

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

RECEIVED
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 30-015-42198	Pool Code 48035	Pool Name Old Millman Ranch Bone Spring
Property Code 302161	Property Name STATE CV COM	
OGRID No. 192463	Operator Name OXY USA WTP LP	
		Well Number 3H
		Elevation 3278.0'

Surface Location

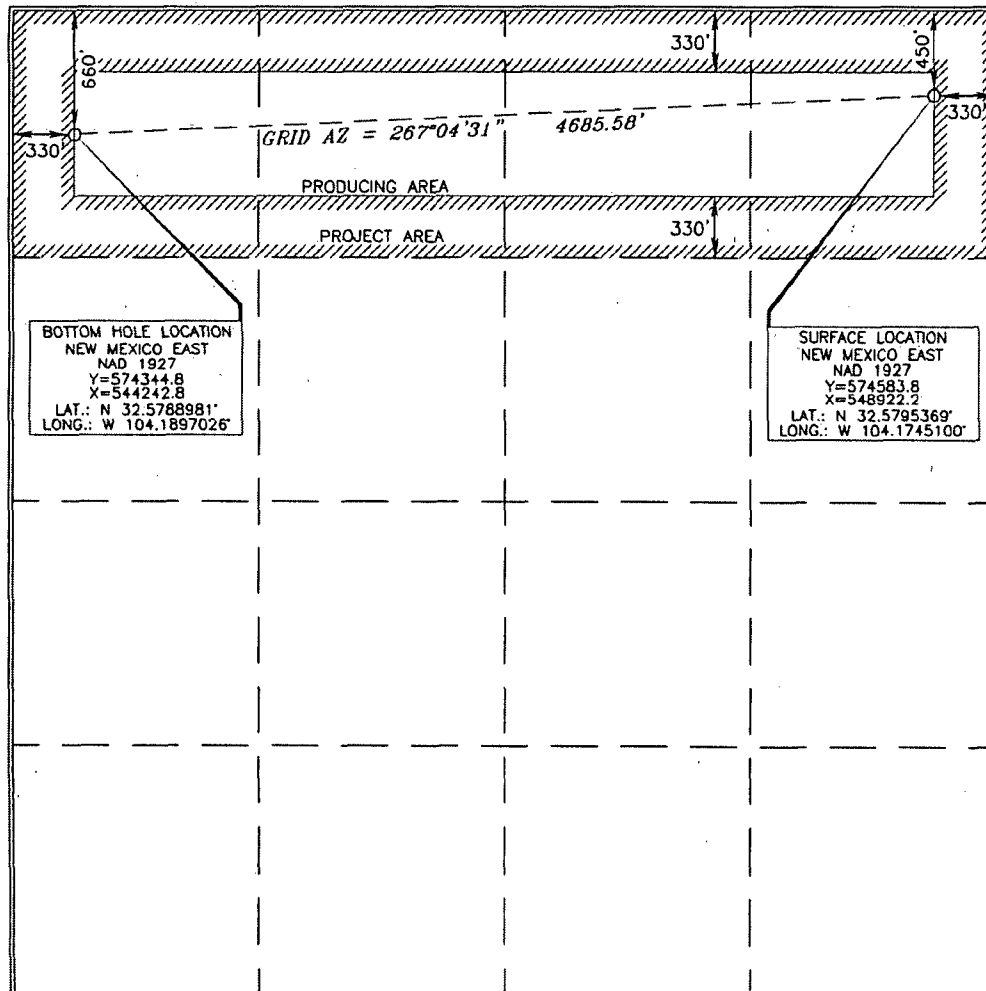
UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
A	16	20 SOUTH	28 EAST, N.M.P.M.		450'	NORTH	330'	EAST	EDDY

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
D	16	20 SOUTH	28 EAST, N.M.P.M.		660'	NORTH	330'	WEST	EDDY

Dedicated Acres 160	Joint or Infill	Consolidation Code	Order No.
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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.

Signature: **Jennifer Duarte** Date: **3/11/14**
Printed Name: **Jennifer Duarte**
Email Address: **jennifer.duarte@oxy.com**

SURVEYOR CERTIFICATION

I hereby certify that the well location shown on this plat was plotted from field notes of direct surveys made by me or under my supervision, and that the same is true and correct to the best of my belief.

Date of Survey: **JANUARY 30, 2014**
Signature and Seal of Professional Surveyor: **Jerry J. As...**

Certificate Number: **15079**

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☐ AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

API Number	Pool Code	Pool Name
	48035	Old Millman Ranch Bone Spring
Property Code	Property Name	Well Number
302161	STATE CV COM	3H
OGRID No.	Operator Name	Elevation
192463	OXYUSA WTP LP	3278.0'

Surface Location

UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
A	16	20 SOUTH	28 EAST, N.M.P.M.		450'	NORTH	330'	EAST	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
D	16	20 SOUTH	28 EAST, N.M.P.M.		660'	NORTH	330'	WEST	EDDY

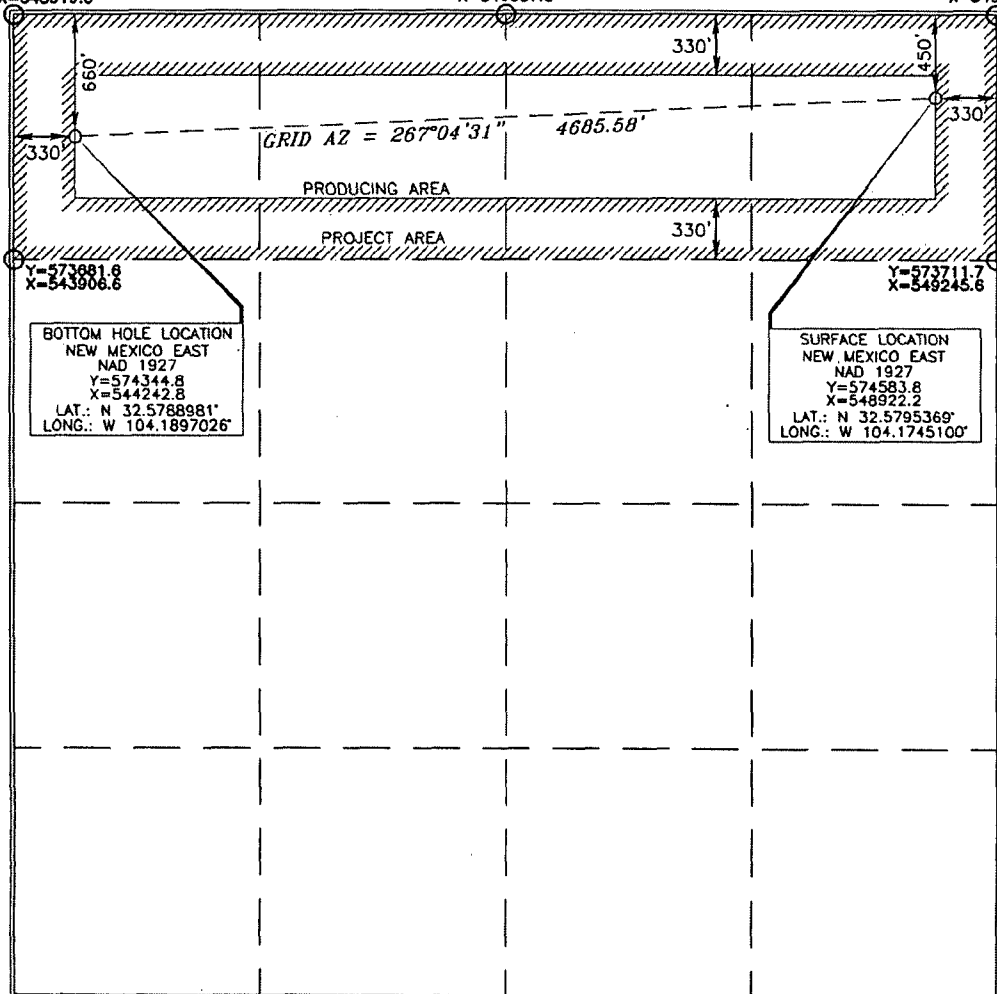
Dedicated Acres	Joint or Infill	Consolidation Code	Order No.
1600			

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.

Y=575002.7
X=543919.0

Y=575019.5
X=548567.0

Y=575035.8
X=548255.7



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.

Signature: Jennifer Duarte
Date: 3/11/14
Printed Name: Jennifer Duarte
E-mail Address: jennifer.duarte@oxy.com

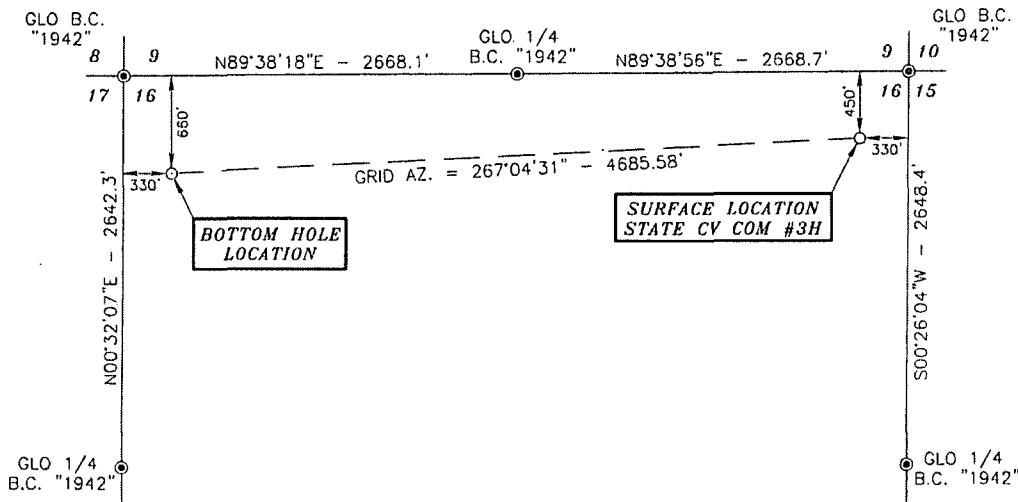
SURVEYOR CERTIFICATION

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.

Signature and Seal of Professional Surveyor: JERRY J. ASH
Date of Survey: JANUARY 30, 2014
Certificate Number: 15079

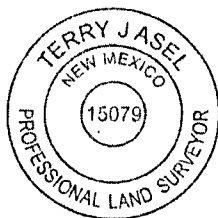
WO# 14013OWL-a-XY (KA)

SECTION 16, TOWNSHIP 20 SOUTH, RANGE 28 EAST, N.M.P.M.,
EDDY COUNTY NEW MEXICO



Basis of Bearings - GPS Geodetic Measurements
NM East Zone (83) North American Datum of 1983

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 8.2
MILES, TURN RIGHT ON CALICHE ROAD
AND GO NORTH FOR 0.5 MILES, TURN
LEFT AND GO WEST FOR 0.1 MILES,
TURN RIGHT AND GO NORTH FOR 0.3
MILES, CONTINUE NORTH ON
PROPOSED ROAD FOR 1303.0 FEET
TO LOCATION.

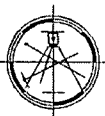


SURVEYORS CERTIFICATE

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 2/10/2014
Terry J. Asel, N.M. R.P.L.S. No. 15079

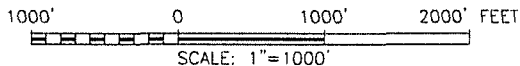
Asel Surveying



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

LEGEND

● - DENOTES FOUND MONUMENT AS NOTED



OXY USA WTP/LP

STATE CV COM #3H LOCATED AT
450' FNL & 330' FEL IN SECTION 16,
TOWNSHIP 20 SOUTH, RANGE 28 EAST,
N.M.P.M., EDDY COUNTY, NEW MEXICO

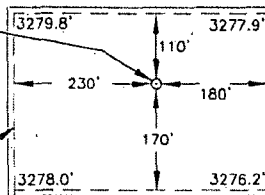
Survey Date: 01/30/14	Sheet 1 of 1 Sheets
W.O. Number: 140130WL-a	Drawn By: KA Rev:
Date: 02/05/14	140130WL-a Scale: 1"=1000'

OXY USA INC. STATE CV COM #3H SITE PLAN



STATE CV COM #3H
ELEV. 3278.0'
(NAD 27)
LAT. = 32.5795369°N
LONG. = 104.1745100°W

PROPOSED
WELL PAD



10' ADDITIONAL
DISTURBANCE AREA

Q PROPOSED ROAD
1303.0'
WATERBARS EVERY
200' ON PROPOSED
NEW ROAD

STATE CV #2H

EXISTING
WELL PAD

BULLDOG #1



SECTION LINE

LEGEND

- DENOTES PROPOSED WELL PAD
- DENOTES PROPOSED ROAD

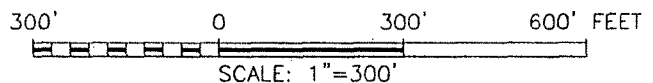
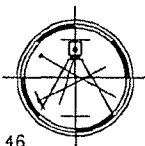
SURVEYORS CERTIFICATE

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 2/10/2014
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

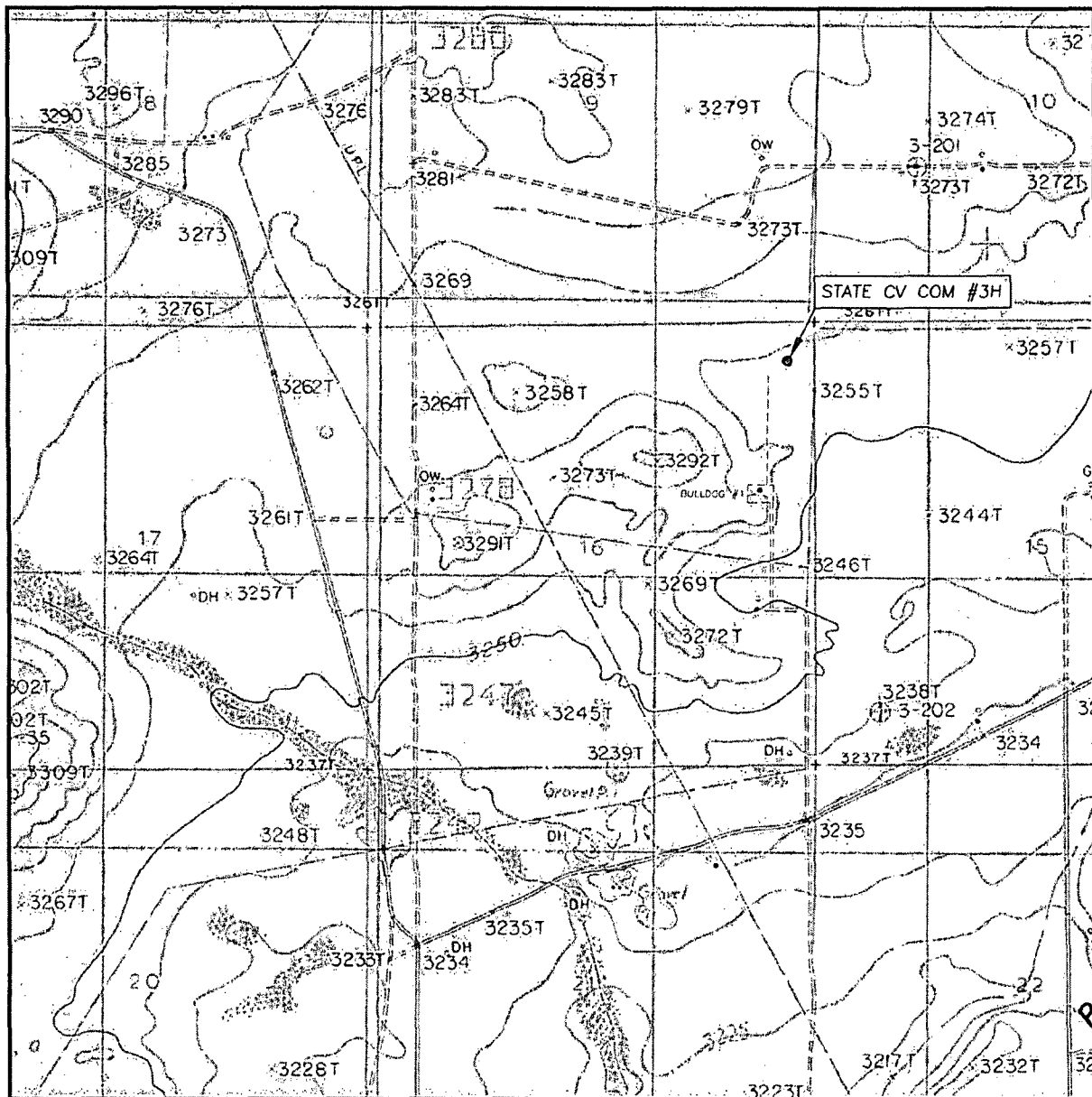


OXY USA WTP LP

STATE CV COM #3H WELL PAD LOCATED AT
450' FNL & 330' FEL IN SECTION 16,
TOWNSHIP 20 SOUTH, RANGE 28 EAST,
N.M.P.M., EDDY COUNTY, NEW MEXICO

Survey Date: 01/30/14	Sheet 1 of 1 Sheets
W.O. Number: 140130WL-a	Drawn By: KA Rev:
Date: 02/05/14	140130WL-a Scale: 1"=300'

LOCATION VERIFICATION MAP



SCALE: 1" = 2000'

CONTOUR INTERVAL: 10'

SEC. 16 TWP. 20-S RGE. 28-E

SURVEY N.M.P.M.

COUNTY EDDY

DESCRIPTION 450' FNL & 330' FEL

ELEVATION 3278.0'

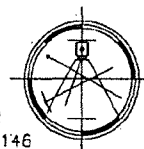
OPERATOR OXY USA WTPLP

LEASE STATE CV COM #3H

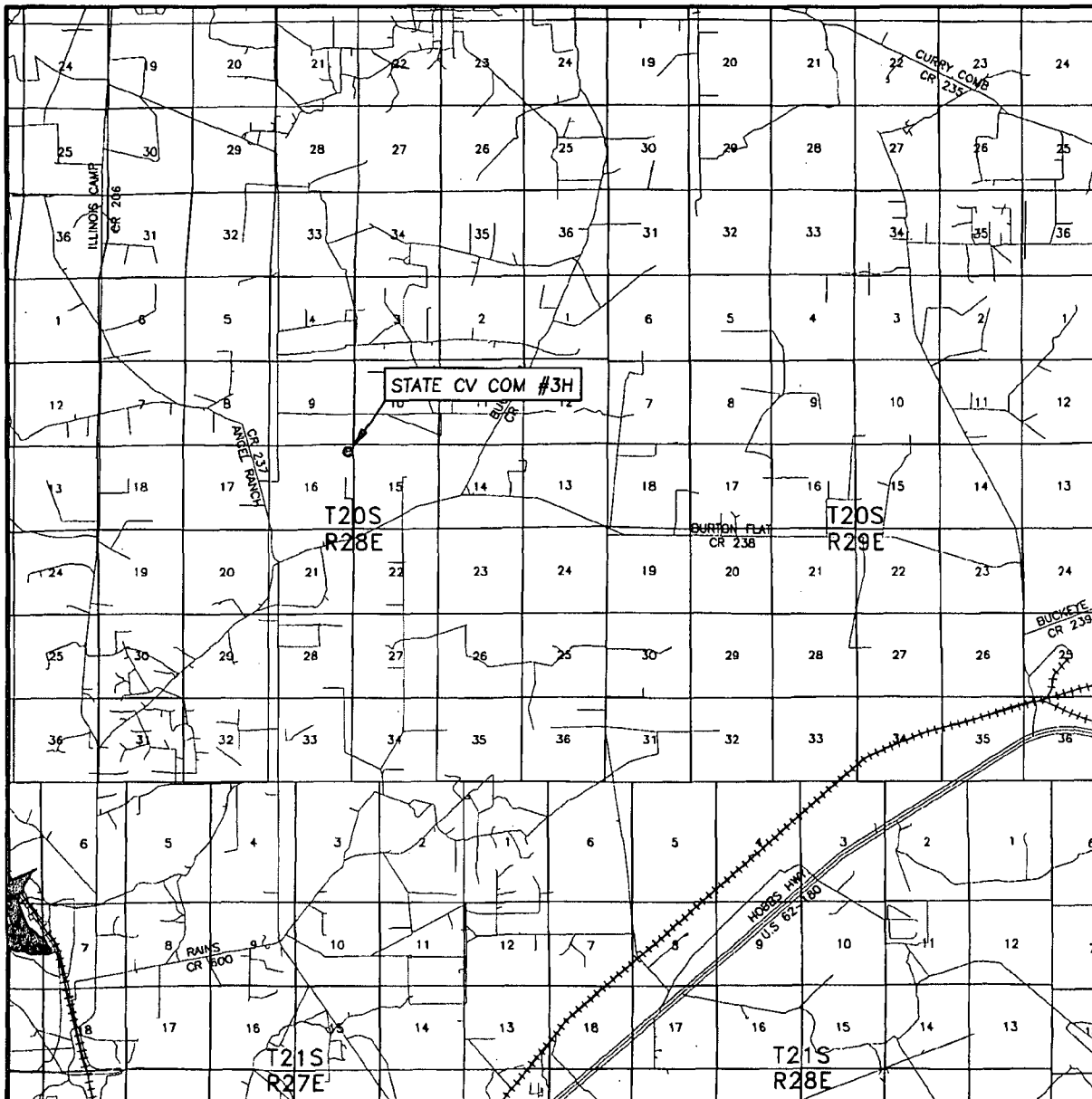
U.S.G.S. TOPOGRAPHIC MAP
ANGEL DRAW, N.M.

Asel Surveying

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



VICINITY MAP

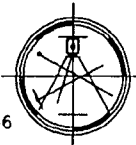


SEC. 16 TWP. 20-S RGE. 28-E
 SURVEY N.M.P.M.
 COUNTY EDDY
 DESCRIPTION 450' FNL & 330' FEL
 ELEVATION 3278.0'
 OPERATOR OXY USA WTPLP
 LEASE STATE CV COM #3H

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 8.2 MILES, TURN RIGHT ON CALICHE ROAD AND GO NORTH FOR 0.5 MILES, TURN LEFT AND GO WEST FOR 0.1 MILES, TURN RIGHT AND GO NORTH FOR 0.3 MILES, CONTINUE NORTH ON PROPOSED ROAD FOR 1303.0 FEET TO LOCATION.

OXY USA WTP LP
STATE CV COM #3H
APD Data

OPERATOR NAME / NUMBER: OXY USA WTP

192463

LEASE NAME / NUMBER: STATE CV COM #3H

STATE: NM

COUNTY: Eddy

SURFACE LOCATION: 450' FNL & 300' FEL, Sec 16, T20S, R28E

BOTTOM HOLE LOCATION: 660' FNL & 330' FWL, Sec 16, T20S, R28E

APPROX GR ELEV: 3278'

EST KB ELEV: 3302' (24' 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
T. Rustler	25	--
T. Salt	310	--
T. Yates	975	--
T. Capitan Reef	1110	--
B. Anhydrite / T. Lamar	3110	
T. Brushy Canyon	3975	Oil/Gas
T. 1 st BSPG	6325	Oil/Gas
T. 2 nd BSPG	6520	Oil/Gas
Target 2nd BSPG Sand	7450	Oil/Gas
T. 3 rd BSPG	7470	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 "LATERAL": 11830' MD / 7360' TVD **OBJECTIVE:** 2nd BSPG

3. CASING PROGRAM

Surface Casing ran in 18-1/2" hole filled with 8.6 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
18.500	285	16	75	J55	BTC	15.124	New	2635	1017	1.43	9.61	10.06

Intermediate1 Casing ran in 14-3/4" 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
14.750	1050	11.75	47	J55	BTC	11.000	New	3072	1514	1.37	4.53	5.23

Intermediate2 Casing ran in 10-5/8" hole filled with 8.6 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	3150	8.625	32	J55	LTC	7.921*	New	3928	2533	1.37	2.12	2.24

Production Casing ran in 7-7/8" hole filled with 9.2 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
7.875	11830	5.5	17	L80	BTC	4.892	New	7738	6285	1.22	1.78	1.90

*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
0' – 285' (160% OH Excess)	200	285	Premium Plus Cement, with 4% Bentonite, 2% Calcium Chloride, & 0.125 lb/sk Poly-E-Flake	9.18	13.5	1.75	1069 psi

Intermediate1 Interval

Interval	Amount sx	Ft of Fill	Type	Gal/Sk	PPG	Ft ³ /sk	24 Hr Comp
Lead: 0' - 500' (120% OH Excess)	200	2250	Light Premium Plus Cement, with 5% Salt, 5 lb/sk Kol-Seal, & 0.125 lb/sk Poly-E-Flake	9.87	12.9	1.90	760 psi
Tail: 500' – 1050' (120% OH Excess)	400	550	Premium Plus cement with 1% Calcium Chloride	6.36	14.8	1.34	2032 psi

Intermediate2 Interval

Interval	Amount sx	Ft of Fill	Type	Gal/Sk	PPG	Ft ³ /sk	24 Hr Comp
Lead: 0' – 2650' (150% OH Excess)	600	2650	Light Premium Plus Cement, with 5% Salt, 5 lb/sk Kol-Seal, & 0.125 lb/sk Poly-E-Flake	9.99	12.9	1.91	625 psi
Tail: 2650' – 3150' (150% OH Excess)	200	500	Premium Plus cement with 2% Calcium Chloride	6.39	14.8	1.35	1746 psi
CONTINGENCY DV TOOL WITH EXTERNAL CASING PACKER SET AT 1100'. If cement circulates to surface during primary cementing operation, DV cancellation cone will be run and 2nd stage cancelled. Contingency recipe for 2nd stage as follows:							
Lead: 0' – 600' (10% OH Excess)	100	600	Light Premium Plus Cement with 3lbs/sk Salt	11.39	12.4	2.05	450 psi (500psi in 26 hrs)
Tail: 600' – 1100' (200% OH Excess)	120	500	Premium Plus cement with 2% Calcium Chloride	6.39	14.8	1.35	1746 psi

Production Interval

Interval	Amount sx	Ft of Fill	Type	Gal/Sk	PPG	Ft ³ /sk	24 Hr Comp
Lead: 2000' – 7000' (100% Excess)	550	5000	TUNED LIGHT (TM) SYSTEM 3 lbm/sk Kol-Seal, 0.125 lbm/sk Poly-E-Flake, 0.25 lbm/sk HR-800	14.05	10.2	2.95	900
Tail: 7000' – 11830' (40% OH Excess)	700	4830	Super H Cement, 0.5 % Halad(R)- 344, 0.4 % CFR-3, 3 lbm/sk Salt, 0.3 % HR-601, 0.125 lbm/sk Poly-E- Flake, 5 lbm/sk Kol-Seal	8.33	13.2	1.68	1527

***Description of Cement Additives:**

Bentonite: Light Weight Additive

Calcium Chloride: Accelerator

CFR-3: Dispersant

Halad-344: Low Fluid Loss Control

HR-601: Retarder

HR-800: Retarder

Kol-Seal: Lost Circulation Additive

Poly-E-Flake: Lost Circulation Additive

5. DIRECTIONAL PLAN

Please see attached directional plan

6. PRESSURE CONTROL EQUIPMENT

Surface: 0' – 285' None.

Intermediate1: 285' - 1050' First intermediate hole will be drilled with a 2M Annular Diverter system. The Annular will be tested to 1400psi (70% of working pressure.)

Intermediate2 and Production: 1050' MD/TVD – 11830' MD / 7360' TVD. 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 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 21 days of the original test, on the first trip, if drilling the 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' – 285'	8.5	28 – 38	NC	Fresh Water / Spud Mud
285' – 1050'	10.2	28 – 32	NC	Fresh Water / NaCl Brine
1050' – 3150'	8.5	28 – 32	NC	Fresh Water
3150' – 11830'	9.2	28 – 34	NC	Cut Brine / Sweeps

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. ANTICIPATED STARTING DATE AND DURATION OF OPERATIONS

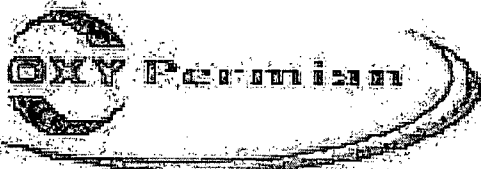
Road and location construction will begin after the APD approval. Move in operations and drilling is expected to take 40 days. If production casing is run, then an additional 30 days will be needed to complete the well and construct surface facilities and/or lay flow lines in order to place well on production.

9. WIRELINE LOGGING / MUD LOGGING / LWD

- a. Wireline logging: Triple Combo from KOP to Int Casing Shoe
- b. Mud loggers to be rigged up from surface casing shoe to TD.
- c. Acquire GR while drilling, from KOP to TD.

COMPANY PERSONNEL:

<u>Name</u>	<u>Title</u>	<u>Office Phone</u>	<u>Mobile Phone</u>
Anar Khalilov	Drilling Engineer	(713)985-6959	(832) 205-6365
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, New Mexico

State CV Com 3H

SCVC 3H

Original Wellbore

Plan: Design #1

Standard Planning Report

28 February, 2014



Scientific Drilling

www.scientificdrilling.com



SCVC 3H
Eddy County, New Mexico
Northing: 574583.80
Easting: 548922.20
Design #1



Azimuths to Grid North
 True North: -0.09°
 Magnetic North: 7.47°

Magnetic Field
 Strength: 48494.4snT
 Dip Angle: 60.35°
 Date: 02/28/2014
 Model: IGRF2010

To convert a Magnetic Direction to a Grid Direction, Add 7.47°
 To convert a True Direction to a Grid Direction, Subtract 0.09°



B @ 3302.00usft
Gr@ 3278.00

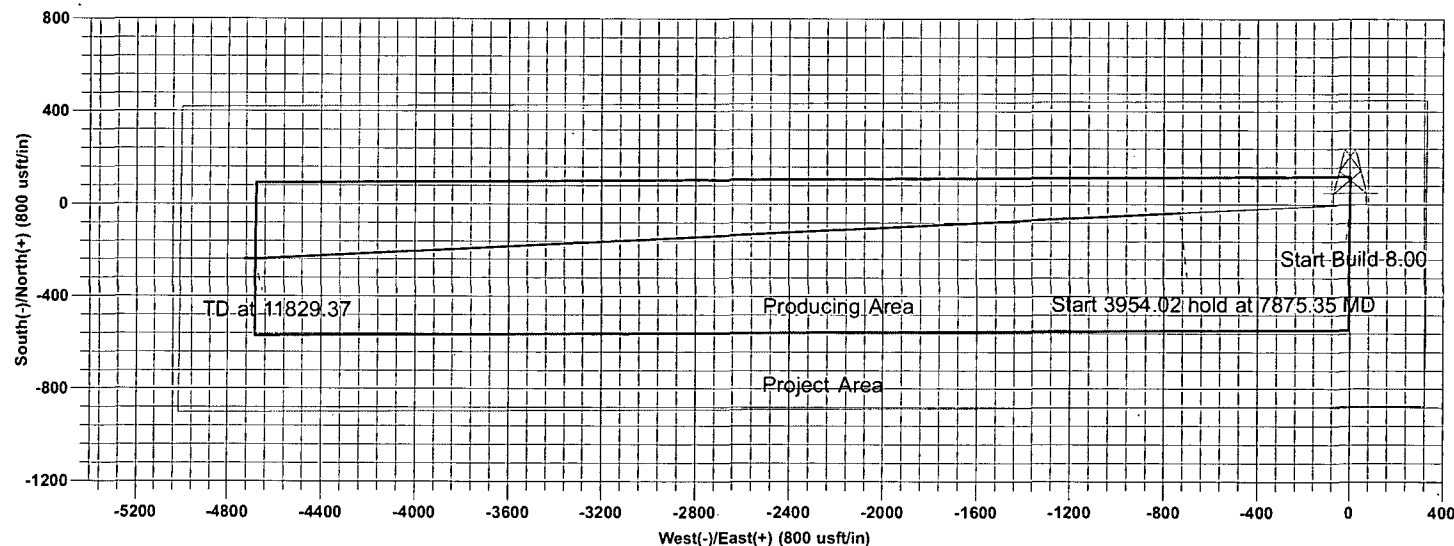
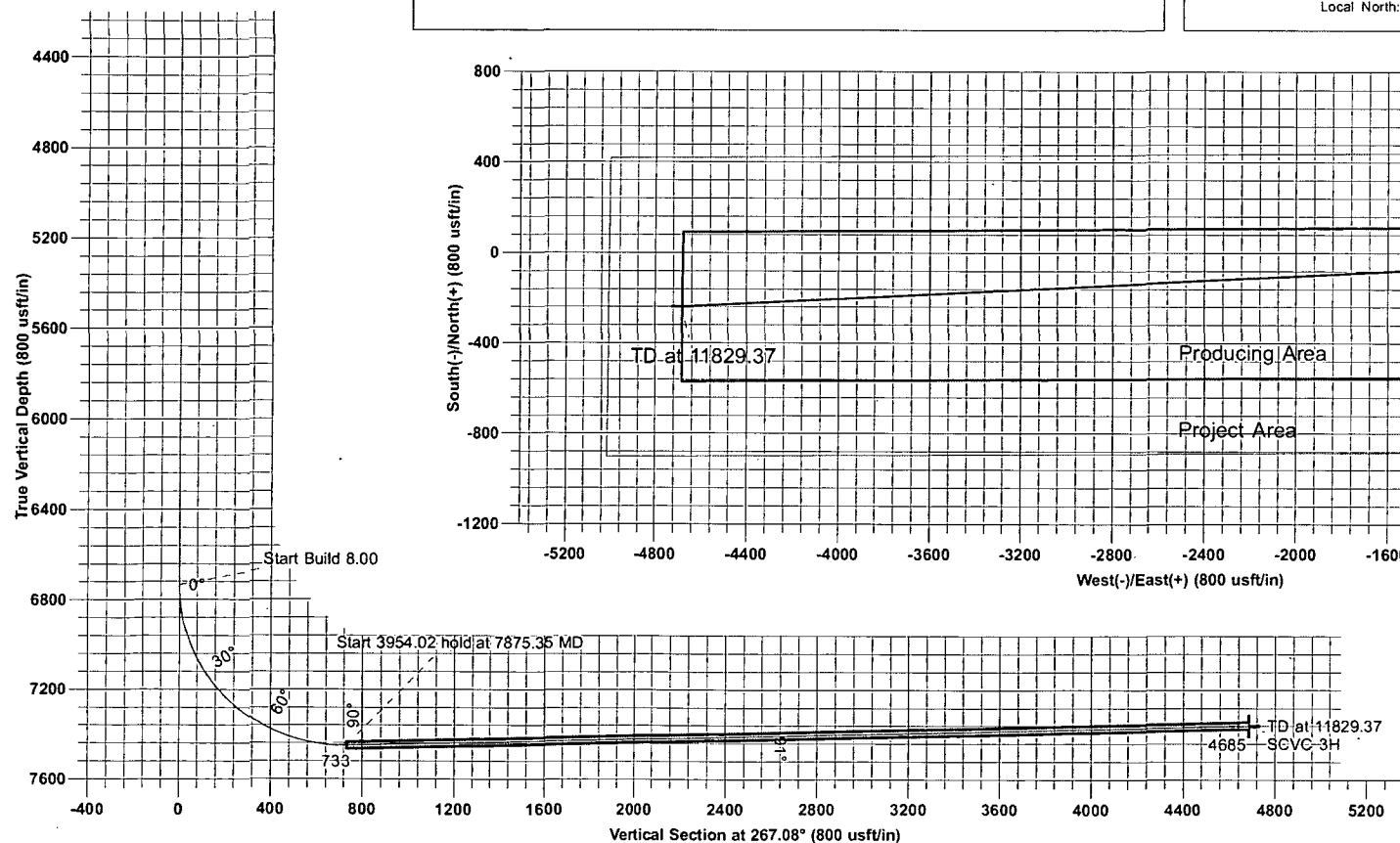
WELL DETAILS SCVC 3H					
Ground Level: 3278.00					
+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
0.00	0.00	574583.80	548922.20	32.580	-104.175

DESIGN TARGET DETAILS					
Name	TVD	+N/-S	+E/-W	Northing	Easting
SCVC 3H	7360.00	-239.00	-4679.40	574344.80	544242.80

SECTION DETAILS									
MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	Vsect	Target
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
6734.04	0.00	0.00	6734.04	0.00	0.00	0.00	0.00	0.00	
7875.35	91.31	267.08	7450.05	-37.36	-731.55	8.00	267.08	732.51	
11829.37	91.31	267.08	7360.00	-239.00	-4679.40	0.00	0.00	4685.50	SCVC 3H

SITE DETAILS:	
State CV Com 3H	
Site Centre Northing:	574583.80
Easting:	548922.20
Positional Uncertainty:	0.00
Convergence:	0.09
Local North:	Grid

PROJECT DETAILS:	
Eddy County, New Mexico	
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	

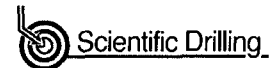


Jody Barclay
 13:45, February 28 2014

Scientific Drilling
 2740 N. Highway 287
 Decatur, TX 76234



Scientific Drilling
Planning Report



Database:	CompassC	Local Co-ordinate Reference:	Well SCVC 3H
Company:	OXY	TVD Reference:	KB @ 3302.00usft
Project:	Eddy County, New Mexico	MD Reference:	KB @ 3302.00usft
Site:	State CV Com 3H	North Reference:	Grid
Well:	SCVC 3H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Original Wellbore		
Design:	Design #1		

Project	Eddy County, New Mexico, 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		

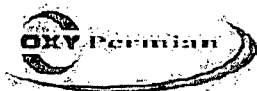
Site	State CV Com 3H			
Site Position:		Northing:	574,583.80 usft	Latitude: 32.580
From:	Map	Easting:	548,922.20 usft	Longitude: -104.175
Position Uncertainty:	0.00 usft	Slot Radius:	13-3/16 "	Grid Convergence: 0.09 °

Well	SCVC 3H			
Well Position	+N/-S	0.00 usft	Northing:	574,583.80 usft
	+E/-W	0.00 usft	Easting:	548,922.20 usft
Position Uncertainty	0.00 usft	Wellhead Elevation:	0.00 usft	Ground Level: 3,278.00 usft

Wellbore	Original Wellbore				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	02/28/14	7.56	60.35	48,494

Design	Design #1			
Audit Notes:				
Version:	Phase:	PROTOTYPE	Tie On Depth:	0.00
Vertical Section:	Depth From (TVD)	+N/-S	+E/-W	Direction
	(usft)	(usft)	(usft)	(°)
	0.00	0.00	0.00	267.08

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
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
6,734.04	0.00	0.00	6,734.04	0.00	0.00	0.00	0.00	0.00	0.00	
7,875.35	91.31	267.08	7,450.05	-37.36	-731.55	8.00	8.00	0.00	267.08	
11,829.37	91.31	267.08	7,360.00	-239.00	-4,679.40	0.00	0.00	0.00	0.00	SCVC 3H



Scientific Drilling Planning Report



Database:	CompassC	Local Co-ordinate Reference:	Well SCVC.3H
Company:	OXY	TVD Reference:	KB @ 3302.00usft
Project:	Eddy County, New Mexico	MD Reference:	KB @ 3302.00usft
Site:	State CV Com 3H	North Reference:	Grid
Well:	SCVC.3H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Original Wellbore		
Design:	Design #1		

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



Scientific Drilling
Planning Report



Database:	CompassC	Local Co-ordinate Reference:	Well SCVC 3H
Company:	OXY	TVD Reference:	KB @ 3302.00usft
Project:	Eddy County, New Mexico	MD Reference:	KB @ 3302.00usft
Site:	State CV Com 3H	North Reference:	Grid
Well:	SCVC 3H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Original Wellbore		
Design:	Design #1		

Planned Survey									
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
5,400.00	0.00	0.00	5,400.00	0.00	0.00	0.00	0.00	0.00	0.00
5,500.00	0.00	0.00	5,500.00	0.00	0.00	0.00	0.00	0.00	0.00
5,600.00	0.00	0.00	5,600.00	0.00	0.00	0.00	0.00	0.00	0.00
5,700.00	0.00	0.00	5,700.00	0.00	0.00	0.00	0.00	0.00	0.00
5,800.00	0.00	0.00	5,800.00	0.00	0.00	0.00	0.00	0.00	0.00
5,900.00	0.00	0.00	5,900.00	0.00	0.00	0.00	0.00	0.00	0.00
6,000.00	0.00	0.00	6,000.00	0.00	0.00	0.00	0.00	0.00	0.00
6,100.00	0.00	0.00	6,100.00	0.00	0.00	0.00	0.00	0.00	0.00
6,200.00	0.00	0.00	6,200.00	0.00	0.00	0.00	0.00	0.00	0.00
6,300.00	0.00	0.00	6,300.00	0.00	0.00	0.00	0.00	0.00	0.00
6,400.00	0.00	0.00	6,400.00	0.00	0.00	0.00	0.00	0.00	0.00
6,500.00	0.00	0.00	6,500.00	0.00	0.00	0.00	0.00	0.00	0.00
6,600.00	0.00	0.00	6,600.00	0.00	0.00	0.00	0.00	0.00	0.00
6,700.00	0.00	0.00	6,700.00	0.00	0.00	0.00	0.00	0.00	0.00
6,734.04	0.00	0.00	6,734.04	0.00	0.00	0.00	0.00	0.00	0.00
6,750.00	1.28	267.08	6,750.00	-0.01	-0.18	0.18	8.00	8.00	0.00
6,800.00	5.28	267.08	6,799.91	-0.15	-3.03	3.04	8.00	8.00	0.00
6,850.00	9.28	267.08	6,849.49	-0.48	-9.35	9.37	8.00	8.00	0.00
6,900.00	13.28	267.08	6,898.52	-0.98	-19.12	19.14	8.00	8.00	0.00
6,950.00	17.28	267.08	6,946.74	-1.65	-32.27	32.31	8.00	8.00	0.00
7,000.00	21.28	267.08	6,993.93	-2.49	-48.75	48.82	8.00	8.00	0.00
7,050.00	25.28	267.08	7,039.85	-3.50	-68.48	68.57	8.00	8.00	0.00
7,100.00	29.28	267.08	7,084.28	-4.67	-91.36	91.48	8.00	8.00	0.00
7,150.00	33.28	267.08	7,127.01	-5.99	-117.28	117.44	8.00	8.00	0.00
7,200.00	37.28	267.08	7,167.82	-7.46	-146.12	146.31	8.00	8.00	0.00
7,250.00	41.28	267.08	7,206.51	-9.08	-177.72	177.95	8.00	8.00	0.00
7,300.00	45.28	267.08	7,242.91	-10.83	-211.95	212.22	8.00	8.00	0.00
7,350.00	49.28	267.08	7,276.82	-12.70	-248.62	248.95	8.00	8.00	0.00
7,400.00	53.28	267.08	7,308.10	-14.69	-287.57	287.95	8.00	8.00	0.00
7,450.00	57.28	267.08	7,336.57	-16.78	-328.61	329.03	8.00	8.00	0.00
7,500.00	61.28	267.08	7,362.11	-18.98	-371.52	372.01	8.00	8.00	0.00
7,550.00	65.28	267.08	7,384.59	-21.25	-416.12	416.66	8.00	8.00	0.00
7,600.00	69.28	267.08	7,403.90	-23.61	-462.17	462.77	8.00	8.00	0.00
7,650.00	73.28	267.08	7,419.95	-26.02	-509.45	510.11	8.00	8.00	0.00
7,700.00	77.28	267.08	7,432.65	-28.49	-557.73	558.46	8.00	8.00	0.00
7,750.00	81.28	267.08	7,441.95	-30.99	-606.79	607.58	8.00	8.00	0.00
7,800.00	85.28	267.08	7,447.80	-33.52	-656.37	657.22	8.00	8.00	0.00
7,850.00	89.28	267.08	7,450.18	-36.07	-706.24	707.16	8.00	8.00	0.00
7,875.35	91.31	267.08	7,450.05	-37.36	-731.55	732.51	8.00	8.00	0.00
7,900.00	91.31	267.08	7,449.49	-38.62	-756.16	757.15	0.00	0.00	0.00
8,000.00	91.31	267.08	7,447.21	-43.72	-856.01	857.12	0.00	0.00	0.00
8,100.00	91.31	267.08	7,444.93	-48.82	-955.85	957.10	0.00	0.00	0.00
8,200.00	91.31	267.08	7,442.66	-53.92	-1,055.70	1,057.07	0.00	0.00	0.00
8,300.00	91.31	267.08	7,440.38	-59.02	-1,155.54	1,157.05	0.00	0.00	0.00
8,400.00	91.31	267.08	7,438.10	-64.12	-1,255.38	1,257.02	0.00	0.00	0.00
8,500.00	91.31	267.08	7,435.83	-69.22	-1,355.23	1,356.99	0.00	0.00	0.00
8,600.00	91.31	267.08	7,433.55	-74.32	-1,455.07	1,456.97	0.00	0.00	0.00
8,700.00	91.31	267.08	7,431.27	-79.42	-1,554.92	1,556.94	0.00	0.00	0.00
8,800.00	91.31	267.08	7,428.99	-84.52	-1,654.76	1,656.92	0.00	0.00	0.00
8,900.00	91.31	267.08	7,426.72	-89.62	-1,754.60	1,756.89	0.00	0.00	0.00
9,000.00	91.31	267.08	7,424.44	-94.72	-1,854.45	1,856.86	0.00	0.00	0.00
9,100.00	91.31	267.08	7,422.16	-99.82	-1,954.29	1,956.84	0.00	0.00	0.00
9,200.00	91.31	267.08	7,419.88	-104.91	-2,054.14	2,056.81	0.00	0.00	0.00
9,300.00	91.31	267.08	7,417.61	-110.01	-2,153.98	2,156.79	0.00	0.00	0.00



Scientific Drilling Planning Report



Database:	CompassC	Local Co-ordinate Reference:	Well SCVC 3H
Company:	OXY	TVD Reference:	KB @ 3302.00usft
Project:	Eddy County, New Mexico	MD Reference:	KB @ 3302.00usft
Site:	State CV Com 3H	North Reference:	Grid
Well:	SCVC 3H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Original Wellbore		
Design:	Design #1		

Planned Survey									
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
9,400.00	91.31	267.08	7,415.33	-115.11	-2,253.82	2,256.76	0.00	0.00	0.00
9,500.00	91.31	267.08	7,413.05	-120.21	-2,353.67	2,356.73	0.00	0.00	0.00
9,600.00	91.31	267.08	7,410.77	-125.31	-2,453.51	2,456.71	0.00	0.00	0.00
9,700.00	91.31	267.08	7,408.50	-130.41	-2,553.35	2,556.68	0.00	0.00	0.00
9,800.00	91.31	267.08	7,406.22	-135.51	-2,653.20	2,656.66	0.00	0.00	0.00
9,900.00	91.31	267.08	7,403.94	-140.61	-2,753.04	2,756.63	0.00	0.00	0.00
10,000.00	91.31	267.08	7,401.66	-145.71	-2,852.89	2,856.61	0.00	0.00	0.00
10,100.00	91.31	267.08	7,399.39	-150.81	-2,952.73	2,956.58	0.00	0.00	0.00
10,200.00	91.31	267.08	7,397.11	-155.91	-3,052.57	3,056.55	0.00	0.00	0.00
10,300.00	91.31	267.08	7,394.83	-161.01	-3,152.42	3,156.53	0.00	0.00	0.00
10,400.00	91.31	267.08	7,392.55	-166.11	-3,252.26	3,256.50	0.00	0.00	0.00
10,500.00	91.31	267.08	7,390.28	-171.21	-3,352.11	3,356.48	0.00	0.00	0.00
10,600.00	91.31	267.08	7,388.00	-176.31	-3,451.95	3,456.45	0.00	0.00	0.00
10,700.00	91.31	267.08	7,385.72	-181.41	-3,551.79	3,556.42	0.00	0.00	0.00
10,800.00	91.31	267.08	7,383.44	-186.51	-3,651.64	3,656.40	0.00	0.00	0.00
10,900.00	91.31	267.08	7,381.17	-191.61	-3,751.48	3,756.37	0.00	0.00	0.00
11,000.00	91.31	267.08	7,378.89	-196.71	-3,851.33	3,856.35	0.00	0.00	0.00
11,100.00	91.31	267.08	7,376.61	-201.81	-3,951.17	3,956.32	0.00	0.00	0.00
11,200.00	91.31	267.08	7,374.33	-206.91	-4,051.01	4,056.29	0.00	0.00	0.00
11,300.00	91.31	267.08	7,372.06	-212.00	-4,150.86	4,156.27	0.00	0.00	0.00
11,400.00	91.31	267.08	7,369.78	-217.10	-4,250.70	4,256.24	0.00	0.00	0.00
11,500.00	91.31	267.08	7,367.50	-222.20	-4,350.55	4,356.22	0.00	0.00	0.00
11,600.00	91.31	267.08	7,365.22	-227.30	-4,450.39	4,456.19	0.00	0.00	0.00
11,700.00	91.31	267.08	7,362.95	-232.40	-4,550.23	4,556.16	0.00	0.00	0.00
11,800.00	91.31	267.08	7,360.67	-237.50	-4,650.08	4,656.14	0.00	0.00	0.00
11,829.37	91.31	267.08	7,360.00	-239.00	-4,679.40	4,685.50	0.00	0.00	0.00
SCVC 3H									

Design Targets									
Target Name	Dip Angle	Dip Dir.	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
- hit/miss target	(°)	(°)	(usft)	(usft)	(usft)	(usft)	(usft)		
- Shape									
SCVC 3H	0.00	0.00	7,360.00	-239.00	-4,679.40	574,344.80	544,242.80	32.579	-104.190
- plan hits target center									
- Point									