5	117.1	223.8	86.31	284.7	-3,618.0	1,115.8	774.6	340.97	3.272	
12,000.0	7,439.2	7,421.6	7,421.0	119.6	223.8	85.97	284.7	-3,618.0	1,213.1	869.7	343.41	3.533	
12,100.0	7,437.8	7,420.1	7,419.5	122.1	223.8	85.63	284.7	-3,618.0	1,311.1	965.2	345.84	3.791	
12,200.0	7,436.3	7,418.6	7,418.0	124.6	223.7	85.30	284.7	-3,618.0	1,409.3	1,061.0	348.28	4.047	
12,300.0	7,434.8	7,417.1	7,416.5	127.1	223.7	84.96	284.7	-3,618.0	1,507.8	1,157.1	350.72	4.299	
12,400.0	7,433.3	7,415.6	7,415.0	129.5	223.6	84.63	284.7	-3,618.0	1,606.5	1,253.3	353.16	4.549	
12,500.0	7,431.8	7,414.1	7,413.5	132.0	223.6	84.29	284.7	-3,618.0	1,705.3	1,349.7	355.59	4.796	
12,600.0	7,430.3	7,412.6	7,412.1	134.5	223.5	83.96	284.7	-3,618.0	1,804.2	1,446.2	358.03	5.039	
12,622.1	7,430.0	7,412.3	7,411.7	135.1	223.5	83.89	284.7	-3,618.0	1,826.1	1,467.8	358.57	5.093	

OXY Permian

Libra 15 Federal 2H
Eddy County, NM (NAD 27 NME)
Northing: 572778.81
Easting: 554847.64
Plan #1

KB @ 3283.1usft
Gr @ 3256.1

T G M

To convert Magnetic North to Grid, Add 7.55°
To convert True North to Grid, Subtract 0.10°

Azimuths to Grid North
True North: -0.10°
Magnetic North: 7.55°

Magnetic Field
Strength: 48360.1snT
Dip Angle: 60.32°
Date: 10/23/2014
Model: BGGM2014

WELL DETAILS 2H

Ground Level: 3256.1

+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
0.0	0.0	572778.81	554847.64	32° 34' 28.378 N	104° 9' 19.020 W

SECTION DETAILS

MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	VSect
0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.0
6783.8	0.00	0.00	6783.8	0.0	0.0	0.00	0.00	0.0
7919.4	90.85	270.51	7499.9	6.5	-726.8	8.00	270.51	726.8
12622.1	90.85	270.51	7430.0	48.3	-5428.8	0.00	0.00	5429.0

DESIGN TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Northing	Easting
L15 Fed 2H BHL	7430.0	48.3	-5428.8	572827.14	549418.86
L15 Fed 2H LTP	7432.3	47.0	-5273.8	572825.77	549573.84
L15 Fed 2H FTP	7500.0	5.8	-629.9	572784.42	554217.70

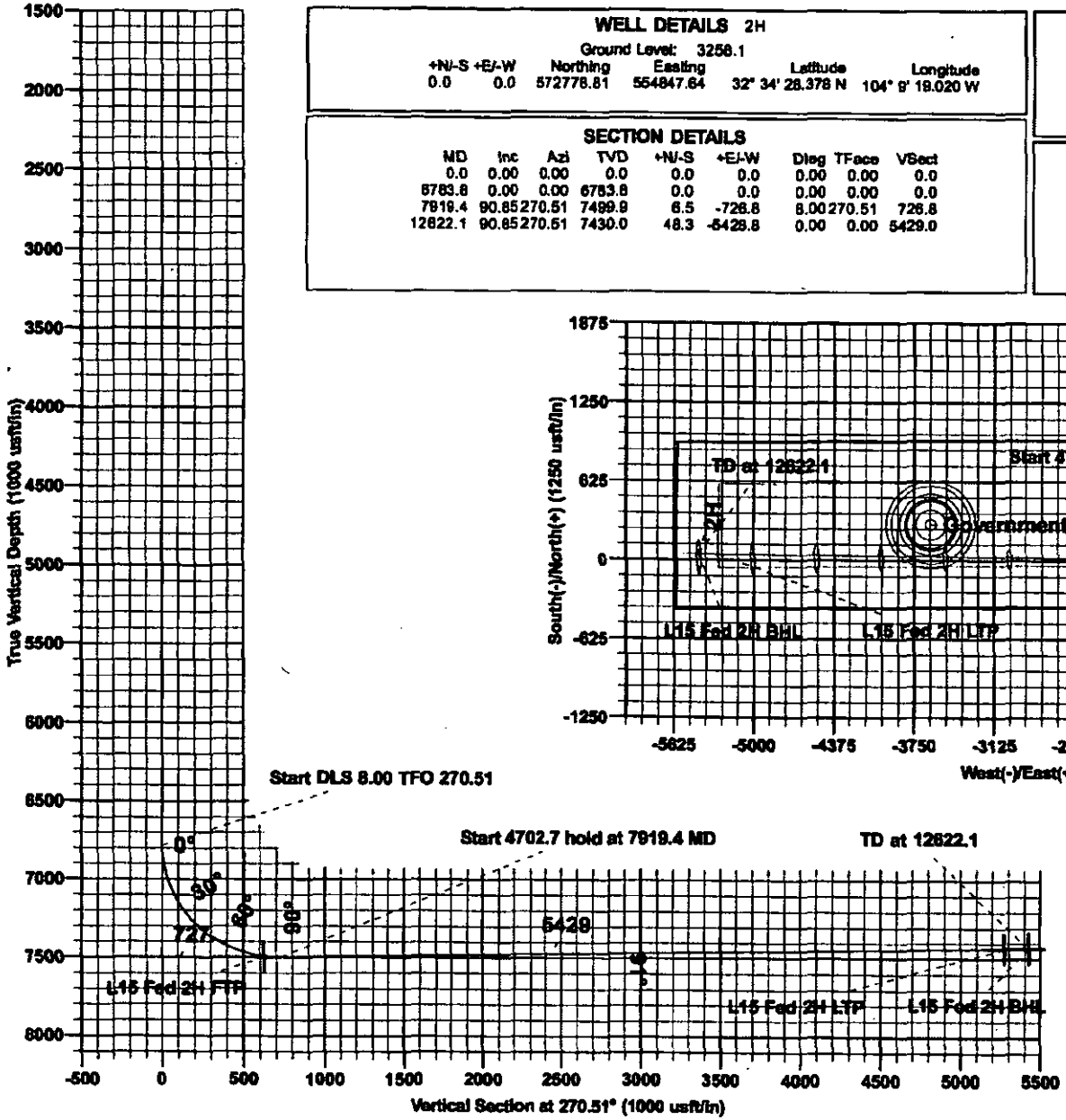
PROJECT DETAILS:

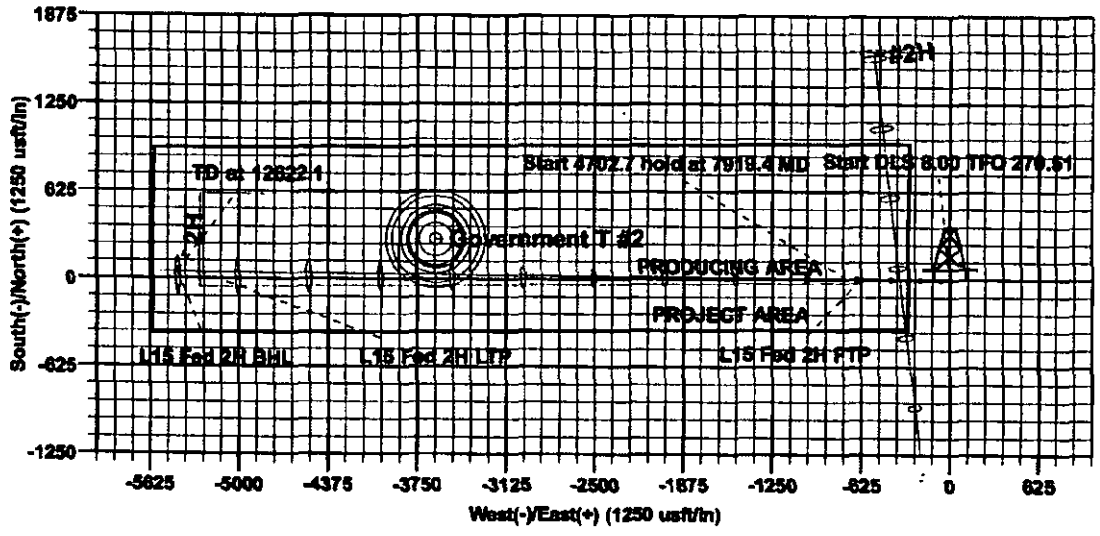
Eddy County, NM (NAD 27 NME)
Geodetic System: US State Plane 1927 (Exact solution)
Datum: NAD 1927 (NADCON CONUS)
Ellipsoid: Clarke 1866
Zone: New Mexico East 3001
System Datum: Mean Sea Level

SITE DETAILS:

Libra 15 Federal 2H
Site Centre Northing: 572778.81
Easting: 554847.64

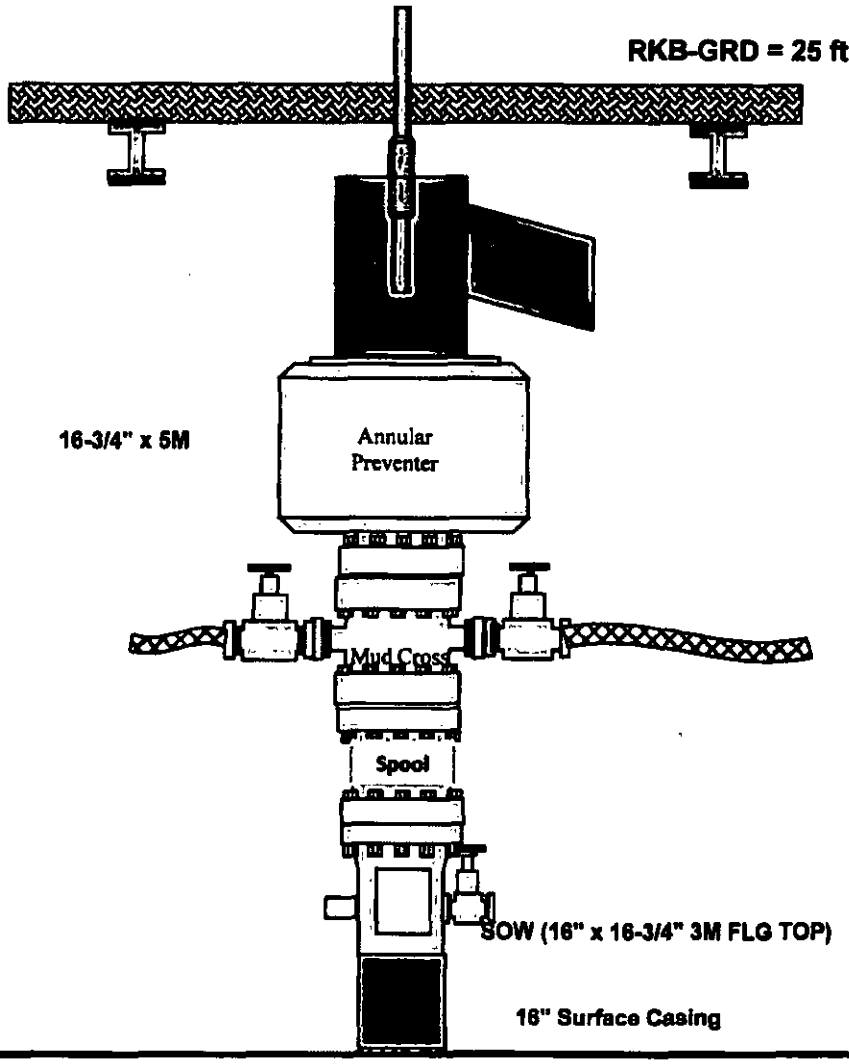
Positional Uncertainty: 0.0
Convergence: 0.10
Local North: Grid

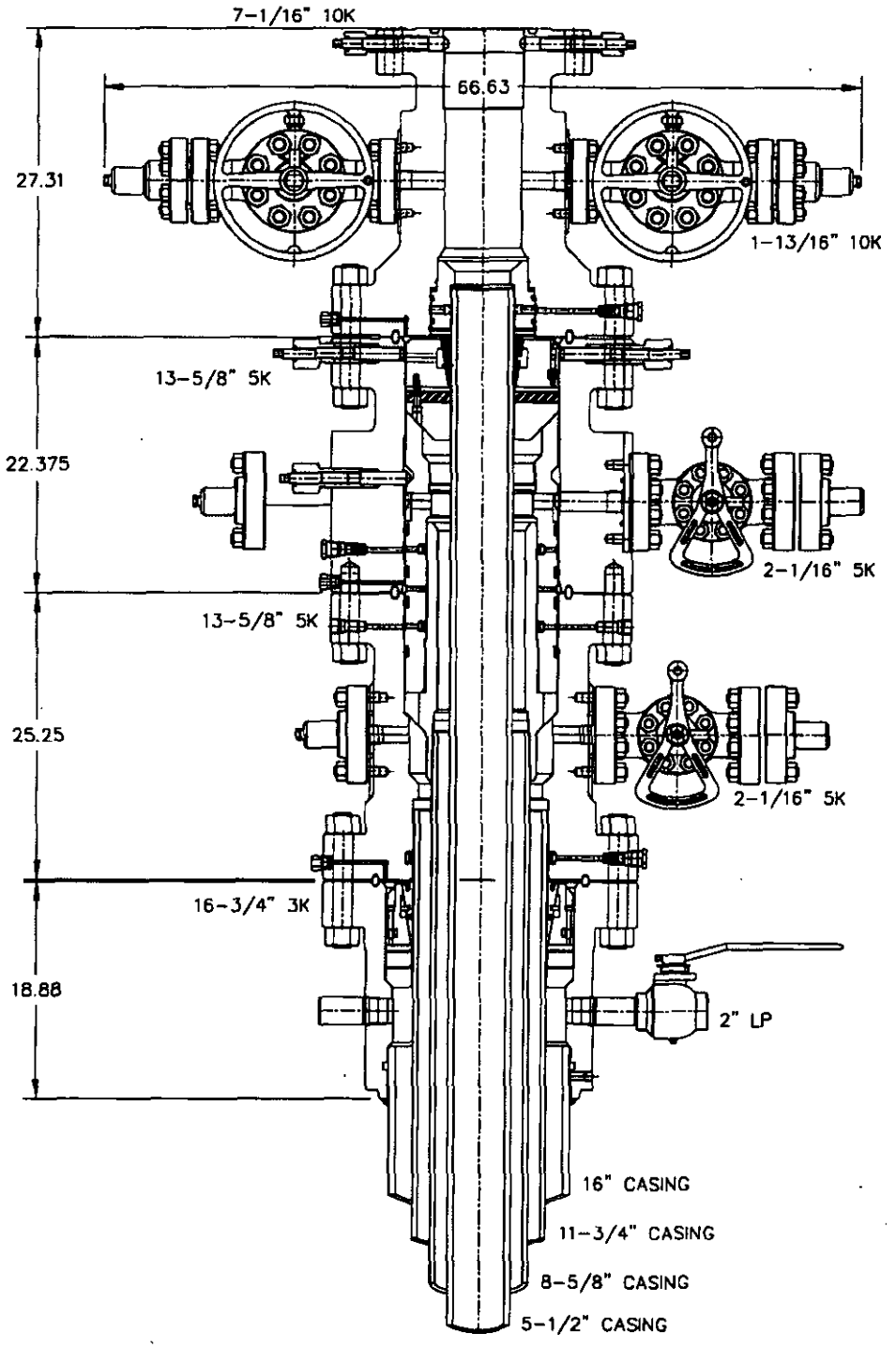




BOP STACK for 16" Surface Casing

16-3/4" 5M BOP Stack





02
REV

NOTE:
THIS IS A PROPOSAL DRAWING AND DIMENSIONS SHOWN ARE SUBJECT TO CHANGE DURING THE FINAL DESIGN PROCESS.

CAMERON

Cameron International
Surface Systems, DPS
PO Box 1212
Houston, TX 77251-1212

PROPOSAL DRAWING

OXY USA

13-5/8" 5K 'MBS' WELLHEAD SYSTEM

CASING PROGRAM: 16" X 11-3/4" X 8-5/8" X 5-1/2"

DO NOT SCALE

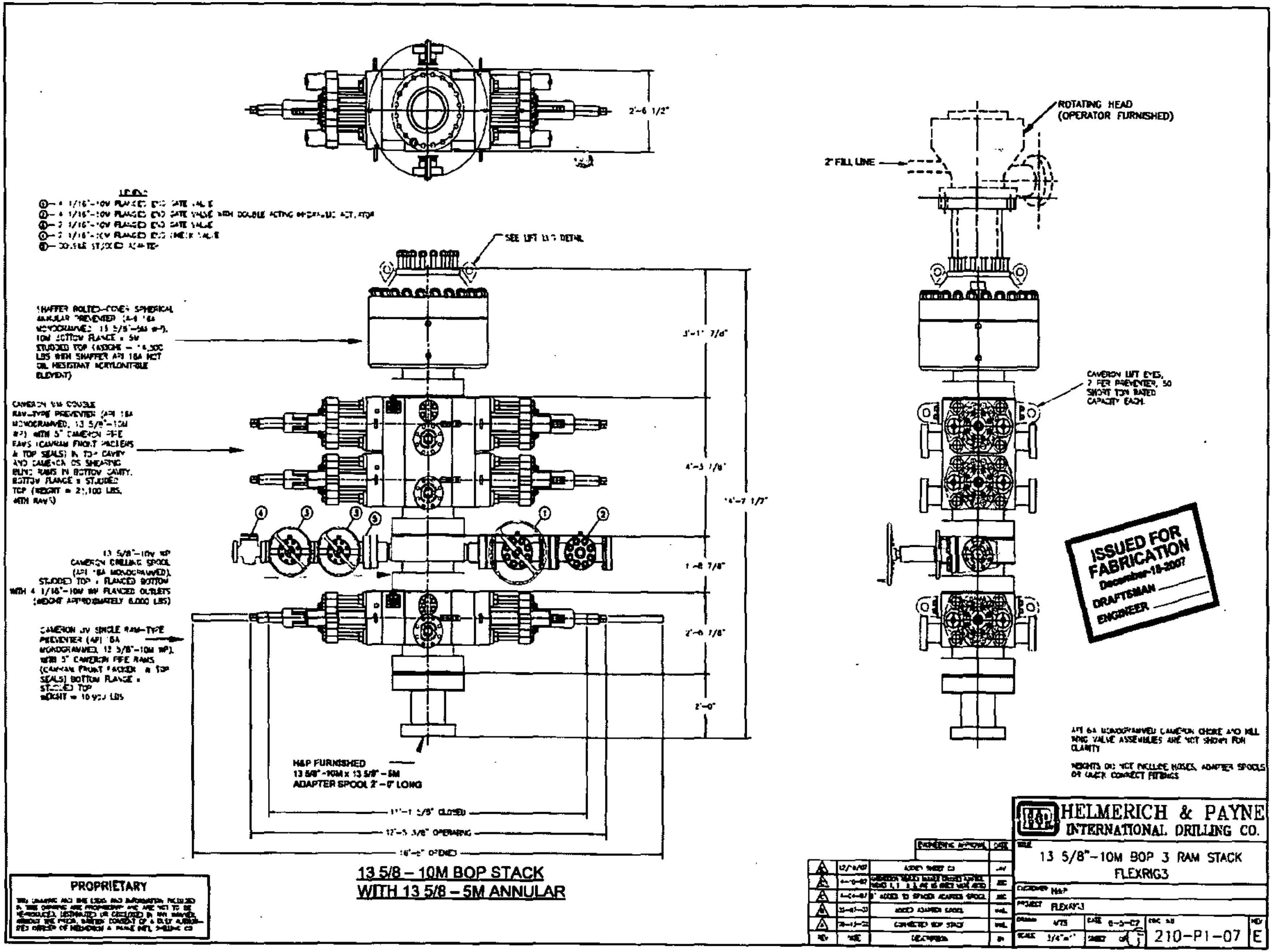
DRAWN BY	KEN REED	DATE 2013JUN06
CHECKED	T. TAYLOR	DATE 2013JUN06
APPROVED		DATE

INITIAL USE: B.AI

ZS: 301350804

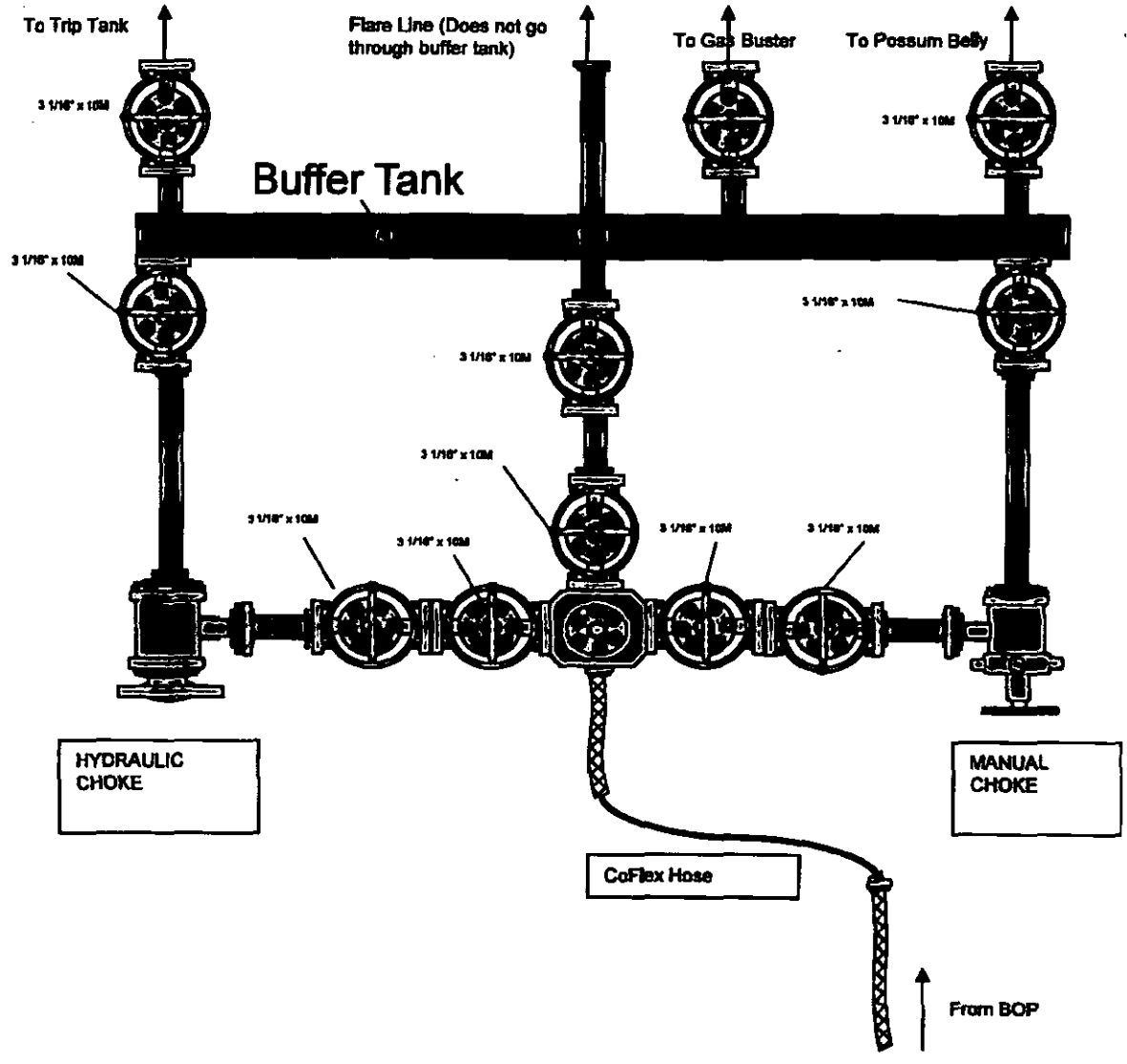
SHEET 1 OF 1

SD-045856-70-01



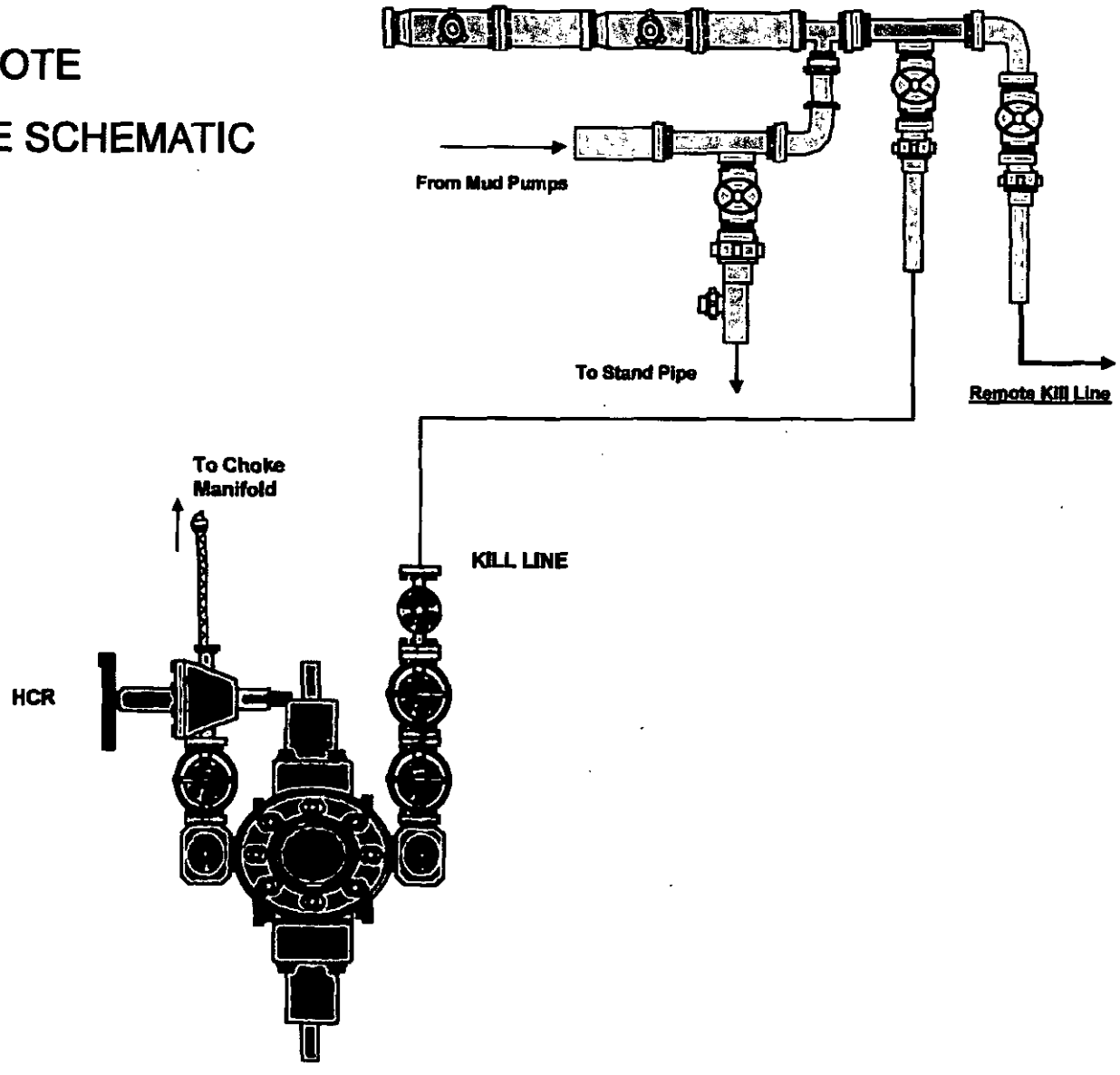
2'-6 1/2"
SEE LIFT EYE DETAIL
ROTATING HEAD (OPERATOR FURNISHED)
2" FILL LINE
CAMERON LIFT EYES, 2 PER PREVENTER, 50 SHORT TON RATED CAPACITY EACH.
3'-1" 7/8"
4'-3 7/8"
1'-8 7/8"
2'-6 7/8"
2'-0"
14'-7 1/2"
H&P FURNISHED
13 5/8" -10M x 13 5/8" - 5M
ADAPTER SPOOL 2' - 0" LONG
11'-1 5/8" CLOSED
12'-5 3/8" OPERATING
16'-6" OPENED
13 5/8 – 10M BOP STACK
WITH 13 5/8 – 5M ANNULAR
ISSUED FOR FABRICATION
December-18-2007
DRAFTSMAN
ENGINEER
PROPRIETARY
HELMERICH & PAYNE
INTERNATIONAL DRILLING CO.
13 5/8"-10M BOP 3 RAM STACK
FLEXRIG3
H&P
FLEXRIG3
210-P1-07
E

FLEX3 STD CHOKE MANIFOLD (COMPREHENSIVE)



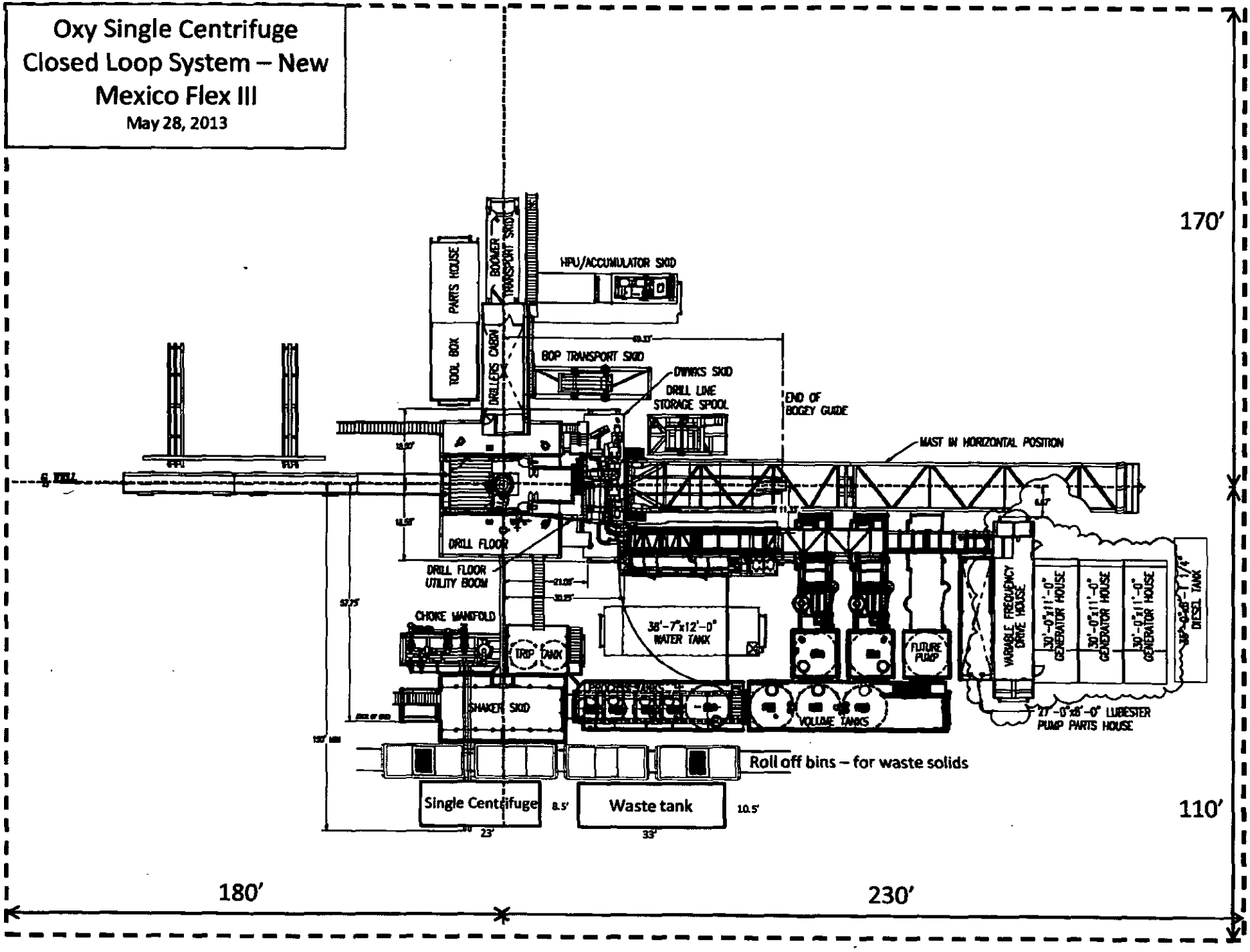
10M REMOTE

KILL LINE SCHEMATIC

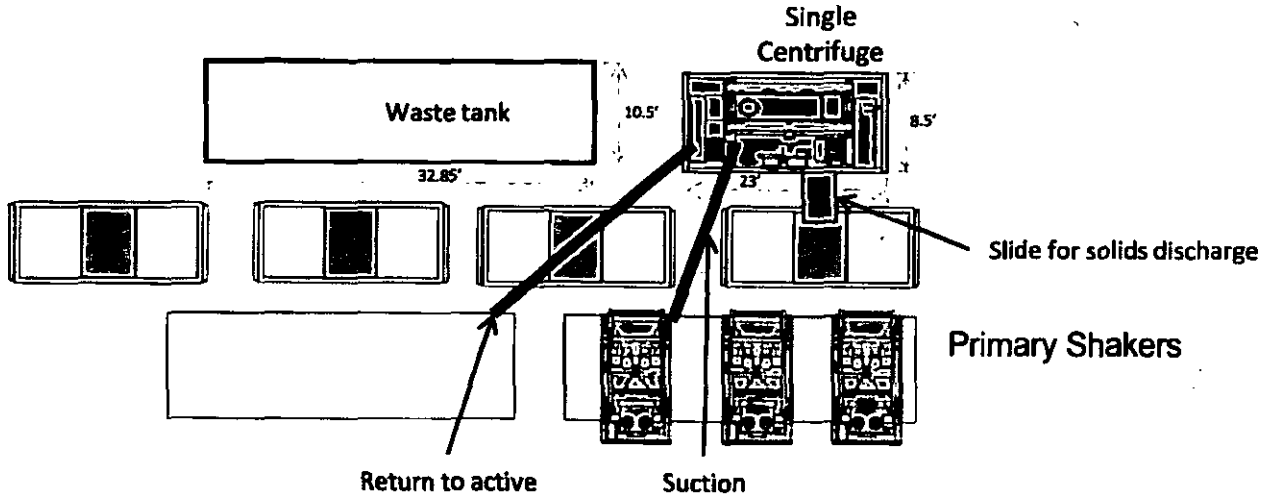


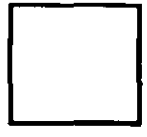
Oxy Single Centrifuge Closed Loop System – New Mexico Flex III

May 28, 2013



Oxy





Oxy Single Centrifuge Closed Loop System – New Mexico Flex III

May 28, 2013

Coflex Hose Certification

Continental CONTITECH

Fluid Technology

Quality Document

CERTIFICATE OF CONFORMITY

Supplier : CONTITECH RUBBER INDUSTRIAL KFT.
Equipment: 6 pcs. Choke and Kill Hose with installed couplings
Type: **3" x 10,67 m WP: 10000 psi**
Supplier File Number : 412638
Date of Shipment : April. 2008
Customer : Phoenix Beattie Co.
Customer P.o. : 002491
Referenced Standards / Codes / Specifications : API Spec 16 C
Serial No.: 52754,52755,52776,52777,52778,52782

STATEMENT OF CONFORMITY

We hereby certify that the above items/equipment supplied by us are in conformity with the terms, conditions and specifications of the above Purchaser Order and that these items/equipment were fabricated inspected and tested in accordance with the referenced standards, codes and specifications and meet the relevant acceptance criteria and design requirements.

COUNTRY OF ORIGIN HUNGARY/EU

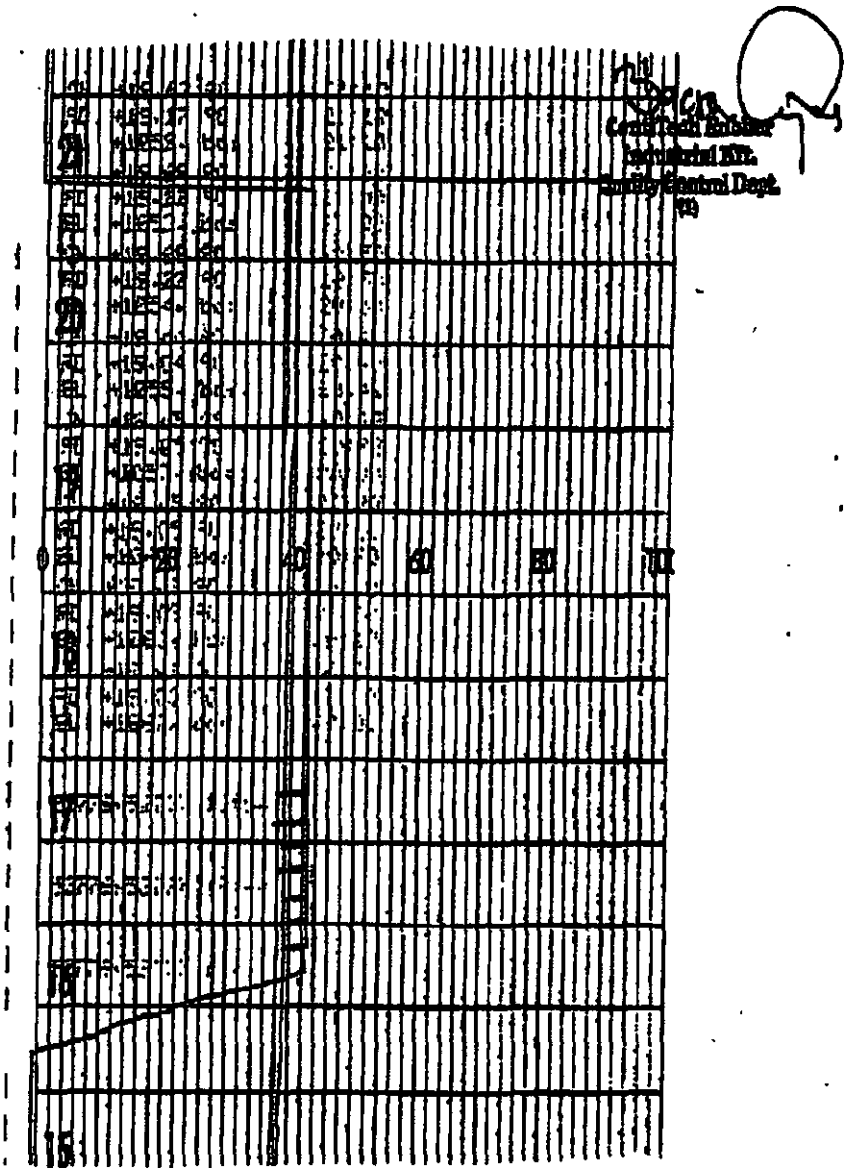
Signed : .....

ContiTech Rubber Industrial Kft. Quality Control Dept. 00

Date: 04. April. 2008

Position: Q.C. Manager

Coflex Hose Certification



Coflex Hose Certification

PHOENIX Beattie — **Material Identification Certificate**

PA No	006330	Client	HELMERICH & PAYNE INT'L DRILLING	Client Ref	370-369-001	Page	1

Part No	Description	Material Desc	Material Spec	Qty	WO No	Batch No	Test Cert No	Bin No	Drg No	Issue No
HP10CK3A-35-4F1	3" 10K 16C CHK HOSE x 35ft OAL			1	2491	52777/H884		WATER		
SECK3-HPF3	LIFTING & SAFETY EQUIPMENT TO			1	2440	002440		N/STK		
SC725-200CS	SAFETY CLAMP 200MM 7.25T	CARBON STEEL		1	2519	H666		22C		
SC725-132CS	SAFETY CLAMP 132MM 7.25T	CARBON STEEL		1	2242	H139		22		

We hereby certify that these goods have been inspected by our Quality Management System, and to the best of our knowledge are found to conform to relevant industry standards within the requirements of the purchase order as issued to Phoenix Beattie Corporation.

05/23/09.

Coflex Hose Certification

Form No 100/12

PHOENIX Beattie

Phoenix Beattie Corp
11535 Brittmoore Park Drive
Houston, TX 77041
Tel: (832) 327-0341
Fax: (832) 327-0345
E-mail mail@phoenixbeattie.com
www.phoenixbeattie.com

Delivery Note

Customer Order Number	370-369-001	Delivery Note Number	003078	Page	1

Customer / Invoice Address	Delivery / Address
HELMERICH & PAYNE INT'L DRILLING CO 1437 SOUTH BOULDER TULSA, OK 74119	HELMERICH & PAYNE IDC ATTN: JOE STEPHENSON - RIG 370 13609 INDUSTRIAL ROAD HOUSTON, TX 77015

Customer Acc No	Phoenix Beattie Contract Manager	Phoenix Beattie Reference	Date
H01	JJL	006330	05/23/2008

Item No	Beattie Part Number / Description	Qty Ordered	Qty Sent	Qty To Follow
1	HP10CK3A-35-4F1 3" 10K 16C C&K HOSE x 35ft OAL CW 4.1/16" API SPEC FLANGE E/ End 1: 4.1/16" 10Kpsi API Spec 6A Type 6BX Flange End 2: 4.1/16" 10Kpsi API Spec 6A Type 6BX Flange c/w BX155 Standard ring groove at each end Suitable for H2S Service Working pressure: 10,000psi Test pressure: 15,000psi Standard: API 16C Full specification Armor Guarding: Included Fire Rating: Not Included Temperature rating: -20 Deg C to +100 Deg C	1	1	0
2	SECK3-HPF3 LIFTING & SAFETY EQUIPMENT TO SUIT HP10CK3-35-F1 2 x 160mm ID Safety Clamps 2 x 244mm ID Lifting Collars & element C's 2 x 7ft Stainless Steel wire rope 3/4" OD 4 x 7.75t Shackles	1	1	0
3	SC725-200CS SAFETY CLAMP 200MM 7.25T C/S GALVANISED	1	1	0

Continued...

Coflex Hose Certification

Continental CONTITECH

Fluid Technology

Quality Document

QUALITY CONTROL INSPECTION AND TEST CERTIFICATE				CERT. N°:	748	
PURCHASER:	Phoenix Beattie Co.			P.O. N°:	002491	
CONTITECH ORDER N°:	412638	HOSE TYPE:	3" ID	Choke and Kill Hose		
HOSE SERIAL N°:	52777	NOMINAL / ACTUAL LENGTH:		10,67 m		
W.P. 68,96 MPa	10000 psi	T.P. 103,4 MPa	15000 psi	Duration:	60 –	min.

Pressure test with water at ambient temperature

See attachment. (1 page)

↑ 10 mm = 10 Min.

→ 10 mm = 25 MPa

COUPLINGS

Type	Serial N°	Quality	Heat N°
3" coupling with 4 1/16" Flange end	917 913	AISI 4130 AISI 4130	T7998A 28984

INFOCHIP INSTALLED

API Spec 16 C
Temperature rate:"B"

All metal parts are flawless

WE CERTIFY THAT THE ABOVE HOSE HAS BEEN MANUFACTURED IN ACCORDANCE WITH THE TERMS OF THE ORDER AND PRESSURE TESTED AS ABOVE WITH SATISFACTORY RESULT.

Date:	Inspector	Quality Control
04. April. 2008		ContiTech Rubber Industrial Kft. Quality Control Dept.

Coflex Hose Certification

Form No 100/12

PHOENIX Beattie

Phoenix Beattie Corp
11535 Brittmore Park Drive
Houston, TX 77041
Tel: (832) 327-0141
Fax: (832) 327-0149
E-mail: mail@phoenixbeattie.com
www.phoenixbeattie.com

Delivery Note

Customer Order Number	370-369-001	Delivery Note Number	003078	Page	2

Customer / Invoice Address	Delivery / Address
HELMERICH & PAYNE INT'L DRILLING CO 1437 SOUTH BOULDER TULSA, OK 74119	HELMERICH & PAYNE IDC ATTN: JOE STEPHENSON - RIG 370 13609 INDUSTRIAL ROAD HOUSTON, TX 77015

Customer Acc No	Phoenix Beattie Contract Manager	Phoenix Beattie Reference	Date
H01	JJL	006330	05/23/2008

Item No	Beattie Part Number / Description	Qty Ordered	Qty Sent	Qty To Follow
4	SC725-132CS SAFETY CLAMP 132MM 7.25T C/S GALVANIZED C/W BOLTS	1	1	0
5	00CERT-HYDRO HYDROSTATIC PRESSURE TEST CERTIFICATE	1	1	0
6	00CERT-LOAD LOAD TEST CERTIFICATES	1	1	0
7	00FREIGHT INBOUND / OUTBOUND FREIGHT PRE-PAY & ADD TO FINAL INVOICE NOTE: MATERIAL MUST BE ACCOMPANIED BY PAPERWORK INCLUDING THE PURCHASE ORDER, RIG NUMBER TO ENSURE PROPER PAYMENT	1	1	0

Phoenix Beattie Inspection Signature : _____

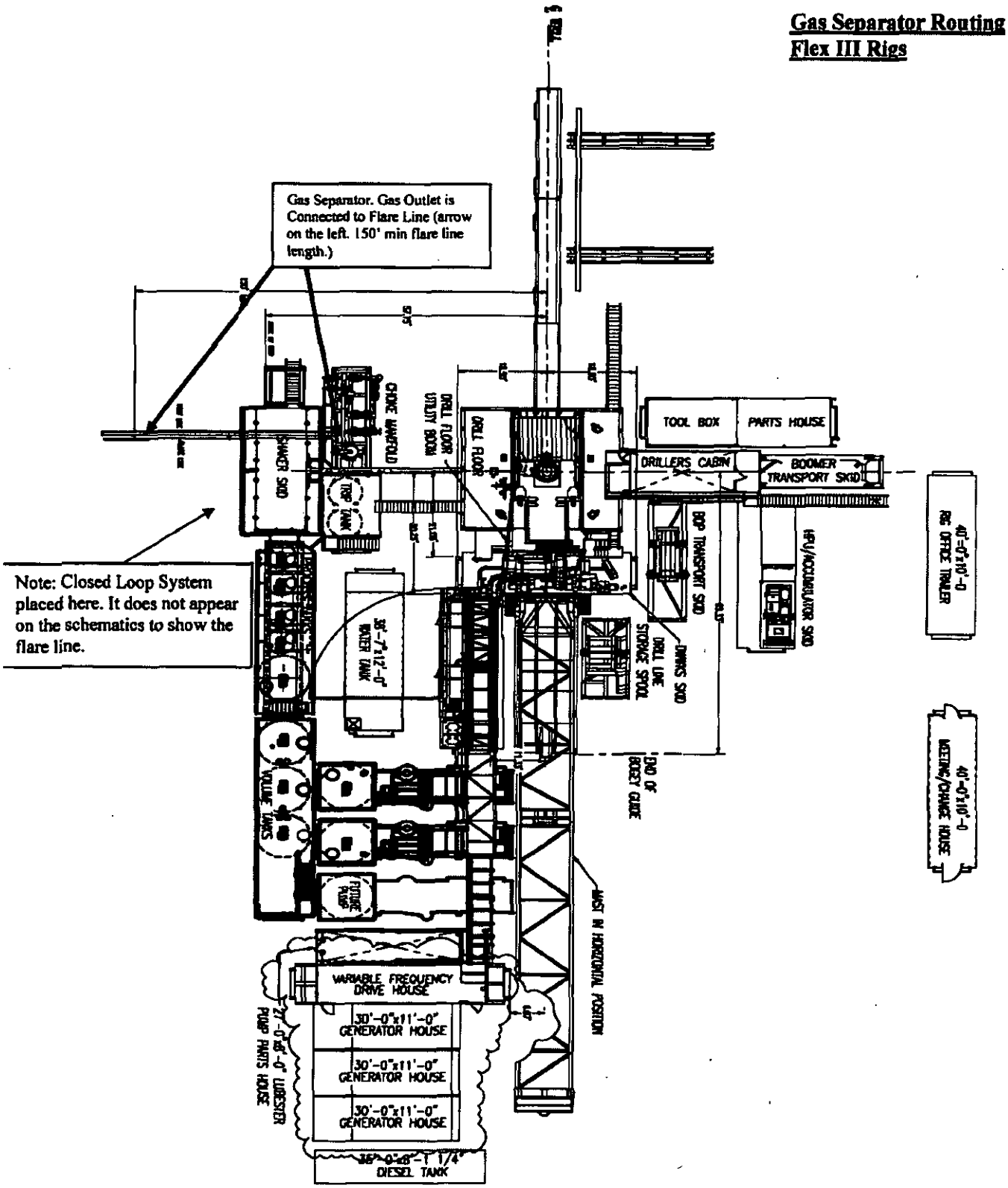
Received in Good Condition : Signature _____

Print Name _____

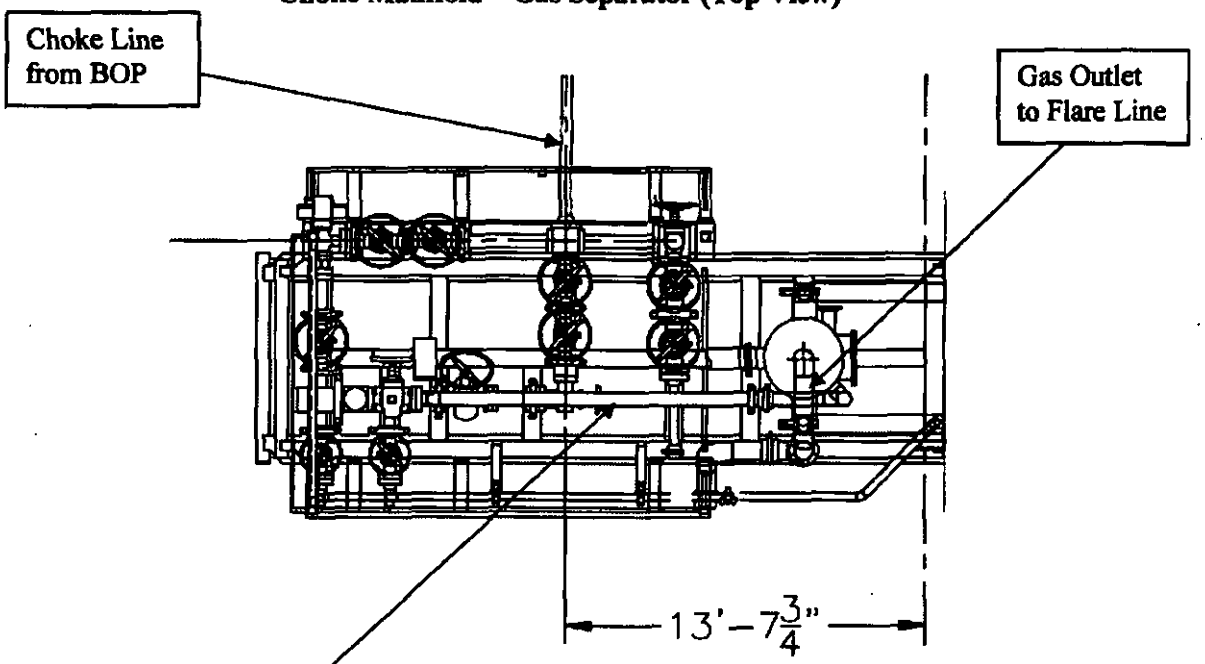
Date _____

All goods remain the property of Phoenix Beattie until paid for in full. Any damage or shortage on this delivery must be advised within 5 days. Returns may be subject to a handling charge.

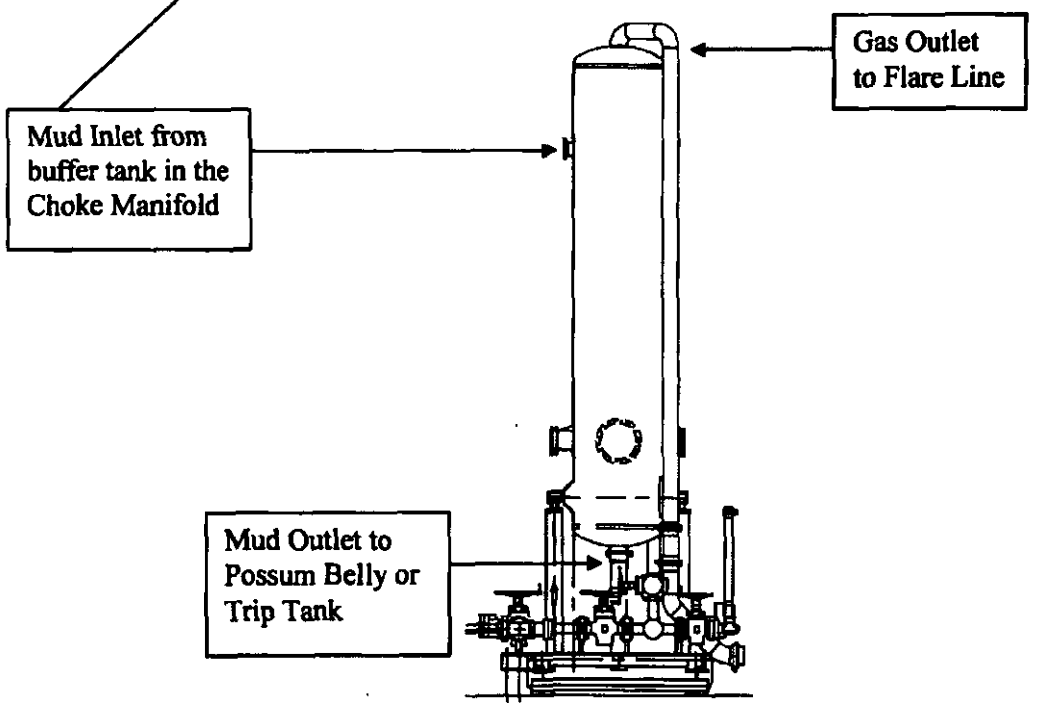
Gas Separator Routing
Flex III Rigs



Choke Manifold – Gas Separator (Top View)



Choke Manifold – Gas Separator (Side View)



Permian Drilling
Hydrogen Sulfide Drilling Operations Plan
New Mexico

Scope

This contingency plan establishes guidelines for the public, all company employees, and contract employees who's work activities may involve exposure to hydrogen sulfide (H2S) gas.
While drilling this well, it is possible to encounter H2S bearing formations. At all times, the first barrier to control H2S emissions will be the drilling fluid, which will have a density high enough to control influx.

Objective

1. Provide an immediate and predetermined response plan to any condition when H2S is detected. All H2S detections in excess of 10 parts per million (ppm) concentration are considered an Emergency.

2. Prevent any and all accidents, and prevent the uncontrolled release of hydrogen sulfide into the atmosphere.

3. Provide proper evacuation procedures to cope with emergencies.

4. Provide immediate and adequate medical attention should an injury occur.

Discussion

Implementation:	This plan with all details is to be fully implemented before drilling to commence.
Emergency response Procedure:	This section outlines the conditions and denotes steps to be taken in the event of an emergency.
Emergency equipment Procedure:	This section outlines the safety and emergency equipment that will be required for the drilling of this well.
Training provisions:	This section outlines the training provisions that must be adhered to prior to drilling.
Drilling emergency call lists:	Included are the telephone numbers of all persons to be contacted should an emergency exist.
Briefing:	This section deals with the briefing of all people involved in the drilling operation.
Public safety:	Public safety personnel will be made aware of any potential evacuation and any additional support needed.
Check lists:	Status check lists and procedural check lists have been included to insure adherence to the plan.
General information:	A general information section has been included to supply support information.

Hydrogen Sulfide Training

All personnel, whether regularly assigned, contracted, or employed on an unscheduled basis, will receive training from a qualified instructor in the following areas prior to commencing drilling operations on the well:

1. The hazards and characteristics of H2S.
2. Proper use and maintenance of personal protective equipment and life support systems.
3. H2S detection.
4. Proper use of H2S detectors, alarms, warning systems, briefing areas, evacuation procedures and prevailing winds.
5. Proper techniques for first aid and rescue procedures.
6. Physical effects of hydrogen sulfide on the human body.
7. Toxicity of hydrogen sulfide and sulfur dioxide.
8. Use of SCBA and supplied air equipment.
9. First aid and artificial respiration.
10. Emergency rescue.

In addition, supervisory personnel will be trained in the following areas:

1. The effects of H2S on metal components. If high tensile strength tubular is to be used, personnel will be trained in their special maintenance requirements.
2. Corrective action and shut-in procedures when drilling a well, blowout prevention and well control procedures.
3. The contents and requirements of the H2S Drilling Operations Plan.

H2S training refresher must have been taken within one year prior to drilling the well. Specifics on the well to be drilled will be discussed during the pre-spud meeting. H2S and well control (choke) drills will be performed while drilling the well, at least on a weekly basis. This plan shall be available in the well site. All personnel will be required to carry the documentation proving that the H2S training has been taken.

Service company and visiting personnel

A. Each service company that will be on this well will be notified if the zone contains H2S.

B. Each service company must provide for the training and equipment of their employees before they arrive at the well site.

C. Each service company will be expected to attend a well site briefing

Emergency Equipment Requirements

1. Well control equipment

The well shall have hydraulic BOP equipment for the anticipated pressures. Equipment is to be tested on installation and follow Oxy Well Control standard, as well as BLM Onshore Order #2.

Special control equipment:

A. Hydraulic BOP equipment with remote control on ground. Remotely operated choke.
B. Rotating head
C. Gas buster equipment shall be installed before drilling out of surface pipe.

2. Protective equipment for personnel

A. Four (4) 30-minute positive pressure air packs (2 at each briefing area) on location.

B. Adequate fire extinguishers shall be located at strategic locations.

C. Radio / cell telephone communication will be available at the rig.

- Rig floor and trailers.
- Vehicle.

3. Hydrogen sulfide sensors and alarms

A. H2S sensor with alarms will be located on the rig floor, at the bell nipple, and at the flow line. These monitors will be set to alarm at 10 ppm with strobe light, and audible alarm.
B. Hand operated detectors with tubes.
C. H2S monitor tester (to be provided by contract Safety Company.)
D. There shall be one combustible gas detector on location at all times.

4. Visual Warning Systems

A. One sign located at each location entrance with the following language:

Caution – potential poison gas
Hydrogen sulfide
No admittance without authorization

Wind sock – wind streamers:

A. One 36" (in length) wind sock located at protection center, at height visible from rig floor.
B. One 36" (in length) wind sock located at height visible from pit areas.

Condition flags

A. One each condition flag to be displayed to denote conditions.

green – normal conditions
yellow – potential danger
red – danger, H2S present

B. Condition flag shall be posted at each location sign entrance.

5. Mud Program

The mud program is designed to minimize the risk of having H2S and other formation fluids at surface. Proper mud weight and safe drilling practices will be applied. H2S scavengers will be used to minimize the hazards while drilling. Below is a summary of the drilling program.

Mud inspection devices:

Garrett gas train or hatch tester for inspection of sulfide concentration in mud system.

6. Metallurgy

A. Drill string, casing, tubing, wellhead, blowout preventers, drilling spools or adapters, kill lines, choke manifold, lines and valves shall be suitable for the H2S service.
B. All the elastomers, packing, seals and ring gaskets shall be suitable for H2S service.

7. Well Testing

No drill stem test will be performed on this well.

8. Evacuation plan

Evacuation routes should be established prior to well spud for each well and discussed with all rig personnel.

9. Designated area

A. Parking and visitor area: all vehicles are to be parked at a predetermined safe distance from the wellhead.
B. There will be a designated smoking area.
C. Two briefing areas on either side of the location at the maximum allowable distance from the well bore so they offset prevailing winds perpendicularly, or at a 45-degree angle if wind direction tends to shift in the area.

Emergency procedures

A. In the event of any evidence of H2S level above 10 ppm, take the following steps:

1. The Driller will pick up off bottom, shut down the pumps, slow down the pipe rotation.

2. Secure and don escape breathing equipment, report to the upwind designated safe briefing / muster area.

3. All personnel on location will be accounted for and emergency search should begin for any missing, the Buddy System will be implemented.

4. Order non-essential personnel to leave the well site, order all essential personnel out of the danger zone and upwind to the nearest designated safe briefing / muster area.

5. Entrance to the location will be secured to a higher level than our usual "Meet and Greet" requirement, and the proper condition flag will be displayed at the entrance to the location.

6. Take steps to determine if the H2S level can be corrected or suppressed and, if so, proceed as required.

B. If uncontrollable conditions occur:

1. Take steps to protect and/or remove any public in the down-wind area from the rig – partial evacuation and isolation. Notify necessary public safety personnel and appropriate regulatory entities (i.e. BLM) of the situation.

2. Remove all personnel to the nearest upwind designated safe briefing / muster area or off location.

3. Notify public safety personnel of safe briefing / muster area.

4. An assigned crew member will blockade the entrance to the location. No unauthorized personnel will be allowed entry to the location.

5. Proceed with best plan (at the time) to regain control of the well. Maintain tight security and safety procedures.

C. Responsibility:

1. Designated personnel.

a. Shall be responsible for the total implementation of this plan.
b. Shall be in complete command during any emergency.
c. Shall designate a back-up.

All personnel:	1. On alarm, don escape unit and report to the nearest upwind designated safe briefing / muster area upw 2. Check status of personnel (buddy system). 3. Secure breathing equipment. 4. Await orders from supervisor.
Drill site manager:	1. Don escape unit if necessary and report to nearest upwind designated safe briefing / muster area. 2. Coordinate preparations of individuals to return to point of release with tool pusher and driller (using the buddy system). 3. Determine H2S concentrations. 4. Assess situation and take control measures.
Tool pusher:	1. Don escape unit Report to up nearest upwind designated safe briefing / muster area. 2. Coordinate preparation of individuals to return to point of release with tool pusher drill site manager (using the buddy system). 3. Determine H2S concentration. 4. Assess situation and take control measures.
Driller:	1. Don escape unit, shut down pumps, continue

		rotating DP.
	2.	Check monitor for point of release.
	3.	Report to nearest upwind designated safe briefing / muster area.
	4.	Check status of personnel (in an attempt to rescue, use the buddy system).
	5.	Assigns least essential person to notify Drill Site Manager and tool pusher by quickest means in case of their absence.
	6.	Assumes the responsibilities of the Drill Site Manager and tool pusher until they arrive should they be absent.
Derrick man Floor man #1 Floor man #2	1.	Will remain in briefing / muster area until instructed by supervisor.
Mud engineer:	1.	Report to nearest upwind designated safe briefing / muster area.
	2.	When instructed, begin check of mud for ph and H2S level. (Garett gas train.)
Safety personnel:	1.	Mask up and check status of all personnel and secure operations as instructed by drill site manager.

Taking a kick

When taking a kick during an H2S emergency, all personnel will follow standard Well control procedures after reporting to briefing area and masking up.

Open-hole logging

All unnecessary personnel off floor. Drill Site Manager and safety personnel should monitor condition, advise status and determine need for use of air equipment.

Running casing or plugging

Following the same "tripping" procedure as above. Drill Site Manager and safety personnel should determine if all personnel have access to protective equipment.

Ignition procedures

The decision to ignite the well is the responsibility of the operator (Oxy Drilling Management). The decision should be made only as a last resort and in a situation where it is clear that:

1. Human life and property are endangered.
2. There is no hope controlling the blowout under the prevailing conditions at the well.

Instructions for igniting the well

1. Two people are required for the actual igniting operation. They must wear self-contained breathing units and have a safety rope attached. One man (tool pusher or safety engineer) will check the atmosphere for explosive gases with the gas monitor. The other man is responsible for igniting the well.
2. Primary method to ignite: 25 mm flare gun with range of approximately 500 feet.
3. Ignite upwind and do not approach any closer than is warranted.
4. Select the ignition site best for protection, and which offers an easy escape route.
5. Before firing, check for presence of combustible gas.
6. After lighting, continue emergency action and procedure as before.
7. All unassigned personnel will remain in briefing area until instructed by supervisor or directed by the Drill Site Manager.

Remember: After well is ignited, burning hydrogen sulfide will convert to sulfur dioxide, which is also highly toxic. **Do not assume the area is safe after the well is ignited.**

Status check list

Note: All items on this list must be completed before drilling to production casing point.

1. H2S sign at location entrance.
2. Two (2) wind socks located as required.
3. Four (4) 30-minute positive pressure air packs (2 at each Briefing area) on location for all rig personnel and mud loggers.
4. Air packs inspected and ready for use.
5. Cascade system and hose line hook-up as needed.
6. Cascade system for refilling air bottles as needed.
7. Condition flag on location and ready for use.
8. H2S detection system hooked up and tested.
9. H2S alarm system hooked up and tested.
10. Hand operated H2S detector with tubes on location.
11. 1 – 100' length of nylon rope on location.
12. All rig crew and supervisors trained as required.
13. All outside service contractors advised of potential H2S hazard on well.
14. No smoking sign posted and a designated smoking area identified.
15. Calibration of all H2S equipment shall be noted on the IADC report.

Checked by:_____ Date:_____

Procedural check list during H2S events

Perform each tour:

1. Check fire extinguishers to see that they have the proper charge.

2. Check breathing equipment to ensure that it in proper working order.

3. Make sure all the H2S detection system is operative.

Perform each week:

1. Check each piece of breathing equipment to make sure that demand or forced air regulator is working. This requires that the bottle be opened and the mask assembly be put on tight enough so that when you inhale, you receive air or feel air flow.

2. BOP skills (well control drills).

3. Check supply pressure on BOP accumulator stand by source.

4. Check breathing equipment mask assembly to see that straps are loosened and turned back, ready to put on.

5. Check pressure on breathing equipment air bottles to make sure they are charged to full volume. (Air quality checked for proper air grade "D" before bringing to location)

6. Confirm pressure on all supply air bottles.

7. Perform breathing equipment drills with on-site personnel.

8. Check the following supplies for availability.

   A. Emergency telephone list.
   B. Hand operated H2S detectors and tubes.

General evacuation plan

1. When the company approved supervisor (Drill Site Manager, consultant, rig pusher, or driller) determines the H2S gas cannot be limited to the well location and the public will be involved, he will activate the evacuation plan.

2. Drill Site Manager or designee will notify local government agency that a hazardous condition exists and evacuation needs to be implemented.

3. Company or contractor safety personnel that have been trained in the use of H2S detection equipment and self-contained breathing equipment will monitor H2S concentrations, wind directions, and area of exposure. They will delineate the outer perimeter of the hazardous gas area. Extension to the evacuation area will be determined from information gathered.

4. Law enforcement personnel (state police, police dept., fire dept., and sheriff's dept.) Will be called to aid in setting up and maintaining road blocks. Also, they will aid in evacuation of the public if necessary.

5. After the discharge of gas has been controlled, company safety personnel will determine when the area is safe for re-entry.

Important: Law enforcement personnel will not be asked to come into a contaminated area. Their assistance will be limited to uncontaminated areas. Constant radio contact will be maintained with them.

Emergency actions

Well blowout – if emergency

1. Evacuate all personnel to "Safe Briefing / Muster Areas" or off location if needed.
2. If sour gas – evacuate rig personnel.
3. If sour gas – evacuate public within 3000 ft radius of exposure.
4. Don SCBA and shut well in if possible using the buddy system.
5. Notify Drilling Superintendent and call 911 for emergency help (fire dept and ambulance) if needed.
6. Implement the Blowout Contingency Plan, and Drilling Emergency Action Plan.
6. Give first aid as needed.

Person down location/facility

1. If immediately possible, contact 911. Give location and wait for confirmation.
2. Don SCBA and perform rescue operation using buddy system.

Toxic effects of hydrogen sulfide

Hydrogen sulfide is extremely toxic. The acceptable ceiling concentration for eight-hour exposure is 10 ppm, which is .001% by volume. Hydrogen sulfide is heavier than air (specific gravity – 1.192) and colorless. It forms an explosive mixture with air between 4.3 and 46.0 percent by volume. Hydrogen sulfide is almost as toxic as hydrogen cyanide and is between five and six times more toxic than carbon monoxide. Toxicity data for hydrogen sulfide and various other gases are compared in table i. Physical effects at various hydrogen sulfide exposure levels are shown in table ii.

Table i
Toxicity of various gases

Common name	Chemical formula	Specific gravity (sc=1)	Threshold limit (1)	Hazardous limit (2)	Lethal concentration (3)
Hydrogen Cyanide	Hcn	0.94	10 ppm	150 ppm/hr	300 ppm
Hydrogen Sulfide	H2S	1.18	10 ppm	250 ppm/hr	600 ppm
Sulfur Dioxide	So2	2.21	5 ppm	-	1000 ppm
Chlorine	Cl2	2.45	1 ppm	4 ppm/hr	1000 ppm
Carbon Monoxide	Co	0.97	50 ppm	400 ppm/hr	1000 ppm
Carbon Dioxide	Co2	1.52	5000 ppm	5%	10%
Methane	Ch4	0.55	90,000 ppm	Combustible above 5% in air	

1) threshold limit – concentration at which it is believed that all workers may be repeatedly exposed day after day without adverse effects.

2) hazardous limit – concentration that will cause death with short-term exposure.

3) lethal concentration – concentration that will cause death with short-term exposure.

Toxic effects of hydrogen sulfide

Table ii
Physical effects of hydrogen sulfide

Percent (%)	Ppm	Concentration Grains 100 std. Ft3*	Physical effects
0.001	<10	00.65	Obvious and unpleasant odor.

0.002	10	01.30	Safe for 8 hours of exposure.
0.010	100	06.48	Kill smell in 3 – 15 minutes. May sting eyes and throat.
0.020	200	12.96	Kills smell shortly; stings eyes and throat.
0.050	500	32.96	Dizziness; breathing ceases in a few minutes; needs prompt artificial respiration.
0.070	700	45.36	Unconscious quickly; death will result if not rescued promptly.
0.100	1000	64.30	Unconscious at once; followed by death within minutes.

*at 15.00 psia and 60'f.

Use of self-contained breathing equipment (SCBA)

1. Written procedures shall be prepared covering safe use of SCBA's in dangerous atmosphere, which might be encountered in normal operations or in emergencies. Personnel shall be familiar with these procedures and the available SCBA.

2 SCBA's shall be inspected frequently at random to insure that they are properly used, cleaned, and maintained.

3. Anyone who may use the SCBA's shall be trained in how to insure proper face-piece to face seal. They shall wear SCBA's in normal air and then wear them in a test atmosphere. (note: such items as facial hair {beard or sideburns} and eyeglasses will not allow proper seal.) Anyone that may be reasonably expected to wear SCBA's should have these items removed before entering a toxic atmosphere. A special mask must be obtained for anyone who must wear eyeglasses or contact lenses.

4. Maintenance and care of SCBA's:

   a. A program for maintenance and care of SCBA's shall include the following:
      1. Inspection for defects, including leak checks.
      2. Cleaning and disinfecting.
      3. Repair.
      4. Storage.

   b. Inspection, self-contained breathing apparatus for emergency use shall be inspected monthly.
      1. Fully charged cylinders.
      2. Regulator and warning device operation.
      3. Condition of face piece and connections.
      4. Rubber parts shall be maintained to keep them pliable and prevent deterioration.

   c. Routinely used SCBA's shall be collected, cleaned and disinfected as frequently as necessary to insure proper protection is provided.

5. Persons assigned tasks that requires use of self-contained breathing equipment shall be certified physically fit (medically cleared) for breathing equipment usage at least annually.

6. SCBA's should be worn when:

   A. Any employee works near the top or on top of any tank unless test reveals less than 10 ppm of H2S.

B. When breaking out any line where H2S can reasonably be expected.

C. When sampling air in areas to determine if toxic concentrations of H2S exists.

D. When working in areas where over 10 ppm H2S has been detected.

E. At any time there is a doubt as to the H2S level in the area to be entered.

Rescue
First aid for H2S poisoning

Do not panic!

Remain calm – think!

1. Don SCBA breathing equipment.

2. Remove victim(s) utilizing buddy system to fresh air as quickly as possible. (go up-wind from source or at right angle to the wind. Not down wind.)

3. Briefly apply chest pressure – arm lift method of artificial respiration to clean the victim's lungs and to avoid inhaling any toxic gas directly from the victim's lungs.

4. Provide for prompt transportation to the hospital, and continue giving artificial respiration if needed.

5. Hospital(s) or medical facilities need to be informed, before-hand, of the possibility of H2S gas poisoning – no matter how remote the possibility is.

6. Notify emergency room personnel that the victim(s) has been exposed to H2S gas.

Besides basic first aid, everyone on location should have a good working knowledge of artificial respiration.

Revised CM 6/27/2012

Permian Drilling
Hydrogen Sulfide Drilling Operations Plan
Libra 15 Federal 2H

Open drill site. No homes or buildings are near the proposed location.

1. Escape

   Personnel shall escape upwind of wellbore in the event of an emergency gas release. Escape can take place through the lease road on the WEST side of the location. Personnel need to move to a safe distance and block the entrance to location. If the primary route is not an option due to the wind direction, then a secondary egress route should be taken.

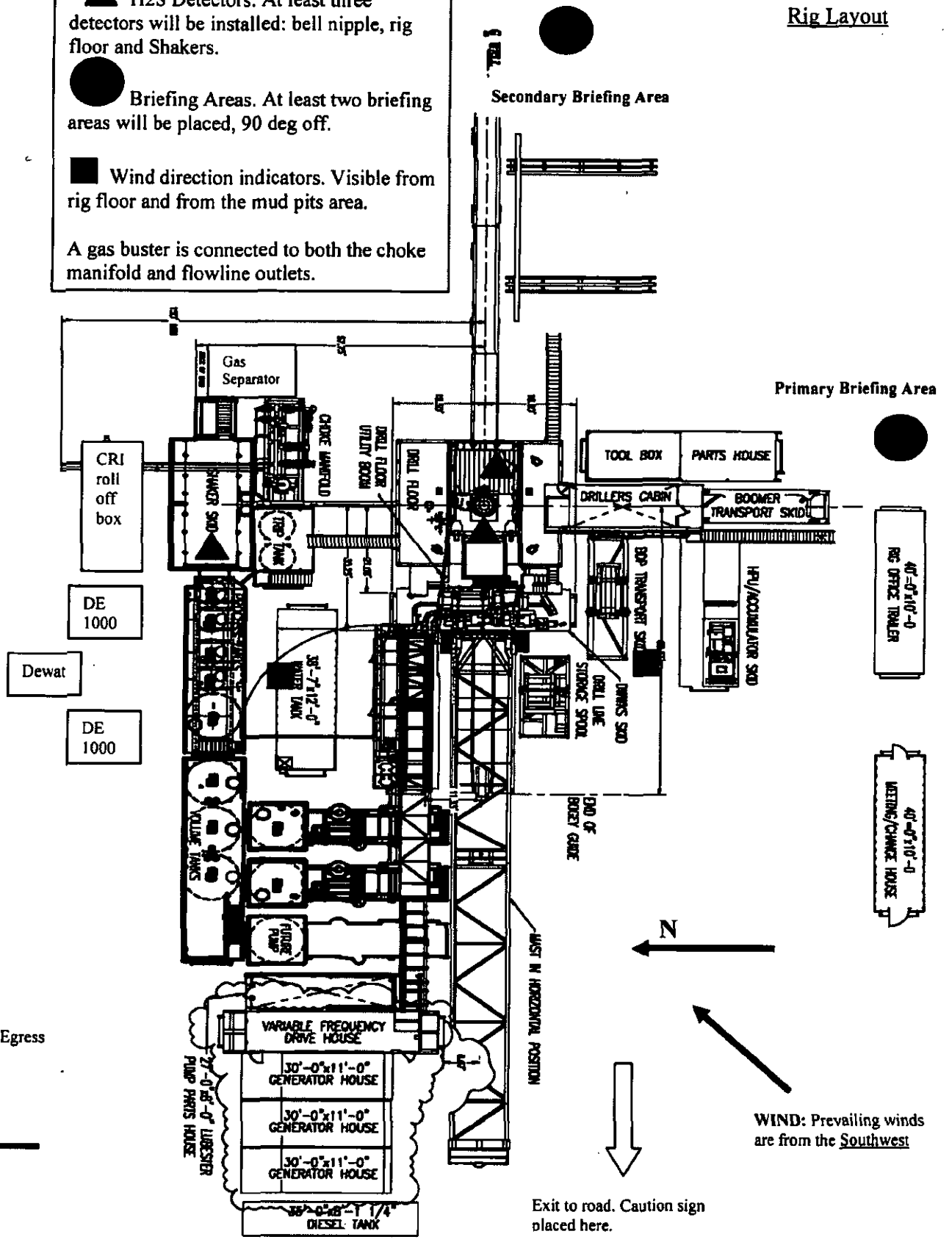
▲ H2S Detectors. At least three detectors will be installed: bell nipple, rig floor and Shakers.

● Briefing Areas. At least two briefing areas will be placed, 90 deg off.

■ Wind direction indicators. Visible from rig floor and from the mud pits area.

A gas buster is connected to both the choke manifold and flowline outlets.

Rig Layout



Surface Use Plan of Operations

Introduction

The following surface use plan of operations will be followed and carried out once the APD is approved. No other disturbance will be created other than what was submitted in this surface use plan. If any other surface disturbance is needed after the APD is approved, a BLM approved sundry notice or right of way application will be acquired prior to any new surface disturbance.

Before any surface disturbance is created, stakes or flagging will be installed to mark boundaries of permitted areas of disturbance, including soils storage areas. As necessary, slope, grade, and other construction control stakes will be placed to ensure construction in accordance with the surface use plan. All boundary markers will be maintained in place until final construction cleanup is completed. If disturbance boundary markers are disturbed or knocked down, they will be replaced before construction proceeds.

If terms and conditions are attached to the approved APD and amend any of the proposed actions in this surface use plan, we will adhere to the terms and conditions.

1. Existing Roads

a. The existing access road route to the proposed project is depicted on VICINITY MAP. Improvements to the driving surface will be done where necessary. No new surface disturbance will be done, unless otherwise noted in the New or Reconstructed Access Roads section of this surface use plan..

b. The existing access road route to the proposed project does not cross lease or unit boundaries, so a BLM right-of-way grant will not be acquired for this proposed road route.

c. The operator will improve or maintain existing roads in a condition the same as or better than before operations begin. The operator will repair pot holes, clear ditches, repair the crown, etc. All existing structures on the entire access route such as cattleguards, other range improvement projects, culverts, etc. will be properly repaired or replaced if they are damaged or have deteriorated beyond practical use.

d. We will prevent and abate fugitive dust as needed, whether created by vehicular traffic, equipment operations, or wind events. BLM written approval will be acquired before application of surfactants, binding agents, or other dust suppression chemicals on roadways.

2. New or Reconstructed Access Roads

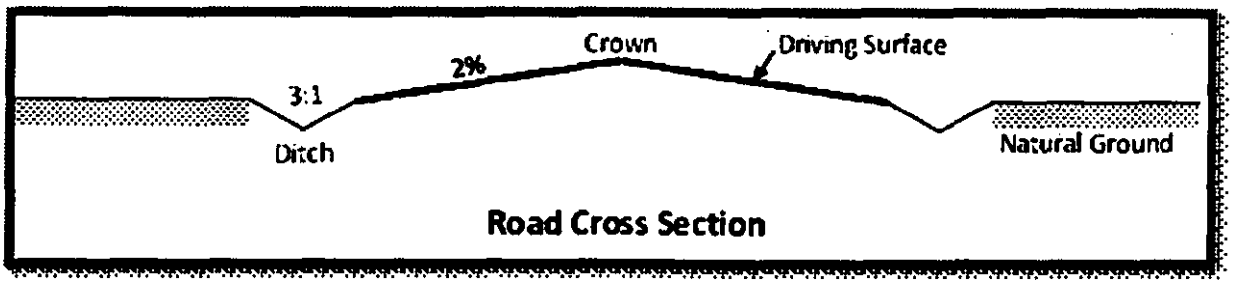
a. An access road will be needed for this proposed project. See the survey plat for the location of the access road.

b. The length of access road needed to be constructed for this proposed project is about 1200 feet.

c. The maximum driving width of the access road will be 15 feet. The maximum width of surface disturbance when constructing the access road will not exceed 25 feet. All areas outside of the driving surface will be revegetated.

d. CALICHE

e. When the road travels on fairly level ground, the road will be crowned and ditched with a 2% slope from the tip of the road crown to the edge of the driving surface. The ditches will be 3 feet wide with 3:1 slopes. See Road Cross Section diagram below.



f. The access road will be constructed with a ditch on each side of the road.

g. The maximum grade for the access road will be 1 percent.

h. No turnouts will be constructed on the proposed access road.

i. No cattleguards will be installed for this proposed access road.

j. Since the proposed access road crosses lease boundaries, a right-of-way will be required for this access road. A right-of-way grant will be applied for through the BLM. The access road will not be constructed until an approved BLM right-of-way grant is acquired.

k. No culverts will be constructed for this proposed access road.

l. No low water crossings will be constructed for the access road.

m. Since the access road is on level ground, no lead-off ditches will be constructed for the proposed access road.

n. Newly constructed or reconstructed roads, on surface under the jurisdiction of the Bureau of Land Management, will be constructed as outlined in the BLM "Gold Book" and to meet the standards of the anticipated traffic flow and all anticipated weather requirements as needed. Construction will include ditching, draining, crowning and capping or sloping and dipping the roadbed as necessary to provide a well-constructed and safe road.

o. Waterbars will be installed evey 200' on the proposed new road.

3. Location of Existing Wells

a. ONE MILE RADIUS MAP of the APD depicts all known wells within a one mile radius of the proposed well.

b. There is no other information regarding wells within a one mile radius.

4. Location of Existing and/or Proposed Production Facilities

a. All permanent, lasting more than 6 months, above ground structures including but not limited to pumpjacks, storage tanks, barrels, pipeline risers, meter housing, etc. that are not subject to safety requirements will be painted a non-reflective paint color, Shale Green, from the BLM Standard Environmental Colors chart, unless another color is required in the APD Conditions of Approval.

b. If any type of production facilities are located on the well pad, they will be strategically placed to allow for maximum interim reclamation, recontouring, and revegetation of the well location.

c. Production from the proposed well will be transported to the production facility named BURTON FLATS CENTRAL TANK BATTERY. The location of the facility is as follows: NW/4 of Section 14, T20S, R28E, N.M.P.M. Eddy County, N.M..

d. A pipeline to transport production will be installed from the proposed well to the existing production facility.

i. We plan to install a 4 inch buried POLYETHYLENE pipeline from the proposed well to the offsite production facility. The proposed length of the pipeline will be 3500 feet. The working pressure of the pipeline will be about 125 psi. A 50 feet wide work area will be needed to install the buried pipeline. In areas where blading is allowed, topsoil will be stockpiled and separated from the excavated trench mineral material. Final reclamation procedures will match the procedures in Plans for Surface Reclamation. When the excavated soil is backfilled, it will be compacted to prevent subsidence. No berm over the pipeline will be evident.

ii. PIPELINE SURVEY depicts the proposed production pipeline route from the well to the existing production facility.

iii. Since the proposed pipeline crossess lease boundaries, a right of way grant will be acquired prior to installation of the proposed pipeline.

If any plans change regarding the production facility or other infrastructure (pipeline, electric line, etc.), we will submit a sundry notice or right of way (if applicable) prior to installation or construction.

Electric Line(s)

a. We plan to install an overhead electric line for the proposed well. The proposed length of the electric line will be 330 feet. ELECTRIC LINE SURVEY depicts the location of the proposed electric line route. The electric line will be construction to provide protection from raptor electrocution.

b. The proposed electric line does not cross lease boundaries, so a right of way grant will not need to be acquired from the BLM.

5. Location and Types of Water

a. The source and location of the water supply are as follows: This well will be drilled using a combination of water mud systems It will obtained from commercial water stations in the area.

b. The operator will use established or constructed oil and gas roads to transport water to the well site. The operator will try to utilize the identified access route in the surface use plan.

6. Construction Material

a. Construction material that will be used to build the well pad and road will be caliche.

7. Methods for Handling Waste

a. Drilling fluids and produced oil and water from the well during drilling and completion operations will be stored safely and disposed of properly in an NMOCD approved disposal facility.

b. Garbage and trash produced during drilling and completion operations will be collected in a trash container and disposed of properly at a state approved disposal facility. All trash on and around the well site will be collected for disposal.

c. Human waste and grey water will be properly contained and disposed of properly at a state approved disposal facility.

d. After drilling and completion operations, trash, chemicals, salts, frac sand and other waste material will be removed and disposed of properly at a state approved disposal facility.

e. The well will be drilled utilizing a closed loop system. Drill cutting will be properly disposed of into steel tanks and taken to an NMOCD approved disposal facility.

8. Ancillary Facilities

a. No ancillary facilities will be needed for this proposed project.

9. Well Site Layout

a. The following information is presented in the well site survey plat or diagram:

i. reasonable scale (near 1":50')

ii. well pad dimensions

iii. well pad orientation

iv. drilling rig components

v. proposed access road

vi. elevations of all points

vii. topsoil stockpile

viii. reserve pit location/dimensions if applicable

ix. other disturbances needed (flare pit, stinger, frac farm pad, etc.)

x. existing structures within the 600' x 600' archaeoligical surveyed area (pipelines, electric lines, well pads, etc

b. The proposed drilling pad was staked and surveyed by a professional surveyor. The attached survey plat of the well site depicts the drilling pad layout as staked.

c. A title of a well site diagram is WELLSITE LAYOUT. This diagram depicts the SIZE OF WELL PAD AND RECLAMATION.

d. Topsoil Salvaging

i. Grass, forbs, and small woody vegetation, such as mesquite will be excavated as the topsoil is removed. Large woody vegetation will be stripped and stored separately and respread evenly on the site following topsoil respreading. Topsoil depth is defined as the top layer of soil that contains 80% of the roots. In areas to be heavily disturbed, the top 6 inches of soil material, will be stripped and stockpiled on the perimeter of the well location and along the perimeter of the access road to control run-on and run-off, to keep topsoil viable, and to make redistribution of topsoil more efficient during interim reclamation. Stockpiled topsoil should include vegetative material. Topsoil will be clearly segregated and stored separately from subsoils. Contaminated soil will not be stockpiled, but properly treated and handled prior to topsoil salvaging.

10. Plans for Surface Reclamation

Reclamation Objectives

i. The objective of interim reclamation is to restore vegetative cover and a portion of the landform sufficient to maintain healthy, biologically active topsoil; control erosion; and minimize habitat and forage loss, visual impact, and weed infestation, during the life of the well or facilities.

ii. The long-term objective of final reclamation is to return the land to a condition similar to what existed prior to disturbance. This includes restoration of the landform and natural vegetative community, hydrologic systems, visual resources, and wildlife habitats. To ensure that the long-term objective will be reached through human and natural processes, actions will be taken to ensure standards are met for site stability, visual quality, hydrological functioning, and vegetative productivity.

iii. The BLM will be notified at least 3 days prior to commencement of any reclamation procedures.

iv. If circumstances allow, interim reclamation and/or final reclamation actions will be completed no later than 6 months from when the final well on the location has been completed or plugged. We will gain written permission from the BLM if more time is needed.

v. Interim reclamation will be performed on the well site after the well is drilled and completed. WELLSITE RECLAMATION depicts the location and dimensions of the planned interim reclamation for the well site.

Interim Reclamation Procedures (If performed)

1. Within 30 days of well completion, the well location and surrounding areas will be cleared of, and maintained free of, all materials, trash, and equipment not required for production.

2. In areas planned for interim reclamation, all the surfacing material will be removed and returned to the original mineral pit or recycled to repair or build roads and well pads.

3. The areas planned for interim reclamation will then be recontoured to the original contour if feasible, or if not feasible, to an interim contour that blends with the surrounding topography as much as possible. Where applicable, the fill material of the well pad will be backfilled into the cut to bring the area back to the original contour. The interim cut and fill slopes prior to re-seeding will not be steeper than a 3:1 ratio, unless the adjacent native topography is steeper. Note: Constructed slopes may be much steeper during drilling, but will be recontoured to the above ratios during interim reclamation.

4. Topsoil will be evenly respread and aggressively revegetated over the entire disturbed area not needed for all-weather operations including cuts & fills. To seed the area, the proper BLM seed mixture, free of noxious weeds, will be used. Final seedbed preparation will consist of contour cultivating to a depth of 4 to 6 inches within 24 hours prior to seeding, dozer tracking, or other imprinting in order to break the soil crust and create seed germination micro-sites.

5. Proper erosion control methods will be used on the area to control erosion, runoff and siltation of the surrounding area.

6. The interim reclamation will be monitored periodically to ensure that vegetation has reestablished and that erosion is controlled.

Final Reclamation (well pad, buried pipelines, etc.)

1. Prior to final reclamation procedures, the well pad, road, and surrounding area will be cleared of material, trash, and equipment.

2. All surfacing material will be removed and returned to the original mineral pit or recycled to repair or build roads and well pads.

3. All disturbed areas, including roads, pipelines, pads, production facilities, and interim reclaimed areas will be recontoured to the contour existing prior to initial construction or a contour that blends indistinguishably with the surrounding landscape. Topsoil that was spread over the interim reclamation areas will be stockpiled prior to recontouring. The topsoil will be redistributed evenly over the entire disturbed site to ensure successful revegetation.

4. After all the disturbed areas have been properly prepared, the areas will be seeded with the proper BLM seed mixture, free of noxious weeds. Final seedbed preparation will consist of contour cultivating to a depth of 4 to 6 inches within 24 hours prior to seeding, dozer tracking, or other imprinting in order to break the soil crust and create seed germination micro-sites.

5. Proper erosion control methods will be used on the entire area to control erosion, runoff and siltation

of the surrounding area.

6. All unused equipment and structures including pipelines, electric line poles, tanks, etc. that serviced the well will be removed.

7. All reclaimed areas will be monitored periodically to ensure that revegetation occurs, that the area is not redisturbed, and that erosion is controlled.

11. Surface Ownership

a. The surface ownership of the proposed project is FEDERAL.

12. Other Information

a. No other information is needed at this time.

13. Maps and Diagrams

VICINITY MAP - Existing Road
ONE MILE RADIUS MAP - Wells Within One Mile
PIPELINE SURVEY - Production Pipeline
ELECTRIC LINE SURVEY - Electric Line
WELLSITE LAYOUT - Well Site Diagram
WELLSITE RECLAMATION - Interim Reclamation

Moved 85' West To Clear Arc Site

Oxy U.S.A Inc.

New Mexico Staking Form

Moved !!

Date Staked: ~~6-26-14~~ 9/3/14

Lease/Well Name: Libra 15 Fed #2H

Legal Description: 2295 FNL ~~330~~ 395 FWL Sec 14 T20S R28E

Latitude: 32.34' 28.80" Nad 83

Longitude: 104.09' 19.85"

Move Information: 40' West 85' South

County: Eddy

Surface Owner/Tenant: BLM

Nearest Residence: 3 miles ?

Nearest Water Well:

V-Door: East

Road Description: Road into SW corner from South

New Road: 1200'

Upgrade Existing Road:

Interim Reclamation: 50' North 80' West 30' East

Source of Caliche:

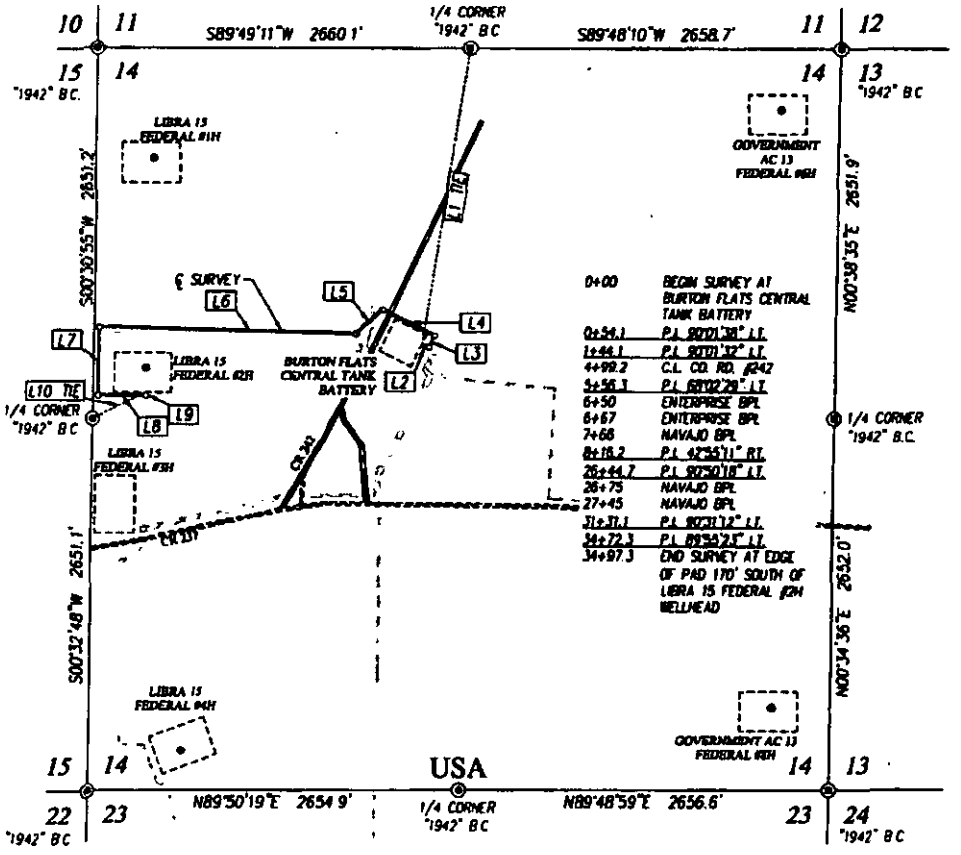
Top Soil: South on West Half of the Pad

Onsite Date Performed: 8-7-14

Onsite Attendees: Andrea Da Wal - BLM Jim Wilson - Oxy
Mike Wilson - Oxy Terry Asel - Asel Survey

Special Notes: Wait on Arc Site Evaluation - Done

Pipeline Survey



DESCRIPTION

SURVEY OF A STRIP OF LAND 50.0 FEET WIDE AND 3497.3 FEET OR 0.662 MILES IN LENGTH CROSSING USA LAND IN SECTION 14, TOWNSHIP 20 SOUTH, RANGE 28 EAST, N.M.P.M., EDDY COUNTY, NEW MEXICO, AND BEING 25.0 FEET LEFT AND 25.0 FEET RIGHT OF THE ABOVE PLATTED CENTERLINE SURVEY.

LINE	BEARING	DISTANCE
L1 TIE	N08°58'01"E	2148.4'
L2	S63°28'48"E	54.1'
L3	N26°29'34"E	90.0'
L4	N63°31'58"W	412.2'
L5	S48°25'33"W	259.9'
L6	N88°39'16"W	1828.5'
L7	S00°30'26"W	486.4'
L8	N89°59'14"E	341.2'
L9	N00°03'51"E	25.0'
L10 TIE	S64°01'14"W	426.1'

NOTE

BEARINGS SHOWN HEREON ARE MERCATOR GRID AND CONFORM TO THE NEW MEXICO COORDINATE SYSTEM "NEW MEXICO EAST ZONE" NORTH AMERICAN DATUM 1983. DISTANCES ARE SURFACE VALUES.

I, RONALD J. EIDSON, NEW MEXICO PROFESSIONAL SURVEYOR No. 3239, DO HEREBY CERTIFY THAT THIS SURVEY PLAT AND THE ACTUAL SURVEY ON THE GROUND UPON WHICH IT IS BASED WERE PERFORMED BY ME OR UNDER MY DIRECT SUPERVISION; THAT I AM RESPONSIBLE FOR THIS SURVEY; THAT THIS SURVEY MEETS THE MINIMUM STANDARDS FOR SURVEYING IN NEW MEXICO; AND THAT IT IS TRUE AND CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF.

RONALD J. EIDSON

DATE: 9/10/2014

LEGEND

◉ DENOTES FOUND CORNER AS NOTED

1000 0 1000 2000 FEET

Scale: 1"=1000'

OXY U.S.A. INC.

SURVEY FOR A PIPELINE TO THE LIBRA 15 FEDERAL #2H CROSSING SECTION 14, TOWNSHIP 20 SOUTH, RANGE 28 EAST, N.M.P.M. EDDY COUNTY, NEW MEXICO

PROVIDING SURVEYING SERVICES SINCE 1946

JOHN WEST SURVEYING COMPANY

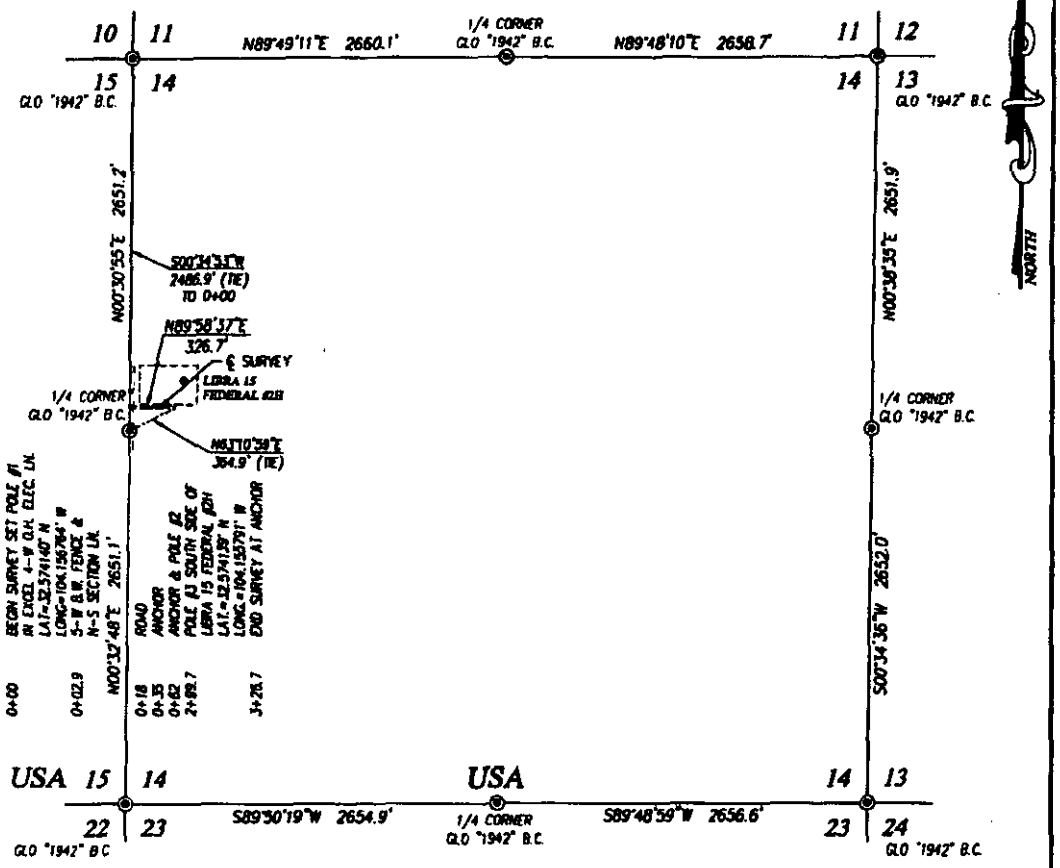
412 N. DAL PASO HOBBS, N.M. 88240

(575) 393-3117 www.jwsc.biz

TBPLS# 10021000

Survey Date: 8/19/14	CAD Date: 9/9/14	Drawn By: ACK	
W.O. No.: 14110853	Rev: .	Rel. W.O.:	Sheet 1 of 1

Electric Line Survey



DESCRIPTION

SURVEY OF A STRIP OF LAND 50.0 FEET WIDE AND 326.7 FEET OR 0.062 MILES IN LENGTH CROSSING USA LAND IN SECTIONS 14 & 15, TOWNSHIP 20 SOUTH, RANGE 28 EAST, N.M.P.M., EDDY COUNTY, NEW MEXICO, AND BEING 25.0 FEET LEFT AND 25.0 FEET RIGHT OF THE ABOVE PLATTED CENTERLINE SURVEY.

NOTE

1) BEARINGS SHOWN HEREON ARE MERCATOR GRID AND CONFORM TO THE NEW MEXICO COORDINATE SYSTEM "NEW MEXICO EAST ZONE" NORTH AMERICAN DATUM 1983. DISTANCES ARE SURFACE VALUES.

2) LATITUDE AND LONGITUDE VALUES SHOWN HEREON ARE RELATIVE TO THE NORTH AMERICAN DATUM 1983 (NAD83).

I, RONALD J. EIDSON, NEW MEXICO PROFESSIONAL SURVEYOR No. 12331, DO HEREBY CERTIFY THAT THIS SURVEY PLAT AND THE ACTUAL SURVEY ON THE GROUND UPON WHICH IT IS BASED WERE PERFORMED BY ME OR UNDER MY DIRECT SUPERVISION, THAT I AM RESPONSIBLE FOR THIS SURVEY; THAT THIS SURVEY MEETS THE MINIMUM STANDARDS FOR SURVEYING IN NEW MEXICO; AND THAT IT IS TRUE AND CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF.

RONALD J. EIDSON

DATE: 11/06/2014

LEGEND

◉ DENOTES FOUND CORNER AS NOTED

1000 0 1000 2000 FEET

Scale: 1" = 1000'

PROVIDING SURVEYING SERVICES SINCE 1946

JOHN WEST SURVEYING COMPANY

412 N. DAL PASO HOBBS, N.M. 88240

(575) 393-3117 www.jwsc.biz

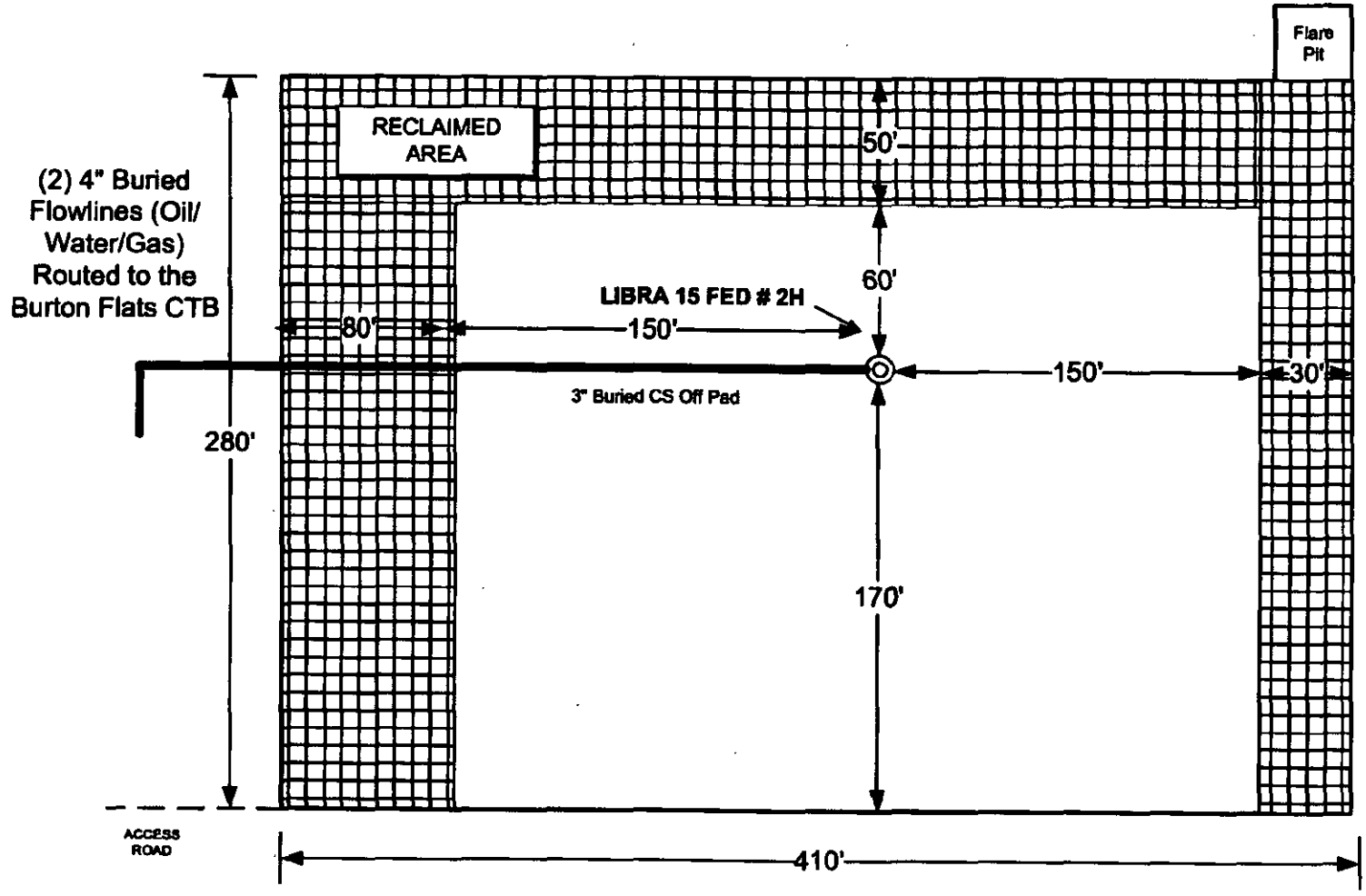
TBPLS# 10021000

OXY U.S.A. INC.

SURVEY FOR AN ELECTRIC LINE TO THE LIBRA 15 FEDERAL #2H CROSSING SECTIONS 14 & 15, TOWNSHIP 20 SOUTH, RANGE 28 EAST, N.M.P.M. EDDY COUNTY, NEW MEXICO

Survey Date: 10/14/14	CAD Date: 11/5/14	Drawn By: ACK
W.O. No.: 14111081	Rev. .	Rel. W.O.:	Sheet 1 of 1

© Anjelica\2014\Oxy USA Inc\Easements\14111081 Electric Line to Libra 15 Federal #2H



Wellsite Layout

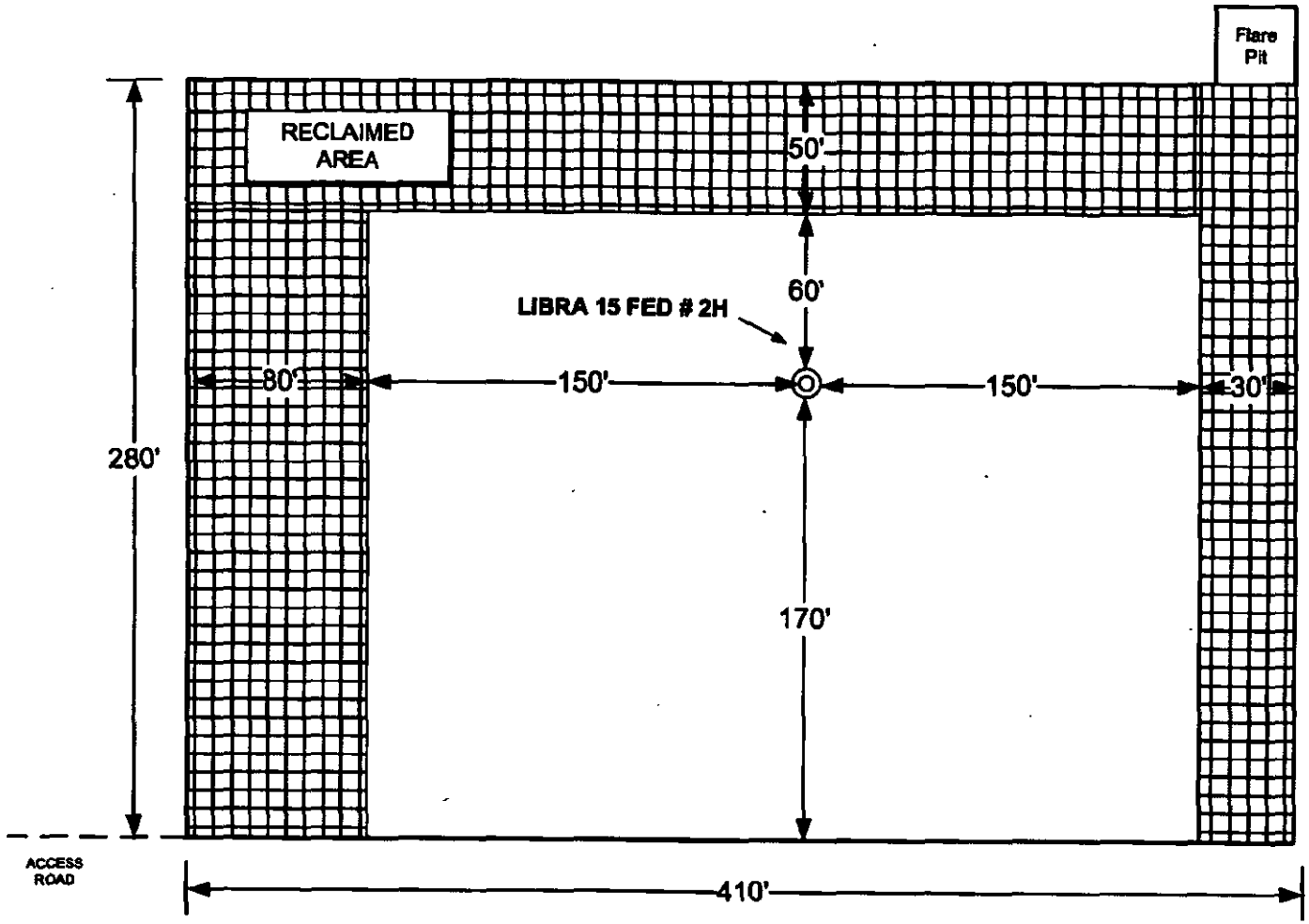
8' Diameter x 8' Deep Tinhorn Cellar

REVISION BLOCK						ENGINEERING RECORD	
NO.	DATE	DESCRIPTION	BY	CHK	APP	BY	DATE

FLEX 3 RIG DIAGRAM

LIBRA 15 FED # 2H

EDDY COUNTY, NEW MEXICO



NORTH

Reclamation Diagram

8' Diameter x 8' Deep Tinhorn Cellar

REVISION BLOCK						ENGINEERING RECORD	
NO.	DATE	DESCRIPTION	BY	CHK	APP	BY	DATE

FLEX 3 RIG DIAGRAM

LIBRA 15 FED # 2H

EDDY COUNTY, NEW MEXICO

PECOS DISTRICT
CONDITIONS OF APPROVAL

OPERATOR'S NAME:	OXY USA WTP LP
LEASE NO.:	NMNM0554216
WELL NAME & NO.:	Libra 15 Federal 2H
SURFACE HOLE FOOTAGE:	2295'/N & 295'/W
BOTTOM HOLE FOOTAGE	2210'/N & 180'/W SEC. 15
LOCATION:	Section 14, T.20 S., R.28 E., NMPM
COUNTY:	Eddy County, New Mexico

TABLE OF CONTENTS

Standard Conditions of Approval (COA) apply to this APD. If any deviations to these standards exist or special COAs are required, the section with the deviation or requirement will be checked below.

I. GENERAL PROVISIONS

The approval of the Application For Permit To Drill (APD) is in compliance with all applicable laws and regulations: 43 Code of Federal Regulations 3160, the lease terms, Onshore Oil and Gas Orders, Notices To Lessees, New Mexico Oil Conservation Division (NMOCD) Rules, National Historical Preservation Act As Amended, and instructions and orders of the Authorized Officer. Any request for a variance shall be submitted to the Authorized Officer on Form 3160-5, Sundry Notices and Report on Wells.

II. PERMIT EXPIRATION

If the permit terminates prior to drilling and drilling cannot be commenced within 60 days after expiration, an operator is required to submit Form 3160-5, Sundry Notices and Reports on Wells, requesting surface reclamation requirements for any surface disturbance. However, if the operator will be able to initiate drilling within 60 days after the expiration of the permit, the operator must have set the conductor pipe in order to allow for an extension of 60 days beyond the expiration date of the APD. (Filing of a Sundry Notice is required for this 60 day extension.)

III. ARCHAEOLOGICAL, PALEONTOLOGY & HISTORICAL SITES

Any cultural and/or paleontological resource discovered by the operator or by any person working on the operator's behalf shall immediately report such findings to the Authorized Officer. The operator is fully accountable for the actions of their contractors and subcontractors. The operator shall suspend all operations in the immediate area of such discovery until written authorization to proceed is issued by the Authorized Officer. An evaluation of the discovery shall be made by the Authorized Officer to determine the appropriate actions that shall be required to prevent the loss of significant cultural or scientific values of the discovery. The operator shall be held responsible for the cost of the proper mitigation measures that the Authorized Officer assesses after consultation with the operator on the evaluation and decisions of the discovery. Any unauthorized collection or disturbance of cultural or paleontological resources may result in a shutdown order by the Authorized Officer.

IV. NOXIOUS WEEDS

The operator shall be held responsible if noxious weeds become established within the areas of operations. Weed control shall be required on the disturbed land where noxious weeds exist, which includes the roads, pads, associated pipeline corridor, and adjacent land affected by the establishment of weeds due to this action. The operator shall consult with the Authorized Officer for acceptable weed control methods, which include following EPA and BLM requirements and policies.

V. SPECIAL REQUIREMENT(S)

Range Improvements
When constructing the west side of the pad, care will be taken to avoid the fence and buried water line about 225 feet west of the western edge of the proposed pad.

Communitization Agreement

- The operator will submit a Communitization Agreement to the Carlsbad Field Office, 620 E Greene St. Carlsbad, New Mexico 88220, at least 90 days before the anticipated date of first production from a well subject to a spacing order issued by the New Mexico Oil Conservation Division. The Communitization Agreement will include the signatures of all working interest owners in all Federal and Indian leases subject to the Communitization Agreement (i.e., operating rights owners and lessees of record), or certification that the operator has obtained the written signatures of all such owners and will make those signatures available to the BLM immediately upon request.
- If the operator does not comply with this condition of approval, the BLM may take enforcement actions that include, but are not limited to, those specified in 43 CFR 3163.1.
- *In addition, the well sign shall include the surface and bottom hole lease* numbers. When the Communitization Agreement number is known, it shall also be on the sign.

Cave and Karst

** Depending on location, additional Drilling, Casing, and Cementing procedures may be required by engineering to protect critical karst groundwater recharge areas.

Cave/Karst Surface Mitigation

The following stipulations will be applied to minimize impacts during construction, drilling and production.

Construction:
In the advent that any underground voids are opened up during construction activities, construction activities will be halted and the BLM will be notified immediately.

No Blasting:
No blasting will be utilized for pad construction. The pad will be constructed and leveled by adding the necessary fill and caliche.

Pad Berming:
The entire perimeter of the well pad will be bermed to prevent oil, salt, and other chemical contaminants from leaving the well pad.

- The compacted berm shall be constructed at a minimum of 12 inches high with impermeable mineral material (e.g. caliche).

- No water flow from the uphill side(s) of the pad shall be allowed to enter the well pad.
- The topsoil stockpile shall be located outside the bermed well pad.
- Topsoil, either from the well pad or surrounding area, shall not be used to construct the berm.
- No storm drains, tubing or openings shall be placed in the berm.
- If fluid collects within the bermed area, the fluid must be vacuumed into a safe container and disposed of properly at a state approved facility.
- The integrity of the berm shall be maintained around the surfaced pad throughout the life of the well and around the downsized pad after interim reclamation has been completed.
- Any access road entering the well pad shall be constructed so that the integrity of the berm height surrounding the well pad is not compromised. (Any access road crossing the berm cannot be lower than the berm height.)

Tank Battery Liners and Berms:
Tank battery locations and all facilities will be lined and bermed. A 20 mil permanent liner will be installed with a 4 oz. felt backing to prevent tears or punctures. Tank battery berms must be large enough to contain 1 ½ times the content of the largest tank.

Leak Detection System:
A method of detecting leaks is required. The method could incorporate gauges to measure loss, situating values and lines so they can be visually inspected, or installing electronic sensors to alarm when a leak is present. Leak detection plan will be submitted to BLM for approval.

Automatic Shut-off Systems:
Automatic shut off, check values, or similar systems will be installed for pipelines and tanks to minimize the effects of catastrophic line failures used in production or drilling.

Cave/Karst Subsurface Mitigation

The following stipulations will be applied to protect cave/karst and ground water concerns:

Rotary Drilling with Fresh Water:
Fresh water will be used as a circulating medium in zones where caves or karst features are expected. SEE ALSO: Drilling COAs for this well.

Directional Drilling:
Kick off for directional drilling will occur at least 100 feet below the bottom of the cave occurrence zone. SEE ALSO: Drilling COAs for this well.

Lost Circulation:
ALL lost circulation zones from the surface to the base of the cave occurrence zone will be logged and reported in the drilling report.

Regardless of the type of drilling machinery used, if a void of four feet or more and circulation losses greater than 70 percent occur simultaneously while drilling in any cave-bearing zone, the BLM will be notified immediately by the operator. The BLM will assess the situation and work with the operator on corrective actions to resolve the problem.

Abandonment Cementing:
Upon well abandonment in high cave karst areas additional plugging conditions of approval may be required. The BLM will assess the situation and work with the operator to ensure proper plugging of the wellbore.

Pressure Testing:
Annual pressure monitoring will be performed by the operator on all casing annuli and reported in a sundry notice. If the test results indicated a casing failure has occurred, remedial action will be undertaken to correct the problem to the BLM's approval.

Wildlife

Power lines shall be constructed and designed in accordance to standards outlined in "Suggested Practices for Avian Protection on Power lines: The State of the Art in 2006" Edison Electric Institute, APLIC, and the California Energy Commission 2006. The holder shall assume the burden and expense of proving that pole designs not shown in the above publication deter raptor perching, roosting, and nesting. Such proof shall be provided by a raptor expert approved by the Authorized Officer. The BLM reserves the right to require modification or additions to all power line structures placed on this right-of-way, should they be necessary to ensure the safety of large perching birds. The holder without liability or expense shall make such modifications and/or additions to the United States.

Watershed

- The entire well pad will be bermed to prevent oil, salt, and other chemical contaminants from leaving the well pad. Topsoil shall not be used to construct the berm. No water flow from the uphill side(s) of the pad shall be allowed to enter the well pad. The berm shall be maintained through the life of the well and after interim reclamation has been completed.
- Any water erosion that may occur due to the construction of the well pad during the life of the well will be quickly corrected and proper measures will be taken to prevent future erosion.
- Exhaust noise from pump jack engines must be muffled or otherwise controlled so as not to exceed 75 dB measured at 30 ft. from the source of the noise.

VI. CONSTRUCTION

A. NOTIFICATION

The BLM shall administer compliance and monitor construction of the access road and well pad. Notify the Carlsbad Field Office at (575) 234-5909 at least 3 working days prior to commencing construction of the access road and/or well pad.

When construction operations are being conducted on this well, the operator shall have the approved APD and Conditions of Approval (COA) on the well site and they shall be made available upon request by the Authorized Officer.

B. TOPSOIL

The operator shall strip the top portion of the soil (root zone) from the entire well pad area and stockpile the topsoil along the edge of the well pad as depicted in the APD. The root zone is typically six (6) inches in depth. All the stockpiled topsoil will be redistributed over the interim reclamation areas. Topsoil shall not be used for berming the pad or facilities. For final reclamation, the topsoil shall be spread over the entire pad area for seeding preparation.

Other subsoil (below six inches) stockpiles must be completely segregated from the topsoil stockpile. Large rocks or subsoil clods (not evident in the surrounding terrain) must be buried within the approved area for interim and final reclamation.

C. CLOSED LOOP SYSTEM

Tanks are required for drilling operations: No Pits.

The operator shall properly dispose of drilling contents at an authorized disposal site.

D. FEDERAL MINERAL MATERIALS PIT

Payment shall be made to the BLM prior to removal of any federal mineral materials. Call the Carlsbad Field Office at (575) 234-5972.

E. WELL PAD SURFACING

Surfacing of the well pad is not required.

If the operator elects to surface the well pad, the surfacing material may be required to be removed at the time of reclamation.The well pad shall be constructed in a manner which creates the smallest possible surface disturbance, consistent with safety and operational needs.

F. EXCLOSURE FENCING (CELLARS & PITS)

Exclosure Fencing
The operator will install and maintain exclosure fencing for all open well cellars to prevent access to public, livestock, and large forms of wildlife before and after drilling operations until the pit is free of fluids and the operator initiates backfilling. (For examples of exclosure fencing design, refer to BLM's Oil and Gas Gold Book, Exclosure Fence Illustrations, Figure 1, Page 18.)

G. ON LEASE ACCESS ROADS

Road Width
The access road shall have a driving surface that creates the smallest possible surface disturbance and does not exceed fourteen (14) feet in width. The maximum width of surface disturbance, when constructing the access road, shall not exceed twenty-five (25) feet.

Surfacing
Surfacing material is not required on the new access road driving surface. If the operator elects to surface the new access road or pad, the surfacing material may be required to be removed at the time of reclamation.

Where possible, no improvements should be made on the unsurfaced access road other than to remove vegetation as necessary, road irregularities, safety issues, or to fill low areas that may sustain standing water.

The Authorized Officer reserves the right to require surfacing of any portion of the access road at any time deemed necessary. Surfacing may be required in the event the road deteriorates, erodes, road traffic increases, or it is determined to be beneficial for future field development. The surfacing depth and type of material will be determined at the time of notification.

Crowning
Crowning shall be done on the access road driving surface. The road crown shall have a grade of approximately 2% (i.e., a 1" crown on a 14' wide road). The road shall conform to Figure 1; cross section and plans for typical road construction.

Ditching
Ditching shall be required on both sides of the road.

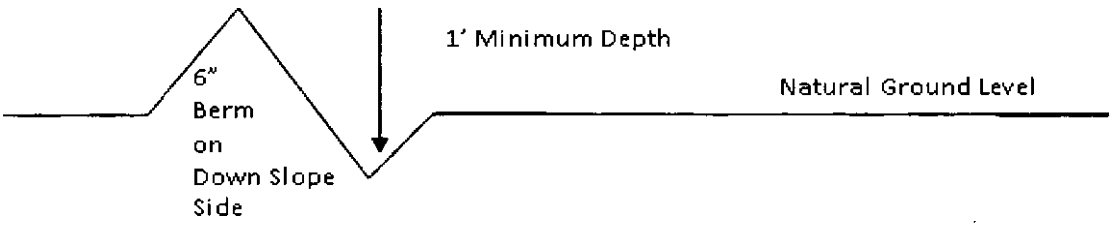
Turnouts
Vehicle turnouts shall be constructed on the road. Turnouts shall be intervisible with interval spacing distance less than 1000 feet. Turnouts shall conform to Figure 1; cross section and plans for typical road construction.

Drainage

Drainage control systems shall be constructed on the entire length of road (e.g. ditches, sidehill outsloping and insloping, lead-off ditches, culvert installation, and low water crossings).

A typical lead-off ditch has a minimum depth of 1 foot below and a berm of 6 inches above natural ground level. The berm shall be on the down-slope side of the lead-off ditch.

Cross Section of a Typical Lead-off Ditch



All lead-off ditches shall be graded to drain water with a 1 percent minimum to 3 percent maximum ditch slope. The spacing interval are variable for lead-off ditches and shall be determined according to the formula for spacing intervals of lead-off ditches, but may be amended depending upon existing soil types and centerline road slope (in %);

Formula for Spacing Interval of Lead-off Ditches

Example - On a 4% road slope that is 400 feet long, the water flow shall drain water into a lead-off ditch. Spacing interval shall be determined by the following formula:

400 foot road with 4% road slope: $\frac{400'}{4\%} + 100' = 200'$ lead-off ditch interval

Cattleguards

An appropriately sized cattleguard sufficient to carry out the project shall be installed and maintained at fence/road crossings. Any existing cattleguards on the access road route shall be repaired or replaced if they are damaged or have deteriorated beyond practical use. The operator shall be responsible for the condition of the existing cattleguards that are in place and are utilized during lease operations.

Fence Requirement

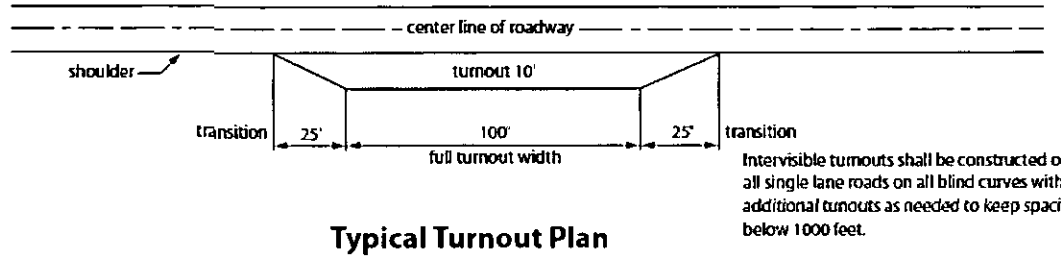
Where entry is granted across a fence line, the fence shall be braced and tied off on both sides of the passageway prior to cutting. The operator shall notify the private surface landowner or the grazing allotment holder prior to crossing any fences.

Public Access

Public access on this road shall not be restricted by the operator without specific written approval granted by the Authorized Officer.

Construction Steps

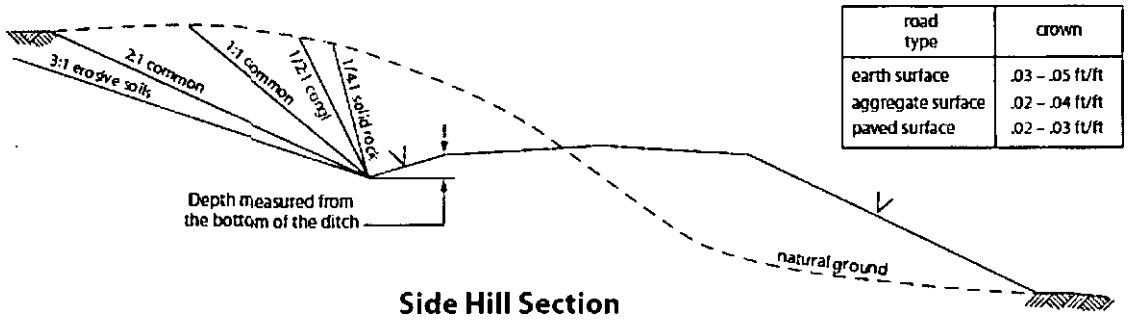
1. Salvage topsoil
2. Construct road
3. Redistribute topsoil
4. Revegetate slopes



Intervisible turnouts shall be constructed on all single lane roads on all blind curves with additional turnouts as needed to keep spacing below 1000 feet.

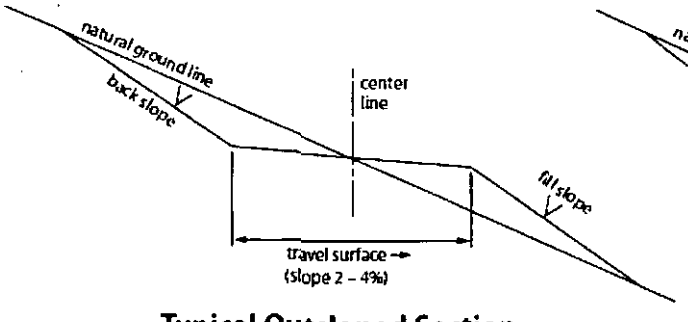
Typical Turnout Plan

Level Ground Section

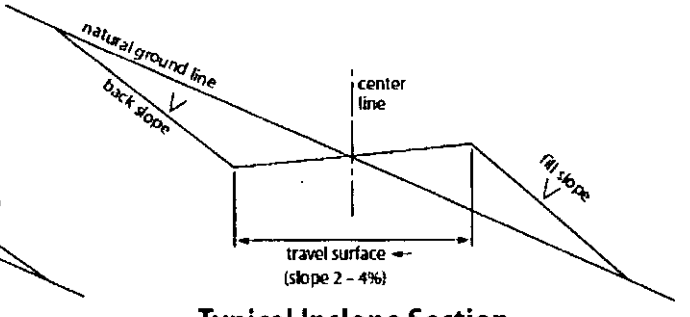


road type	crown
earth surface	.03 – .05 ft/ft
aggregate surface	.02 – .04 ft/ft
paved surface	.02 – .03 ft/ft

Side Hill Section



Typical Outsloped Section



Typical Inslope Section

Figure 1. Cross-sections and plans for typical road sections representative of BLM resource or FS local and higher-class roads.

VII. DRILLING

A. DRILLING OPERATIONS REQUIREMENTS

The BLM is to be notified a minimum of 4 hours in advance for a representative to witness:

a. Spudding well
b. Setting and/or Cementing of all casing strings
c. BOPE tests

☒ **Eddy County**
Call the Carlsbad Field Office, 620 East Greene St., Carlsbad, NM 88220, (575) 361-2822

1. A Hydrogen Sulfide (H2S) Drilling Plan shall be activated **prior to drilling out the surface shoe**. H2S has been reported within the Yates Formation. **As a result, the Hydrogen Sulfide area must meet Onshore Order 6 requirements, which includes equipment and personnel/public protection items. If Hydrogen Sulfide is encountered, please provide measured values and formations to the BLM.**

2. 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. **If the drilling rig is removed without approval – an Incident of Non-Compliance will be written and will be a "Major" violation.**

3. Floor controls are required for 3M or Greater systems. These controls will be on the rig floor, unobstructed, readily accessible to the driller and will be operational at all times during drilling and/or completion activities. Rig floor is defined as the area immediately around the rotary table; the area immediately above the substructure on which the draw works are located, this does not include the dog house or stairway area.

4. **The record of the drilling rate along with the GR/N well log run from TD to surface (horizontal well – vertical portion of hole) shall be submitted to the BLM office as well as all other logs run on the borehole 30 days from completion. If available, a digital copy of the logs is to be submitted in addition to the paper copies. Also if present the Rustler top and top and bottom of Salt are to be recorded on the Completion Report.**

B. CASING

Changes to the approved APD casing program need prior approval if the items substituted are of lesser grade or different casing size. The Operator can exchange the components of the proposal with that of superior strength (i.e. changing from J-

55 to N-80, or from 36# to 40#). Changes to the approved cement program need prior approval if the altered cement plan has less volume or strength or if the changes are substantial (i.e. Multistage tool, ECP, etc.).

Centralizers required on surface casing per Onshore Order 2.III.B.1.f.

Wait on cement (WOC) for Water Basin:
After cementing but before commencing any tests, the casing string shall stand cemented under pressure until both of the following conditions have been met: 1) cement reaches a minimum compressive strength of 500 psi at the shoe, 2) until cement has been in place at least 8 hours. WOC time will be recorded in the driller's log. See individual casing strings for details regarding lead cement slurry requirements.

No pea gravel permitted for remedial or fall back remedial without prior authorization from the BLM engineer.

High cave/karst.
A MINIMUM OF TWO CASING STRINGS CEMENTED TO SURFACE IS REQUIRED IN HIGH CAVE/KARST AREAS. THE CEMENT MUST BE IN A SOLID SHEATH. THEREFORE, ONE INCH OPERATIONS ARE NOT SUFFICIENT TO PROTECT CAVE KARST RESOURCES. A CASING DESIGN THAT HAS A ONE INCH JOB PERFORMED DOES NOT COUNT AS A SOLID SHEATH.

Possible lost circulation in the Rustler, San Andres, Delaware, Bone Springs and Capitan Reef formations.

Possible brine and water flows in the Salado Group, Artesia Group and the Capitan Reef if present.

1. The **16** inch surface casing shall be set at approximately **350** feet (in a competent bed and if salt is encountered, set casing at least 25 feet above the salt) and cemented to the surface.

    a. If cement does not circulate to the surface, the appropriate BLM office shall be notified and a temperature survey utilizing an electronic type temperature survey with surface log readout will be used or a cement bond log shall be run to verify the top of the cement. Temperature survey will be run a minimum of six hours after pumping cement and ideally between 8-10 hours after completing the cement job.

    b. Wait on cement (WOC) time for a primary cement job is to include the lead cement slurry.

    c. Wait on cement (WOC) time for a remedial job will be a minimum of 4 hours

after bringing cement to surface or 500 pounds compressive strength, whichever is greater.

d. If cement falls back, remedial cementing will be done prior to drilling out that string.

2. The minimum required fill of cement behind the **11-3/4** inch intermediate casing is:

☒ Cement to surface. If cement does not circulate see B.1.a, c-d above. **Wait on cement (WOC) time for a primary cement job is to include the lead cement slurry due to high cave/karst.**

3. The minimum required fill of cement behind the **8-5/8** inch 2nd intermediate casing is:

a. First stage to DV tool:

☒ Cement to circulate. If cement does not circulate, contact the appropriate BLM office before proceeding with second stage cement job. Operator should have plans as to how they will achieve circulation on the next stage.

Operator has proposed a contingency post tool at 1250 feet. If operator circulates cement on the first stage, operator is approved to inflate the ACP and run the post tool cancellation plug and cancel the second stage of the proposed cement plan. If cement does not circulate, operator will inflate ACP and proceed with the second stage.

b. Second stage above DV tool:

☒ Cement to surface. If cement does not circulate, contact the appropriate BLM office. **Wait on cement (WOC) time for a primary cement job is to include the lead cement slurry due to high cave/karst and Capitan Reef.**

4. The minimum required fill of cement behind the **5-1/2** inch production casing is:

☒ Cement should tie-back at least **50 feet above the Capitan Reef** (Top of Capitan Reef estimated at 1075 feet). Operator shall provide method of verification. **Additional cement is required, TOC must be at 1025 feet.**

5. 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.

C. PRESSURE CONTROL

1. All blowout preventer (BOP) and related equipment (BOPE) shall comply with well control requirements as described in Onshore Oil and Gas Order No. 2 and API RP 53 Sec. 17.

2. **A variance is granted for the use of a diverter on the 16" surface casing.**

3. Variance approved to use flex line from BOP to choke manifold. Check condition of flexible line from BOP to choke manifold, replace if exterior is damaged or if line fails test. Line to be as straight as possible with no hard bends and is to be anchored according to Manufacturer's requirements. The flexible hose can be exchanged with a hose of equal size and equal or greater pressure rating. **Anchor requirements, specification sheet and hydrostatic pressure test certification matching the hose in service, to be onsite for review**. If the BLM inspector questions the straightness of the hose, a BLM engineer will be contacted and will review in the field or via picture supplied by inspector to determine if changes are required (operator shall expect delays if this occurs).

4. **Operator has proposed a multi-bowl wellhead assembly. This assembly will only be tested when installed on the surface casing. Minimum working pressure of the blowout preventer (BOP) and related equipment (BOPE) required for drilling below the surface casing shoe shall be 5000 (5M) psi.**
    a. **Wellhead shall be installed by manufacturer's representatives, submit documentation with subsequent sundry.**
    b. **If the welding is performed by a third party, the manufacturer's representative shall monitor the temperature to verify that it does not exceed the maximum temperature of the seal.**
    c. **Manufacturer representative shall install the test plug for the initial BOP test.**
    d. **Operator shall perform the intermediate casing integrity test to 70% of the casing burst. This will test the multi-bowl seals.**
    e. **If the cement does not circulate and one inch operations would have been possible with a standard wellhead, the well head shall be cut off, cementing operations performed and another wellhead installed.**

5M system requires an HCR valve, remote kill line and annular to match. The remote kill line is to be installed prior to testing the system and tested to stack pressure.

5. The appropriate BLM office shall be notified a minimum of 4 hours in advance for a representative to witness the tests.

    a. In a water basin, for all casing strings utilizing slips, these are to be set as soon as the crew and rig are ready and any fallback cement remediation has been done. The casing cut-off and BOP installation can be initiated four hours after installing the slips, which will be approximately six hours after bumping the plug. For those casing strings not using slips, the minimum wait time before

cut-off is eight hours after bumping the plug. BOP/BOPE testing can begin after cut-off or once cement reaches 500 psi compressive strength (including lead when specified), whichever is greater. However, if the float does not hold, cut-off cannot be initiated until cement reaches 500 psi compressive strength (including lead when specified).

b. The tests shall be done by an independent service company utilizing a test plug **not a cup or J-packer**. The operator also has the option of utilizing an independent tester to test without a plug (i.e. against the casing) pursuant to Onshore Order 2 with the pressure not to exceed 70% of the burst rating for the casing. Any test against the casing must meet the WOC time for water basin (8 hours) or potash (24 hours) or 500 pounds compressive strength, whichever is greater, prior to initiating the test (see casing segment as lead cement may be critical item).

c. The test shall be run on a 5000 psi chart for a 2-3M BOP/BOP, on a 10000 psi chart for a 5M BOP/BOPE and on a 15000 psi chart for a 10M BOP/BOPE. If a linear chart is used, it shall be a one hour chart. A circular chart shall have a maximum 2 hour clock. If a twelve hour or twenty-four hour chart is used, tester shall make a notation that it is run with a two hour clock.

d. The results of the test shall be reported to the appropriate BLM office.

e. All tests are required to be recorded on a calibrated test chart. **A copy of the BOP/BOPE test chart and a copy of independent service company test will be submitted to the appropriate BLM office.**

f. 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. This test shall be performed prior to the test at full stack pressure.

D. DRILL STEM TEST

If drill stem tests are performed, Onshore Order 2.III.D shall be followed.

E. WASTE MATERIAL AND FLUIDS

All waste (i.e. drilling fluids, trash, salts, chemicals, sewage, gray water, etc.) created as a result of drilling operations and completion operations shall be safely contained and disposed of properly at a waste disposal facility. No waste material or fluid shall be disposed of on the well location or surrounding area.

Porto-johns and trash containers will be on-location during fracturing operations or any other crew-intensive operations.

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VIII. PRODUCTION (POST DRILLING)

A. WELL STRUCTURES & FACILITIES

Placement of Production Facilities
Production facilities should be placed on the well pad to allow for maximum interim recontouring and revegetation of the well location.

Exclosure Netting (Open-top Tanks)
Immediately following active drilling or completion operations, the operator will take actions necessary to prevent wildlife and livestock access, including avian wildlife, to all open-topped tanks that contain or have the potential to contain salinity sufficient to cause harm to wildlife or livestock, hydrocarbons, or Resource Conservation and Recovery Act of 1976-exempt hazardous substances. At a minimum, the operator will net, screen, or cover open-topped tanks to exclude wildlife and livestock and prevent mortality. If the operator uses netting, the operator will cover and secure the open portion of the tank to prevent wildlife entry. The operator will net, screen, or cover the tanks until the operator removes the tanks from the location or the tanks no longer contain substances that could be harmful to wildlife or livestock. Use a maximum netting mesh size of 1 ½ inches. The netting must not be in contact with fluids and must not have holes or gaps.

Chemical and Fuel Secondary Containment and Exclosure Screening
The operator will prevent all hazardous, poisonous, flammable, and toxic substances from coming into contact with soil and water. At a minimum, the operator will install and maintain an impervious secondary containment system for any tank or barrel containing hazardous, poisonous, flammable, or toxic substances sufficient to contain the contents of the tank or barrel and any drips, leaks, and anticipated precipitation. The operator will dispose of fluids within the containment system that do not meet applicable state or U. S. Environmental Protection Agency livestock water standards in accordance with state law; the operator must not drain the fluids to the soil or ground. The operator will design, construct, and maintain all secondary containment systems to prevent wildlife and livestock exposure to harmful substances. At a minimum, the operator will install effective wildlife and livestock exclosure systems such as fencing, netting, expanded metal mesh, lids, and grate covers. Use a maximum netting mesh size of 1 ½ inches.

Open-Vent Exhaust Stack Exclosures
The operator will construct, modify, equip, and maintain all open-vent exhaust stacks on production equipment to prevent birds and bats from entering, and to discourage perching, roosting, and nesting. (*Recommended exclosure structures on open-vent exhaust stacks are in the shape of a cone.*) Production equipment includes, but may not

be limited to, tanks, heater-treaters, separators, dehydrators, flare stacks, in-line units, and compressor mufflers.

Containment Structures
Proposed production facilities such as storage tanks and other vessels will have a secondary containment structure that is constructed to hold the capacity of 1.5 times the largest tank, plus freeboard to account for precipitation, unless more stringent protective requirements are deemed necessary.

Painting Requirement
All above-ground structures including meter housing that are not subject to safety requirements shall be painted a flat non-reflective paint color, **Shale Green** from the BLM Standard Environmental Color Chart (CC-001: June 2008).

B. PIPELINES

BURIED PIPELINE STIPULATIONS

A copy of the application (Grant, APD, or Sundry Notice) and attachments, including conditions of approval, survey plat and/or map, will be on location during construction. BLM personnel may request to you a copy of your permit during construction to ensure compliance with all stipulations.

Holder agrees to comply with the following stipulations to the satisfaction of the Authorized Officer:

1. The Holder shall indemnify the United States against any liability for damage to life or property arising from the occupancy or use of public lands under this grant.

2. The Holder shall comply with all applicable Federal laws and regulations existing or hereafter enacted or promulgated. In any event, the holder shall comply with the Toxic Substances Control Act of 1976 as amended, 15 USC 2601 et seq. (1982) with regards to any toxic substances that are used, generated by or stored on the right-of-way or on facilities authorized under this right-of-way grant. (See 40 CFR Part 702-799 and especially, provisions on polychlorinated biphenyls, 40 CFR 761.1-761.193.) Additionally, any release of toxic substances (leaks, spills, etc.) in excess of the reportable quantity established by 40 CFR Part 117 shall be reported as required by the Comprehensive Environmental Response, Compensation, and Liability Act, section 102b. A copy of any report required or requested by any Federal agency or State government as a result of a reportable release or spill of any toxic substances shall be furnished to the authorized officer concurrent with the filing of the reports to the involved Federal agency or State government.

3. The holder agrees to indemnify the United States against any liability arising from the release of any hazardous substance or hazardous waste (as these terms are defined in the

Comprehensive Environmental Response, Compensation and Liability Act of 1980, 42 U.S.C. 9601, et seq. or the Resource Conservation and Recovery Act, 42 U.S.C.6901, et seq.) on the Right-of-Way (unless the release or threatened release is wholly unrelated to the Right-of-Way holder's activity on the Right-of-Way), or resulting from the activity of the Right-of-Way holder on the Right-of-Way. This agreement applies without regard to whether a release is caused by the holder, its agent, or unrelated third parties.

4. If, during any phase of the construction, operation, maintenance, or termination of the pipeline, any oil or other pollutant should be discharged from the pipeline system, impacting Federal lands, the control and total removal, disposal, and cleaning up of such oil or other pollutant, wherever found, shall be the responsibility of holder, regardless of fault. Upon failure of holder to control, dispose of, or clean up such discharge on or affecting Federal lands, or to repair all damages resulting therefrom, on the Federal lands, the Authorized Officer may take such measures as he deems necessary to control and clean up the discharge and restore the area, including where appropriate, the aquatic environment and fish and wildlife habitats, at the full expense of the holder. Such action by the Authorized Officer shall not relieve holder of any responsibility as provided herein.

5. All construction and maintenance activity will be confined to the authorized right-of-way.

6. The pipeline will be buried with a minimum cover of **36** inches between the top of the pipe and ground level.

7. The maximum allowable disturbance for construction in this right-of-way will be **30** feet:

- Blading of vegetation within the right-of-way will be allowed: maximum width of blading operations will not exceed **20** feet. The trench is included in this area. (*Blading is defined as the complete removal of brush and ground vegetation.*)

- Clearing of brush species within the right-of-way will be allowed: maximum width of clearing operations will not exceed **30** feet. The trench and bladed area are included in this area. (*Clearing is defined as the removal of brush while leaving ground vegetation (grasses, weeds, etc.) intact. Clearing is best accomplished by holding the blade 4 to 6 inches above the ground surface.*)

- The remaining area of the right-of-way (if any) shall only be disturbed by compressing the vegetation. (*Compressing can be caused by vehicle tires, placement of equipment, etc.*)

8. The holder shall stockpile an adequate amount of topsoil where blading is allowed. The topsoil to be stripped is approximately ___6___ inches in depth. The topsoil will be segregated from other spoil piles from trench construction. The topsoil will be evenly distributed over the bladed area for the preparation of seeding.

9. The holder shall minimize disturbance to existing fences and other improvements on public lands. The holder is required to promptly repair improvements to at least their former state. Functional use of these improvements will be maintained at all times. The holder will contact the owner of any improvements prior to disturbing them. When necessary to pass through a fence line, the fence shall be braced on both sides of the passageway prior to cutting of the fence. No permanent gates will be allowed unless approved by the Authorized Officer.

10. Vegetation, soil, and rocks left as a result of construction or maintenance activity will be randomly scattered on this right-of-way and will not be left in rows, piles, or berms, unless otherwise approved by the Authorized Officer. The entire right-of-way shall be recontoured to match the surrounding landscape. The backfilled soil shall be compacted and a 6 inch berm will be left over the ditch line to allow for settling back to grade.

11. In those areas where erosion control structures are required to stabilize soil conditions, the holder will install such structures as are suitable for the specific soil conditions being encountered and which are in accordance with sound resource management practices.

12. The holder will reseed all disturbed areas. Seeding will be done according to the attached seeding requirements, using the following seed mix.

(X) seed mixture 1	( ) seed mixture 3
( ) seed mixture 2	(X) seed mixture 4
( ) seed mixture 2/LPC	( ) Aplomado Falcon Mixture

13. All above-ground structures not subject to safety requirements shall be painted by the holder to blend with the natural color of the landscape. The paint used shall be color which simulates "Standard Environmental Colors" – **Shale Green**, Munsell Soil Color No. 5Y 4/2.

14. The pipeline will be identified by signs at the point of origin and completion of the right-of-way and at all road crossings. At a minimum, signs will state the holder's name, BLM serial number, and the product being transported. All signs and information

thereon will be posted in a permanent, conspicuous manner, and will be maintained in a legible condition for the life of the pipeline.

15. The holder shall not use the pipeline route as a road for purposes other than routine maintenance as determined necessary by the Authorized Officer in consultation with the holder before maintenance begins. The holder will take whatever steps are necessary to ensure that the pipeline route is not used as a roadway. As determined necessary during the life of the pipeline, the Authorized Officer may ask the holder to construct temporary deterrence structures.

16. Any cultural and/or paleontological resources (historic or prehistoric site or object) discovered by the holder, or any person working on his behalf, on public or Federal land shall be immediately reported to the Authorized Officer. Holder shall suspend all operations in the immediate area of such discovery until written authorization to proceed is issued by the Authorized Officer. An evaluation of the discovery will be made by the Authorized Officer to determine appropriate actions to prevent the loss of significant cultural or scientific values. The holder will be responsible for the cost of evaluation and any decision as to proper mitigation measures will be made by the Authorized Officer after consulting with the holder.

17. The operator shall be held responsible if noxious weeds become established within the areas of operations. Weed control shall be required on the disturbed land where noxious weeds exist, which includes associated roads, pipeline corridor and adjacent land affected by the establishment of weeds due to this action. The operator shall consult with the Authorized Officer for acceptable weed control methods, which include following EPA and BLM requirements and policies.

18. Escape Ramps - The operator will construct and maintain pipeline/utility trenches [that are not otherwise fenced, screened, or netted] to prevent livestock, wildlife, and humans from becoming entrapped. At a minimum, the operator will construct and maintain escape ramps, ladders, or other methods of avian and terrestrial wildlife escape in the trenches according to the following criteria:

a. Any trench left open for eight (8) hours or less is not required to have escape ramps; however, before the trench is backfilled, the contractor/operator shall inspect the trench for wildlife, remove all trapped wildlife, and release them at least 100 yards from the trench.
b. For trenches left open for eight (8) hours or more, earthen escape ramps (built at no more than a 30 degree slope and spaced no more than 500 feet apart) shall be placed in the trench.

19. Special Stipulations:

Lesser Prairie-Chicken

Oil and gas activities will not be allowed in lesser prairie-chicken habitat during the period from March 1st through June 15th annually. During that period, other activities that produce noise or involve human activity, such as the maintenance of oil and gas facilities, geophysical exploration other than 3-D operations, and pipeline, road, and well pad construction, will be allowed except between 3:00 am and 9:00 am. The 3:00 am to 9:00 am restriction will not apply to normal, around-the-clock operations, such as venting, flaring, or pumping, which do not require a human presence during this period. Normal vehicle use on existing roads will not be restricted. Exhaust noise from pump jack engines must be muffled or otherwise controlled so as not to exceed 75 db measured at 30 ft. from the source of the noise.

This authorization is subject to your Certificate of Participation and/or Certificate of Inclusion under the New Mexico Candidate Conservation Agreement. Because it involves surface disturbing activities covered under your Certificate, your Habitat Conservation Fund Account with the Center of Excellence for Hazardous Materials Management (CEHMM) will be debited according to Exhibit B Part 2 of the Certificate of Participation.

C. ELECTRIC LINES

STANDARD STIPULATIONS FOR OVERHEAD ELECTRIC DISTRIBUTION LINES

A copy of the grant and attachments, including stipulations, survey plat and/or map, will be on location during construction. BLM personnel may request to you a copy of your permit during construction to ensure compliance with all stipulations.

Holder agrees to comply with the following stipulations to the satisfaction of the Authorized Officer:

1. The holder shall indemnify the United States against any liability for damage to life or property arising from the occupancy or use of public lands under this grant.

2. The holder shall comply with all applicable Federal laws and regulations existing or hereafter enacted or promulgated. In any event, the holder shall comply with the Toxic Substances Control Act of 1976 as amended, 15 USC 2601 et seq. (1982) with regards to any toxic substances that are used, generated by or stored on the right-of-way or on facilities authorized under this right-of-way grant. (See 40 CFR, Part 702-799 and especially, provisions on polychlorinated biphenyls, 40 CFR 761.1-761.193.) Additionally, any release of toxic substances (leaks, spills, etc.) in excess of the reportable quantity established by 40 CFR, Part 117 shall be reported as required by the Comprehensive Environmental Response, Compensation, and Liability Act, section 102b. A copy of any report required or requested by any Federal agency or State government as a result of a reportable release or spill of any toxic substances shall be furnished to the authorized officer concurrent with the filing of the reports to the involved Federal agency

or State government.

3. The holder agrees to indemnify the United States against any liability arising from the release of any hazardous substance or hazardous waste (as these terms are defined in the Comprehensive Environmental Response, Compensation and Liability Act of 1980, 42 U.S.C. 9601, et seq. or the Resource Conservation and Recovery Act, 42 U.S.C. 6901, et seq.) on the Right-of-Way (unless the release or threatened release is wholly unrelated to the Right-of-Way holder's activity on the Right-of-Way), or resulting from the activity of the Right-of-Way holder on the Right-of-Way. This agreement applies without regard to whether a release is caused by the holder, its agent, or unrelated third parties.

4. There will be no clearing or blading of the right-of-way unless otherwise agreed to in writing by the Authorized Officer.

5. Power lines shall be constructed and designed in accordance to standards outlined in "Suggested Practices for Avian Protection on Power lines: The State of the Art in 2006" Edison Electric Institute, APLIC, and the California Energy Commission 2006 . The holder shall assume the burden and expense of proving that pole designs not shown in the above publication deter raptor perching, roosting, and nesting. Such proof shall be provided by a raptor expert approved by the Authorized Officer. The BLM reserves the right to require modification or additions to all powerline structures placed on this right-of-way, should they be necessary to ensure the safety of large perching birds. Such modifications and/or additions shall be made by the holder without liability or expense to the United States.

Raptor deterrence will consist of but not limited to the following: triangle perch discouragers shall be placed on each side of the cross arms and a nonconductive perching deterrence shall be placed on all vertical poles that extend past the cross arms.

6. The holder shall minimize disturbance to existing fences and other improvements on public lands. The holder is required to promptly repair improvements to at least their former state. Functional use of these improvements will be maintained at all times. The holder will contact the owner of any improvements prior to disturbing them. When necessary to pass through a fence line, the fence shall be braced on both sides of the passageway prior to cutting the fence. No permanent gates will be allowed unless approved by the Authorized Officer.

7. The BLM serial number assigned to this authorization shall be posted in a permanent, conspicuous manner where the power line crosses roads and at all serviced facilities. Numbers will be at least two inches high and will be affixed to the pole nearest the road crossing and at the facilities served.

8. Upon cancellation, relinquishment, or expiration of this grant, the holder shall comply with those abandonment procedures as prescribed by the Authorized Officer.

9. All surface structures (poles, lines, transformers, etc.) shall be removed within 180

days of abandonment, relinquishment, or termination of use of the serviced facility or facilities or within 180 days of abandonment, relinquishment, cancellation, or expiration of this grant, whichever comes first. This will not apply where the power line extends service to an active, adjoining facility or facilities.

10. Any cultural and/or paleontological resource (historic or prehistoric site or object) discovered by the holder, or any person working on his behalf, on public or Federal land shall be immediately reported to the Authorized Officer. Holder shall suspend all operations in the immediate area of such discovery until written authorization to proceed is issued by the Authorized Officer. An evaluation of the discovery will be made by the Authorized Officer to determine appropriate actions to prevent the loss of significant cultural or scientific values. The holder will be responsible for the cost of evaluation and any decision as to proper mitigation measures will be made by the Authorized Officer after consulting with the holder.

IX. INTERIM RECLAMATION

During the life of the development, all disturbed areas not needed for active support of production operations should undergo interim reclamation in order to minimize the environmental impacts of development on other resources and uses.

Within six (6) months of well completion, operators should work with BLM surface management specialists (Jim Amos: 575-234-5909) to devise the best strategies to reduce the size of the location. Interim reclamation should allow for remedial well operations, as well as safe and efficient removal of oil and gas.

During reclamation, the removal of caliche is important to increasing the success of revegetating the site. Removed caliche that is free of contaminants may be used for road repairs, fire walls or for building other roads and locations. In order to operate the well or complete workover operations, it may be necessary to drive, park and operate on restored interim vegetation within the previously disturbed area. Disturbing revegetated areas for production or workover operations will be allowed. If there is significant disturbance and loss of vegetation, the area will need to be revegetated. Communicate with the appropriate BLM office for any exceptions/exemptions if needed.

All disturbed areas after they have been satisfactorily prepared need to be reseeded with the seed mixture provided below.

Upon completion of interim reclamation, the operator shall submit a Sundry Notices and Reports on Wells, Subsequent Report of Reclamation (Form 3160-5).

X. FINAL ABANDONMENT & RECLAMATION

At final abandonment, well locations, production facilities, and access roads must undergo "final" reclamation so that the character and productivity of the land are restored.

Earthwork for final reclamation must be completed within six (6) months of well plugging. All pads, pits, facility locations and roads must be reclaimed to a satisfactory revegetated, safe, and stable condition, unless an agreement is made with the landowner or BLM to keep the road and/or pad intact.

After all disturbed areas have been satisfactorily prepared, these areas need to be revegetated with the seed mixture provided below. Seeding should be accomplished by drilling on the contour whenever practical or by other approved methods. Seeding may need to be repeated until revegetation is successful, as determined by the BLM.

Operators shall contact a BLM surface protection specialist prior to surface abandonment operations for site specific objectives (Jim Amos: 575-234-5909).

Seed Mixture 4, for Gypsum Sites

The holder shall seed all disturbed areas with the seed mixture listed below. The seed mixture shall be planted in the amounts specified in pounds of pure live seed (PLS)* per acre. There shall be no primary or secondary noxious weeds in the seed mixture. Seed will be tested and the viability testing of seed will be done in accordance with State law(s) and within nine (9) months prior to purchase. Commercial seed will be either certified or registered seed. The seed container will be tagged in accordance with State law(s) and available for inspection by the authorized officer.

Seed will be planted using a drill equipped with a depth regulator to ensure proper depth of planting where drilling is possible. The seed mixture will be evenly and uniformly planted over the disturbed area (smaller/heavier seeds have a tendency to drop the bottom of the drill and are planted first).. The holder shall take appropriate measures to ensure this does not occur. Where drilling is not possible, seed will be broadcast and the area shall be raked or chained to cover the seed. When broadcasting the seed, the pounds per acre are to be doubled. The seeding will be repeated until a satisfactory stand is established as determined by the authorized officer. Evaluation of growth will not be made before completion of at least one full growing season after seeding.

Species to be planted in pounds of pure live seed* per acre:

Species	lb/acre
Alkali Sacaton (*Sporobolus airoides*)	1.0
DWS Four-wing saltbush (*Atriplex canescens*)	5.0

DWS: DeWinged Seed

*Pounds of pure live seed:

Pounds of seed x percent purity x percent germination = pounds pure live seed