NM OIL CONSERVATION
ARTESIA DISTRICT

AUG 13 2014

RECEIVED

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
30-015-42579	97565	N. Seven Rivers Glorieta Yeso

Property Code	Property Name	Well Number
	SEVEN RIVERS "20" STATE	5H

OGRID No.	Operator Name	Elevation
166696	OXY USA INC.	3479.3'

Surface Location

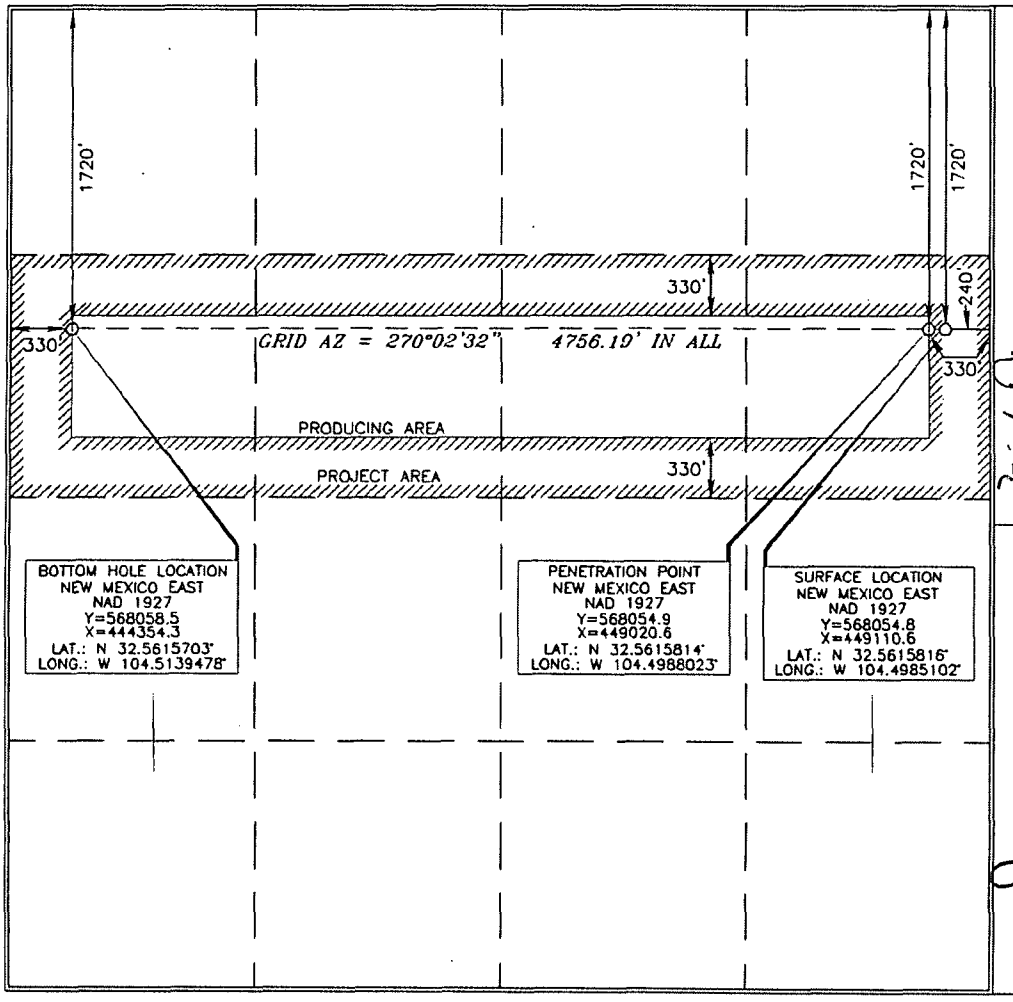
UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
H	20	20 SOUTH	25 EAST, N.M.P.M.		1720'	NORTH	240'	EAST	EDDY

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
E	20	20 SOUTH	25 EAST, N.M.P.M.		1720'	NORTH	330'	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 8/12/14
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.

JERRY JARAMILLO
15079
PROFESSIONAL LAND SURVEYOR

MARCH 6, 2014
Date of Survey

Signature and Seal of Professional Surveyor:

Jerry J. Asel 3/24/2014
Certificate Number 15079

WO# 140308WL-b (KA)

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Property Code	Property Name	Well Number
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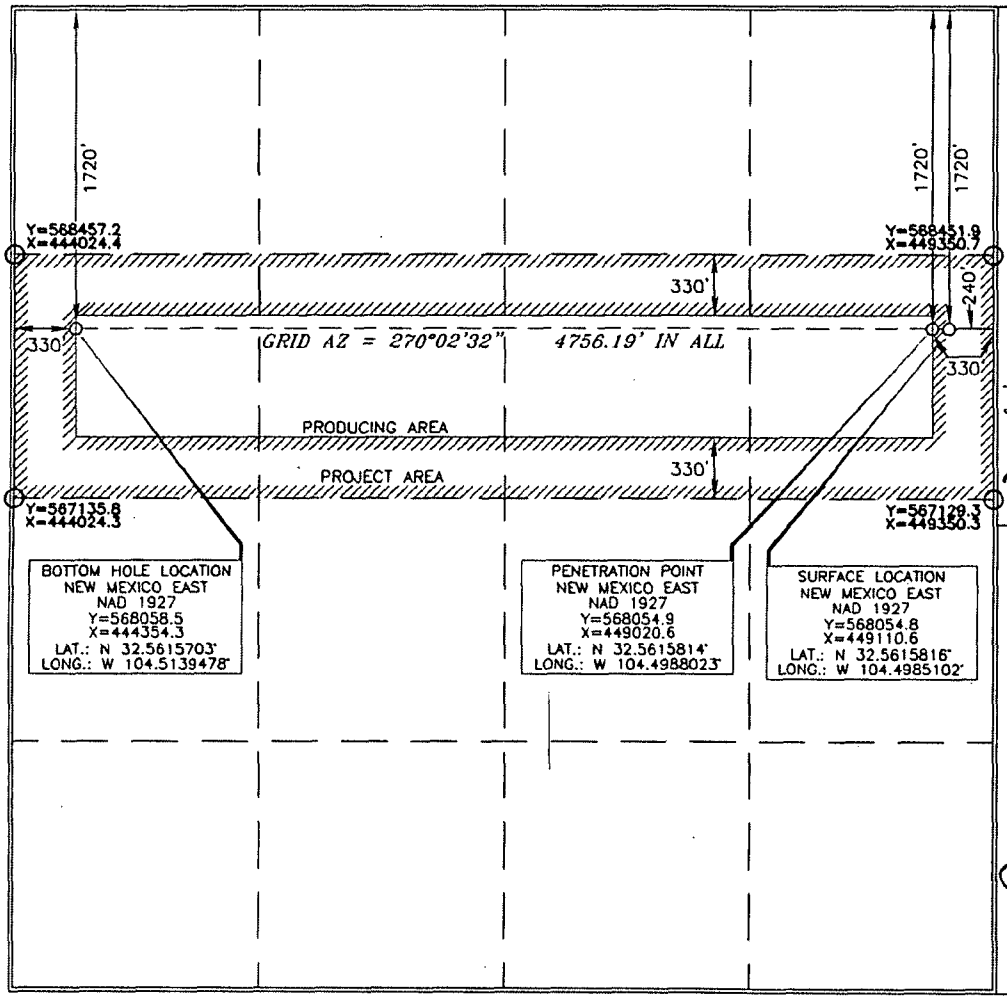
160			

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.



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Signature — Date: 8/12/14

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.

GARY JASON
15079
PROFESSIONAL LAND SURVEYOR

MARCH 8, 2014
Date of Survey

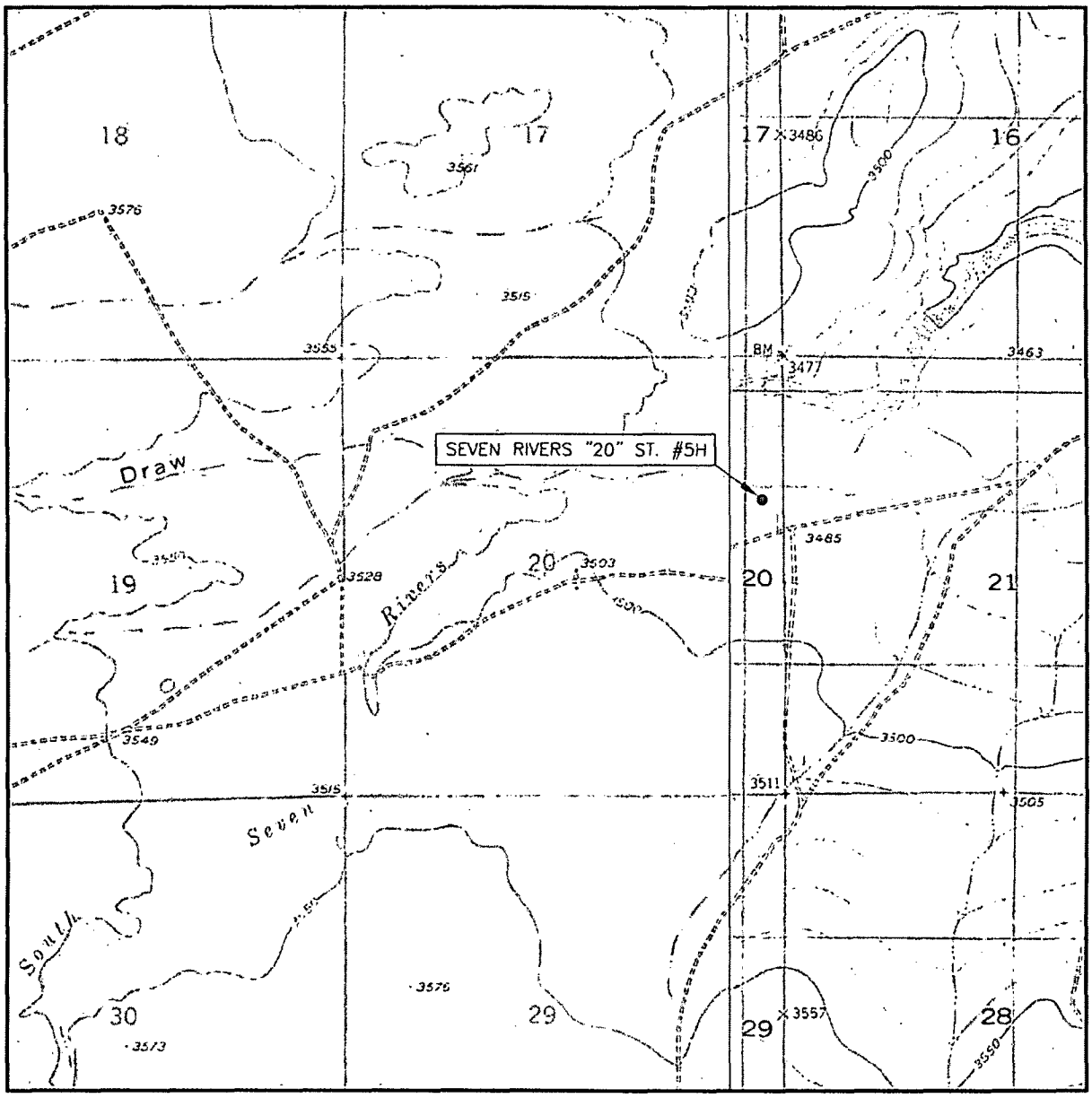
Signature and Seal of Professional Surveyor:

Certificate Number 15079

3/26/2014

WO# 140308WL-b-XY (KA)

LOCATION VERIFICATION MAP



SCALE: 1" = 2000'

CONTOUR INTERVAL: 10'

SEC. 20 TWP. 20-S RGE. 25-E

SURVEY N.M.P.M.

COUNTY EDDY

DESCRIPTION 1720' FNL & 240' FEL

ELEVATION 3479.3'

OPERATOR OXY USA INC.

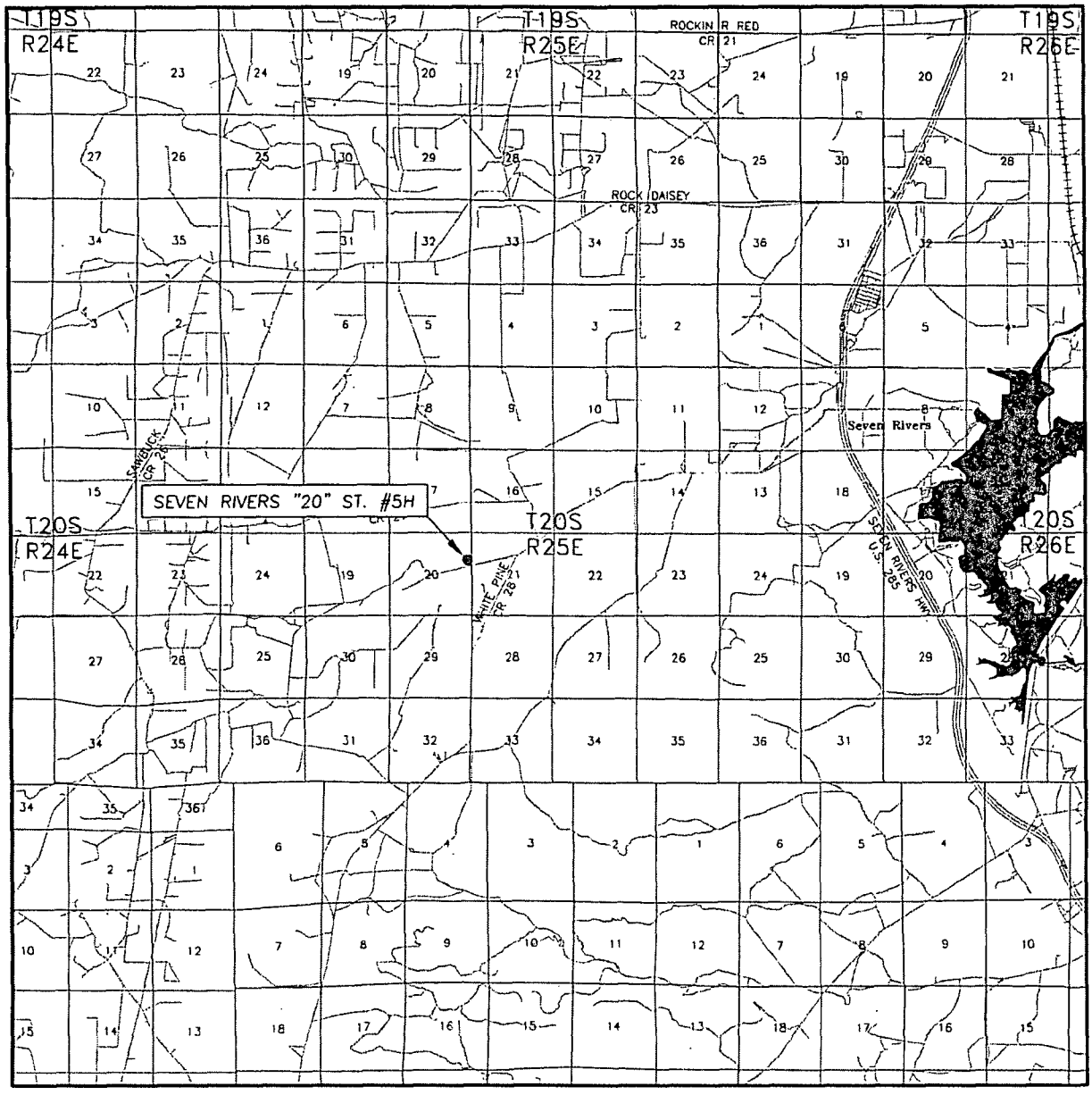
LEASE SEVEN RIVERS "20" ST. #5H

U.S.G.S. TOPOGRAPHIC MAP
SEVEN RIVERS, N.M.

Asel Surveying

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

VICINITY MAP



SCALE: 1" = 2 MILES

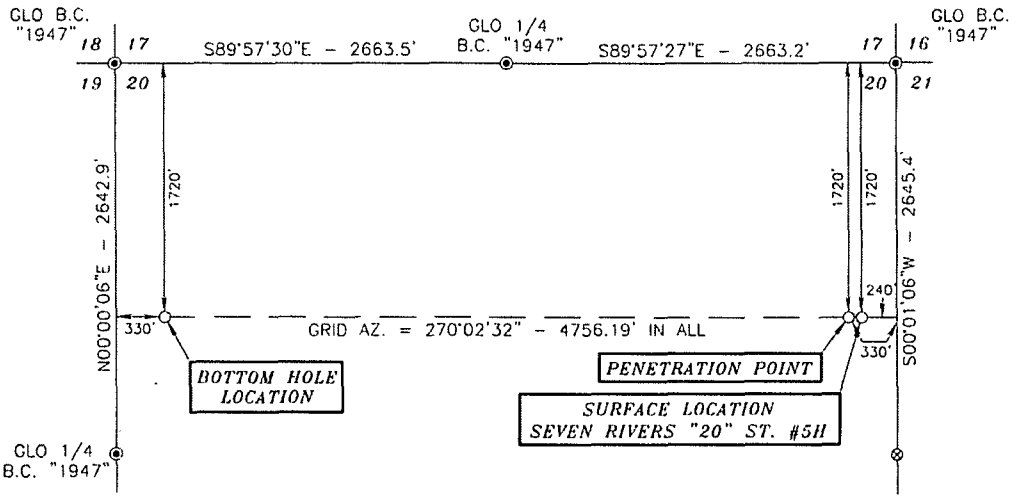
SEC. 20 TWP. 20-S RGE. 25-E
SURVEY N.M.P.M.
COUNTY EDDY
DESCRIPTION 1720' FNL & 240' FEL
ELEVATION 3479.3'
OPERATOR OXY USA INC.
LEASE SEVEN RIVERS "20" ST. #5H

Asel Surveying

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

DIRECTIONS BEGINNING AT THE INTERSECTION OF U.S. HWY. #285 AND EDDY COUNTY ROAD #28 (WHITE PINE ROAD), GO WEST/SOUTHWEST ON EDDY COUNTY ROAD #28 FOR 4.3 MILES, TURN RIGHT ON CALICHE ROAD AND GO WEST FOR 0.6 MILES, TURN RIGHT ON PROPOSED ROAD AND GO NORTH FOR 237.9 FEET TO LOCATION.

SECTION 20, TOWNSHIP 20 SOUTH, RANGE 25 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. #285 AND EDDY COUNTY ROAD #28 (WHITE PINE ROAD). GO WEST/SOUTHWEST ON EDDY COUNTY ROAD #28 FOR 4.3 MILES, TURN RIGHT ON CALICHE ROAD AND GO WEST FOR 0.6 MILES, TURN RIGHT ON PROPOSED ROAD AND GO NORTH FOR 237.9 FEET TO LOCATION.

TERRY J ASEL NEW MEXICO 15079 PROFESSIONAL LAND SURVEYOR

LEGEND
◉ - DENOTES FOUND MONUMENT AS NOTED
⊗ - DENOTES CALCULATED CORNER

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 3/28/2014
Terry J. Asel, N.M. R.P.L.S. No. 15079

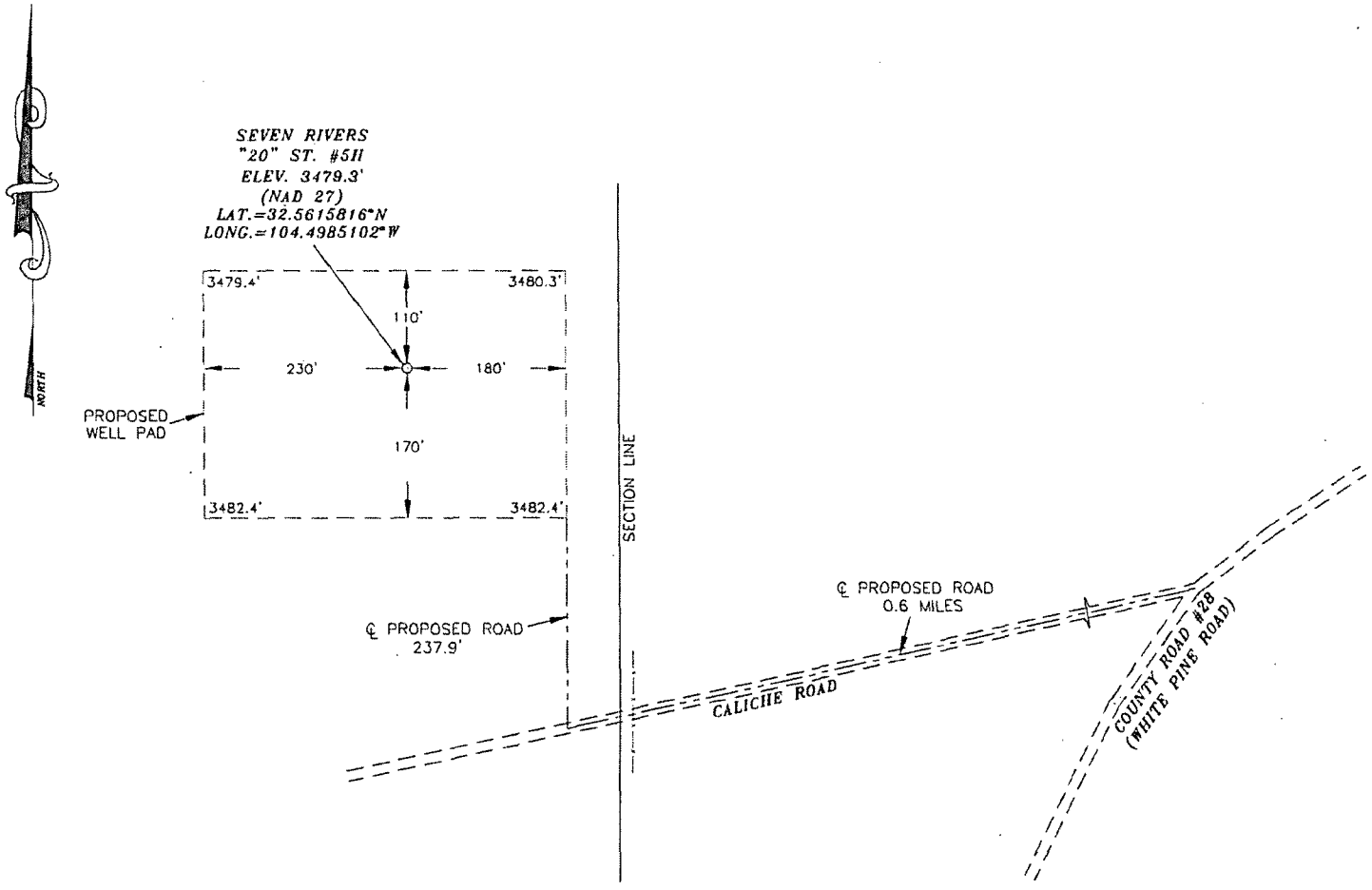
Asel Surveying
P.O. BOX 393 - 310 W. TAYLOR
HOBBS, NEW MEXICO - 575-393-9146

OXY USA INC.

SEVEN RIVERS "20" STATE #5H LOCATED AT 1720' FNL & 240' FEL IN SECTION 20, TOWNSHIP 20 SOUTH, RANGE 25 EAST, N.M.P.M., EDDY COUNTY, NEW MEXICO

Survey Date: 03/08/14	Sheet 1 of 1 Sheets	
W.O. Number: 140308WL-b	Drawn By: KA	Rev:
Date: 03/26/14	140308WL-b	Scale: 1"=1000'

OXY USA INC.
SEVEN RIVERS "20" STATE #5H
SITE PLAN



TERRY J ASEL
NEW MEXICO
15079
PROFESSIONAL LAND SURVEYOR

LEGEND

– – – – DENOTES PROPOSED WELL PAD
———— DENOTES PROPOSED ROAD

200' 0 200' 400' FEET
SCALE: 1"=200'

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 3/26/2014

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 INC.

SEVEN RIVERS "20" STATE #5H WELL PAD
LOCATED AT 1720' FNL & 240' FEL IN SECTION 20, TOWNSHIP 20 SOUTH, RANGE 25 EAST, N.M.P.M., EDDY COUNTY, NEW MEXICO

Survey Date: 03/08/14	Sheet 1 of 1 Sheets	
W.O. Number: 140308WL-b	Drawn By: KA	Rev:
Date: 03/26/14	140308WL-b	Scale:1"=200'

OXY USA Inc
Seven Rivers 20 State #5H
APD SUNDRY DATA

OPERATOR NAME / NUMBER: OXY USA Inc OGRID: 16696

LEASE NAME / NUMBER: **Seven Rivers 20 State #5H**

STATE: NM **COUNTY:** Eddy

SURFACE LOCATION: **1720' FNL & 240' FEL, Sec 20, T20S, R25E**

BOTTOM HOLE LOCATION: **1720' FNL & 180' FWL, Sec. 20, T20S, R25E**

C-102 PLAT APPROX GR ELEV: 3479.3'

EST KB ELEV: 3495.8' (16.5' KB)

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

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

Formation Name	Top TVD	Expected Fluids
T. San Andres	750	-
T. Glorieta	2410	-
T. Yeso	2560	Oil/Gas
T. Yeso Target Depth (Heel)	2630	Oil/Gas
T. Yeso Target Depth (Toe)	2525	Oil/Gas
T. Bone Spring (not penetrated)	3300	Oil/Gas

GREATEST PROJECTED TD: 7332' MD / 2630' TVD **OBJECTIVE:** Yeso

3. **CASING PROGRAM**

Surface Casing: 8.625" casing set at 800'MD / 800'TVD in an 11" hole filled with 8.4 ppg mud

Interval	Length	Wt	Gr	Cplg	Coll Rating (psi)	Burst Rating (psi)	Jt Str (M-lbs)	ID (in)	Drift (in)	SF Coll	SF Burst	SF Ten
0'- 800'	800'	32	J-55	BTC	1370	2950	244	7.921	7.875	8.88	1.43	4.13

Production Casing: 5.5" casing set at ± 7323'MD / 2630' TVD in a 7.875" hole filled with 9.0 ppg mud

Interval	Length	Wt	Gr	Cplg	Coll Rating (psi)	Burst Rating (psi)	Jt Str (M-lbs)	ID (in)	Drift (in)	SF Coll	SF Burst	SF Ten
0' – 7332'	7332'	17	L-80	BTC	6290	7740	397	4.892	4.767	5.42	1.25	2.31

Note: All Casing is in new condition

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

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

4. CEMENT PROGRAM:

Surface Interval

Interval	Amount sx	Ft of Fill	Type	Gal/Sk	PPG	Ft^3/sk	24 Hr Comp
Surface (TOC: 0') (14-3/4" Hole to 350', 11" Hole to 800')							
Tail: 0'-800' (140 % Excess)	700	790'	Premium Plus cement with 94 lbm/sk Premium Plus Cement, 1% Calcium Chloride	6.36	14.80	1.34	1408 psi

Production Interval

Interval	Amount	Ft of	Type	Gal/Sk	PPG	Ft^3/sk	24 Hr

	sx	Fill					Comp
Production (TOC: 0'-7332') Single Stage							
Lead: 0' – 1883' (180% Excess)	250	1883'	Interfill C Cement: 0.5% LAP-1 (Low fluid loss control), 0.25% D-AIR 5000 (Defoamer), 2 lbm/sk Kol-Seal (Lost Circulation Additive), 0.125 lbm/sk Poly-E-Flake (Lost Circulation Additive)	13.79	11.90	2.45	315 psi
Tail: 1883' – 6660' (30% Excess)	800	4780'	Premium Plus Cement: 94 lbm/sk Premium Plus Cement 0.5% Halad ®-344, 0.2% WellLife 734, 5% Microbond, 0.3% Econolite, 0.3% CFR-3	7.70	14.2	1.54	1162 psi

Cement Additives: *Bentonite (light weight additive), Calcium Chloride (accelerator), Halad-344 (low fluid loss control), HR-601 (retarder), Kol-Seal (lost circulation additive), Salt (salt), Poly-E-Flake (lost circulation additive), Silicalite (Additive Material), CFR-3 (Dispersant), Schotchlite HGS 6000 (Light Weight Additive), WG-17 (Gelling Agent), Cal-Seal 60 (Accelerator), LAP-1 (Low fluid loss control), D-AIR 5000 (Defoamer),

5. PRESSURE CONTROL EQUIPMENT

Surface: 0' – 800' MD/TVD None.

Production: 800' - 7332' MD - the minimum working pressure of the blowout preventer (BOP) and related equipment (BOPE) required to drill below the surface casing shoe shall be 3000 (3M) psi. Operator will be using an 11" 3M two ram stack with 3M annular preventer, & 3M Choke Manifold.

a. The 11" 3000 psi blowout prevention equipment will be installed and operational after setting the 8 5/8" surface casing and the 8 5/8" SOW x 11" 3K conventional wellhead; the rotating head body will be installed but the rubber will be installed when it becomes operationally necessary.

b. The BOP and ancillary BOPE will be tested by a third party upon installation to the 8 5/8" surface casing. All equipment will be tested to 250/3000 psi for 5 minutes and charted, except the annular, which will be tested to 70% of working pressure.

c. The pipe rams will be functionally tested during each 24 hour period; the blind rams will be functionally tested on each trip out of the hole. These functional tests will be documented on the Daily Driller's Log. Other accessory equipment (BOPE) will include a safety valve and subs as needed to fit all drill strings, and a 2" kill line and 3" choke line having a 3000 psi WP rating. Oxy requests that the system be tested at 3,000 psi.

d. Other accessory equipment (BOPE) will include a safety valve and subs as needed to fit all drill strings, and a 2" kill line and 3 " choke line having a 5000 psi WP rating, tested to 3,000 psi.

e. Oxy requests a variance to use a co-flex hose between the BOP and the choke manifold with pressure ratings and size equal to or higher rated than the following:

- Size: 3"
- Ends: flanges
- WP rating: 5000 psi
- Anchors required by manufacturer: No

f. See attached BOP & Choke manifold diagrams.

6. MUD PROGRAM:

Depth	Mud Wt ppg	Vis Sec	Fluid Loss	Type System
0 – 400'	8.4 – 8.8	32 – 38	NC	Fresh Water /Spud Mud
400' – 6831'	8.8 – 9.2	28 – 29	NC	Cut Brine

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.

7. 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.

b. Hydrogen Sulfide detection equipment will be in operation after drilling out the surface casing shoe until the production casing is cemented. Breathing equipment will be on location upon drilling the surface casing shoe until total depth is reached.

8. 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.
B. No abnormal temperatures or pressures are anticipated. The highest anticipated pressure gradient is 0.459 psi/ft. Maximum anticipated bottom hole pressure is 1207 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.

9. ANTICIPATED STARTING DATE AND DURATION OF OPERATIONS

Road and location construction will begin after the NMOCD has approved the APD. Anticipated spud date will be as soon as possible after NMOCD 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.

10. WIRELINE LOGGING

None

COMPANY PERSONNEL:

Name	Title	Office Phone	Mobile Phone
R. Chan Tysor	Drilling Engineer	(713)513-6668	(832) 564-6454
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