UNORTHODOX LOCATION

ATS-13-1147

Form 3160-3
(April 2004)

OCD Artesia

FORM APPROVED
OMB No. 1004-0137
Expires March 31, 2007

Med-Cave Karst
Split Estate

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

APPLICATION FOR PERMIT TO DRILL OR REENTER

5. Lease Serial No. **S-Fee BH-NMNM088137**

6. If Indian, Allotee or Tribe Name

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

1a. Type of work: ☑ DRILL ☐ REENTER

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

8. Lease Name and Well No. **Cedar Canyon 15 Federal Com. 5H**

2. Name of Operator **OXY USA Inc.** **16696**

9. API Well No. **30-015-42421**

3a. Address **P.O. Box 50250 Midland, TX 79710**

3b. Phone No. *(include area code)* **432-685-5717**

10. Field and Pool, or Exploratory **Pierce Crossing Bone Spring, East**

4. Location of Well *(Report location clearly and in accordance with any State requirements.*)*

At surface **1095 FNL 290 FWL NWNW(D)**

At proposed prod. zone **660 FNL 330 FEL NENE(A)**

11. Sec., T. R. M. or Blk. and Survey or Area **Sec 15 T24S R29E**

14. Distance in miles and direction from nearest town or post office* **6 miles northeast from Loving, NM**

12. County or Parish **Eddy**

13. State **NM**

15. Distance from proposed* location to nearest property or lease line, ft. (Also to nearest drig. unit line, if any)	16. No. of acres in lease	17. Spacing Unit dedicated to this well
S-290' BH-330'	**Fee-120ac Fd-40ac**	**160ac**
18. Distance from proposed location* to nearest well, drilling, completed, applied for, on this lease, ft.	19. Proposed Depth	20. BLM/BIA Bond No. on file
633'	**13404'M 8811'V**	**NMB000862 ESB000226**
21. Elevations (Show whether DF, KDB, RT, GL, etc.)	22. Approximate date work will start*	23. Estimated duration
2927'GL	**06/15/2014**	**35days**

24. Attachments

The following, completed in accordance with the requirements of Onshore Oil and Gas Order No.1, shall 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 shall 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 authorized officer.

25. Signature	Name *(Printed/Typed)*	Date
	David Stewart	6/13/13
Title **Sr. Regulatory Advisor**	**david_stewart@oxy.com**	
Approved by *(Signature)* **Steve Caffey**	Name *(Printed/Typed)*	Date **JUN 3 - 2014**
Title **FIELD MANAGER**	Office **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.

*(Instructions on page 2)

Carlsbad Controlled Water Basin

NM OIL CONSERVATION
ARTESIA DISTRICT
JUN 09 2014
RECEIVED

SEE ATTACHED FOR CONDITIONS OF APPROVAL

Approval Subject to General Requirements & Special Stipulations Attached

19

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 13th day of August, 2013.

Name: Jeff Gartland

Position: Reservoir Management Team Leader

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

Telephone: 713-552-8567

E-mail: (optional): jeff_gartland@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

OXY USA Inc.
Box 4294, Houston, TX 77210-4294

Wesley Robertson, RPL
Land Negotiator

Phone (713) 366-5022
Cell (713) 918-9064
Fax (713) 985-4944
Wesley_Robertson@oxy.com

United States Department of the Interior
Bureau of Land Management
Carlsbad Field Office
620 East Greene Street
Carlsbad, New Mexico 88220

Attention: Linda Denniston

RE: Cedar Canyon 15 Federal Com #5H

Eddy County, New Mexico

STATEMENT ACCEPTING RESPONSIBILITY FOR OPERATIONS

OPERATOR NAME:	OXY USA Inc.
ADDRESS:	P.O. Box 4294 Houston, Texas 77210-4294

The undersigned accepts all applicable terms, conditions, stipulations, and restrictions concerning operations conducted on the leased land or portion thereof, as described below:

LEASE NO.:	**NMNM 088137**
LEGAL DESCRIPTION:	
Surface Location:	1095' FNL & 290' FWL Section 15
Bottom Hole Location:	660' FNL & 330' FEL Section 15 T24S-R29E Eddy County, New Mexico
FORMATIONS:	Bone Spring
BOND COVERAGE:	Individual/Nationwide
BLM BOND FILE NO.:	NMB000862 (Individual) ESB 000226 (Nationwide)
AUTHORIZED SIGNATURE:	OXY USA Inc. Wesley Robertson
TITLE:	Land Negotiator
DATE:	July 29, 2013

cc: David Stewart

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, New Mexico 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
30-015-42421	96473	Pierce Crossing Bone Spring East

Property Code	Property Name	Well Number
313340	CEDAR CANYON 15 FEDERAL COM	5H

OGRID No.	Operator Name	Elevation
16696	OXY U.S.A. INC.	2927'

Surface Location

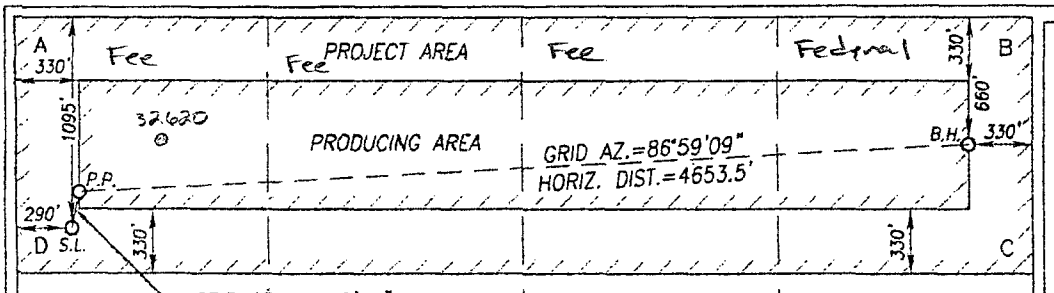
UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
D	15	24-S	29-E		1095	NORTH	290	WEST	EDDY

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
A	15	24-S	29-E		660	NORTH	330	EAST	EDDY

Dedicated Acres	Joint or Infill	Consolidation Code	Order No.
160	N		6-3-13404

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



GEODETIC COORDINATES
NAD 27 NME

SURFACE LOCATION
Y=444572.2 N
X=609425.6 E
LAT.=32.221751° N
LONG.=103.979488° W

PENETRATION POINT
Y=444757.2 N
X=609464.3 E
LAT.=32.222259° N
LONG.=103.979361° W

BOTTOM HOLE LOCATION
Y=445001.9 N
X=614110.4 E
LAT.=32.222889° N
LONG.=103.964335° W

CORNER COORDINATES TABLE
A - Y=445667.3 N, X=609128.3 E
B - Y=445661.2 N, X=614437.7 E
C - Y=444334.6 N, X=614443.0 E
D - Y=444340.2 N, X=609137.2 E

OPERATOR CERTIFICATION

I hereby certify that the information 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 mineral or working interest, or to a voluntary pooling agreement or a compulsory pooling order heretofore entered by the division.

Signature — Date: 8/13/13

David Stewart - Sr. Reg. Adv.
Printed Name

david_stewart@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.

MARCH 29, 2013
Date of Survey

Signature & Seal of Professional Surveyor:

RONALD J. EIDSON
NEW MEXICO
3239
REGISTERED PROFESSIONAL SURVEYOR

07/08/2013

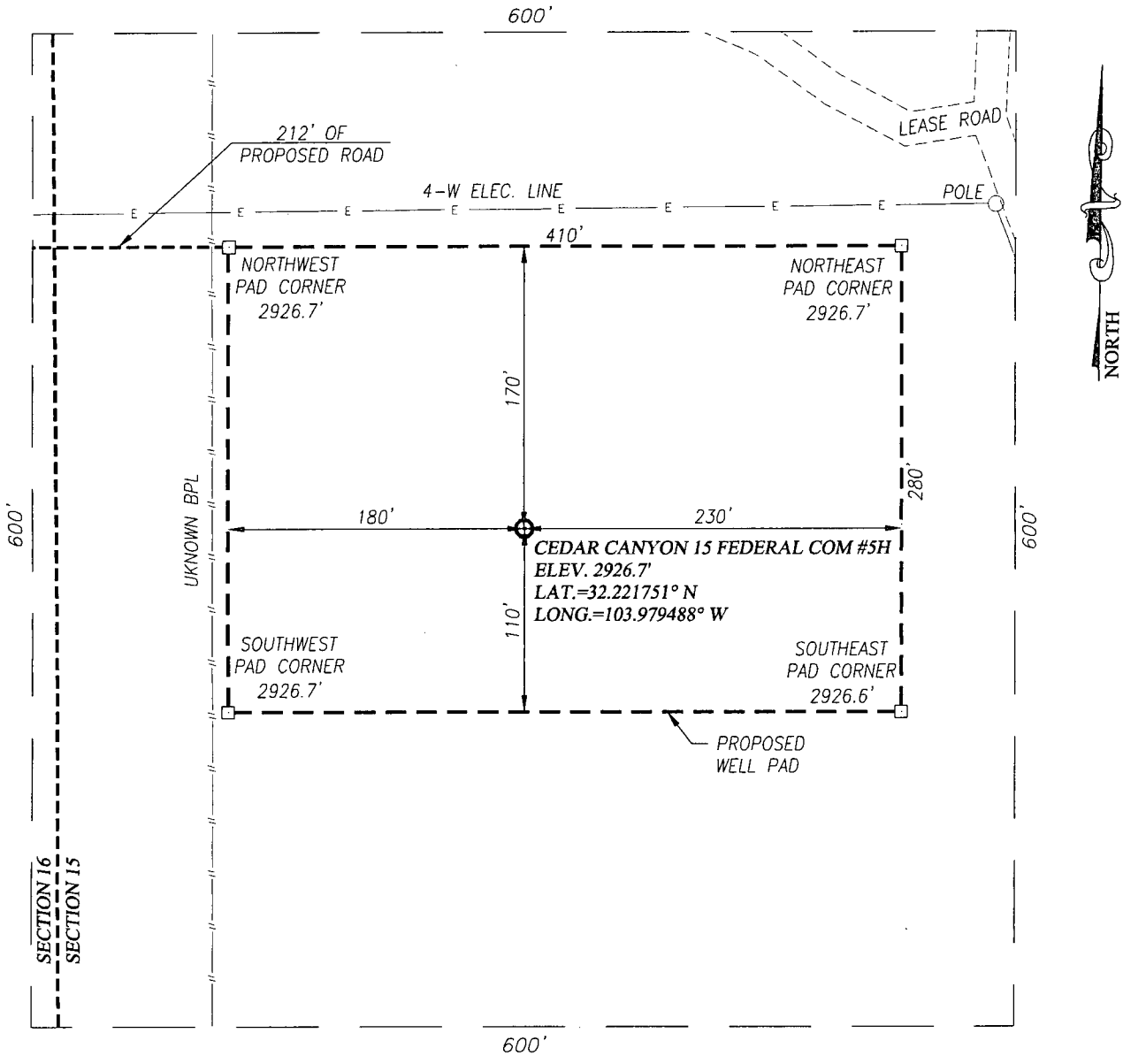
Certificate Number — Gary O. Eidson 12641
Ronald J. Eidson 3239

BKL REL. W.O.: 13.11.0333 JWSC W.O.: 13.13.0791

600x600' Plat

SECTION 15, TOWNSHIP 24 SOUTH, RANGE 29 EAST, N.M.P.M.

EDDY COUNTY NEW MEXICO



DIRECTIONS TO CEDAR CANYON 15 FEDERAL COM #5H:

FROM THE INTERSECTION OF CO. RD. 720 (DUARTE) AND CO. RD. 746 (MCDONALD RD.), GO SOUTH ON CO. RD. 746 APPROX. 0.75 MILES; THEN SOUTHEAST (ON CO. RD. 746) APPROX. 1.5 MILES; THEN EAST (ON CO. RD. 746) APPROX. 1.0 MILES; THEN SOUTHEAST (ON CO. RD. 746) APPROX. 2.3 MILES; THEN NORTH (ON CO. RD. 746) APPROX. 0.4 MILES; TURN LEFT AND GO WEST APPROX. 0.2 MILES; TURN RIGHT AND GO NORTH APPROX. 0.6 MILES; TURN RIGHT AND GO EAST – NORTH EAST APPROX. 0.4 MILES; VEER LEFT AND GO NORTH APPROX. 1.0 MILE. THIS LOCATION IS EAST APPROX. 400 FEET.

100 0 100 200 Feet

Scale: 1"=100'

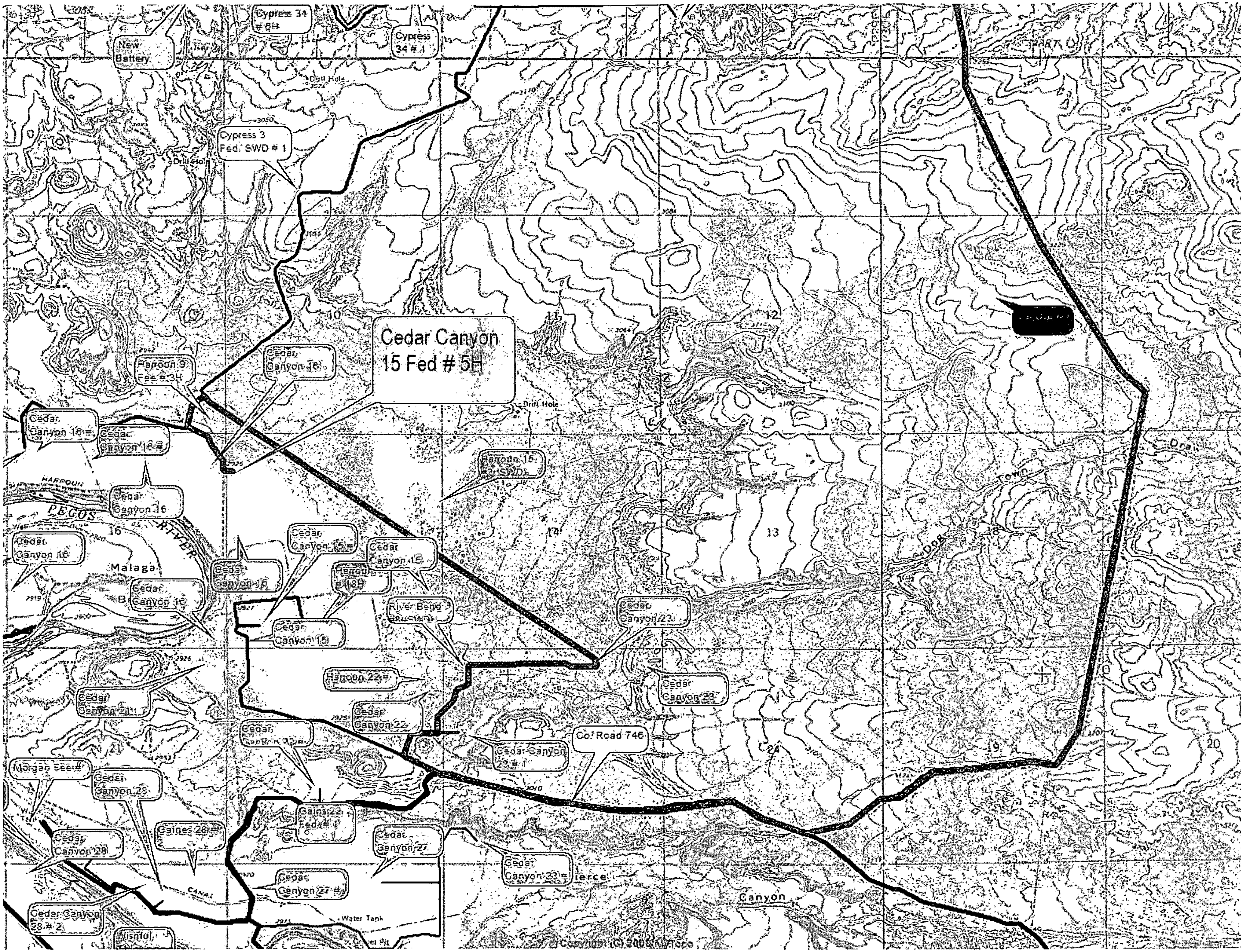
PROVIDING SURVEYING SERVICES SINCE 1946
JOHN WEST SURVEYING COMPANY
412 N. DAL PASO
HOBBS, N.M. 88240
(575) 393-3117 www.jwsc.biz

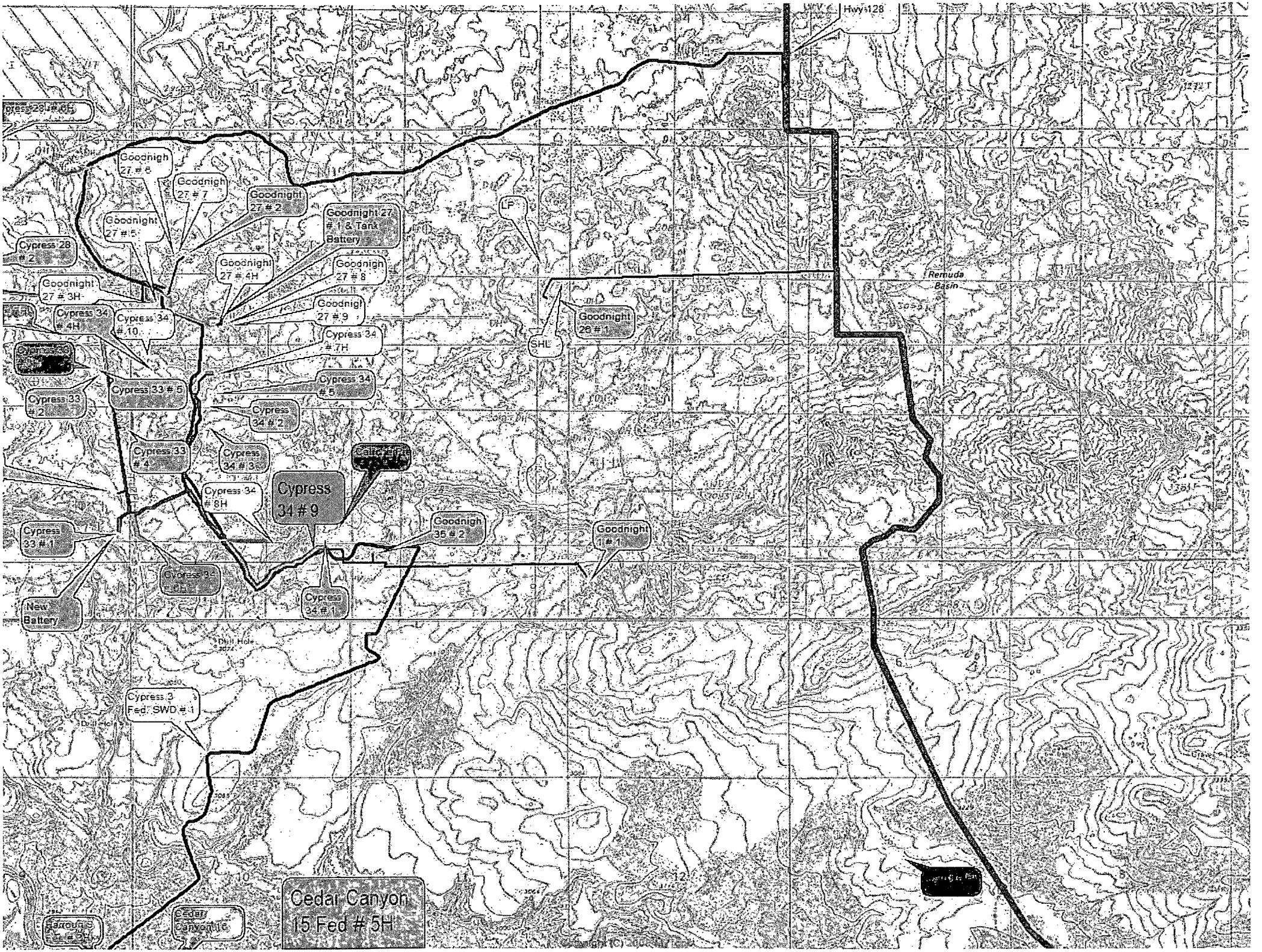
OXY U.S.A. INC.

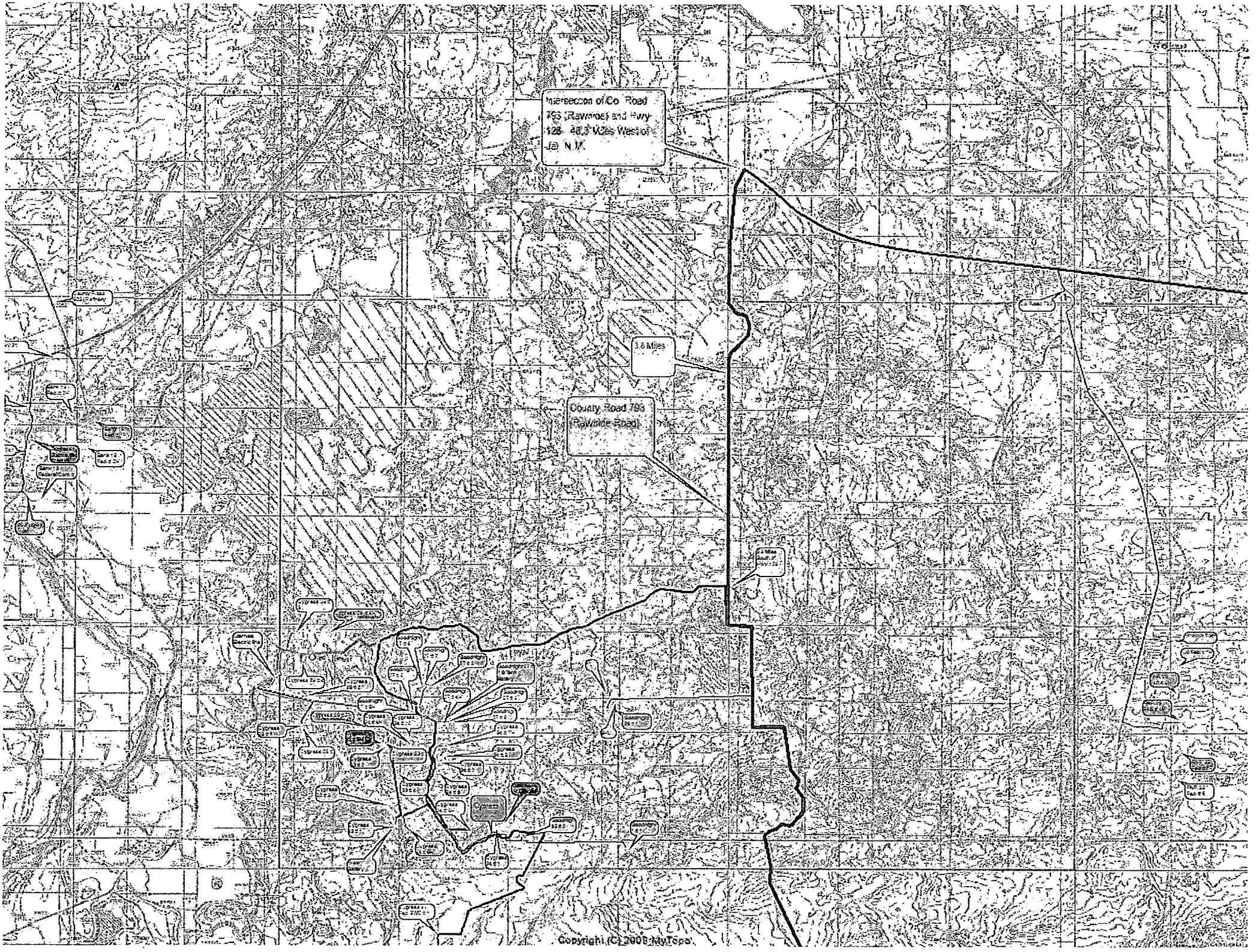
CEDAR CANYON 15 FEDERAL COM #5H WELL
LOCATED 1095 FEET FROM THE NORTH LINE
AND 290 FEET FROM THE WEST LINE OF SECTION 15,
TOWNSHIP 24 SOUTH, RANGE 29 EAST, N.M.P.M.,
EDDY COUNTY, NEW MEXICO

Survey Date: 3/29/13	CAD Date: 7/8/2013	Drawn By: BKL
W.O. No.: 13130791	Rev: 13110333	Rel. W.O.:	Sheet 1 of 1


Ypress 3 Fed. SWD #
Hamoun 9 Fee # 3H
Cedar Canyon 5 Fed # 5H
WW-2
WW-Please check Fees
PECOS RIVER
Water Well & Caliche Pit
WW-3
Malaga
Hamoun 22 #
Cedar Canyon 21
Gains 22 Fed. # 1
Cedar Canyon 21
Cedar Canyon 21
Copyright (C) 2009 MyTopo

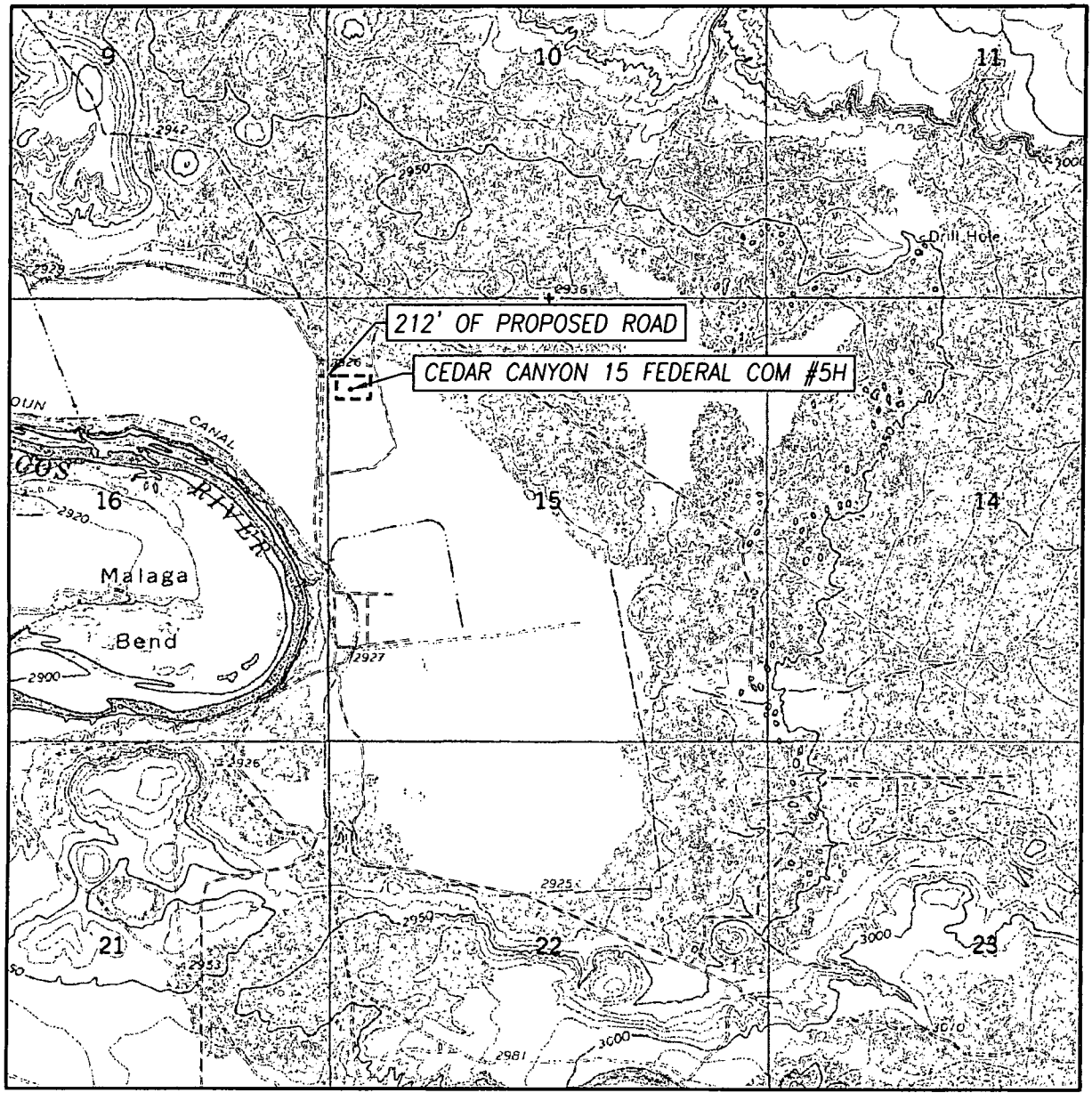

Cypress 34
New Battery
Cypress 34 # 1
Cypress 3
Fed. SWD # 1
Cedar Canyon
15 Fed # 5H
Cedar Canyon 16
Harroun 9
Cedar Canyon 16
Cedar Canyon 16
Cedar Canyon 16
PECOS
Malaga
Cedar Canyon 16
Cedar Canyon 16
Cedar Canyon 15
Cedar Canyon 15
Cedar Canyon 15
Cedar Canyon 15
River Bend
Cedar Canyon 23
Cedar Canyon 22
Harroun 22
Cedar Canyon 22
Cedar Canyon 21
Cedar Canyon 22
Cedar Canyon 23
Co. Road 746
Morgan Fee
Cedar Canyon 28
Gaines 28
Gains 22
Fed # 1
Cedar Canyon 27
Cedar Canyon 28
Cedar Canyon 27
Cedar Canyon 23
Cedar Canyon
Canyon
Water Tank
Drill Hole
Town
Draw


Hwy 128
Goodnigh 27 # 6
Goodnigh 27 # 7
Goodnight 27 # 2
Goodnight 27 # 5
Goodnight 27 # 1 & Tank Battery
LP
Cypress 28 # 2
Goodnight 27 # 3H
Goodnight 27 # 4H
Goodnigh 27 # 8
Goodnigh 27 # 9
Cypress 34 # 4H
Cypress 34 # 10
Cypress 34 # 7H
SHL
Goodnight 28 # 1
Remuda Basin
Cypress 33 # 5
Cypress 34 # 5
Cypress 33 # 2
Cypress 34 # 2
Cypress 33 # 4
Cypress 34 # 3
Cypress 34 # 8H
Cypress 34 # 9
Goodnigh 35 # 2
Goodnight 1 # 1
Cypress 33 # 1
Cypress 34 # 6H
Cypress 34 # 1
New Battery
Cypress 3 Fed SWD # 1
Cedar Canyon 15 Fed # 5H


Intersection of Co. Road
793 (Ravinne) and Hwy
128 - 48.3 Miles West of
Jal, N.M.
3.6 Miles
County Road 793
(Ravinne Road)
Copyright (C) 2008 MyTopo

LUM

LOCATION VERIFICATION MAP



SCALE: 1" = 2000'

CONTOUR INTERVAL:
PIERCE CANYON, N.M. - 10'

SEC. 15 TWP. 24-S RGE. 29-E

SURVEY N.M.P.M.

COUNTY EDDY STATE NEW MEXICO

DESCRIPTION 1095' FNL & 290' FWL

ELEVATION 2927'

OPERATOR OXY U.S.A. INC.

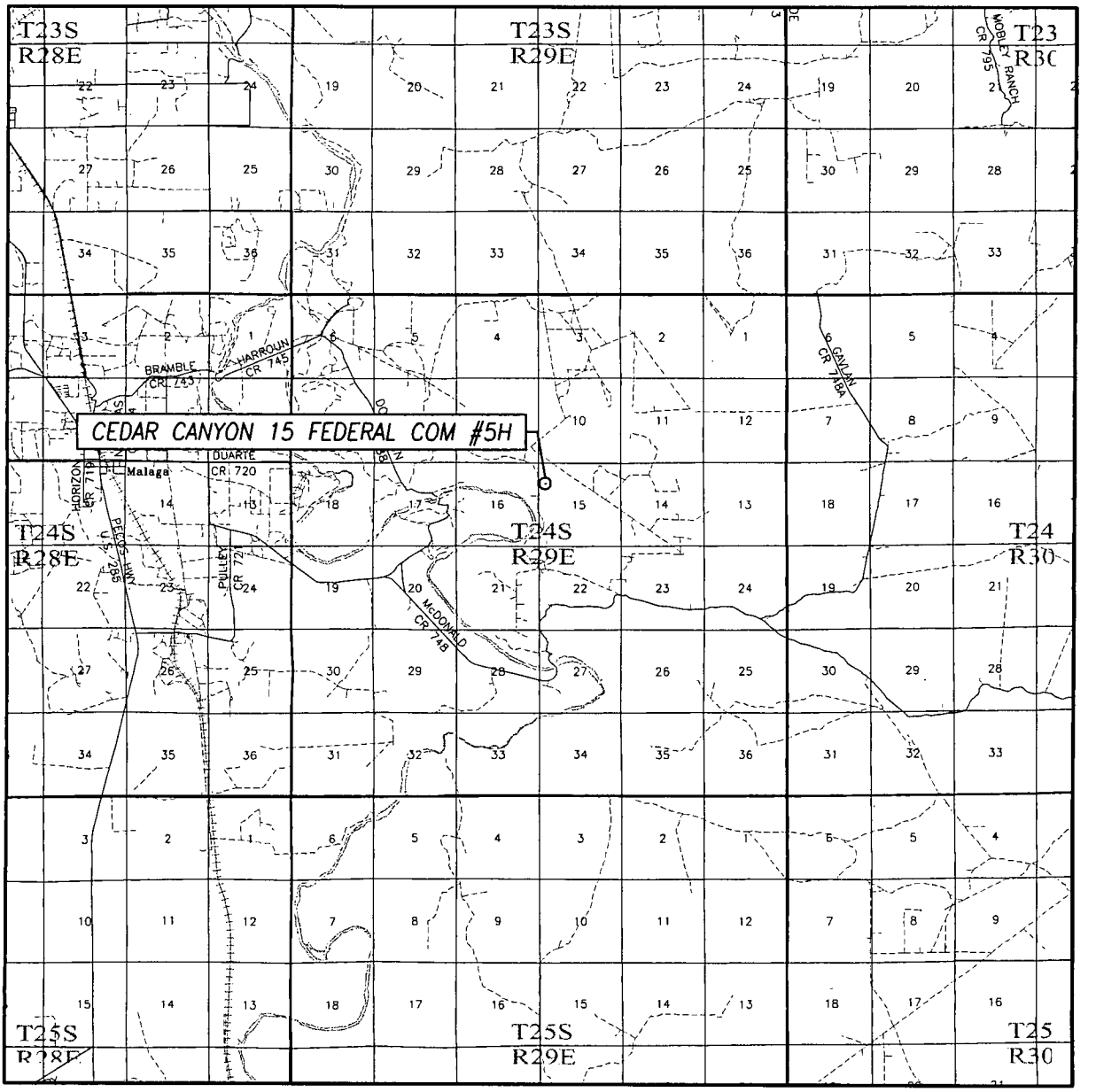
LEASE CEDAR CANYON 15 FEDERAL COM

U.S.G.S. TOPOGRAPHIC MAP
PIERCE CANYON, N.M.

PROVIDING SURVEYING SERVICES
SINCE 1946
JOHN WEST SURVEYING COMPANY
412 N. DAL PASO
HOBBS, N.M. 88240
(575) 393-3117 www.jwsc.biz

VM

VICINITY MAP



SCALE: 1" = 2 MILES

SEC. 15 TWP. 24-S RGE. 29-E

SURVEY N.M.P.M.

COUNTY EDDY STATE NEW MEXICO

DESCRIPTION 1095' FNL & 290' FWL

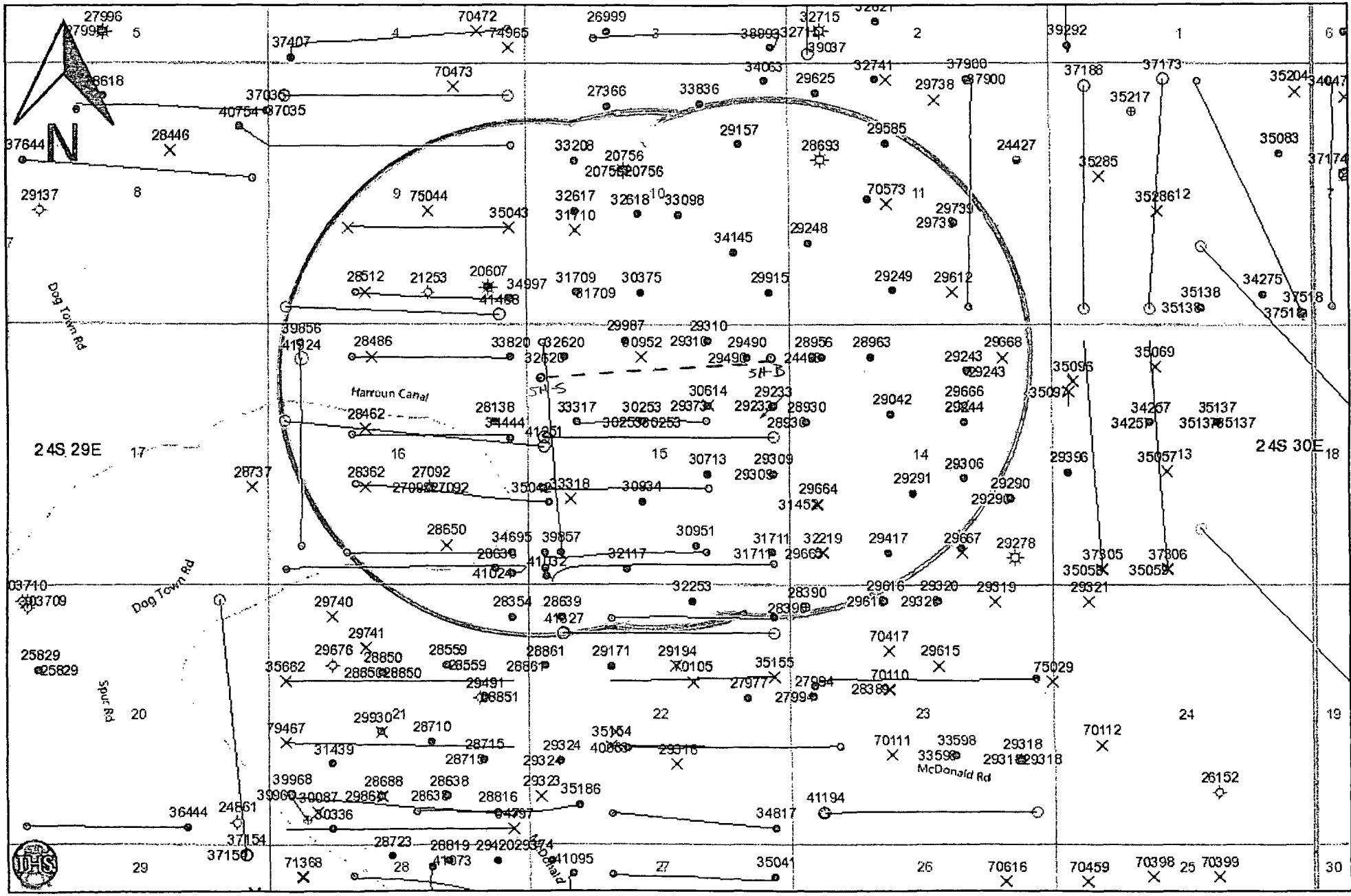
ELEVATION 2927'

OPERATOR OXY U.S.A. INC.

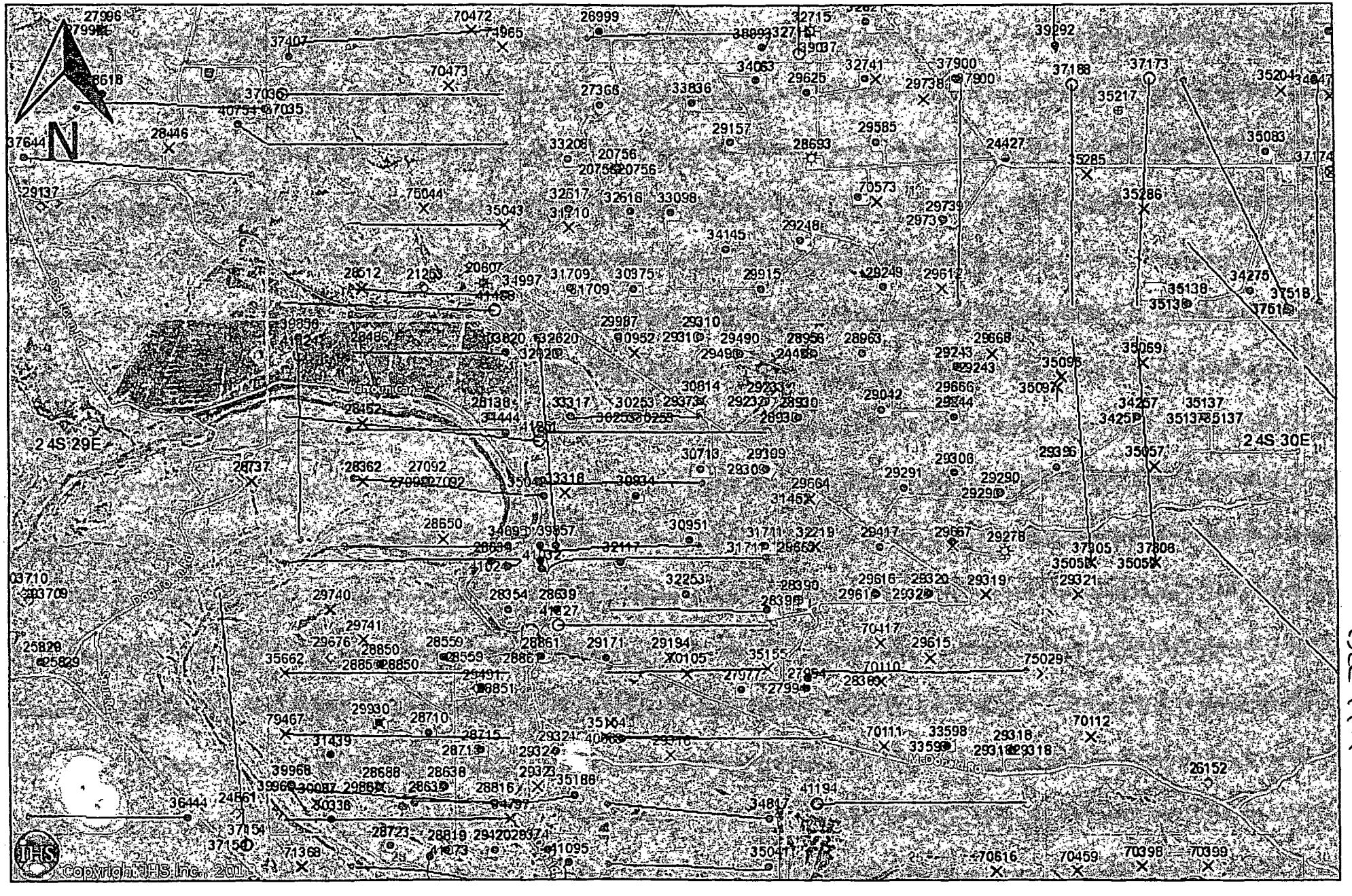
LEASE CEDAR CANYON 15 FEDERAL COM

PROVIDING SURVEYING SERVICES
SINCE 1946
JOHN WEST SURVEYING COMPANY
412 N. DAL PASO
HOBBS, N.M. 88240
(575) 393-3117 www.jwsc.biz

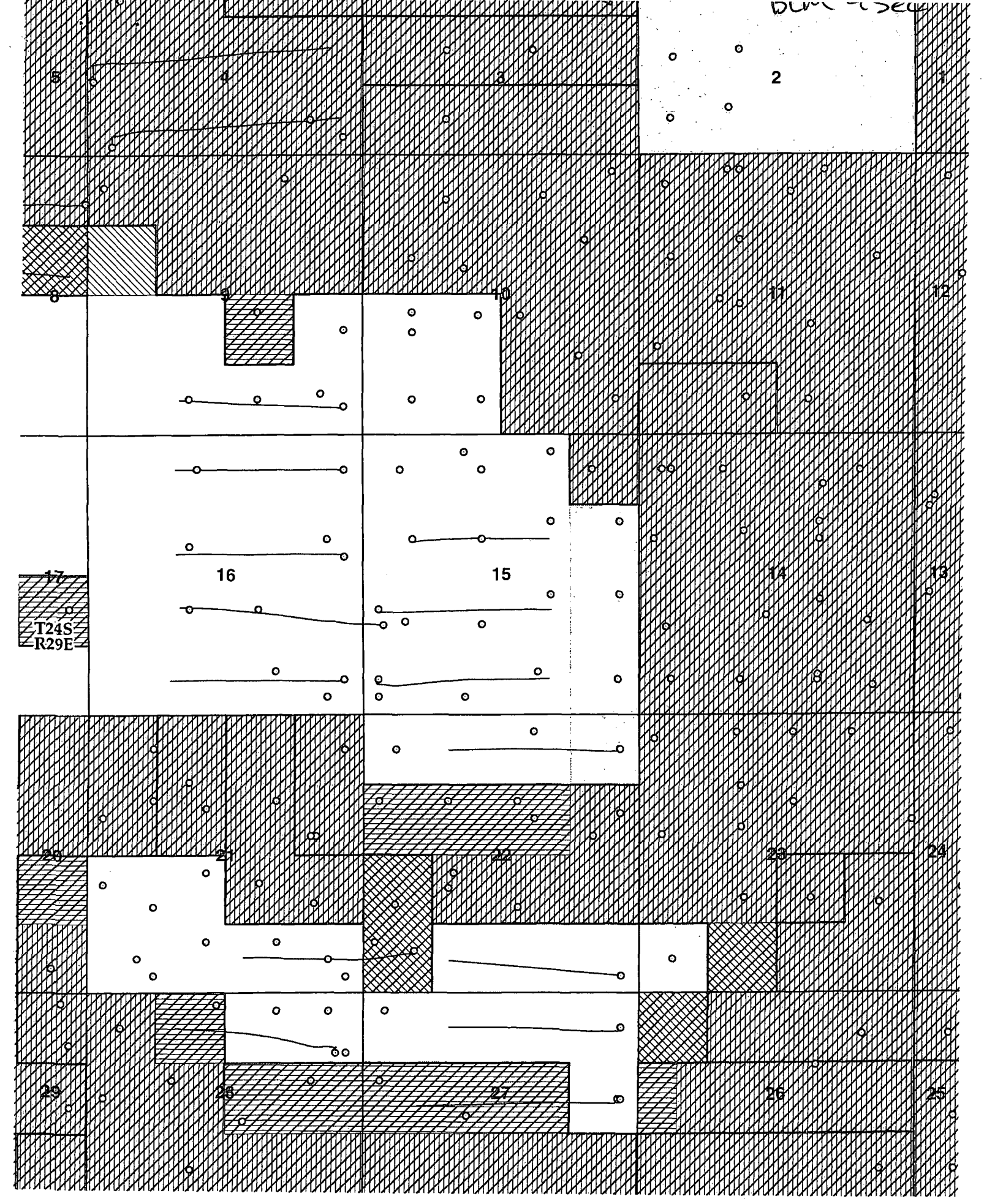
Cedar Canyon 15 Federal Com. #5H - One Mile AOR



Cedar Canyon 15 Federal Com. #5H - 9 Sec Plat



9 sec Plat


BLM 1 Sec
5
4
3
2
1
8
9
10
11
12
16
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T24S
R29E
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24
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28
27
26
25

OXY USA Inc
Cedar Canyon 15 Federal Com #5H
APD Drilling Data

OPERATOR NAME / NUMBER: OXY USA Inc - 16696

LEASE NAME / NUMBER: Cedar Canyon 15 Federal Com #5H

STATE: NM **COUNTY:** Eddy

POOL NAME/NUMBER: Pierce Crossing Bone Spring, East 96473

SURFACE LOCATION: 1095 FNL 290 FWL NWNW(D) Sec 15 T24S R29E - Fee
SL: LAT: 32.221751N LONG:103.979488W X:609425.6 Y:444572.2 NAD: 27

PENETRATION POINT: 918 FNL 393 FWL NWNW(D) Sec 15 T24S R29E - Fee
SL: LAT: 32.222259N LONG:103.979361W X:609464.3 Y:444757.2 NAD: 27

BOTTOM HOLE LOCATION: 660 FNL 330 FEL NENE(A) Sec 15 T24S R29E – Fed- NMNM088137
SL: LAT: 32.222889N LONG:103.964335W X:614110.4 Y:445001.9 NAD: 27

APPROX GR ELEV: 2927' **EST KB ELEV:** 2951' (24' KB)

1. GEOLOGIC NAME OF SURFACE FORMATION

Permian

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

Formation	TVD - RKB	Expected Fluids
T. Rustler	338	--
T. Salt	438	--
T. Lamar / B. Anhydrite-Salt	2953	--
T. Bell Canyon	3008	Form Water
T. Cherry Canyon	3678	Oil/Gas
T. Brushy Canyon	5068	Oil/Gas
T. BSPG 1st	6658	Oil/Gas
T. BSPG 2nd	8013	Oil/Gas
T. BSPG 2nd Sand	8458	Oil/Gas
Target BSPG 2nd Sand	8811	Oil/Gas
T. BSPG 3rd	8873	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.**

LATERAL GREATEST PROJECTED TD: 13404' MD / 8811' TVD **OBJECTIVE:** 2nd Bone Spring

3. CASING PROGRAM (ALL NEW CASING)

New Surface Casing ran in a 14.75" hole filled with 8.50 ppg mud

Hole Size (in)	Interval (ft)	OD (in)	Wt (ppf)	Grade	Conn	ID (in)	Tension (klb)	Burst (psi)	Collapse (psi)	Burst SF	Coll SF	Ten SF
14.75	0-370	11.75	47	J55	BTC	11	737	3070	1510	1.42	9.23	6.38

See COA

New Intermediate Casing ran in a 10.625" hole filled with 10.2 ppg mud

Hole Size (in)	Interval (ft)	OD (in)	Wt (ppf)	Grade	Conn	ID (in)	Tension (klb)	Burst (psi)	Collapse (psi)	**Burst SF**	**Coll SF**	**Ten SF**
10.625	0-~~3100~~ 2900	8.625	32	J55	LTC	7.921*	417	3928	2533	1.42	4.65	2.21

New Production Casing ran in a 7.875" hole filled with 9.2 ppg mud

Hole Size (in)	Interval (ft)	OD (in)	Wt (ppf)	Grade	Conn	ID (in)	Tension (klb)	Burst (psi)	Collapse (psi)	**Burst SF**	**Coll SF**	**Ten SF**
7.875	0-13404	5.500	17	L80	BTC	4.892	397	7740	6290	1.22	1.49	1.65

*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' – 370' (150% Excess)	340	370	Premium Plus cement with 2 % Calcium Chloride - Flake (Accelerator)	6.39	14.8	1.35	1726

Intermediate Interval

Interval	Amount sx	Ft of Fill	Type	Gal/Sk	PPG	Ft^3/sk	24 Hr Comp
Lead: 0' – ~~2310~~ (165% Excess)	570	2310	Halliburton Light Premium Plus Cement with 5% Salt (Salt), 0.4 % HR-800 (Retarder)	9.84	12.9	1.85	771
Tail: 2310' – ~~3100'~~ 2900 (105% Excess)	210	690	Premium Plus cement	6.34	14.8	1.33	1779

Production Casing

Interval	Amount sx	Ft of Fill	Type	Gal/Sk	PPG	Ft^3/sk	24 Hr Comp
Lead: 2500' – 8000' (100% Excess)	630	5500	TUNED LIGHT (TM) SYSTEM (light weight premium cement), 3 lbm/sk Kol-Seal (Light Weight Additive), 0.125 lbm/sk Poly-E-Flake (Lost Circulation Additive), 0.2 lbm/sk HR-800 (Retarder)	14.04	10.2	2.94	947
Tail: 8000' – 13404' (30% Excess)	750	5404	Super H Cement, 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)	8.51	13.2	1.64	1275

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

5. DIRECTIONAL PLAN

Please see attached directional plan

6. PRESSURE CONTROL EQUIPMENT

Surface: 0' – 370' None.

Intermediate and Production: 3100' MD/TVD – 13404' MD / 8811' 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.

See COA

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 Intermediate casing string 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.

See COA

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:

See COA

Depth	Mud Wt ppg	Vis Sec	Fluid Loss	Type System
0' – 370' 2900	8.5	28 – 38	NC	Fresh Water / Spud Mud
370' – 3100'	10.2	28 – 32	NC	NaCl Brine
3100' – 8000'	9.0	28 – 34	NC	Cut Brine / Sweeps
8000' – 13404'	9.2	32 – 50	< 18	Cut Brine/Starch

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.

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. **If Hydrogen Sulfide is encountered , measured amounts and formations will be reported to the BLM.**

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.

b. No abnormal temperatures or pressures are anticipated. The highest anticipated pressure gradient is **0.46 psi/ft.** Maximum anticipated bottom hole pressure is **between 4000 and 4100 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. 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.

11. WIRELINE LOGGING / MUD LOGGING / LWD

a. Wireline logging: None – See COA
b. Mud loggers to be rigged up from intermediate casing shoe to TD
c. Acquire GR while drilling, from KOP to TD

COMPANY PERSONNEL:

Name	Title	Office Phone	Mobile Phone
Carlos Mercado	Drilling Engineer	(713)366-5418	(281) 455-3481
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

Project: Permian - Eddy County, NM
Site: Cedar Canyon 15 Federal Com #5H
Well: Cedar Canyon 15 Federal Com #5H
Wellbore: ORIG HOLE
Design: Design #1

SECTION DETAILS

Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	VSect	Target
1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
2	3291.00	0.00	0.00	3291.00	0.00	0.00	0.00	0.00	0.00	
3	3491.00	4.00	300.00	3490.84	3.49	-6.04	2.00	300.00	-5.70	
4	7730.65	4.00	300.00	7720.16	151.36	-262.16	0.00	0.00	-247.24	
5	8030.65	0.00	0.00	8019.92	156.59	-271.23	1.33	180.00	-255.79	
6	9143.04	88.99	86.85	8736.00	195.31	431.30	8.00	86.85	447.33	
7	13404.02	88.99	86.85	8811.00	429.74	4685.16	0.00	0.00	4704.83	PBHL

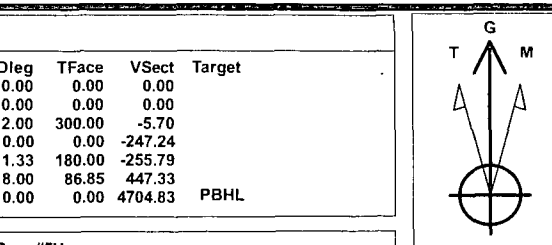
WELL DETAILS: Cedar Canyon 15 Federal Com #5H

Ground Level: 2927.00

+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
0.00	0.00	444572.20	609425.60	32° 13' 18.294 N	103° 58' 46.172 W

DESIGN TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Northing	Easting
Cedar Canyon 15 federal Com #5H PP	0.00	185.02	38.70	444757.20	609464.30
Cedar Canyon 15 Federal Com #5H PBHL	8811.00	429.74	4685.16	445001.90	614110.40



Azimuths to Grid North
True North: -0.19°
Magnetic North: 7.33°

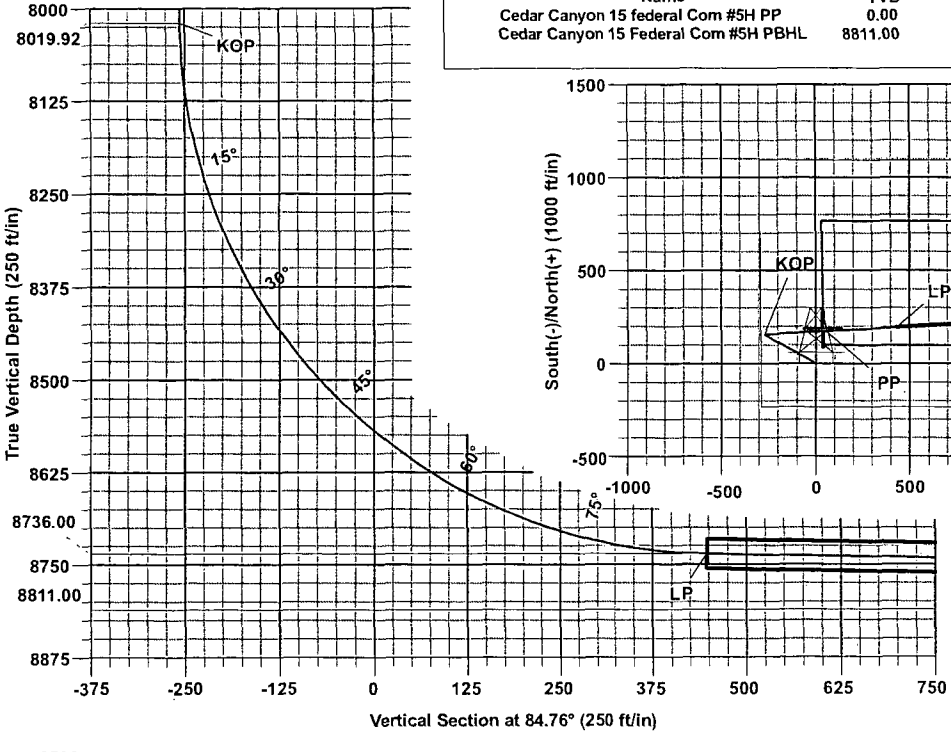
Magnetic Field
Strength: 48417.1snT
Dip Angle: 60.09°
Date: 6/24/2013
Model: IGRF200510

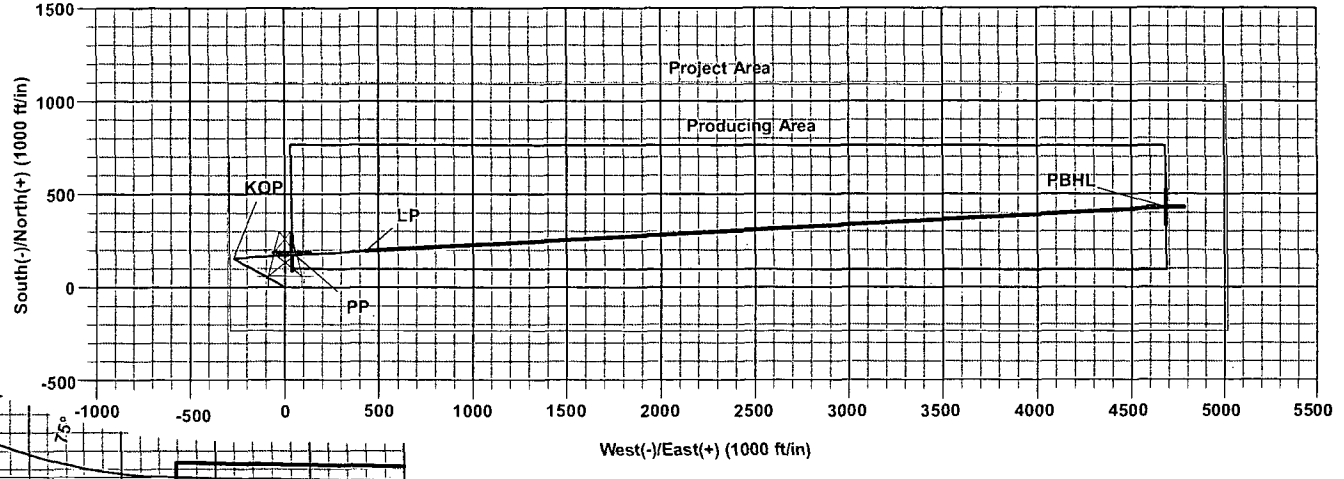
SITE DETAILS: Cedar Canyon 15 Federal Com #5H

Permian

Site Centre Northing: 444572.20
Easting: 609425.60

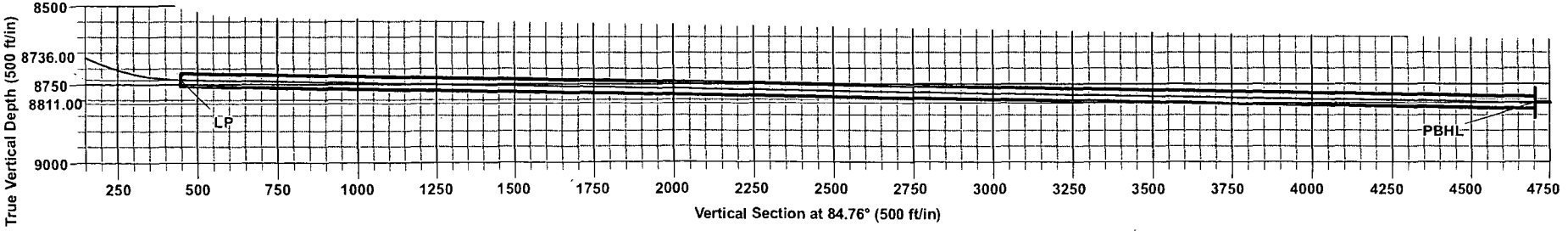
Positional Uncertainty: 0.00
Convergence: 0.19
Local North: Grid





Plan: Design #1 (Cedar Canyon 15 Federal Com #5H/ORIG HOLE)

Created By: Puneet Bhatia Date: 13:54, July 10 2013



Database:	HOPSPP	**Local Co-ordinate Reference:**	Well Cedar Canyon 15 Federal Com #5H
Company:	ENGINEERING CALCS	**TVD Reference:**	Origin @ 2951.00ft (H&P 477 KB-24')
Project:	Permian - Eddy County, NM	**MD Reference:**	Origin @ 2951.00ft (H&P 477 KB-24')
Site:	Cedar Canyon 15 Federal Com #5H	**North Reference:**	Grid
Well:	Cedar Canyon 15 Federal Com #5H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	ORIG HOLE		
Design:	Design #1		

Project Permian - Eddy County, NM, 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		Using geodetic scale factor

Site Cedar Canyon 15 Federal Com #5H

Site Position:		**Northing:**	444,572.20 ft	**Latitude:**	32° 13' 18.294 N
From:	Map	**Easting:**	609,425.60 ft	**Longitude:**	103° 58' 46.172 W
Position Uncertainty:	0.00 ft	**Slot Radius:**	0.000 in	**Grid Convergence:**	0.19 °

Well Cedar Canyon 15 Federal Com #5H

Well Position	**+N/-S**	0.00 ft	**Northing:**	444,572.20 ft	**Latitude:**	32° 13' 18.294 N
	+E/-W	0.00 ft	**Easting:**	609,425.60 ft	**Longitude:**	103° 58' 46.172 W
Position Uncertainty		0.00 ft	**Wellhead Elevation:**		**Ground Level:**	2,927.00 ft

Wellbore ORIG HOLE

Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF200510	6/24/2013	7.52	60.09	48,417

Design Design #1

Audit Notes:

Version:		**Phase:**	PLAN	**Tie On Depth:**	0.00

Vertical Section:	Depth From (TVD) (ft)	+N/-S (ft)	+E/-W (ft)	Direction (°)
	0.00	0.00	0.00	84.76

Plan Sections

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)	TFO (°)	Target
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
3,291.00	0.00	0.00	3,291.00	0.00	0.00	0.00	0.00	0.00	0.00	
3,491.00	4.00	300.00	3,490.84	3.49	-6.04	2.00	2.00	0.00	300.00	
7,730.65	4.00	300.00	7,720.16	151.35	-262.16	0.00	0.00	0.00	0.00	
8,030.65	0.00	0.00	8,019.92	156.59	-271.23	1.33	-1.33	0.00	180.00	
9,143.04	88.99	86.85	8,736.00	195.31	431.30	8.00	8.00	7.81	86.85	
13,404.02	88.99	86.85	8,811.00	429.74	4,685.16	0.00	0.00	0.00	0.00	Cedar Canyon 15 Fed

Database:	HOPSPP	Local Co-ordinate Reference:	Well Cedar Canyon 15 Federal Com #5H
Company:	ENGINEERING CALCS	TVD Reference:	Origin @ 2951.00ft (H&P 477 KB-24')
Project:	Permian - Eddy County, NM	MD Reference:	Origin @ 2951.00ft (H&P 477 KB-24')
Site:	Cedar Canyon 15 Federal Com #5H	North Reference:	Grid
Well:	Cedar Canyon 15 Federal Com #5H	Survey Calculation Method:	Minimum Curvature
Wellbore:	ORIG HOLE		
Design:	Design #1		

Planned Survey

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Cedar Canyon 15 federal Com #5H PP									
3,291.00	0.00	0.00	3,291.00	0.00	0.00	0.00	0.00	0.00	0.00
Start Build 2.00									
3,300.00	0.18	300.00	3,300.00	0.01	-0.01	-0.01	2.00	2.00	0.00
3,400.00	2.18	300.00	3,399.97	1.04	-1.80	-1.69	2.00	2.00	0.00
3,491.00	4.00	300.00	3,490.84	3.49	-6.04	-5.70	2.00	2.00	0.00
Start 4239.65 hold at 3491.00 MD									
3,500.00	4.00	300.00	3,499.82	3.80	-6.59	-6.21	0.00	0.00	0.00
3,600.00	4.00	300.00	3,599.57	7.29	-12.63	-11.91	0.00	0.00	0.00
3,700.00	4.00	300.00	3,699.33	10.78	-18.67	-17.61	0.00	0.00	0.00
3,800.00	4.00	300.00	3,799.08	14.27	-24.71	-23.30	0.00	0.00	0.00
3,900.00	4.00	300.00	3,898.84	17.75	-30.75	-29.00	0.00	0.00	0.00
4,000.00	4.00	300.00	3,998.60	21.24	-36.79	-34.70	0.00	0.00	0.00
4,100.00	4.00	300.00	4,098.35	24.73	-42.83	-40.40	0.00	0.00	0.00
4,200.00	4.00	300.00	4,198.11	28.22	-48.87	-46.09	0.00	0.00	0.00
4,300.00	4.00	300.00	4,297.87	31.71	-54.92	-51.79	0.00	0.00	0.00
4,400.00	4.00	300.00	4,397.62	35.19	-60.96	-57.49	0.00	0.00	0.00
4,500.00	4.00	300.00	4,497.38	38.68	-67.00	-63.19	0.00	0.00	0.00
4,600.00	4.00	300.00	4,597.14	42.17	-73.04	-68.88	0.00	0.00	0.00
4,700.00	4.00	300.00	4,696.89	45.66	-79.08	-74.58	0.00	0.00	0.00
4,800.00	4.00	300.00	4,796.65	49.14	-85.12	-80.28	0.00	0.00	0.00
4,900.00	4.00	300.00	4,896.41	52.63	-91.16	-85.97	0.00	0.00	0.00
5,000.00	4.00	300.00	4,996.16	56.12	-97.20	-91.67	0.00	0.00	0.00
5,100.00	4.00	300.00	5,095.92	59.61	-103.24	-97.37	0.00	0.00	0.00
5,200.00	4.00	300.00	5,195.67	63.10	-109.29	-103.07	0.00	0.00	0.00
5,300.00	4.00	300.00	5,295.43	66.58	-115.33	-108.76	0.00	0.00	0.00
5,400.00	4.00	300.00	5,395.19	70.07	-121.37	-114.46	0.00	0.00	0.00
5,500.00	4.00	300.00	5,494.94	73.56	-127.41	-120.16	0.00	0.00	0.00
5,600.00	4.00	300.00	5,594.70	77.05	-133.45	-125.86	0.00	0.00	0.00
5,700.00	4.00	300.00	5,694.46	80.54	-139.49	-131.55	0.00	0.00	0.00
5,800.00	4.00	300.00	5,794.21	84.02	-145.53	-137.25	0.00	0.00	0.00
5,900.00	4.00	300.00	5,893.97	87.51	-151.57	-142.95	0.00	0.00	0.00
6,000.00	4.00	300.00	5,993.73	91.00	-157.61	-148.64	0.00	0.00	0.00
6,100.00	4.00	300.00	6,093.48	94.49	-163.66	-154.34	0.00	0.00	0.00
6,200.00	4.00	300.00	6,193.24	97.97	-169.70	-160.04	0.00	0.00	0.00
6,300.00	4.00	300.00	6,293.00	101.46	-175.74	-165.74	0.00	0.00	0.00
6,400.00	4.00	300.00	6,392.75	104.95	-181.78	-171.43	0.00	0.00	0.00
6,500.00	4.00	300.00	6,492.51	108.44	-187.82	-177.13	0.00	0.00	0.00
6,600.00	4.00	300.00	6,592.26	111.93	-193.86	-182.83	0.00	0.00	0.00
6,700.00	4.00	300.00	6,692.02	115.41	-199.90	-188.53	0.00	0.00	0.00
6,800.00	4.00	300.00	6,791.78	118.90	-205.94	-194.22	0.00	0.00	0.00
6,900.00	4.00	300.00	6,891.53	122.39	-211.98	-199.92	0.00	0.00	0.00
7,000.00	4.00	300.00	6,991.29	125.88	-218.03	-205.62	0.00	0.00	0.00
7,100.00	4.00	300.00	7,091.05	129.36	-224.07	-211.31	0.00	0.00	0.00
7,200.00	4.00	300.00	7,190.80	132.85	-230.11	-217.01	0.00	0.00	0.00
7,300.00	4.00	300.00	7,290.56	136.34	-236.15	-222.71	0.00	0.00	0.00
7,400.00	4.00	300.00	7,390.32	139.83	-242.19	-228.41	0.00	0.00	0.00
7,500.00	4.00	300.00	7,490.07	143.32	-248.23	-234.10	0.00	0.00	0.00
7,600.00	4.00	300.00	7,589.83	146.80	-254.27	-239.80	0.00	0.00	0.00
7,700.00	4.00	300.00	7,689.58	150.29	-260.31	-245.50	0.00	0.00	0.00
7,730.65	4.00	300.00	7,720.16	151.36	-262.16	-247.24	0.00	0.00	0.00
Start Drop -1.33									
7,800.00	3.08	300.00	7,789.38	153.50	-265.87	-250.74	1.33	-1.33	0.00

OXY

Planning Report

Database:	HOPSPP	**Local Co-ordinate Reference:**	Well Cedar Canyon 15 Federal Com #5H
Company:	ENGINEERING CALCS	**TVD Reference:**	Origin @ 2951.00ft (H&P 477 KB-24')
Project:	Permian - Eddy County, NM	**MD Reference:**	Origin @ 2951.00ft (H&P 477 KB-24')
Site:	Cedar Canyon 15 Federal Com #5H	**North Reference:**	Grid
Well:	Cedar Canyon 15 Federal Com #5H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	ORIG HOLE		
Design:	Design #1		

Planned Survey

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
7,900.00	1.74	300.00	7,889.29	155.60	-269.51	-254.17	1.33	-1.33	0.00
8,000.00	0.41	300.00	7,989.27	156.54	-271.14	-255.70	1.33	-1.33	0.00
8,030.65	0.00	0.00	8,019.92	156.59	-271.23	-255.79	1.33	-1.33	0.00
KOP									
8,100.00	5.55	86.85	8,089.16	156.78	-267.88	-252.44	8.00	8.00	0.00
8,200.00	13.55	86.85	8,187.69	157.69	-251.33	-235.88	8.00	8.00	0.00
8,300.00	21.55	86.85	8,282.96	159.35	-221.25	-205.77	8.00	8.00	0.00
8,400.00	29.55	86.85	8,373.11	161.72	-178.22	-162.71	8.00	8.00	0.00
8,500.00	37.55	86.85	8,456.39	164.76	-123.09	-107.53	8.00	8.00	0.00
8,600.00	45.55	86.85	8,531.16	168.41	-56.92	-41.30	8.00	8.00	0.00
8,700.00	53.55	86.85	8,595.99	172.59	19.00	34.68	8.00	8.00	0.00
8,800.00	61.55	86.85	8,649.61	177.23	103.19	118.94	8.00	8.00	0.00
8,900.00	69.55	86.85	8,690.97	182.23	194.01	209.84	8.00	8.00	0.00
9,000.00	77.55	86.85	8,719.27	187.51	289.69	305.60	8.00	8.00	0.00
9,100.00	85.55	86.85	8,733.95	192.94	388.37	404.37	8.00	8.00	0.00
9,143.04	88.99	86.85	8,736.00	195.31	431.30	447.33	8.00	8.00	0.00
LP									
9,200.00	88.99	86.85	8,737.01	198.44	488.16	504.24	0.00	0.00	0.00
9,300.00	88.99	86.85	8,738.77	203.95	587.99	604.16	0.00	0.00	0.00
9,400.00	88.99	86.85	8,740.53	209.45	687.82	704.08	0.00	0.00	0.00
9,500.00	88.99	86.85	8,742.29	214.95	787.66	804.00	0.00	0.00	0.00
9,600.00	88.99	86.85	8,744.05	220.45	887.49	903.91	0.00	0.00	0.00
9,700.00	88.99	86.85	8,745.81	225.95	987.32	1,003.83	0.00	0.00	0.00
9,800.00	88.99	86.85	8,747.57	231.45	1,087.16	1,103.75	0.00	0.00	0.00
9,900.00	88.99	86.85	8,749.33	236.96	1,186.99	1,203.67	0.00	0.00	0.00
10,000.00	88.99	86.85	8,751.09	242.46	1,286.82	1,303.59	0.00	0.00	0.00
10,100.00	88.99	86.85	8,752.85	247.96	1,386.65	1,403.51	0.00	0.00	0.00
10,200.00	88.99	86.85	8,754.61	253.46	1,486.49	1,503.42	0.00	0.00	0.00
10,300.00	88.99	86.85	8,756.37	258.96	1,586.32	1,603.34	0.00	0.00	0.00
10,400.00	88.99	86.85	8,758.13	264.46	1,686.15	1,703.26	0.00	0.00	0.00
10,500.00	88.99	86.85	8,759.89	269.97	1,785.99	1,803.18	0.00	0.00	0.00
10,600.00	88.99	86.85	8,761.65	275.47	1,885.82	1,903.10	0.00	0.00	0.00
10,700.00	88.99	86.85	8,763.41	280.97	1,985.65	2,003.01	0.00	0.00	0.00
10,800.00	88.99	86.85	8,765.17	286.47	2,085.49	2,102.93	0.00	0.00	0.00
10,900.00	88.99	86.85	8,766.93	291.97	2,185.32	2,202.85	0.00	0.00	0.00
11,000.00	88.99	86.85	8,768.69	297.47	2,285.15	2,302.77	0.00	0.00	0.00
11,100.00	88.99	86.85	8,770.45	302.98	2,384.98	2,402.69	0.00	0.00	0.00
11,200.00	88.99	86.85	8,772.21	308.48	2,484.82	2,502.61	0.00	0.00	0.00
11,300.00	88.99	86.85	8,773.97	313.98	2,584.65	2,602.52	0.00	0.00	0.00
11,400.00	88.99	86.85	8,775.73	319.48	2,684.48	2,702.44	0.00	0.00	0.00
11,500.00	88.99	86.85	8,777.49	324.98	2,784.32	2,802.36	0.00	0.00	0.00
11,600.00	88.99	86.85	8,779.25	330.48	2,884.15	2,902.28	0.00	0.00	0.00
11,700.00	88.99	86.85	8,781.01	335.99	2,983.98	3,002.20	0.00	0.00	0.00
11,800.00	88.99	86.85	8,782.77	341.49	3,083.82	3,102.12	0.00	0.00	0.00
11,900.00	88.99	86.85	8,784.53	346.99	3,183.65	3,202.03	0.00	0.00	0.00
12,000.00	88.99	86.85	8,786.29	352.49	3,283.48	3,301.95	0.00	0.00	0.00
12,100.00	88.99	86.85	8,788.05	357.99	3,383.31	3,401.87	0.00	0.00	0.00
12,200.00	88.99	86.85	8,789.81	363.50	3,483.15	3,501.79	0.00	0.00	0.00
12,300.00	88.99	86.85	8,791.57	369.00	3,582.98	3,601.71	0.00	0.00	0.00
12,400.00	88.99	86.85	8,793.33	374.50	3,682.81	3,701.62	0.00	0.00	0.00
12,500.00	88.99	86.85	8,795.09	380.00	3,782.65	3,801.54	0.00	0.00	0.00
12,600.00	88.99	86.85	8,796.85	385.50	3,882.48	3,901.46	0.00	0.00	0.00
12,700.00	88.99	86.85	8,798.61	391.00	3,982.31	4,001.38	0.00	0.00	0.00

OXY

Planning Report

Database:	HOPSPP	**Local Co-ordinate Reference:**	Well Cedar Canyon 15 Federal Com #5H
Company:	ENGINEERING CALCS	**TVD Reference:**	Origin @ 2951.00ft (H&P 477 KB-24')
Project:	Permian - Eddy County, NM	**MD Reference:**	Origin @ 2951.00ft (H&P 477 KB-24')
Site:	Cedar Canyon 15 Federal Com #5H	**North Reference:**	Grid
Well:	Cedar Canyon 15 Federal Com #5H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	ORIG HOLE		
Design:	Design #1		

Planned Survey

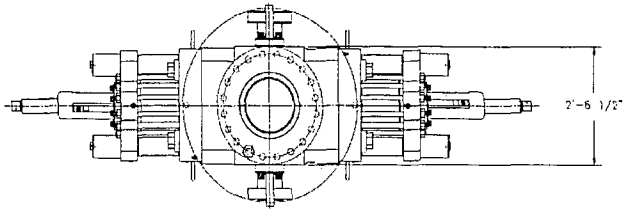
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
12,800.00	88.99	86.85	8,800.37	396.51	4,082.15	4,101.30	0.00	0.00	0.00
12,900.00	88.99	86.85	8,802.13	402.01	4,181.98	4,201.22	0.00	0.00	0.00
13,000.00	88.99	86.85	8,803.89	407.51	4,281.81	4,301.13	0.00	0.00	0.00
13,100.00	88.99	86.85	8,805.65	413.01	4,381.65	4,401.05	0.00	0.00	0.00
13,200.00	88.99	86.85	8,807.41	418.51	4,481.48	4,500.97	0.00	0.00	0.00
13,300.00	88.99	86.85	8,809.17	424.01	4,581.31	4,600.89	0.00	0.00	0.00
13,400.00	88.99	86.85	8,810.93	429.52	4,681.14	4,700.81	0.00	0.00	0.00
13,404.02	88.99	86.85	8,811.00	429.74	4,685.16	4,704.83	0.00	0.00	0.00
PBHL - Cedar Canyon 15 Federal Com #5H PBHL									

Design Targets

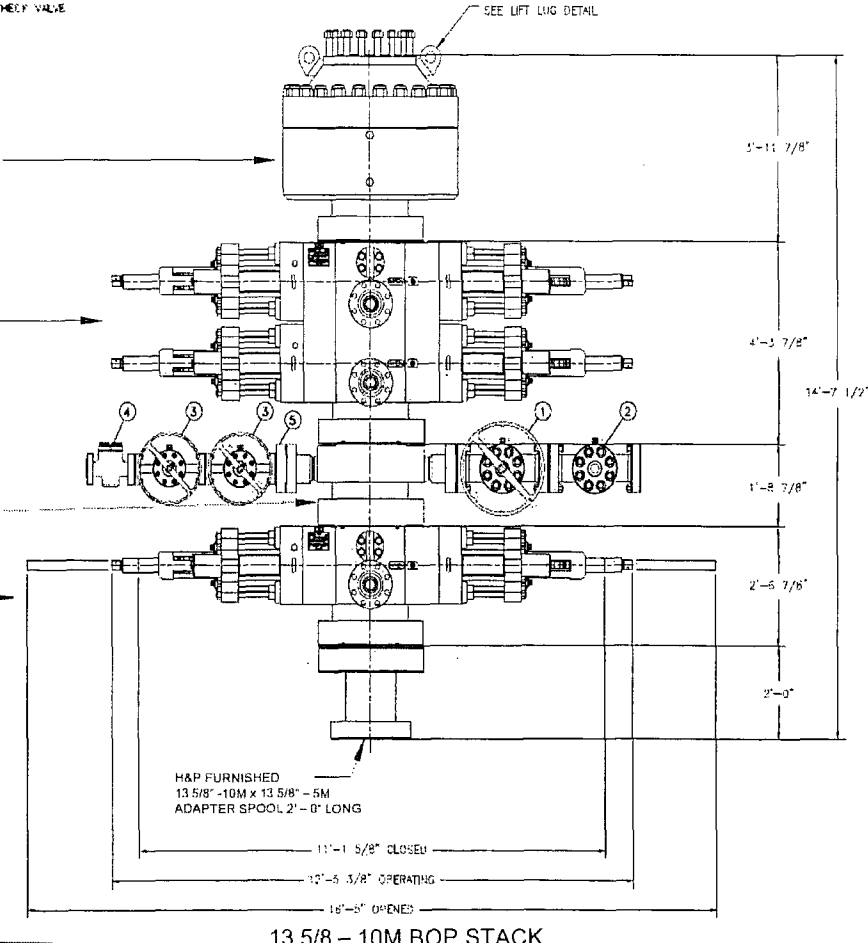
Target Name - hit/miss target - Shape	Dip Angle (°)	Dip Dir (°)	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Northing (ft)	Easting (ft)	Latitude	Longitude
Cedar Canyon 15 federa	0.00	0.01	0.00	185.02	38.70	444,757.20	609,464.30	32° 13' 20.124 N	103° 58' 45.714 W
- plan misses target center by 189.02ft at 0.00ft MD (0.00 TVD, 0.00 N, 0.00 E)									
- Point									
Cedar Canyon 15 Feder	1.01	86.85	8,811.00	429.74	4,685.16	445,001.90	614,110.40	32° 13' 22.391 N	103° 57' 51.619 W
- plan hits target center									
- Rectangle (sides W0.00 H4,260.98 D40.00)									

Plan Annotations

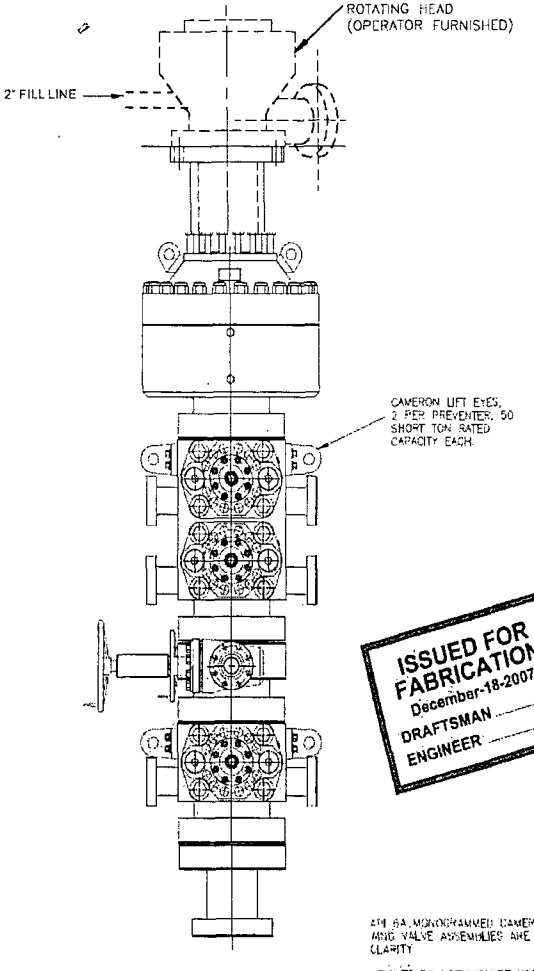
Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates +N/-S (ft)	Local Coordinates +E/-W (ft)	Comment
3,291.00	3,291.00	0.00	0.00	Start Build 2.00
3,491.00	3,490.84	3.49	-6.04	Start 4239.65 hold at 3491.00 MD
7,730.65	7,720.16	151.36	-262.16	Start Drop -1.33
8,030.65	8,019.92	156.59	-271.23	KOP
9,143.04	8,736.00	195.31	431.30	LP
13,404.02	8,811.00	429.74	4,685.16	PBHL



LEGEND
1. 4 1/16"-10M FLANGED END GATE VALVE
2. 4 1/16"-10M FLANGED END GATE VALVE WITH DOUBLE ACTING HYDRAULIC ACTUATOR
3. 2 1/16"-10M FLANGED END GATE VALVE
4. 2 1/16"-10M FLANGED END CHECK VALVE
5. DOUBLE STUDDED ADAPTER



13 5/8 – 10M BOP STACK
WITH 13 5/8 – 5M ANNULAR



ISSUED FOR FABRICATION
December-18-2007
DRAFTSMAN
ENGINEER

API 6A MONOGRAMMED CAMERON CHOKE AND KILL MNG VALVE ASSEMBLIES ARE NOT SHOWN FOR CLARITY

WEIGHTS DO NOT INCLUDE HOSES, ADAPTER SPOOLS OR QUICK CONNECT FITTINGS

REV	DATE	DESCRIPTION	BY
E	12/18/07	ADDED SHEET 04	JAV
D	4-10-07	CAMERON SERIES DOUBLE STUDDED ADAPTER VALVES 1, 2, & 3 AND MS (HEX) VALVE ADDED	JBG
C	4-04-07	5" ADDED TO SPACER ADAPTER SPOOL	JBG
B	02-07-07	ADDED ADAPTER SPOOL	VAL
A	06-13-02	CORRECTED BOP STACK	VAL

ENGINEERING APPROVAL | DATE

HELMERICH & PAYNE INTERNATIONAL DRILLING CO.

TITLE: 13 5/8"-10M BOP 3 RAM STACK FLEXRIG3

CUSTOMER: H&P

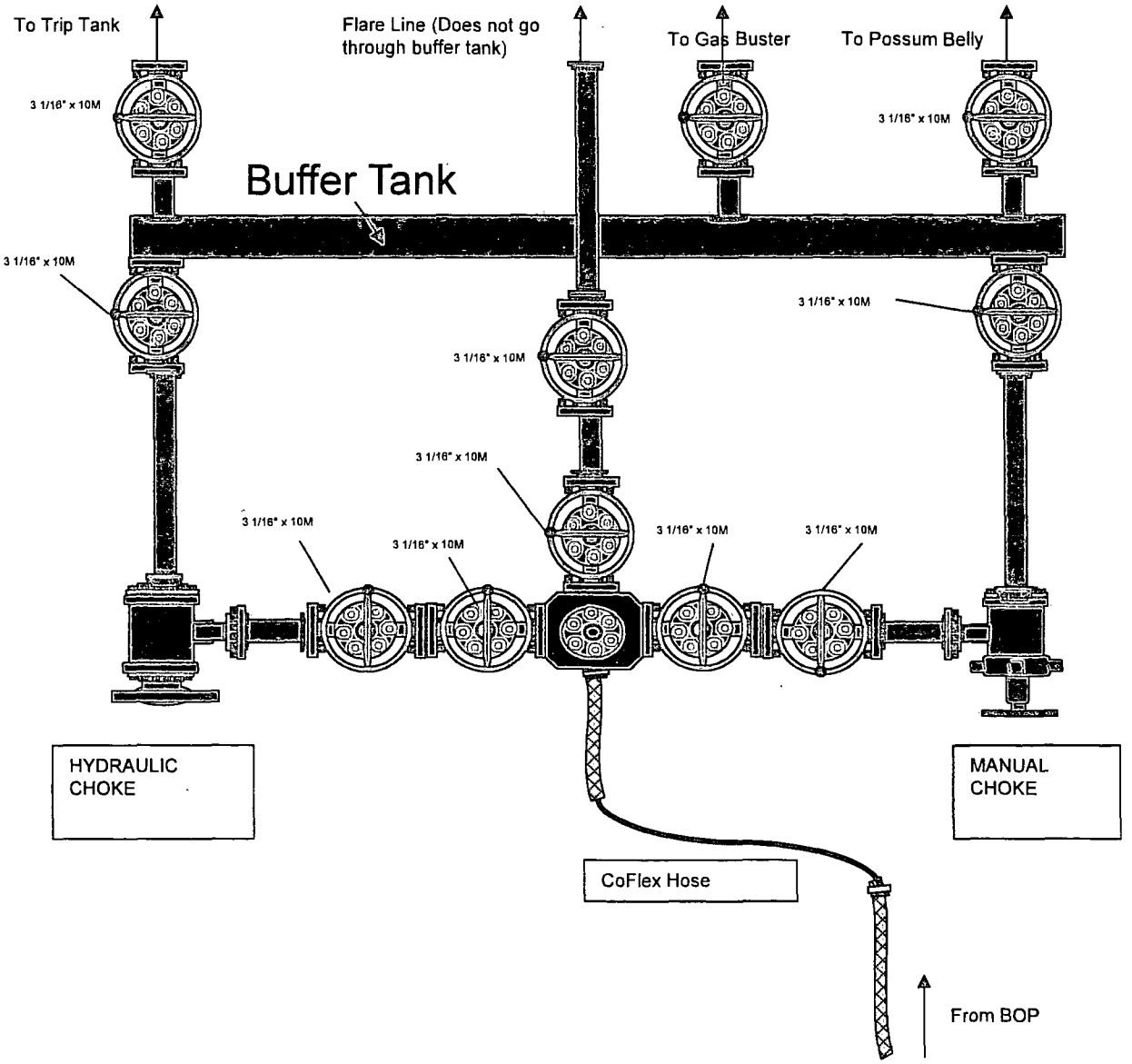
PROJECT: FLEXRIG3

DRAWN: VTS | DATE: 6-5-02 | DWG. NO.: 210-P1-07 | REV.: E

SCALE: 3/4"=1'-0" | SHEET 1 OF 1

BOP

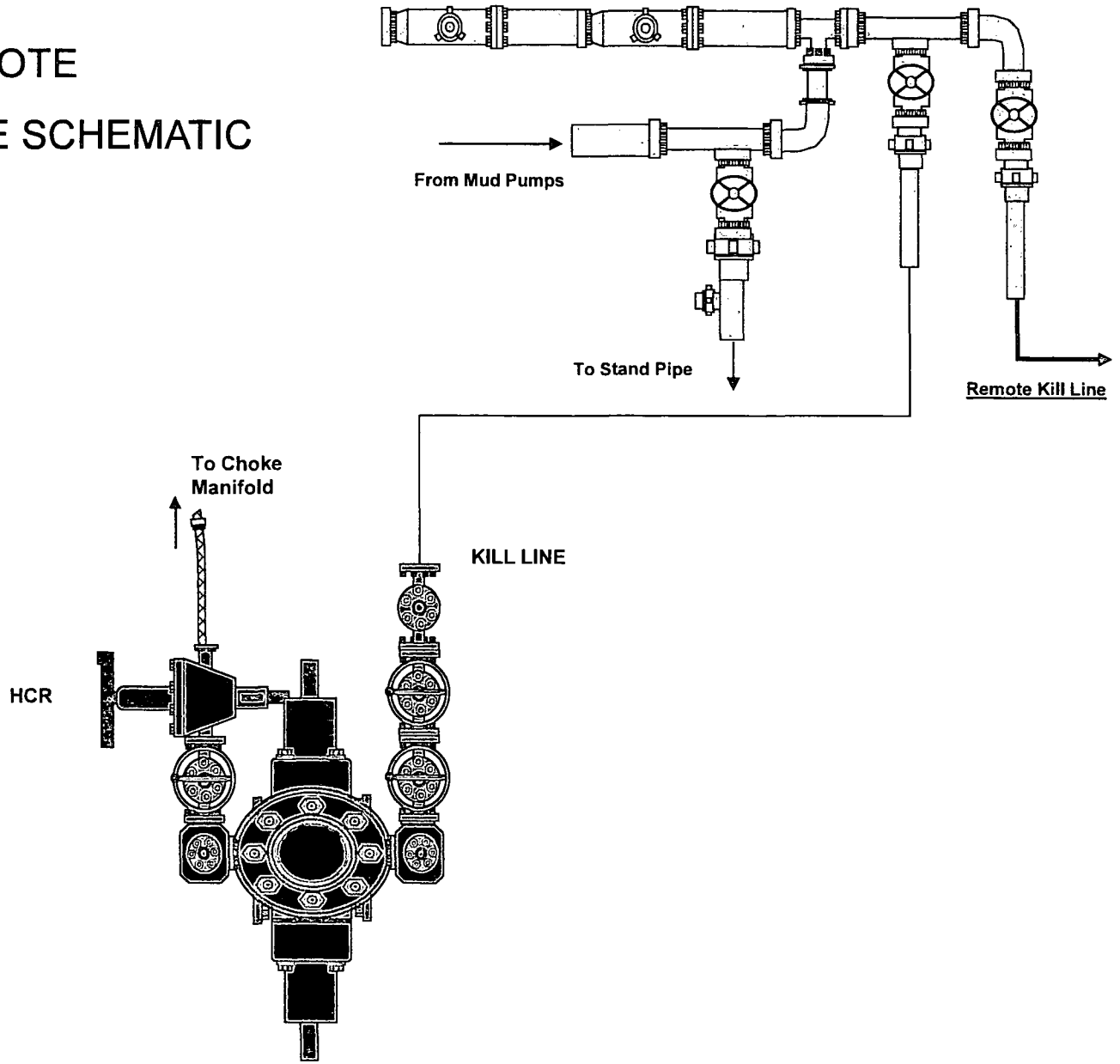
FLEX3 STD CHOKE MANIFOLD (COMPREHENSIVE)



CM-1

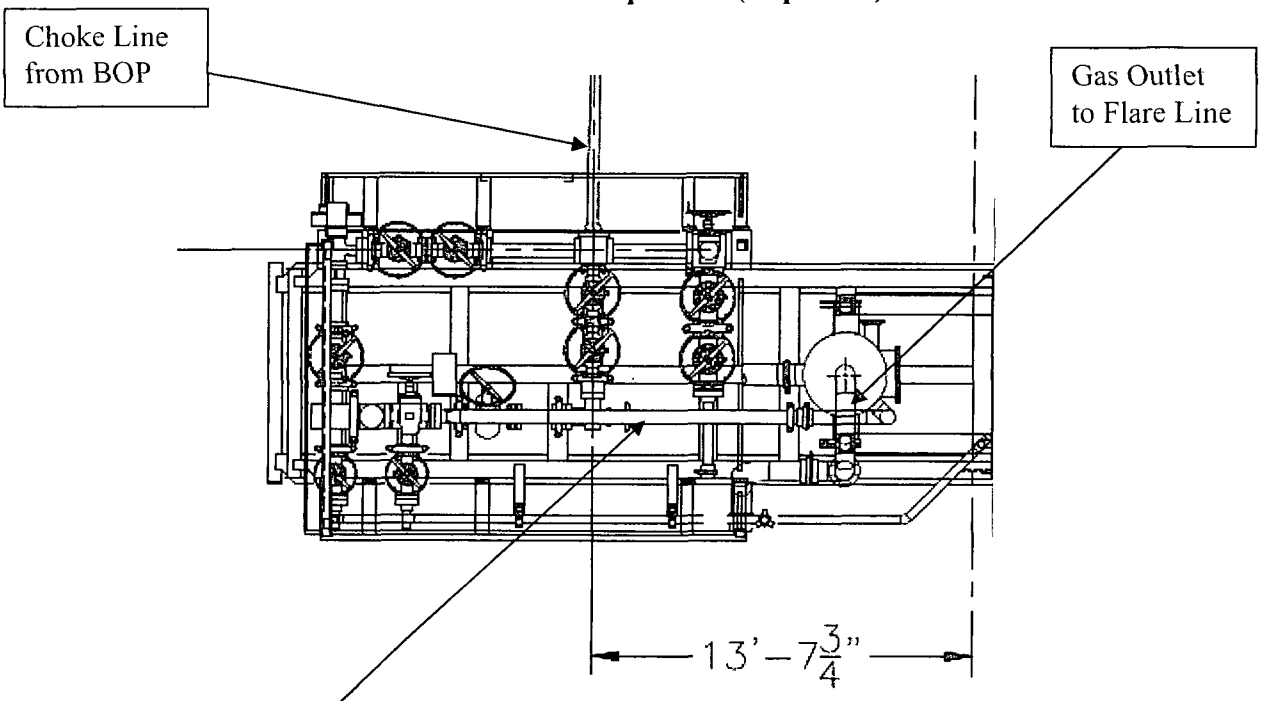
10M REMOTE

KILL LINE SCHEMATIC

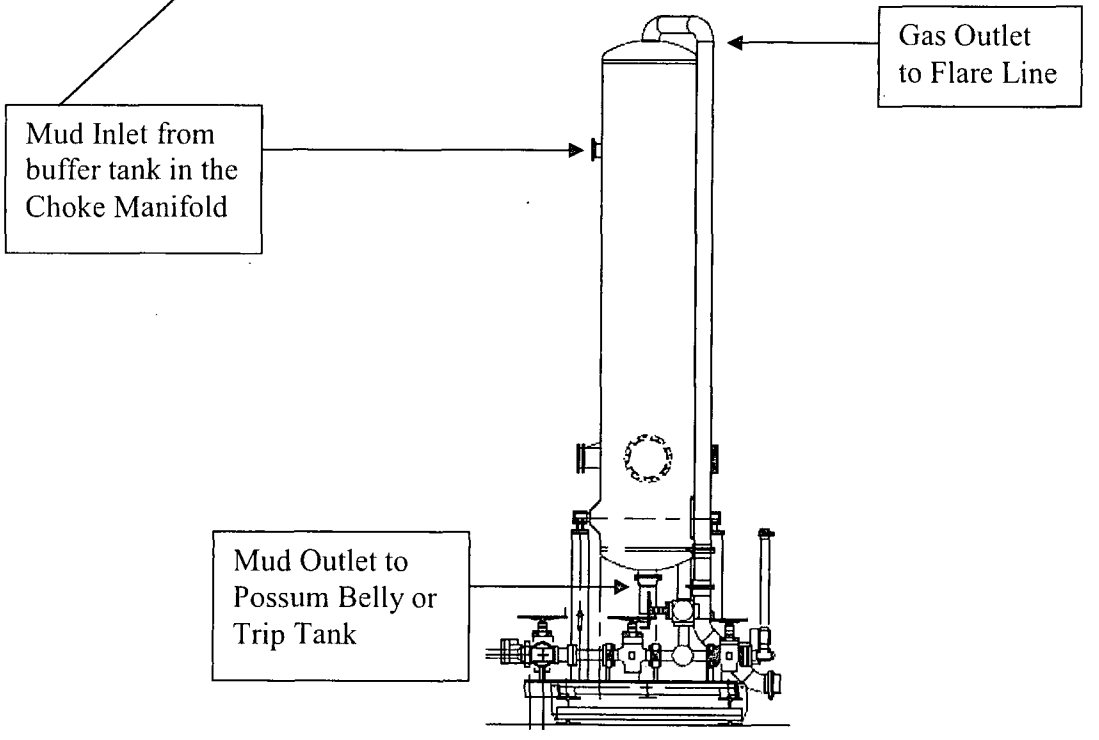


CM-2

Choke Manifold – Gas Separator (Top View)

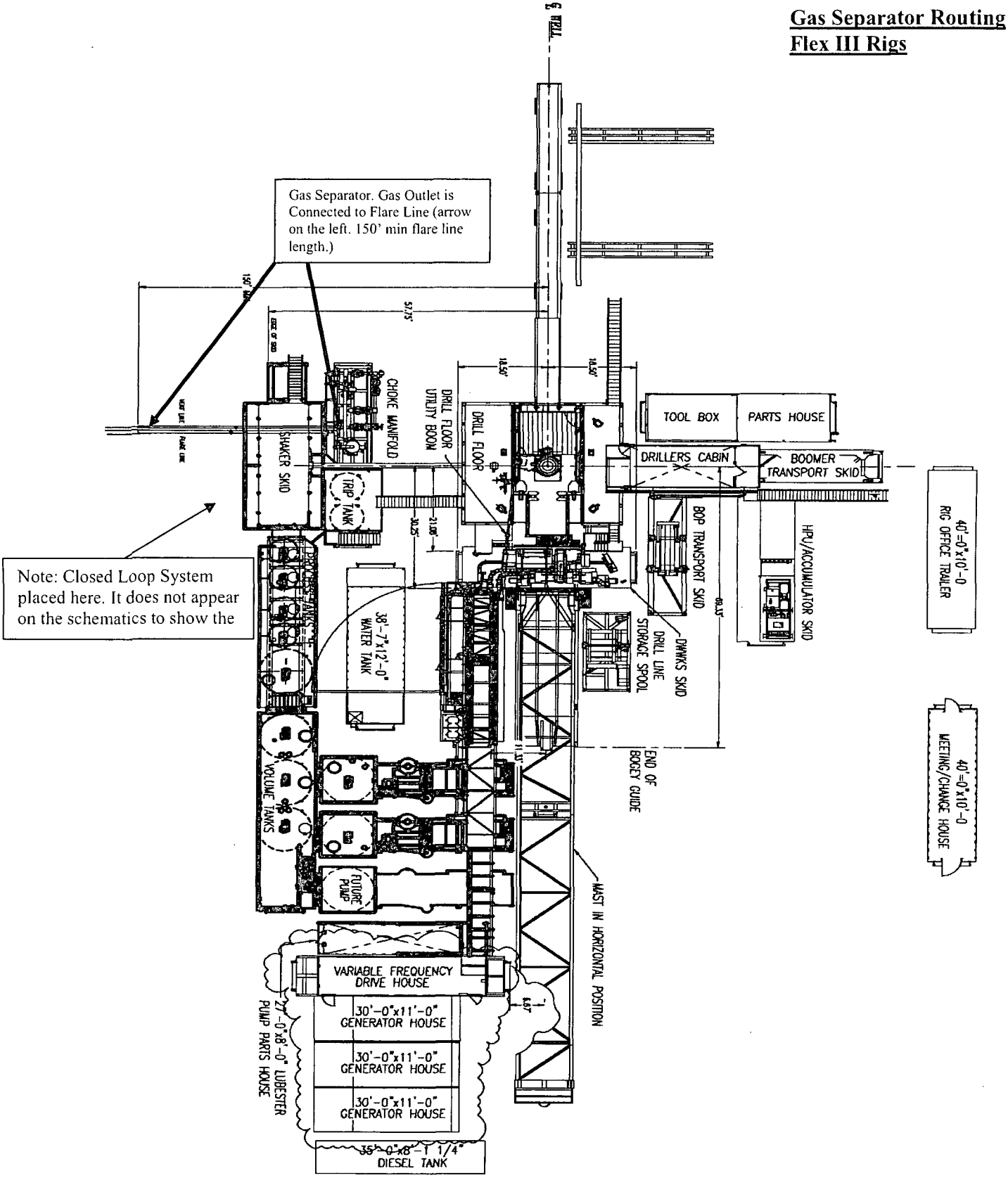


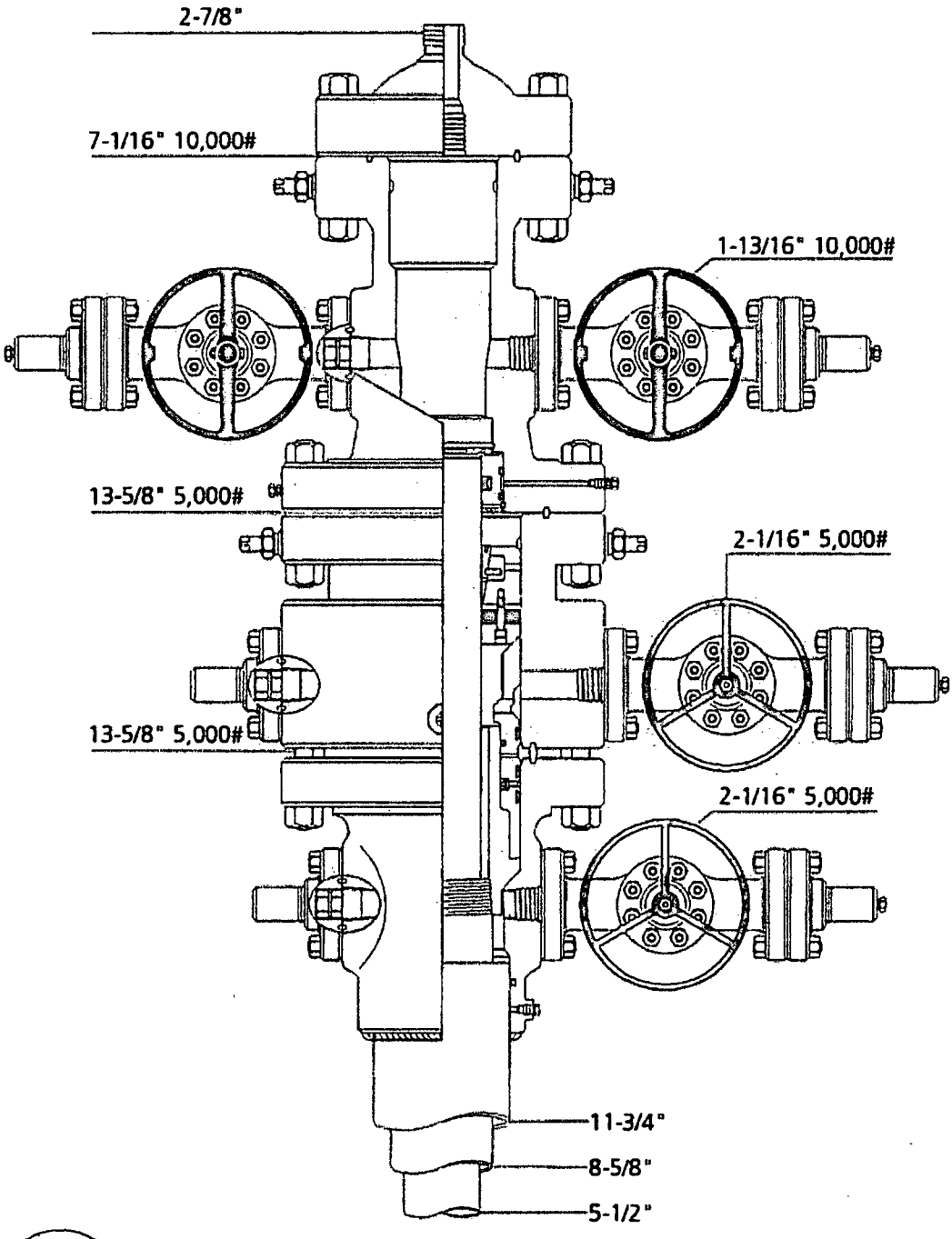
Choke Manifold – Gas Separator (Side View)



CM-4

Gas Separator Routing
Flex III Rigs





OXY

Permian Basin
MBS

CAMERON

Jeanette	1-31-13	#	21073221

FH-5

Coflex Hose Certification

Continental CONTITECH

Fluid Technology

Quality Document

QUALITY CONTROL INSPECTION AND TEST CERTIFICATE				CERT. N°: 746	
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	917 913	AISI 4130	T7998A
4 1/16" Flange end		AISI 4130	26984

INFOCHIP INSTALLED

API Spec 16 C
Temperature rate:"B"

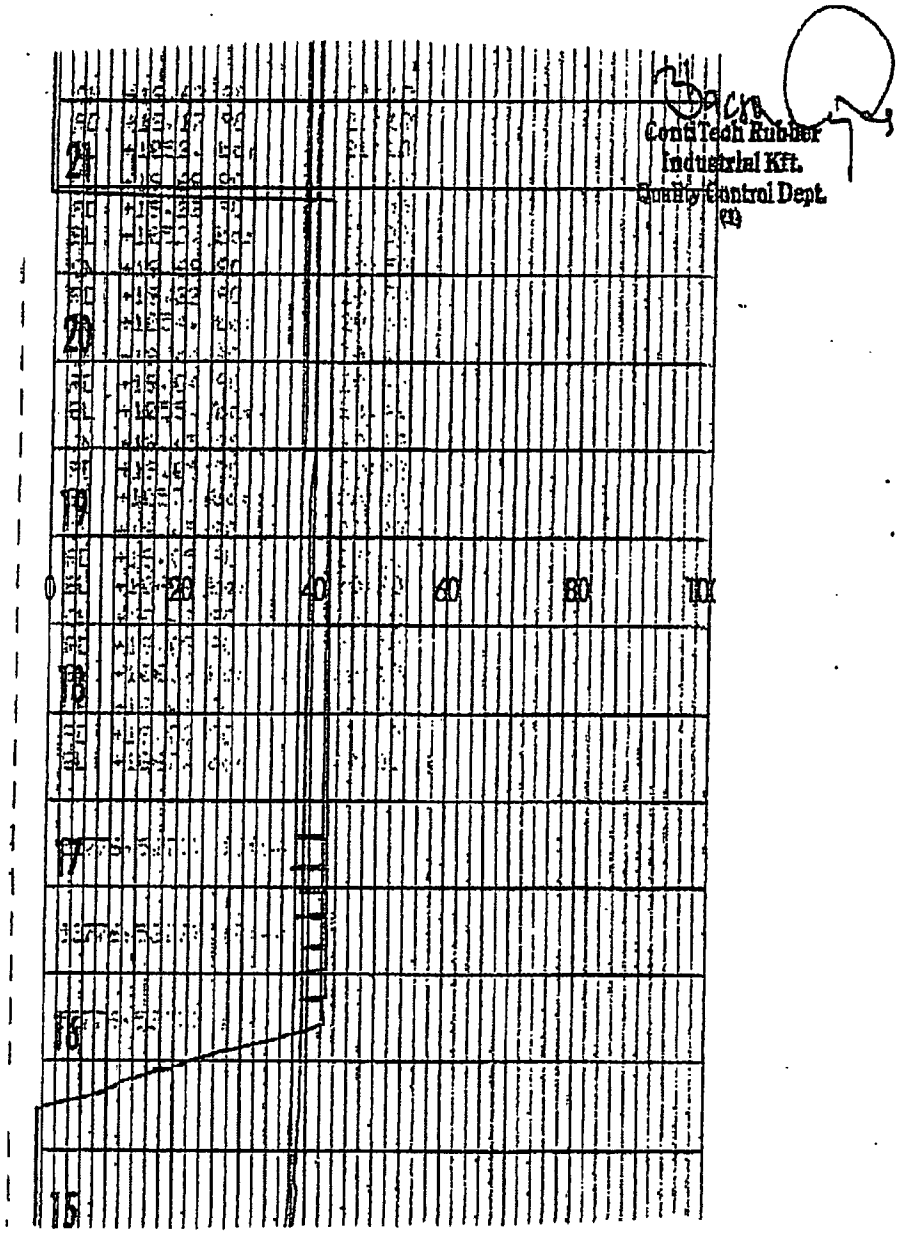
All metal parts are flawless

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. (1)

FH-2

Coflex Hose Certification



F1+-4

Coflex Hose Certification

Form No 100/12

PHOENIX Beattie

Phoenix Beattie Corp
11535 Brittmoore Park Drive
Houston, TX 77041
Tel: (832) 327-0141
Fax: (832) 327-0148
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 HELMERICH & PAYNE INT'L DRILLING CO 1437 SOUTH BOULDER TULSA, OK 74119		**Delivery / Address** 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...

FH-6

Coflex Hose Certification

Form No 100/12

Phoenix Beattie Corp
11535 Brittmoore Park Drive
Houston, TX 77041
Tel: (832) 327-0141
Fax: (832) 327-0148
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.

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 C&K 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	H665		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.

05/13/10.

Coflex Hose Certification

FH-3

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

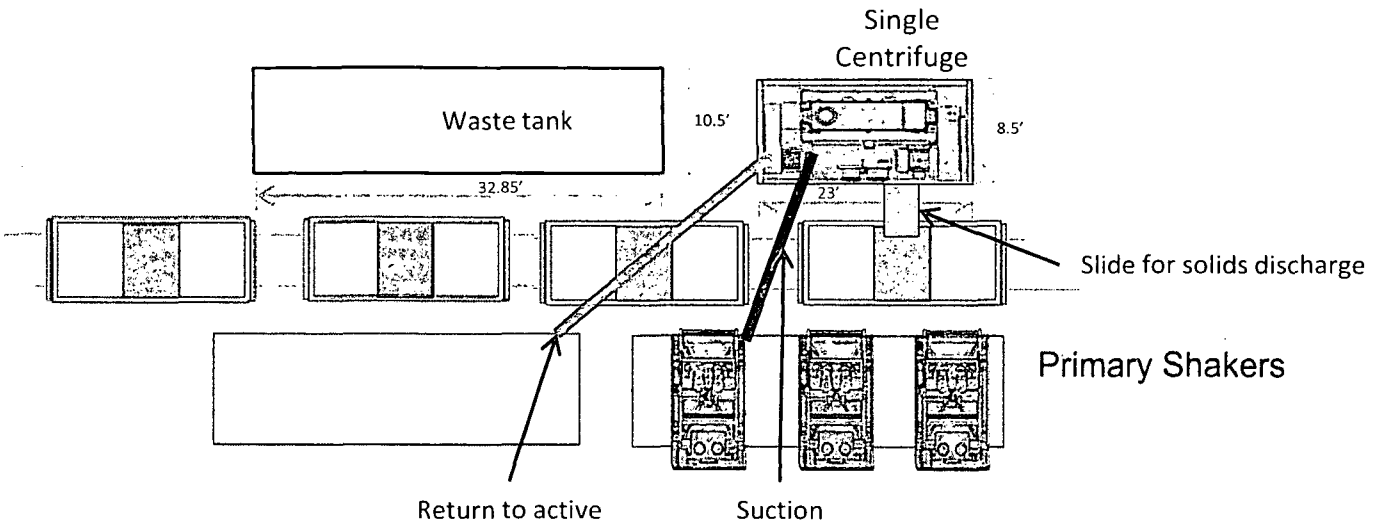
Signed : .....

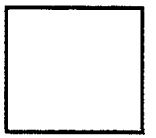
ContiTech Rubber Industrial Kft. Quality Control Dept. (3)

Date: 04. April. 2008

Position: Q.C. Manager

Oxy



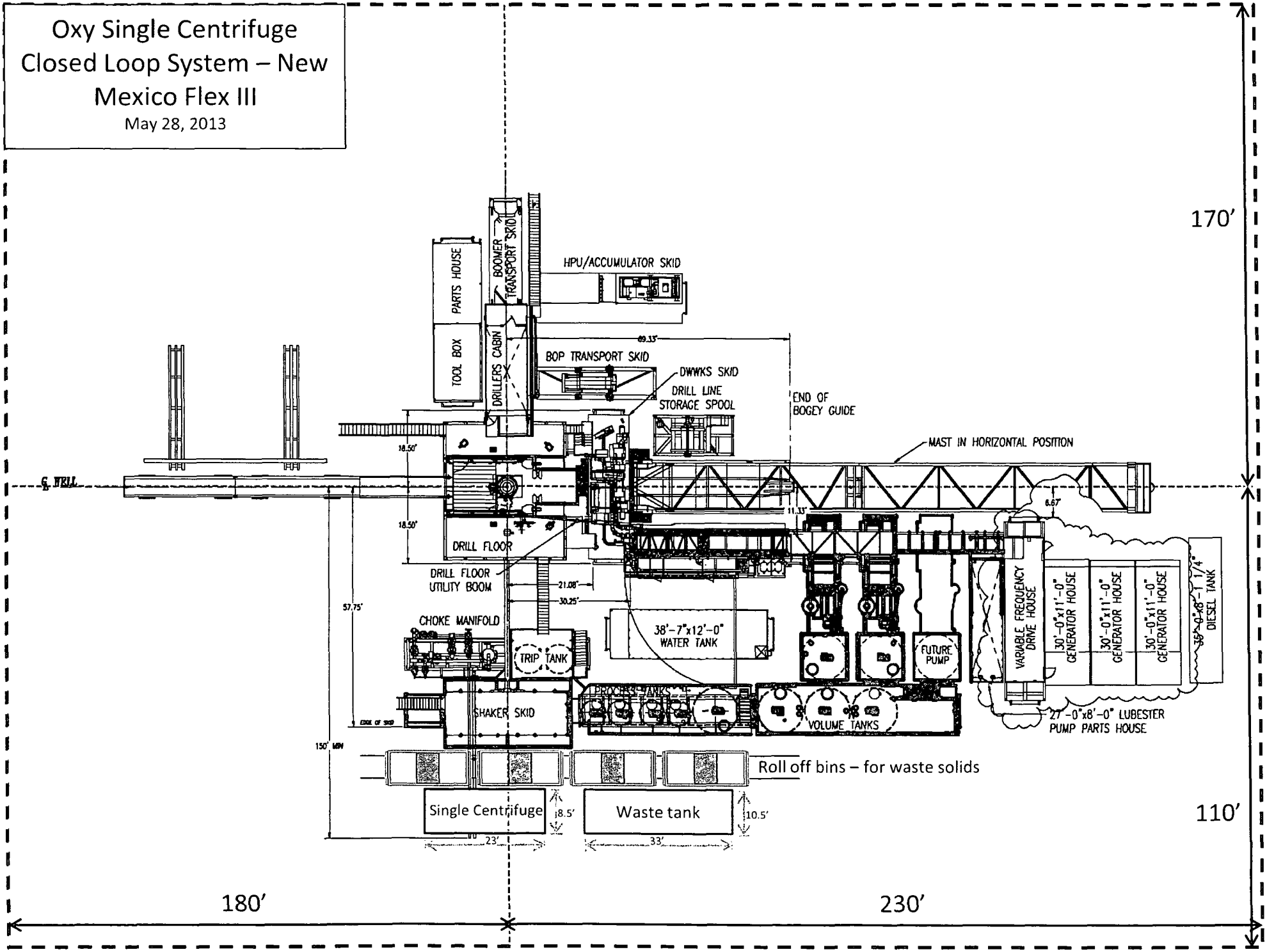


Oxy Single Centrifuge
Closed Loop System – New
Mexico Flex III
May 28, 2013

CL-1

Oxy Single Centrifuge Closed Loop System – New Mexico Flex III

May 28, 2013



C-2

H2S-2

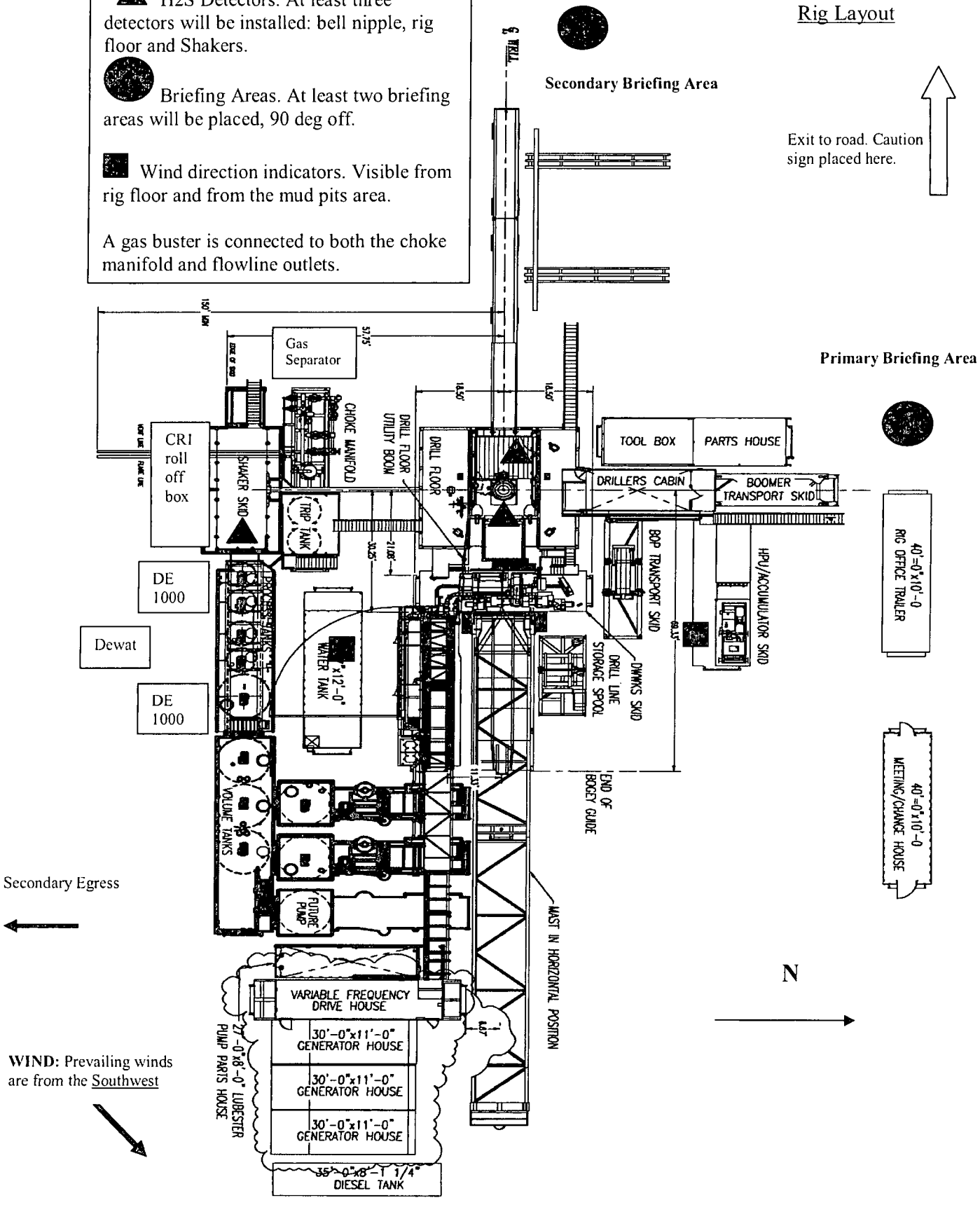
▲ H2S Detectors. At least three detectors will be installed: bell nipple, rig floor and Shakers.

● 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



H2S-1

Permian Drilling
Hydrogen Sulfide Drilling Operations Plan
Cedar Canyon 15 Federal Com 5H

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 Northwest 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-3

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

H2S-6

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.**

H2S-12

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.

H-25-15

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.

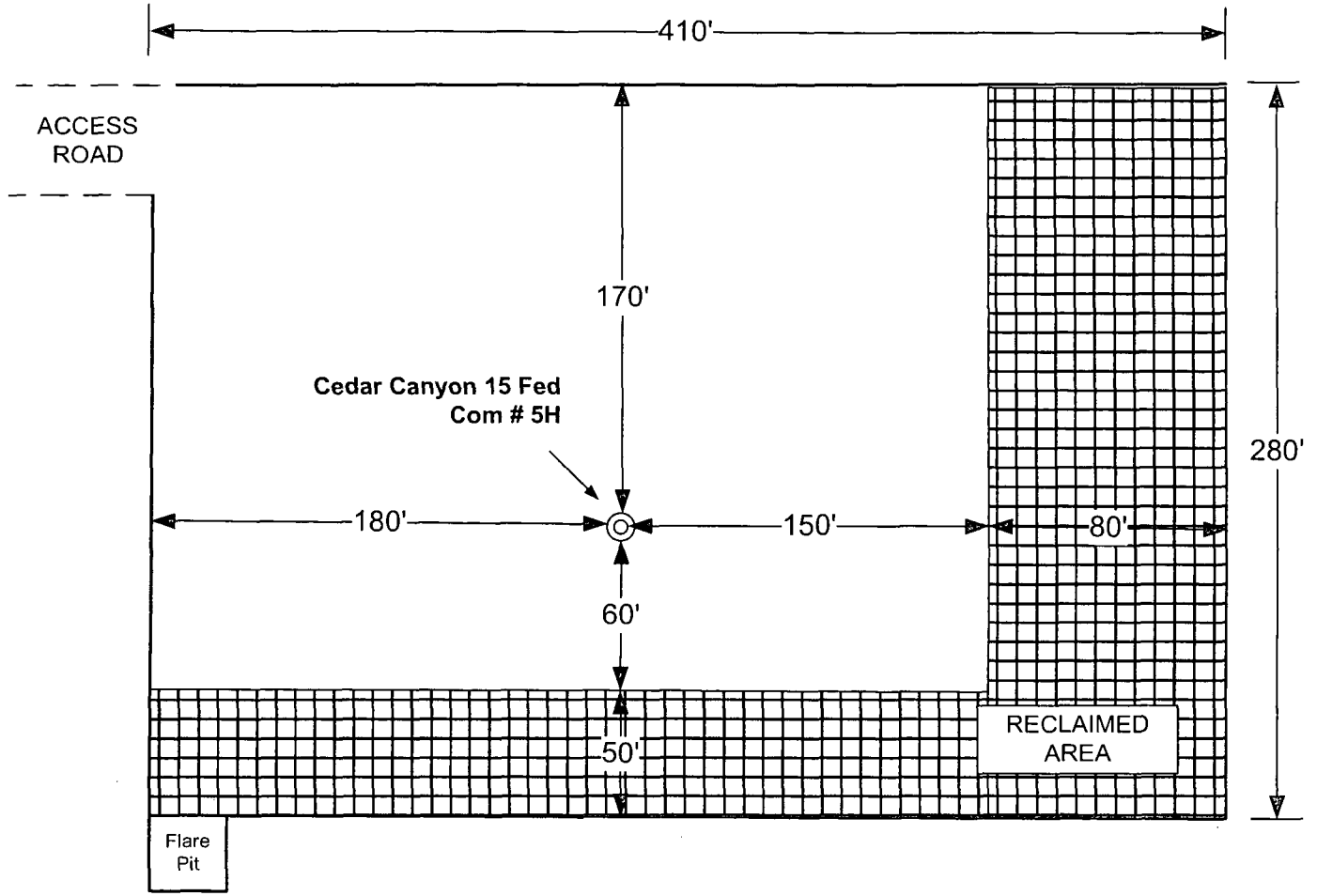
4. Provide for prompt transportation to the hospital, and continue giving artificial respiration if needed.

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



Wellsite Layout

8' Diameter x 8' Deep Tinhorn Cellar

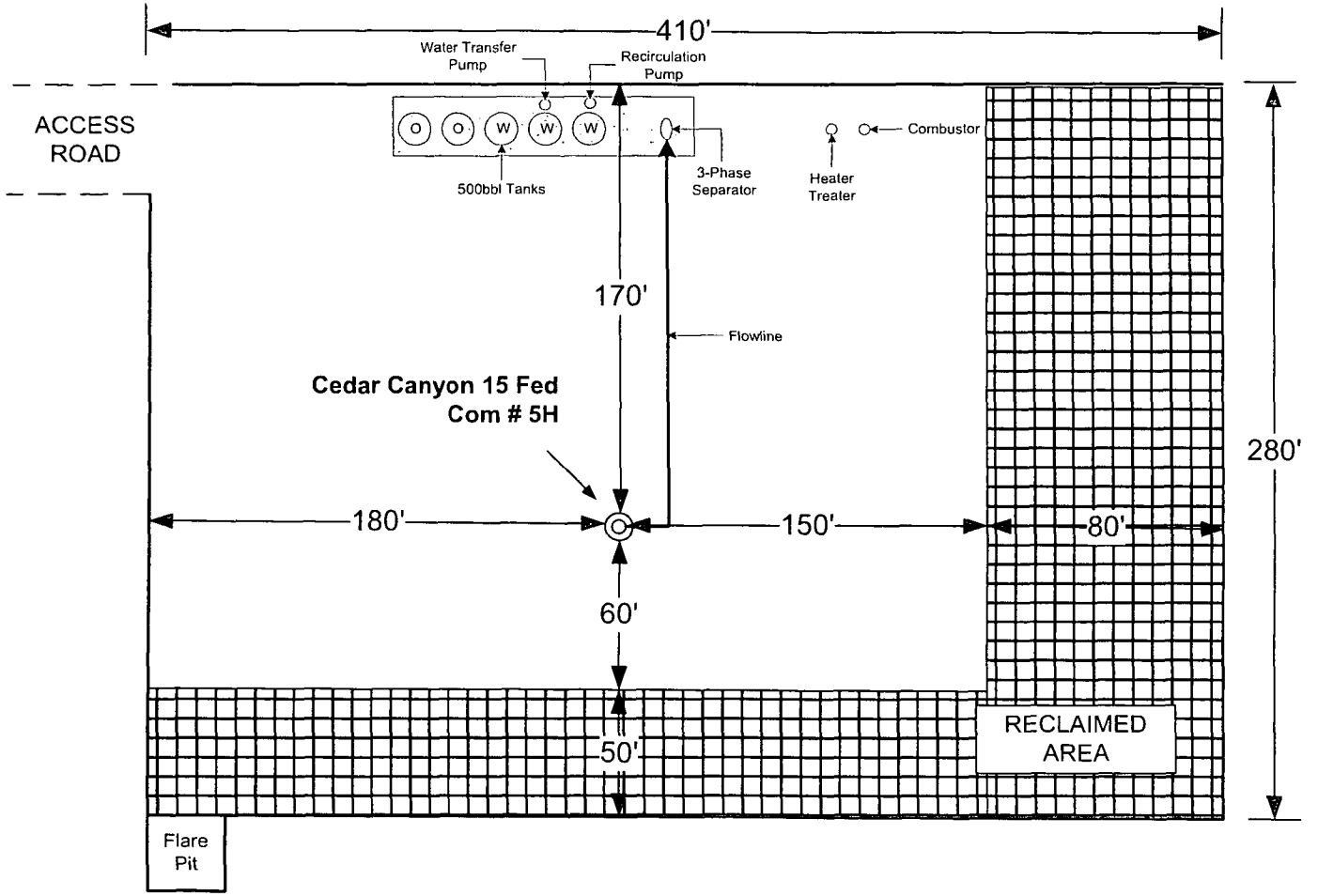
REVISION BLOCK						ENGINEERING RECORD	
NO.	DATE	DESCRIPTION	BY	CHK	APP	BY	DATE

FLEX 3 RIG DIAGRAM

Cedar Canyon 15 Fed Com # 5H

V-Door- West

LEA COUNTY, NEW MEXICO



8' Diameter x 8' Deep Tinhorn Cellar

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

FLEX 3 RIG DIAGRAM

Cedar Canyon 15 Fed Com # 5H

LEA COUNTY, NEW MEXICO

Facility Layout

Surface Use and Compensation Agreement

OXY USA, Inc. (OXY) intends to conduct oil and gas operations on the surface described below. The information contained in this agreement provides information regarding proposed oil and gas operations and is in compliance with the Surface Owners Protection Act.

Surface Description:

TOWNSHIP 23 SOUTH, RANGE 29 EAST, EDDY COUNTY NEW MEXICO

SECTION 31 : The East Half and the Southwest Quarter
SECTION 32: The North Half of the Northwest Quarter

TOWNSHIP 24 SOUTH, RANGE 28 EAST, EDDY COUNTY, NEW MEXICO

SECTION 1: The East Half of the North East Quarter

TOWNSHIP 24 SOUTH, RANGE 29 EAST, EDDY COUNTY, NEW MEXICO

SECTION 5: The Southwest Quarter of the Southwest Quarter
SECTION 6: The Southeast Quarter of the Southeast Quarter and the West Half
SECTION 7: The Northeast Quarter of the Northeast Quarter, The West Half and the South Half of the Southeast Quarter
SECTION 8: The South Half of the Northeast Quarter, the East Half of the Southwest Quarter and the Southeast Quarter
SECTION 9: The Southwest Quarter of the Northwest Quarter and the South Half
SECTION 10: The South Half of the Southwest Quarter and the North Half of the Southwest Quarter
SECTION 15: The West Half of the Northeast Quarter, the West Half and the West Half of the Southeast Quarter
SECTION 16: North Half of the North Half
SECTION 17: North Half, Less the Southeast Quarter of the Northeast Quarter
The Southwest Quarter
TRACT 255 (Northeast Quarter of the Northwest Quarter of the Southeast Quarter
TRACT 258 (North Half of the Northwest Quarter of the Southwest Quarter of the Southeast Quarter)
TRACT 259 (South Half of the Northwest Quarter of the Southwest Quarter of the Southeast Quarter)
TRACT 260 (North Half of the Southwest Quarter of the Southwest Quarter of the Southeast Quarter)
TRACT 261 (South Half of the Southwest Quarter of the Southwest Quarter of the Southeast Quarter)
TRACT 262 (South Half of the Southeast Quarter of the Southwest Quarter of the Southeast Quarter)
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TRACT 264 (South Half of the Northeast Quarter of the Southwest Quarter of the Southeast Quarter)
TRACT 266 (South Half of the Southeast Quarter of the Northwest Quarter of the Southeast Quarter)
TRACT 267 (North Half of the Southeast Quarter of the Northwest Quarter of the Southeast Quarter)
SECTION 18: The East Half of the Northeast Quarter and the Northeast Quarter of the Southwest Quarter and the South Half of the Southwest Quarter and the Southeast Quarter
SECTION 19: The Northwest Quarter of the Northeast Quarter and the Northeast Quarter of the Northwest Quarter
SECTION 22: The North Half of the Northwest Quarter and the Northwest Quarter of the Northeast Quarter and the South Half of the Northwest Quarter and the Southwest Quarter of the Northeast Quarter

The above is here after referred to as the "lands";

OXY Contact Information:

Company Name:	**OXY USA, Inc.**
Office Address:	P. O. Box 27570, Houston, TX 77227-9804
Office Telephone:	(713) 350-4816
Operator Representative:	Jeremy Murphrey, Landman Sr.

Plan of Operations

The information below reflects information reasonably known and available at the time. Amendments to the plan of operations may be provided at later times as development progresses; however, the terms of this agreement will remain the same.

a. Well pads, gathering pipelines and roads

Well pad site of approximately ~~380~~ 410' LB 11-4-13' X 280' will be constructed with caliche or other available suitable material. Top soil will be pushed to the side for use in reclaiming the site. OXY may lay and maintain pipelines, gathering lines, erect and maintain telephone and utility lines and other appliances or equipment necessary for the operation of the well pad site. OXY agrees to compensate Surface Owner in accordance with the provisions of this Surface Use and Compensation Agreement (the "Agreement"). OXY shall have the right to construct (including the right to construct bridges and culverts), use, maintain, inspect, repair and operate roadways to allow for safe travel of oil field vehicles and equipment as required for its operations in the area. Such roadways will follow mutually agreeable and reasonable routes selected by OXY and Surface Owner. OXY will place water diversions across said roadways, as necessary, to prevent excessive washing out of roadway. Damages for use of a new road shall be determined in accordance with this Agreement. Oxy shall have the right to use (including the right and obligation to maintain inspect and repair) any currently existing roads as required for its operations. Damages shall be paid to Surface Owner for such use of existing roads only upon proof of lost use or lost access to Surface Owner's property.

b. Ingress and egress

OXY shall have the right of ingress and egress and right of way to and from any point of operations within the lands provided that such right of way and ingress and egress will to the extent practical result in the least injury and inconvenience to the Surface Owner. Existing roads will be used whenever practical and new roads constructed only when necessary.

c. Construction, maintenance and placement of pits and equipment

Temporary pits will not be constructed. A closed loop drilling system will be utilized.

d. Use and impoundment of water

OXY will have no right to use any surface water found on property owned or controlled by Surface Owner. No impoundment of water is anticipated in this operation. Incidental water caught within the walls surrounding surface facilities will be allowed to evaporate, drain or be removed by truck in accordance with rules in place at the time.

e. Removal and restoration of plant life

In agricultural areas, plants may be moved to another location at the option of the surface owner. Trees or large brush will be cut, stacked and removed by the operator. Small brush and grasses will be pushed to the side of the location or road. Disturbed surface will be restored as is practicable when no longer needed for oil and gas operations. Sites will be reseeded with an approved seed mixture.

The above is here after referred to as the "lands";

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Office Address:	P. O. Box 27570, Houston, TX 77227-9804
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f. Surface water drainage changes

None anticipated. Rain water will be diverted around locations. Culverts or low water crossings will be installed as needed.

g. Actions to limit precipitation runoff and erosion

See Section f above.

h. Control and management of noise, weeds, dust, traffic, trespass, litter

Efforts will be made to accommodate the surface owner's requests regarding ingress and egress and operations near residences. Roads will be gated and remain locked during non-week day operations if requested by the surface owner and/or at the operator's option. Trash receptacle will be provided at facility locations. Roads and locations will be periodically policed for trash and litter. All employees and contractors will be reminded to conduct their operations in accordance with the industry Good Neighbor Policy.

i. Reclamation

At a minimum, locations will be ripped and reseeded in an effort to establish vegetation. Any stockpiled top soil will be redistributed. Seed mixtures will be comparable to surrounding vegetation. As needed, two attempts will be made to establish a viable stand of vegetation over a period of 5 years. The surface owner, as part of this agreement, will allow for access to the surface should the lease expire or be transferred to another entity to allow for the reclamation.

j. Damages to surface property.

Operator will make reasonable efforts to minimize damage to the surface and surface improvements. This includes road route selection and the movement of surface locations when reasonable.

k. INDEMNIFICATION

OXY AGREES TO FOREVER KEEP, DEFEND, INDEMNIFY AND HOLD HARMLESS THE SURFACE OWNERS (OR ANY OF THEM) FROM AND AGAINST ANY AND ALL CLAIMS, DAMAGES, SUITS OR OBLIGATIONS CAUSED BY, RESULTING FROM OR RELATED TO OXY OR OXY'S CONTRACTOR'S, AGENT'S, OR INVITEE'S OPERATIONS OR PRESENCE ON SAID SURFACE.

l. Compensation

Operator agrees to compensate the surface owner as follows:

1. Well pad - $10,000.00
2. Roads -$15 per rod for existing roads and $40 per rod for new roads.
3. Pipelines - $15 per rod for unburied lines being up to 6 inches in width and $40 per rod for buried lines over 6 inches in width.
4. Electric Lines -$25 per rod for on lease electric lines and $40 per rod off lease electric lines.
5. Replacement of surface improvements damaged by operations such as but not limited to fences, cattle guards, gates, corrals.
6. Fair market value to crops not grown in a field where similar crops are harvested.

This Agreement shall not be regarded as an amendment or supplement to any existing leases or unit agreements that may relate to the surface and shall not diminish in any way the rights of OXY under any existing leases or unit agreements that may relate to the surface.

The Surface Owner represents and warrants that it has the authority to enter into this Agreement.

Parties hereto agree not to record this Agreement or any memorandum hereof.

This Agreement shall be binding upon the heirs, successors and assigns of the parties to this Agreement.

[REMAINDER OF THIS PAGE INTENTIONALLY LEFT BLANK]

IN WITNESS WHEREOF, the parties hereto have executed this instrument in duplicate this 30 day of March 2012.

OXY USA INC.

By: Stephen S. Flynn, Attorney-in-Fact

SURFACE OWNER:

John D. Brantley ,Jr.

Henry McDonald

STATE OF TEXAS §
§
COUNTY OF HARRIS §

This instrument was acknowledged before me on this 30 day of MARCH 2012, by **Stephen S. Flynn**, Attorney-in-Fact of OXY USA Inc., a Delaware Corporation.

Candace Young
Commission Expires
02-23-2016

Notary Public

COUNTY OF Eddy §
§
STATE OF NM §

This instrument was acknowledged before me this 30 day of March 2012, by **John D .Brantley, Jr.**

My Commission Expires:

OFFICIAL SEAL
RHONDA YEAGER
Notary Public
State of New Mexico
My Comm. Expires 10-4-2016

Rhonda Yeager
NOTARY PUBLIC,
STATE OF NM

COUNTY OF Eddy §
§
STATE OF NM §

This instrument was acknowledged before me this 30 day of March 2012, by **Henry McDonald.**

My Commission Expires:

OFFICIAL SEAL
RHONDA YEAGER
Notary Public
State of New Mexico
My Comm. Expires 10-4-2012

Rhonda Yeager
NOTARY PUBLIC,
STATE OF NM

SURFACE USE PLAN OF OPERATIONS - AMENDED

Operator Name/Number:	**OXY USA Inc.**	**16696**
Lease Name/Number:	**Cedar Canyon 15 Federal Com. #5H**	
Pool Name/Number:	**Pierce Crossing Bone Spring, East**	**96473**
Surface Location:	**1095 FNL 290 FWL NWNW(D) Sec 15 T24S R29E**	**Fee**
Penetration Point:	**918 FNL 393 FWL NWNW(D) Sec 15 T24S R29E**	**Fee**
Bottom Hole Location:	**660 FNL 330 FEL NENE(A) Sec 15 T24S R29E**	**Federal Lease No. NMNM088137**

1. Existing Roads

a. A copy of a USGS "Pierce Canyon, NM" quadrangle map is attached showing the proposed location. The well location is spotted on this map, which shows the existing road system.

b. The well was staked by Ronald J. Eidson, Certificate No. 3239 on 3/29/13, certified 7/8/13.

c. Directions to Location: At the intersection of CR 720 and CR 746, go south on CR 746 for 0.75 miles, then southeast for 1.5 miles, then east for 1.0 miles, then southeast for 2.3 miles, then north for 0.4 miles. Turn left and go west for 0.2 miles, turn right and go north for 0.6 miles, turn right and go east /northeast for 0.4 miles veer left and go north for 1.0 miles, location is east approx. 400'.

2. New or Reconstructed Access Roads:

a. A new access road will be built. The access road will run approximately 212' east from an existing road to the location.

b. The maximum width of the road will be 15'. It will be crowned and made up of 6" of rolled and compacted caliche. Water will be deflected, as necessary, to avoid accumulation and prevent surface erosion.

c. Surface material will be native caliche. This material will be obtained from a BLM approved pit nearest in proximity to the location. The average grade will be approximately 1%.

d. No cattle guards, grates or fence cuts will be required. No turnouts are planned.

e, Blade, water & repair existing caliche roads as needed.

3. Location of Existing Wells:

Existing wells within a one mile radius of the proposed well are shown on attached plat.

4. Location of Existing and/or Proposed Production Facilities.

a. In the event the well is found productive, the Cedar Canyon 15 tank battery would be utilized and the necessary production equipment will be installed at the well site. See proposed Production Facilities Layout diagram.

~~b. If necessary, electric power poles will be set along side of the access road.~~

c. All flowlines will adhere to API Standards.

5. Location and types of Water Supply.

This well will be drilled using a combination of water mud systems. It will be obtained from commercial water stations in the area and will be hauled to location by transport truck using existing and proposed roads.

6. Construction Materials:

All caliche utilized for the drilling pad and proposed access road will be obtained from an existing BLM approved pit or from prevailing deposits found under the location. Will use BLM recommended use of extra caliche from other locations close by for roads, if available.

7. Methods of Handling Waste Material:

a. A closed loop system will be utilized consisting of above ground steel tanks and haul-off bins. Disposal of liquids, drilling fluids and cuttings will be disposed of at an approved facility.
1. Solids - CRI
2. Liquids - Laguna

b. All trash, junk, and other waste material will be contained in trash cages or bins to prevent scattering. When the job is completed, all contents will be removed and disposed of in an approved sanitary landfill.

c. The supplier, including broken sacks, will pick up slats remaining after completion of well.

d. A Porto-john will be provided for the rig crews. This equipment will be properly maintained during the drilling and completion operations and will be removed when all operations are complete.

e. Disposal of fluids to be transported will be by the following companies:
TFH Ltd. - Laguna SWD Facility

8. Ancillary Facilities: None needed

9. Well Site Layout

The proposed well site layout with dimensions of the pad layout and equipment location.

V-Door - West CL Tanks- South Pad - 280' X 410'

10. Plans for Surface Reclamation:

a. After concluding the drilling and/or completion operations, if the well is found non-commercial, the caliche will be removed from the pad and transported to the original caliche pit or used for other drilling locations. The road will be reclaimed as directed by the BLM. The original top soil will again be returned to the pad and contoured, as close as possible, to the original topography.

b. If the well is deemed commercially productive, caliche from areas of the pad site not required for operations will be reclaimed. The original top soil will be returned to the area of the drill pad not necessary to operate the well. These unused areas of the drill pad will be contoured, as close as possible, to match the original topography, and the area will be seeded with an approved BLM mixture to re-establish vegetation.

11. Surface Ownership

The surface is owned by a private landowner and the surface agreement is attached.
The surface is owned by John Drapper Brantley, 706 W. Riverside Dr, Carlsbad, NM 88220 and Henry McDonald, Box 597, Loving, NM 88256.
They will be mailed a copy of the SUPO and notified of our intention to drill prior to any activity.

12. Other Information

a. The vegetation cover is generally sparse consisting of mesquite, yucca, shinnery oak, sandsage and perennial. native range grass. The topsoil is sandy in nature. Wildlife in the area is also sparse consisting of deer, coyotes, rabbits, rodents, reptiles, dove and quail.

b. There is no permanent or live water in the general proximity of the location.

c. There are no dwellings within 2 miles of the proposed well site.

d. Cultural Resources Examination - this well is located in the Permian Basin MOA.

Pad + 1/4 mile road	$1,507.00	0	$0.19/ft over 1/4 mile	$0.00	$1,507.00
Pipeline - up to 1mile	$1,391.00	0	$290 per 1/4 mile	$0.00	$1,391.00
Electric Line-up to 1mile	$696.00	0	$0.21/ft over 1 mile	$0.00	$696.00
Total	$3,594.00			$0.00	$3,594.00

13. Bond Coverage:

Bond Coverage is Individual-NMB000862, Nationwide-ESB00226

Operators Representatives:

The OXY Permian representatives responsible for ensuring compliance of the surface use plan are listed below.

Don Kendrick
Production Coordinator
1502 West Commerce Dr.
Carlsbad, NM 88220
Office Phone: 575-628-4132
Cellular: 575-602-1484

Charles Wagner
Manager Field Operations
1502 West Commerce Dr.
Carlsbad, NM 88220
Office Phone: 575-628-4151
Cellular: 575-725-8306

Roger Allen
Drilling Superintendent
P.O. Box 4294
Houston, TX 77210
Office Phone: 713-215-7617
Cellular: 281-682-3919

Calvin (Dusty) Weaver
Operation Specialist
P.O. Box 50250
Midland, TX 79710
Office Phone: 432-685-5723
Cellular: 806-893-3067

Sebastian Millan
Drilling Engineering Supervisor
P.O. Box 4294
Houston, TX 77210
Office Phone: 713-985-8750
Cellular: 713-528-3268

Carlos Mercado
Drilling Engineer
P.O. Box 4294
Houston, TX 77210
Office Phone: 713-366-5418
Cellular: 281-455-3481

PECOS DISTRICT
CONDITIONS OF APPROVAL

OPERATOR'S NAME:	**OXY USA Inc.**
LEASE NO.:	**NMNM-88137**
WELL NAME & NO.:	**Cedar Canyon 15 Federal Com 5H**
SURFACE HOLE FOOTAGE:	**1095' FNL & 0290' FWL**
BOTTOM HOLE FOOTAGE	**0660' FNL & 0330' FEL**
LOCATION:	**Section 15, T. 24 S., R 29 E., NMPM**
COUNTY:	**Eddy County, New Mexico**

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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.

- ☐ **General Provisions**
- ☐ **Permit Expiration**
- ☐ **Archaeology, Paleontology, and Historical Sites**
- ☐ **Noxious Weeds**
- ☒ **Special Requirements**
  - VRM
  - Communitization Agreement
- ☐ **Construction**
  - Notification
  - Topsoil
  - Closed Loop System
  - Federal Mineral Material Pits
  - Well Pads
  - Roads
- ☐ **Road Section Diagram**
- ☒ **Drilling**
  - Cement Requirements
  - Medium Cave/Karst
  - Logging Requirements
  - Waste Material and Fluids
- ☐ **Production (Post Drilling)**
  - Well Structures & Facilities
  - Pipelines
  - Electric Lines
- ☐ **Interim Reclamation**
- ☐ **Final Abandonment & Reclamation**

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)

Visual Resource Management Class III : All above ground structures including but not limited to pumpjacks, storage tanks, production equipment, etc. would be shorter than 8 feet to minimize visual impacts to the natural features of the landscape. Above-ground structures including meter housing that are not subject to safety requirements are painted a flat non-reflective paint color, Shale Green from the BLM Standard Environmental Color Chart (CC-001: June 2008). Upon abandonment, a ground level abandoned well marker would be installed.

Communitization Agreement

A Communitization Agreement covering the acreage dedicated to this well must be filed for approval with the BLM. The effective date of the agreement shall be prior to any sales. In addition, the well sign shall include the surface and bottom hole lease numbers. If the Communitization Agreement number is known, it shall also be on the sign. If not, it shall be placed on the sign when the sign is replaced.

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.

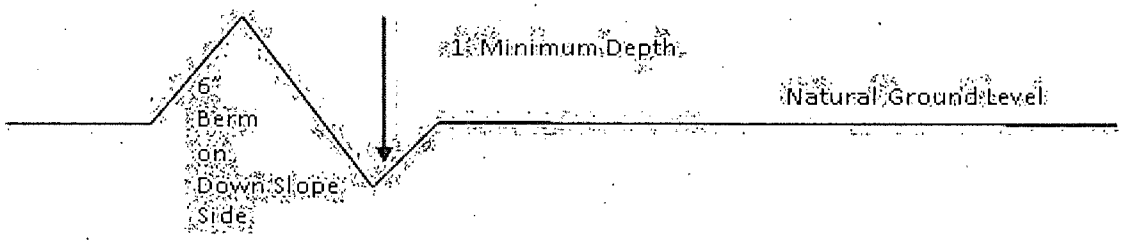
Ditching
Ditching shall be required on both sides of the road.

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

Culvert Installations
Appropriately sized culverts shall be installed at deep waterway channel flow crossings through the road.

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

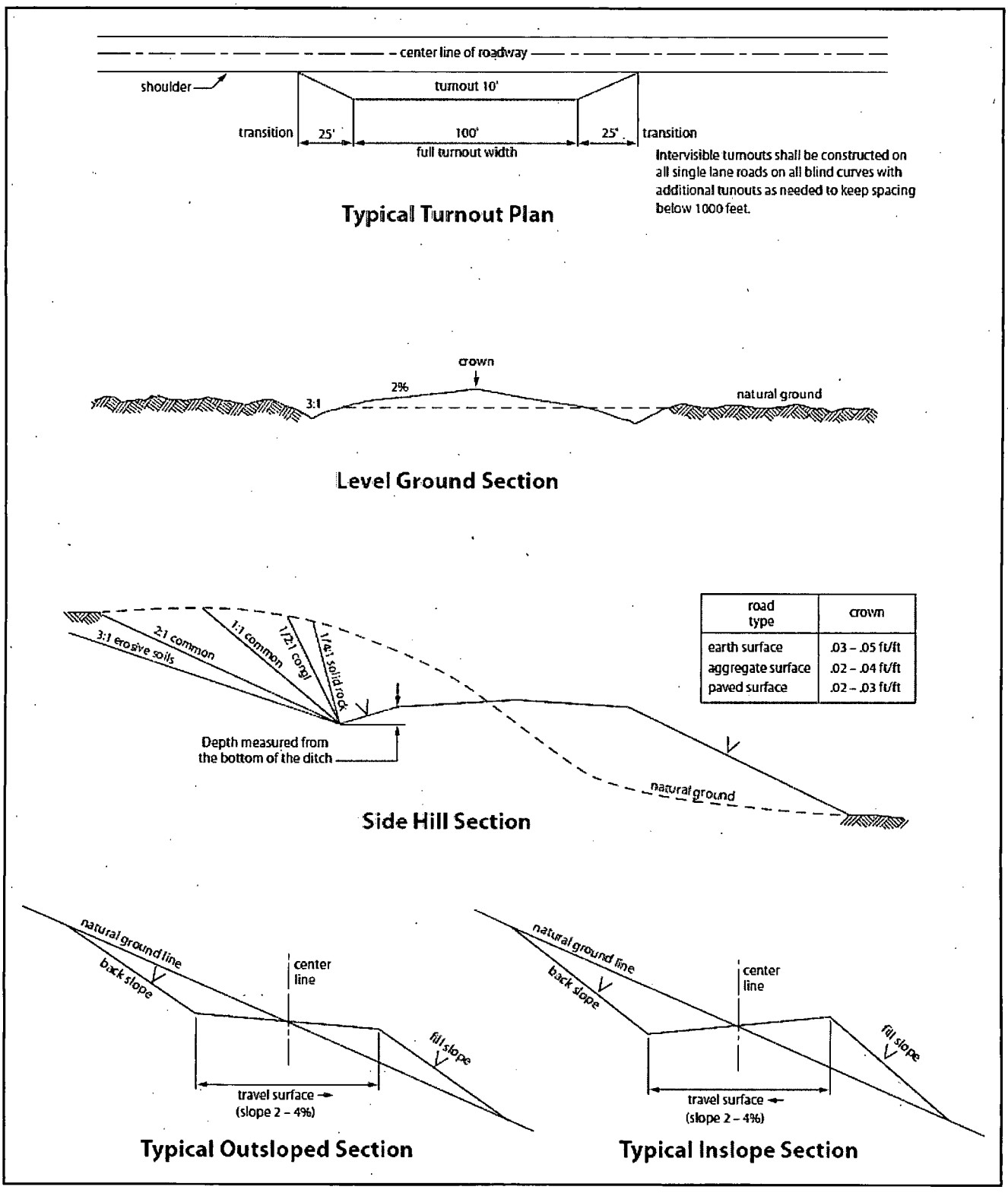


Figure 1. Cross-sections and plans for typical road sections representative of BLM resource or FS local and higher-class roads.

VII. DRILLING

A. DRILLING OPERATIONS REQUIREMENTS

The BLM is to be notified in advance for a representative to witness:

a. Spudding well (minimum of 24 hours)
b. Setting and/or Cementing of all casing strings (minimum of 4 hours)
c. BOPE tests (minimum of 4 hours)

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

1. **Although Hydrogen Sulfide has not been reported in the area, it is always a potential hazard. If Hydrogen Sulfide is encountered, report measured amounts and formations to the BLM. Operator has stated that they will have monitoring equipment in place prior to drilling out of the surface shoe.**

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 is 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. 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) time prior to drilling out for a primary cement job will be a minimum 18 hours for a water basin, 24 hours in the potash area, or 500 pounds compressive strength, whichever is greater for all casing strings. DURING THIS WOC TIME, NO DRILL PIPE, ETC. SHALL BE RUN IN THE HOLE. Provide compressive strengths including hours to reach required 500 pounds compressive strength prior to cementing each casing string. IF OPERATOR DOES NOT HAVE THE WELL SPECIFIC CEMENT DETAILS ONSITE PRIOR TO PUMPING THE CEMENT FOR EACH CASING STRING, THE WOC WILL BE 30 HOURS. 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.

Medium Cave/Karst
Possibility of water flows in the Castile and Salado.
Possibility of lost circulation in the Rustler, Salado, and Delaware.

1. The **11-3/4** inch surface casing shall be set at approximately **370** feet (a minimum of 25 feet into the Rustler Anhydrite and above the salt) and cemented to the surface. **If salt is encountered, set casing at least 25 feet above the salt.**

    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.

Formation below the 11-3/4" shoe to be tested according to Onshore Order 2.III.B.1.i. Test to be done as a mud equivalency test using the mud weight necessary for the pore pressure of the formation below the shoe and the mud weight for the bottom of the hole. Report results to BLM office.

2. The minimum required fill of cement behind the **8-5/8** inch intermediate casing, which shall be set at approximately **2900** feet, 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 cave/karst.**

If 75% or greater lost circulation occurs while drilling the intermediate casing hole, the cement on the production casing must come to surface.

Formation below the 8-5/8" shoe to be tested according to Onshore Order 2.III.B.1.i. Test to be done as a mud equivalency test using the mud weight necessary for the pore pressure of the formation below the shoe (not the mud weight required to prevent dissolving the salt formation) and the mud weight for the bottom of the hole. Report results to BLM office.

Centralizers required on horizontal leg, must be type for horizontal service and a minimum of one every other joint.

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

   ☒ Cement should tie-back at least 600 feet into previous casing string. Operator shall provide method of verification.

4. 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. 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. These documents shall be posted in the company man's trailer and on the rig floor.** 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).

3. **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.

4. 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**.

    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).

VRM Facility Requirement
Low-profile tanks not greater than eight-feet-high shall be used.

B. PIPELINES (Not applied for in APD)

C. ELECTRIC LINES (Not applied for in APD)

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 1, for Loamy 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 regulator to ensure proper depth of planting where drilling is possible. The seed mixture will be evenly and uniformly planted over the disturbed area (small/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
Plains lovegrass (Eragrostis intermedia)	0.5
Sand dropseed (Sporobolus cryptandrus)	1.0
Sideoats grama (Bouteloua curtipendula)	5.0
Plains bristlegrass (Setaria macrostachya)	2.0

*Pounds of pure live seed:

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