Form 3160-5
(August 2007)

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

NM OIL CONSERVATION
ARTESIA DISTRICT
NOV 16 2015
RECEIVED

OCD Artesia

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

SUNDRY NOTICES AND REPORTS ON WELLS

Do not use this form for proposals to drill or to re-enter an abandoned well. Use form 3160-3 (APD) for such proposals.

SUBMIT IN TRIPLICATE - Other instructions on reverse side.

5. Lease Serial No.
NMNM81586

6. If Indian, Allottee or Tribe Name

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

1. Type of Well
☒ Oil Well ☐ Gas Well ☐ Other

8. Well Name and No.
CEDAR CANYON 23 FEDERAL 5H

2. Name of Operator
OXY USA INCORPORATED
Contact: DAVID STEWART
E-Mail: david_stewart@oxy.com

9. API Well No.
30-015-43282-00-X1

3a. Address
5 GREENWAY PLAZA STE 110
HOUSTON, TX 77046-0521

3b. Phone No. (include area code)
Ph: 432.685.5717

10. Field and Pool, or Exploratory
PIERCE CROSSING

4. Location of Well *(Footage, Sec., T., R., M., or Survey Description)*
Sec 22 T24S R29E NENE 1305FNL 155FEL

11. County or Parish, and State
EDDY COUNTY, NM

12. CHECK APPROPRIATE BOX(ES) TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA

TYPE OF SUBMISSION	TYPE OF ACTION			
☒ Notice of Intent	☐ Acidize	☐ Deepen	☐ Production (Start/Resume)	☐ Water Shut-Off
☐ Subsequent Report	☐ Alter Casing	☐ Fracture Treat	☐ Reclamation	☐ Well Integrity
☐ Final Abandonment Notice	☐ Casing Repair	☐ New Construction	☐ Recomplete	☒ Other Change to Original APD
	☐ Change Plans	☐ Plug and Abandon	☐ Temporarily Abandon	
	☐ Convert to Injection	☐ Plug Back	☐ Water Disposal	

13. Describe Proposed or Completed Operation (clearly state all pertinent details, including estimated starting date of any proposed work and approximate duration thereof. If the proposal is to deepen directionally or recomplete horizontally, give subsurface locations and measured and true vertical depths of all pertinent markers and zones. Attach the Bond under which the work will be performed or provide the Bond No. on file with BLM/BIA. Required subsequent reports shall be filed within 30 days following completion of the involved operations. If the operation results in a multiple completion or recompletion in a new interval, a Form 3160-4 shall be filed once testing has been completed. Final Abandonment Notices shall be filed only after all requirements, including reclamation, have been completed, and the operator has determined that the site is ready for final inspection.)

OXY USA Inc. respectfully requests approval for the following changes to the approved APD:

1. Move Surface Location to a multi-well pad to accommodate skidding the rig.
2. Amend horizontal lateral - NSL to be filed
3. Amend casing/cementing/mud programs
4. Propose to run the wellhead through the rotary prior to cementing surface casing.

Proposed TD - 16382'M 8990'V

1. Amended C-102 and plats attached
New - SL 1317 FNL 195 FEL NENE Sec 22 - BHL 535 FNL 2460 FWL NENW Sec 24
Old - SL 1305 FNL 155 FEL NENE Sec 22 - BHL 940 FNL 2460 FWL NENW Sec 24

Follow existing COA's NRS 10-27-15

11/20/15
Accepted for record
NMOCD

SEE ATTACHED FOR
CONDITIONS OF APPROVAL
Eng okay Cwells 10/30/15

14. I hereby certify that the foregoing is true and correct.

Electronic Submission #321088 verified by the BLM Well Information System
For OXY USA INCORPORATED, sent to the Carlsbad
Committed to AFMSS for processing by LINDA DENNISTON on 10/26/2015 (16LD0098SE)

Name *(Printed/Typed)* DAVID STEWART — Title REGULATORY ADVISOR

Signature (Electronic Submission) — Date 10/22/2015

THIS SPACE FOR FEDERAL OR STATE OFFICE USE

Approved By Stephen J Caffey — Title For FIELD MANAGER — Date 11/9/15

Conditions of approval, if any, are attached. Approval of this notice does not warrant or certify that the applicant holds legal or equitable title to those rights in the subject lease which would entitle the applicant to conduct operations thereon.

Office BLM-CARLSBAD FIELD OFFICE

Title 18 U.S.C. Section 1001 and Title 43 U.S.C. Section 1212, make it a crime for any person knowingly and willfully to make to any department or agency of the United States any false, fictitious or fraudulent statements or representations as to any matter within its jurisdiction.

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

Additional data for EC transaction #321088 that would not fit on the form

32. Additional remarks, continued

2. Amended Directional Plan attached

3. Amended casing/cementing/mud programs

a.Surface Casing
10-3/4" 45.5# J-55 BT&C new csg @ 0-440', 14-3/4" hole w/ 8.4# mud
Coll Rating (psi)-2090 Burst Rating (psi)-3580
SF Coll-10.94 SF Burst-1.40 SF Ten-6.11

b.Intermediate Casing - Deep
7-5/8" 29.7# L80 BT&C new csg @ 0-8276', 9-7/8" hole w/ 9.4# mud
Coll Rating (psi)-4790 Burst Rating (psi)-6890
SF Coll-5.00 SF Burst-1.31 SF Ten-2.19
Setting depth will be +/- 100' of approved depending on how formation tops affect planned KOP.
DVT/ACP to be set @ +/-3050', if cement circulates to surface on 1st stage, cancelation cone will be dropped.

c.Production Casing
5-1/2" 20# P-110 USF new csg @ 0-9050'M, 6-3/4" hole w/ 9.2# mud
Coll Rating (psi)-11100 Burst Rating (psi)-12600
SF Coll-2.69 SF Burst-1.22 SF Ten-2.05
4-1/2" 13.5# P-110 BT&C new csg @ 9050-16382'M, 6-3/4" hole w/ 9.2# mud
Coll Rating (psi)-10670 Burst Rating (psi)-12410
SF Coll-2.42 SF Burst-1.23 SF Ten-2.15

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

Cement program modifications detailed below.

a. Surface - Circulate cement to surface w/ 550sx PP cmt w/ 2% CaCl2, 14.8ppg 1.35 yield, 500# CS in 6.50hr, 150% Excess.

b. Intermediate - Circulate cement to surface w/ 1120sx Tuned Light (TM) system cmt w/ 3#/sx Kol-Seal + .125#/sx Poly-E-Flake + .8% HR-601, 10.2ppg 3.05 yield, 500# CS in 15.07hr, 125% Excess followed by 150sx Super H cmt w/ 3#/sx salt + .1% HR-800 + .3% CFR-3 + .5% Halad(R)-344 + 2#/sx Kol-Seal, 13.2ppg 1.65 yield, 500# CS in 12.57hr, 15% Excess.

Contingency 2nd Stage - Circulate cement to surface w/ 480sx HES light PP cmt w/ 5% Salt + .1% HR-800, 12.9ppg 1.87 yield, 500# CS in 12.44hr, 75% Excess followed by 182sx PP cmt, 14.8ppg 1.33 yield, 500# CS in 6.31hr,125% Excess.

c. Production - Cement w/ 1051sx Super H cmt w/ 3#/sx salt + .1% HR-800 + .3% CFR-3 + .5% Halad(R)-344 + 2#/sx Kol-Seal, 13.2ppg 1.65 yield, 500# CS in 12.57hr, 50% Excess. Estimated TOC @ 7276'.

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

Mud Program

Depth	Mud WT	Vis Sec	Fluid Loss	Type
0-440'	8.4-8.8	28-38	NC	FW Gel
440-3050'	9.8-10	28-32	NC	NaCl Brine
3050-8276'	8.8-9.6	38-50	50-75cc/30min	EnerSeal (MMH)
8132'-TD	8.8-9.4	28-100	NC	Oil Based Mud

Remarks: 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. Oxy proposes to drill out the 10-3/4" surface casing shoe with a saturated brine system from 440-3050', which is the base of the salt system. At this point we will swap fluid systems to a high viscosity mixed metal hydroxide system and will drill with this system to the intermediate TD @ 8276'. We are also proposing to change the production mud system back to a oil based mud system.

OXY USA Inc.
Cedar Canyon 23 Federal

Casing Design Assumptions:

Burst Loads

CSG Test (Surface)

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

CSG Test (Intermediate)

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

CSG Test (Production)

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

Gas Kick (Surface/Intermediate)

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

Stimulation (Production)

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

Collapse Loads

Lost Circulation (Surface/Intermediate)

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

Cementing (Surface/Intermediate/Production)

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

Full Evacuation (Production)

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

Tension Loads

Running CSG (Surface/Intermediate/Production)

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

Green Cement (Surface/Intermediate/Production)

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

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

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

State of New Mexico
Energy, Minerals & Natural Resources Department
OIL CONSERVATION DIVISION
1220 South St. Francis Dr.
Santa Fe, NM 87505

OIL CONSERVATION
ARTESIA DISTRICT
NOV 16 2015
RECEIVED

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
30-015-43282	96473	Pierce Crossing, Bone Spring, E.

Property Code	Property Name	Well Number
315098	CEDAR CANYON "23" FEDERAL	5H

OGRID No.	Operator Name	Elevation
16696	OXY USA INC.	2942.4'

Surface Location

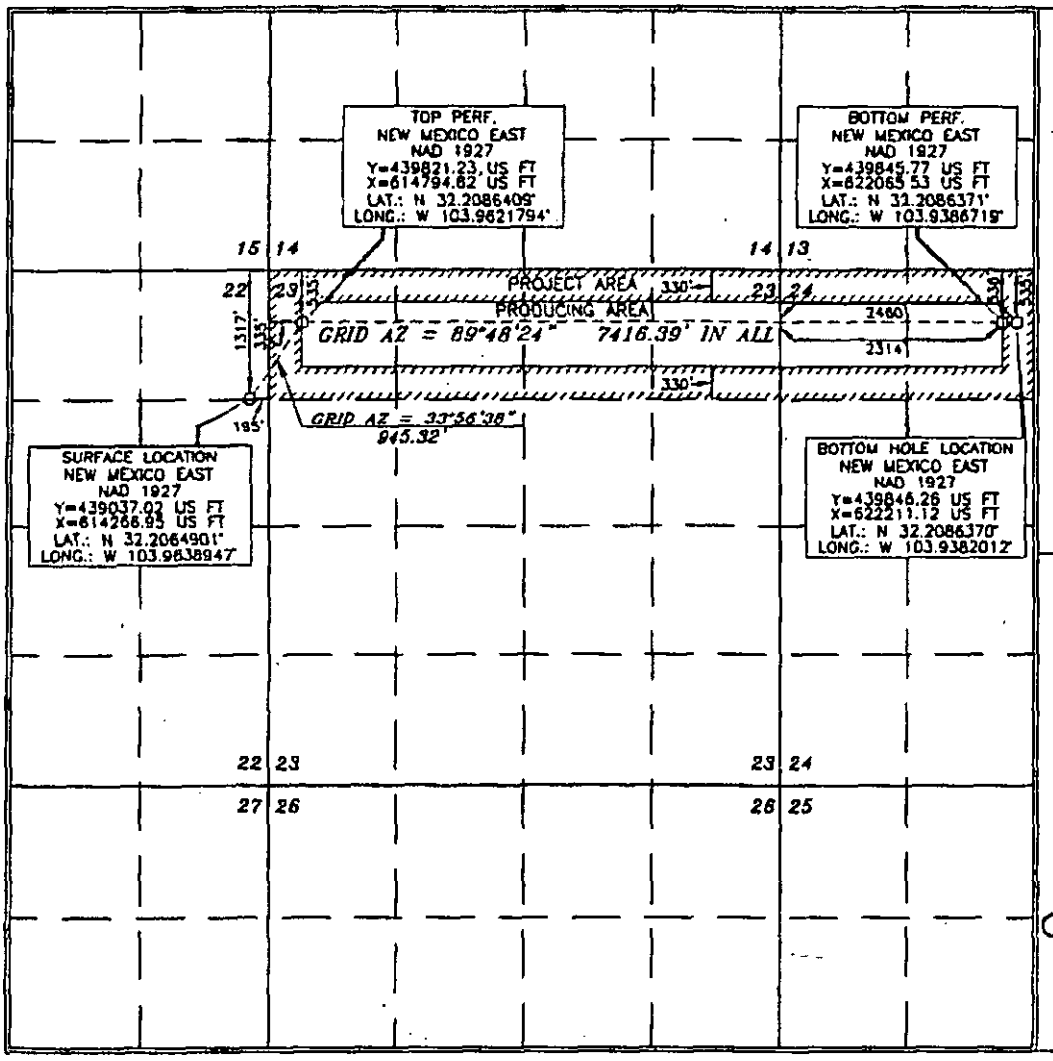
UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
A	22	24 SOUTH	29 EAST, N.M.P.M.		1317'	NORTH	195'	EAST	EDDY

Bottom Hole Location If Different From Surface

UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
C	24	24 SOUTH	29 EAST, N.M.P.M.		535'	NORTH	2460'	WEST	EDDY

Dedicated Acres	Joint or Infill	Consolidation Code	Order No.
240	N		

No allowable will be assigned to this completion until all interests have been consolidated or a non-standard unit has been approved by the division.



OPERATOR CERTIFICATION

I hereby certify that the information contained herein is true and complete to the best of my knowledge and belief, and that this organization either owns a working interest or unleased mineral interest in the land including the proposed bottom hole location or has a right to drill this well at this location pursuant to a contract with an owner of such a mineral or working interest, or to a voluntary pooling agreement or a compulsory pooling order heretofore entered by the division.

Signature — Date: 10/22/15

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.

GERRY L. ASEL
NEW MEXICO
15079
PROFESSIONAL LAND SURVEYOR

OCTOBER 12, 2015
Date of Survey

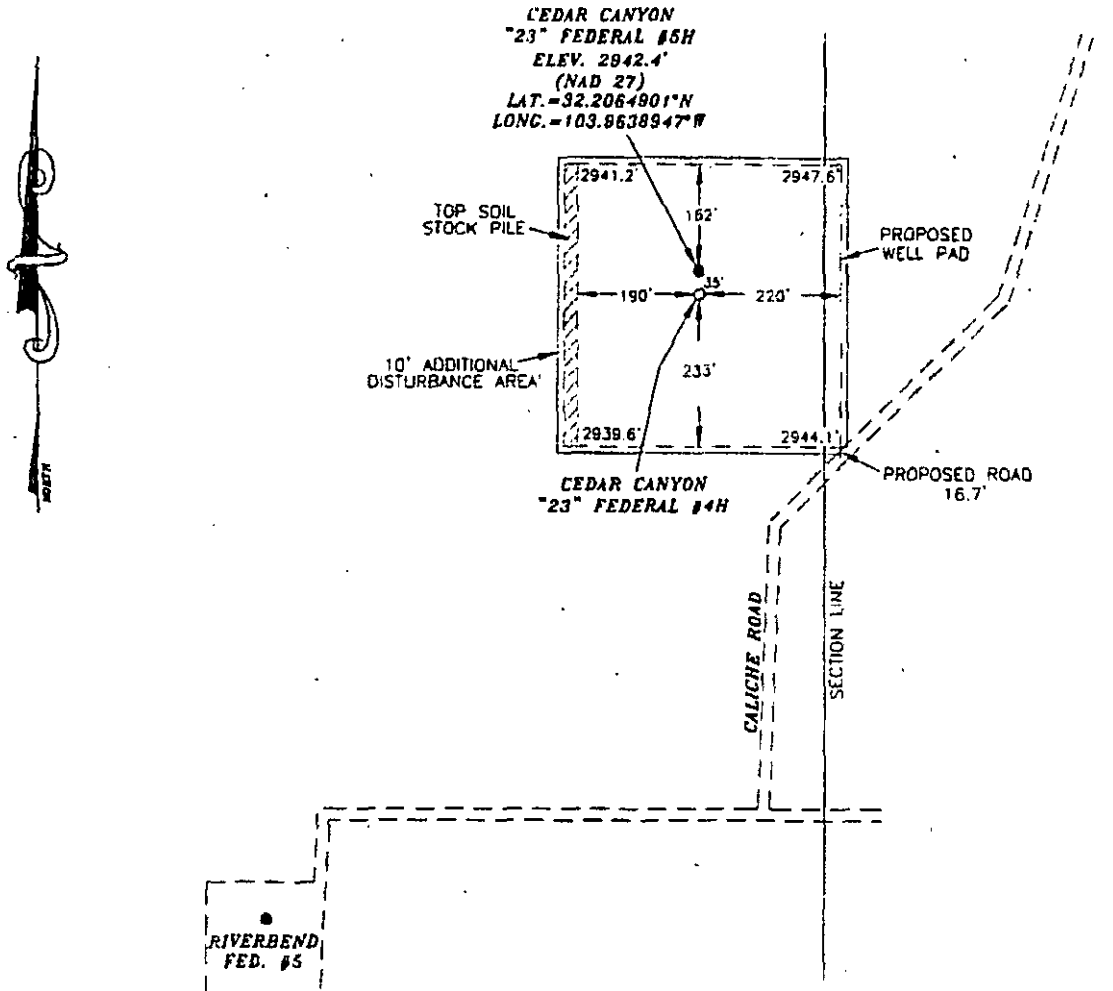
Signature and Seal of Professional Surveyor

Certificate Number 15079

WO# 151012WL-b (KA)

Site Plan

OXY USA INC.
CEDAR CANYON "23" FEDERAL #5H
SITE PLAN



TERRY J ASEL NEW MEXICO 15079 REGISTERED PROFESSIONAL LAND SURVEYOR

LEGEND

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

300' 0 300' 600' FEET

SCALE: 1"=300'

SURVEYORS CERTIFICATE

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

Terry J. Asel 10/13/2015

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

Asel Surveying

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

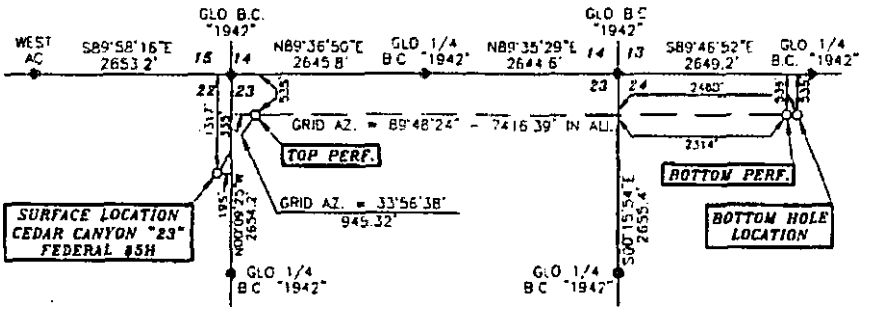
OXY USA INC.

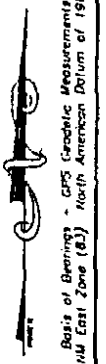
CEDAR CANYON "23" FEDERAL #5H LOCATED AT 1317' FNL & 195' FEL IN SECTION 22, TOWNSHIP 24 SOUTH, RANGE 29 EAST, N.M.P.M., EDDY COUNTY, NEW MEXICO

Survey Date: 10/12/15	Sheet 1 of 1 Sheets	
W.O. Number: 151012WL-b	Drawn By: KA	Rev:
Date: 10/13/15	151012WL-b	Scale: 1"=300'

Location

SECTIONS 22, 23, & 24, TOWNSHIP 24 SOUTH, RANGE 29 EAST, N.M.P.M., EDDY COUNTY NEW MEXICO





DRIVING DIRECTIONS
FROM THE INTERSECTION OF U.S. HWY #285 AND BLACK RIVER VILLAGE ROAD IN MALAGA, GO EAST ON COUNTY ROAD #720 FOR 0.8 MILES, TURN LEFT ON COUNTY ROAD #745 (HARROUN ROAD) AND GO NORTH FOR 1.0 MILES, TURN RIGHT AND GO EAST/NORTHEAST FOR 2.1 MILES, TURN RIGHT ON DOG TOWN ROAD AND GO SOUTHEAST FOR 1.3 MILES, TURN LEFT ON CALICHE ROAD AND GO EAST/SOUTHEAST FOR 2.1 MILES, CONTINUE SOUTH FOR 1.6 MILES, TURN LEFT AND GO NORTHEAST THEN SOUTHEAST FOR 1.0 MILES, TURN LEFT AND GO NORTH FOR 0.1 MILES, TURN RIGHT AND GO EAST FOR 0.1 MILES, TURN LEFT AND GO NORTH/NORTHEAST FOR 0.1 MILES, TURN LEFT ON PROPOSED ROAD AND GO NORTH FOR 16.7 FEET TO LOCATION.

LEGEND
⊕ - DENOTES FOUND MONUMENT AS NOTED

2000' 0 2000' 4000' FEET
SCALE 1"=2000'

SURVEYORS CERTIFICATE

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

Terry J. Asel 10/13/2015

Terry J. Asel, NM. R.P.L.S. No. 15079

Asel Surveying

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

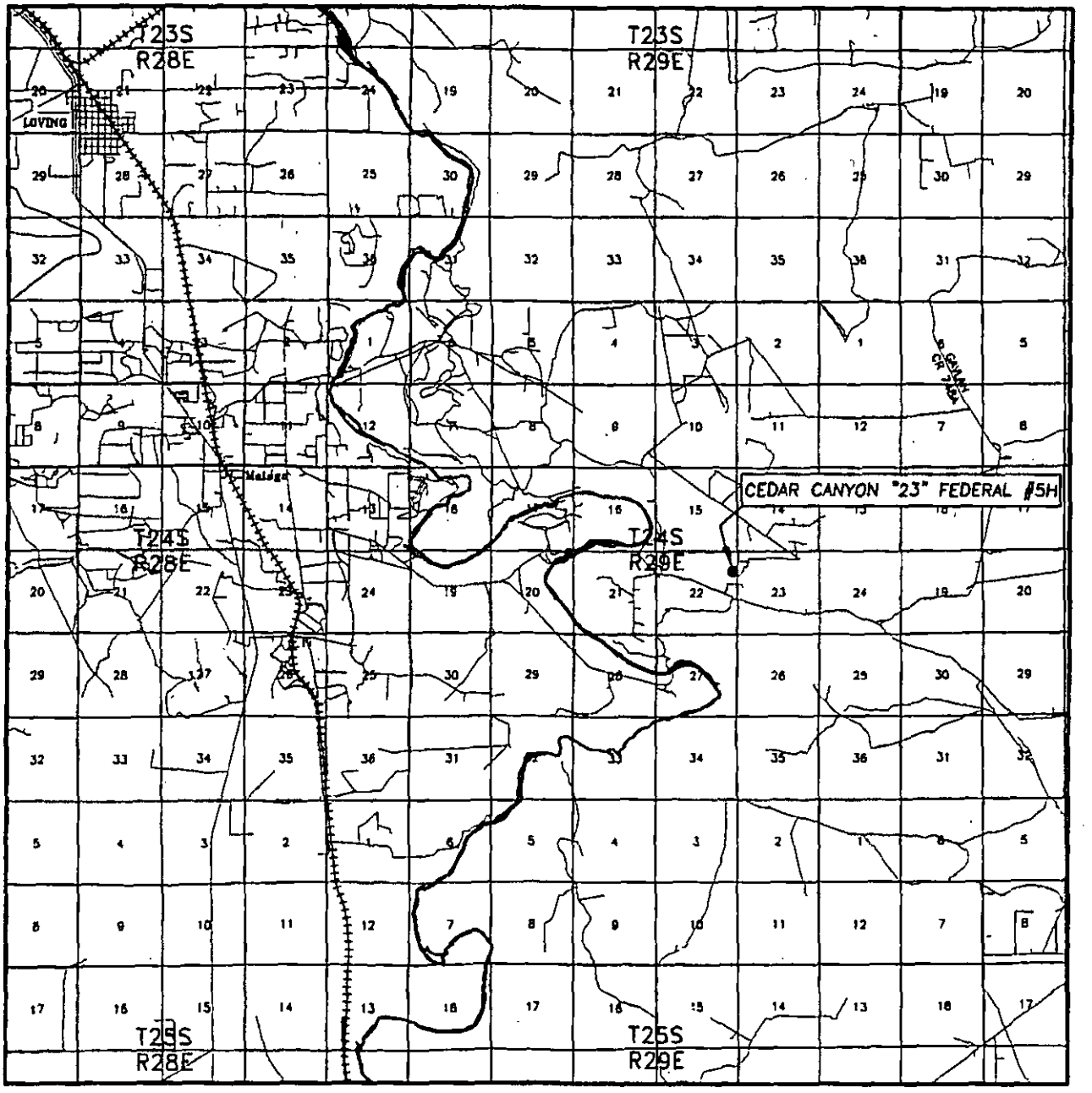
OXY USA INC.

CEDAR CANYON "23" FEDERAL #5H LOCATED AT 1317' FNL & 195' FEL IN SECTION 22, TOWNSHIP 24 SOUTH, RANGE 29 EAST, N.M.P.M., EDDY COUNTY, NEW MEXICO

Survey Date: 10/12/15	Sheet 1 of * Sheets	
W.O. Number: 151012WL-b	Drawn By: KA	Rev:
Date: 10/13/15	151012WL-b	Scale: 1"=2000'

UM

VICINITY MAP



SCALE: 1" = 2 MILES

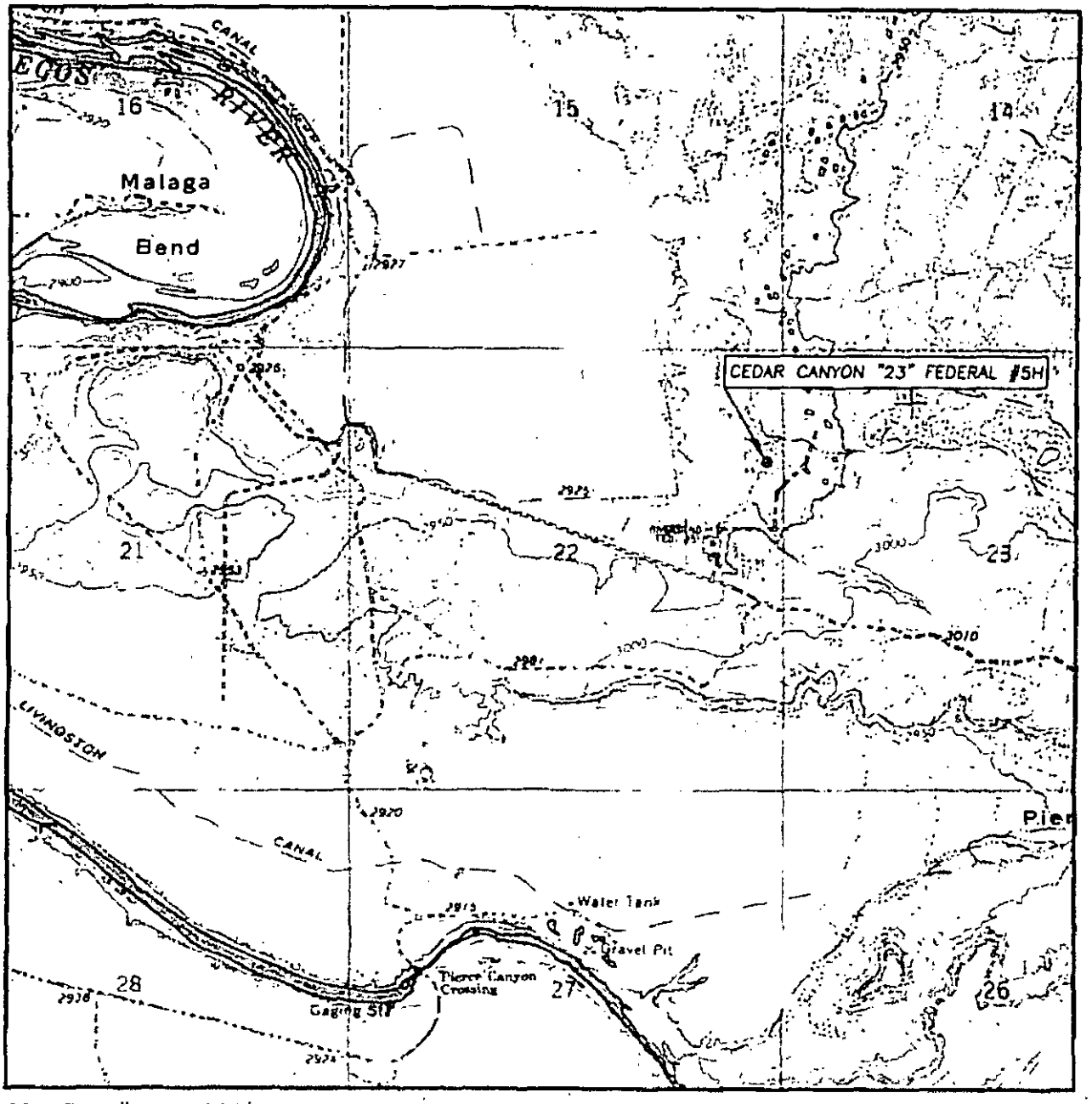
SEC. 22 TWP. 24-S RGE. 29-E
SURVEY N.M.P.M.
COUNTY EDDY
DESCRIPTION 1317' FNL & 195' FEL
ELEVATION 2942.4'
OPERATOR OXY USA INC.
LEASE CEDAR CANYON "23" FEDERAL #5H

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

DIRECTIONS FROM THE INTERSECTION OF U.S. HWY. #285 AND BLACK RIVER VILLAGE ROAD IN MALAGA, GO EAST ON COUNTY ROAD #720 FOR 0.8 MILES, TURN LEFT ON COUNTY ROAD #745 (HARROUN ROAD) AND GO NORTH FOR 1.0 MILES, TURN RIGHT AND GO EAST/NORTHEAST FOR 2.1 MILES, TURN RIGHT ON DOG TOWN ROAD AND GO SOUTHEAST FOR 1.3 MILES, TURN LEFT ON CALICHE ROAD AND GO EAST/SOUTHEAST FOR 2.1 MILES, CONTINUE SOUTH FOR 1.6 MILES, TURN LEFT AND GO NORTHEAST THEN SOUTHEAST FOR 1.0 MILES, TURN LEFT AND GO NORTH FOR 0.1 MILES, TURN RIGHT AND GO EAST FOR 0.1 MILES, TURN LEFT AND GO NORTH/NORTHEAST FOR 0.1 MILES, TURN LEFT ON PROPOSED ROAD AND GO NORTH FOR 16.7 FEET TO LOCATION.

LUM

LOCATION VERIFICATION MAP



SCALE: 1" = 2000'

CONTOUR INTERVAL: 10'

SEC. 22 TWP. 24-S RGE. 29-E

SURVEY N.M.P.M.

COUNTY EDDY

DESCRIPTION 1317' FNL & 195' FEL

ELEVATION 2942.4'

OPERATOR OXY USA INC.

LEASE CEDAR CANYON "23" FEDERAL #5H

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

Asel Surveying

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

Schlumberger

Plan - Rev0

OXY

Borehole:	Well:	Field:	Structure:
Original Borehole	Oxy Cedar Canyon 23 Fed. 5H	NM Eddy County (NAD 27)	H&P 615

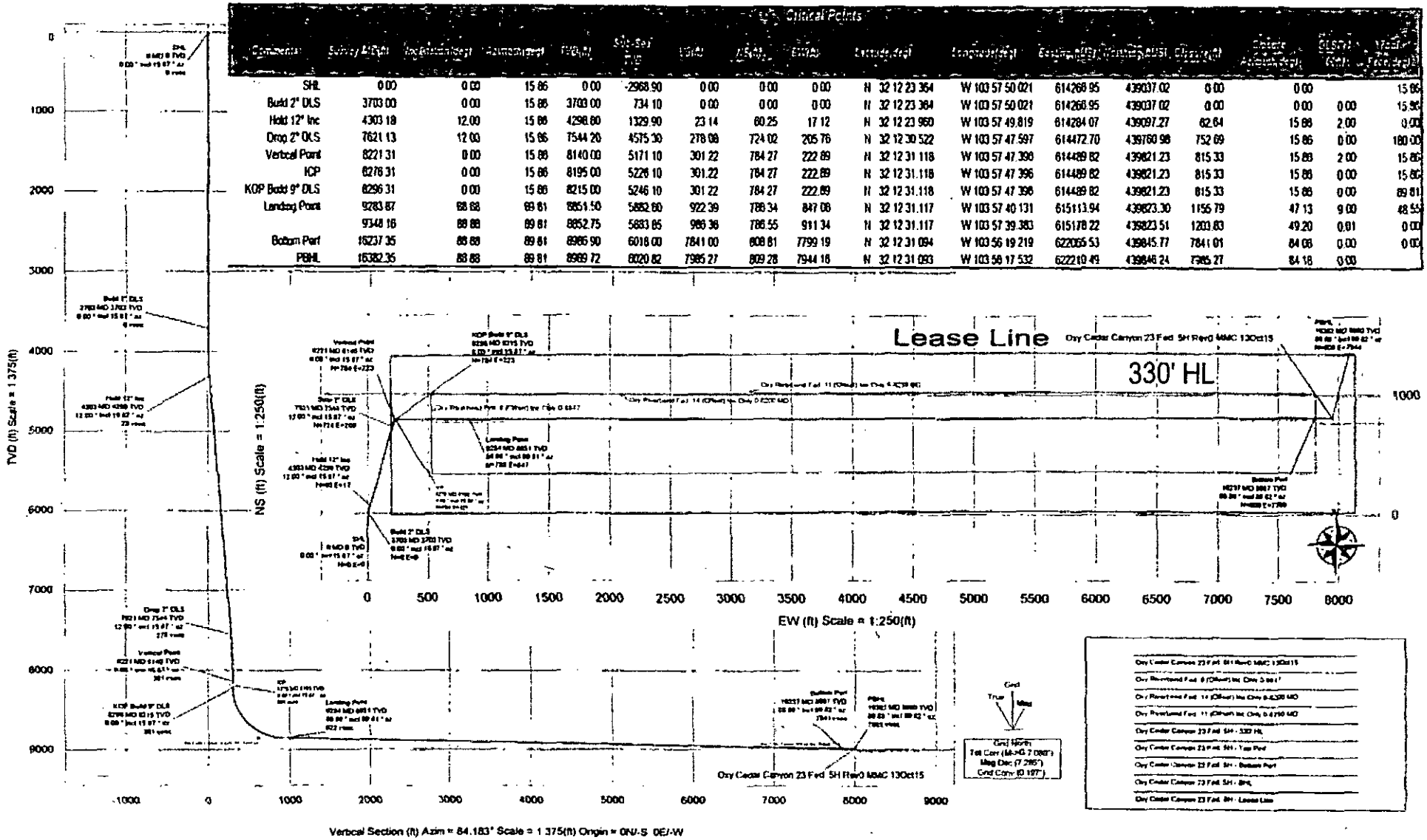
Survey & Magnetic Parameters
Model: HDGM 2015 | Dip: 60.053° | Date: 13-Oct-2015
MagDec: 7.285° | FS: 48297.33 nT | Survey FS: | PROJECTion (0.00000 Azimuth)

Surface Location NAD27 New Mexico State Plane, Eastern Zone, US Feet
Lat: N 32 12 23.36 | Northing: 439037.02 RUS | Grid Conv: 0.1103°
Long: W 103 57 50.02 | Easting: 614268.95 RUS | Scale Fact: 0.99991466

Slot: Oxy Cedar Canyon 23 Fed. 5H | TVD Ref: RKB(3948.00 above MSL)
Plan: Oxy Cedar Canyon 23 Fed. 5H Rev0 MAC 13Oct15

Critical Points

Comments	Survey MD(ft)	Inclination(deg)	Azimuth(deg)	TVD(ft)	Vert Sect (ft)	N/S(ft)	E/W(ft)	Latitude(deg)	Longitude(deg)	Easting(ftUS)	Northing(ftUS)	Dogleg(deg/100ft)	Build(deg/100ft)	Turn(deg/100ft)
SHL	0.00	0.00	15.86	0.00	-2968.90	0.00	0.00	0.00	N 32 12 23.364	W 103 57 50.021	614268.95	439037.02	0.00	0.00	15.86
Build 2° DLS	3703.00	0.00	15.86	3703.00	734.10	0.00	0.00	0.00	N 32 12 23.364	W 103 57 50.021	614268.95	439037.02	0.00	0.00	15.86
Hold 12° Inc	4303.18	12.00	15.86	4298.80	1329.90	23.14	60.25	17.12	N 32 12 23.960	W 103 57 49.819	614284.07	439097.27	62.64	15.86	2.00	0.00
Drop 2° DLS	7621.13	12.00	15.86	7544.20	4575.30	278.08	724.02	205.76	N 32 12 30.522	W 103 57 47.597	614472.70	439760.98	752.69	15.86	0.00	180.00
Vertical Point	8221.31	0.00	15.86	8140.00	5171.10	301.22	784.27	222.89	N 32 12 31.118	W 103 57 47.396	614489.82	439821.23	815.33	15.86	2.00	15.86
KOP	8276.31	0.00	15.86	8195.00	5226.10	301.22	784.27	222.89	N 32 12 31.118	W 103 57 47.396	614489.82	439821.23	815.33	15.86	0.00	15.86
KOP Build 9° DLS	8296.31	0.00	15.86	8215.00	5246.10	301.22	784.27	222.89	N 32 12 31.118	W 103 57 47.396	614489.82	439821.23	815.33	15.86	0.00	89.81
Landing Point	9283.87	88.88	89.81	8851.50	5852.60	922.39	786.34	847.06	N 32 12 31.117	W 103 57 40.131	615113.94	439823.30	1556.79	47.13	9.00	48.55
	9348.16	88.88	89.81	8852.75	5883.85	986.36	786.55	911.34	N 32 12 31.117	W 103 57 39.383	615178.22	439823.51	1620.83	49.20	0.01	0.00
Bottom Perf	16237.35	88.88	89.81	8986.90	6018.00	7841.00	808.81	7799.19	N 32 12 31.094	W 103 56 19.219	622065.53	439845.77	7841.01	84.08	0.00	0.00
PBHL	16382.35	88.88	89.81	8989.72	6020.82	7985.27	809.28	7944.18	N 32 12 31.093	W 103 56 17.532	622210.49	439846.24	7985.27	84.18	0.00	



Oxy Cedar Canyon 23 Fed. 5H Rev0 MAC 13Oct15
Oxy Reversed Fwd. 0 (Offset) Inc Only 0.00 ft
Oxy Reversed Fwd. 11 (Offset) Inc Only 0.4239 MD
Oxy Reversed Fwd. 11 (Offset) Inc Only 0.4250 MD
Oxy Cedar Canyon 23 Fed. 5H - SHL
Oxy Cedar Canyon 23 Fed. 5H - Top Perf
Oxy Cedar Canyon 23 Fed. 5H - Bottom Perf
Oxy Cedar Canyon 23 Fed. 5H - BHL
Oxy Cedar Canyon 23 Fed. 5H - Lease Line

Directional Plan - 1

DP-2

Schlumberger

Oxy Cedar Canyon 23 Fed. 5H Rev0 MMC 13Oct15 Proposal Geodetic Report

(Non-Def Plan)

Report Date:	October 14, 2015 - 08:23 AM	**Survey / DLS Computation:**	Minimum Curvature / Lubinski
Client:	OXY	**Vertical Section Azimuth:**	64.183 ° (Grid North)
Field:	NM Eddy County (NAD 27)	**Vertical Section Origin:**	0.000 ft, 0.000 ft
Structure / Slot:	Oxy Cedar Canyon 23 Fed 5H / Oxy Cedar Canyon 23 Fed. 5H	**TVD Reference Datum:**	RKB
Well:	Oxy Cedar Canyon 23 Fed. 5H	**TVD Reference Elevation:**	2968.900 ft above MSL
Borehole:	Oxy Cedar Canyon 23 Fed 5H - Original Borehole	**Seabed / Ground Elevation:**	2942.400 ft above MSL
UWI / API#:	Unknown / Unknown	**Magnetic Declination:**	7.285 °
Survey Name:	Oxy Cedar Canyon 23 Fed 5H Rev0 MMC 13Oct15	**Total Gravity Field Strength:**	998.4693mgn (9.80665 Based)
Survey Date:	October 13, 2015	**Gravity Model:**	GARM
Tort / AHD / DDI / ERD Ratio:	112.894 ° / 6536.641 ft / 6.245 / 0.950	**Total Magnetic Field Strength:**	48297.931 nT
Coordinate Reference System:	NAD27 New Mexico State Plane, Eastern Zone, US Feet	**Magnetic Dip Angle:**	60.059 °
Location Lat / Long:	N 32° 12' 23.36440", W 103° 57' 50.02107"	**Declination Date:**	October 13, 2015
Location Grid N/E Y/X:	N 439037.020 ftUS, E 614266.950 ftUS	**Magnetic Declination Model:**	HDGM 2015
CRS Grid Convergence Angle:	0.1969 °	**North Reference:**	Grid North
Grid Scale Factor:	0.99992405	**Grid Convergence Used:**	0.1969 °
Version / Patch:	2.8.572.0	**Total Corr Mag North->Grid North:**	7.0881 °
		Local Coord Referenced To:	Structure Reference Point

Comments	MD (ft)	Incl (°)	Azim Grid (°)	TVD (ft)	TVDSS (ft)	VSEC (ft)	NS (ft)	EW (ft)	DLS (°/100ft)	Northing (ftUS)	Easting (ftUS)	Latitude (N/S ° ' ")	Longitude (E/W ° ' ")
SHL	0.00	0.00	15.86	0.00	-2968.90	0.00	0.00	0.00	N/A	439037.02	614266.95	N 32 12 23.36	W 103 57 50.02
	100.00	0.00	15.86	100.00	-2868.90	0.00	0.00	0.00	0.00	439037.02	614266.95	N 32 12 23.36	W 103 57 50.02
	200.00	0.00	15.86	200.00	-2768.90	0.00	0.00	0.00	0.00	439037.02	614266.95	N 32 12 23.36	W 103 57 50.02
	300.00	0.00	15.86	300.00	-2668.90	0.00	0.00	0.00	0.00	439037.02	614266.95	N 32 12 23.36	W 103 57 50.02
	400.00	0.00	15.86	400.00	-2568.90	0.00	0.00	0.00	0.00	439037.02	614266.95	N 32 12 23.36	W 103 57 50.02
	500.00	0.00	15.86	500.00	-2468.90	0.00	0.00	0.00	0.00	439037.02	614266.95	N 32 12 23.36	W 103 57 50.02
	600.00	0.00	15.86	600.00	-2368.90	0.00	0.00	0.00	0.00	439037.02	614266.95	N 32 12 23.36	W 103 57 50.02
	700.00	0.00	15.86	700.00	-2268.90	0.00	0.00	0.00	0.00	439037.02	614266.95	N 32 12 23.36	W 103 57 50.02
	800.00	0.00	15.86	800.00	-2168.90	0.00	0.00	0.00	0.00	439037.02	614266.95	N 32 12 23.36	W 103 57 50.02
	900.00	0.00	15.86	900.00	-2068.90	0.00	0.00	0.00	0.00	439037.02	614266.95	N 32 12 23.36	W 103 57 50.02
	1000.00	0.00	15.86	1000.00	-1968.90	0.00	0.00	0.00	0.00	439037.02	614266.95	N 32 12 23.36	W 103 57 50.02
	1100.00	0.00	15.86	1100.00	-1868.90	0.00	0.00	0.00	0.00	439037.02	614266.95	N 32 12 23.36	W 103 57 50.02
	1200.00	0.00	15.86	1200.00	-1768.90	0.00	0.00	0.00	0.00	439037.02	614266.95	N 32 12 23.36	W 103 57 50.02
	1300.00	0.00	15.86	1300.00	-1668.90	0.00	0.00	0.00	0.00	439037.02	614266.95	N 32 12 23.36	W 103 57 50.02
	1400.00	0.00	15.86	1400.00	-1568.90	0.00	0.00	0.00	0.00	439037.02	614266.95	N 32 12 23.36	W 103 57 50.02
	1500.00	0.00	15.86	1500.00	-1468.90	0.00	0.00	0.00	0.00	439037.02	614266.95	N 32 12 23.36	W 103 57 50.02
	1600.00	0.00	15.86	1600.00	-1368.90	0.00	0.00	0.00	0.00	439037.02	614266.95	N 32 12 23.36	W 103 57 50.02
	1700.00	0.00	15.86	1700.00	-1268.90	0.00	0.00	0.00	0.00	439037.02	614266.95	N 32 12 23.36	W 103 57 50.02
	1800.00	0.00	15.86	1800.00	-1168.90	0.00	0.00	0.00	0.00	439037.02	614266.95	N 32 12 23.36	W 103 57 50.02
	1900.00	0.00	15.86	1900.00	-1068.90	0.00	0.00	0.00	0.00	439037.02	614266.95	N 32 12 23.36	W 103 57 50.02
	2000.00	0.00	15.86	2000.00	-968.90	0.00	0.00	0.00	0.00	439037.02	614266.95	N 32 12 23.36	W 103 57 50.02
	2100.00	0.00	15.86	2100.00	-868.90	0.00	0.00	0.00	0.00	439037.02	614266.95	N 32 12 23.36	W 103 57 50.02
	2200.00	0.00	15.86	2200.00	-768.90	0.00	0.00	0.00	0.00	439037.02	614266.95	N 32 12 23.36	W 103 57 50.02
	2300.00	0.00	15.86	2300.00	-668.90	0.00	0.00	0.00	0.00	439037.02	614266.95	N 32 12 23.36	W 103 57 50.02
	2400.00	0.00	15.86	2400.00	-568.90	0.00	0.00	0.00	0.00	439037.02	614266.95	N 32 12 23.36	W 103 57 50.02
	2500.00	0.00	15.86	2500.00	-468.90	0.00	0.00	0.00	0.00	439037.02	614266.95	N 32 12 23.36	W 103 57 50.02
	2600.00	0.00	15.86	2600.00	-368.90	0.00	0.00	0.00	0.00	439037.02	614266.95	N 32 12 23.36	W 103 57 50.02
	2700.00	0.00	15.86	2700.00	-268.90	0.00	0.00	0.00	0.00	439037.02	614266.95	N 32 12 23.36	W 103 57 50.02
	2800.00	0.00	15.86	2800.00	-168.90	0.00	0.00	0.00	0.00	439037.02	614266.95	N 32 12 23.36	W 103 57 50.02
	2900.00	0.00	15.86	2900.00	-68.90	0.00	0.00	0.00	0.00	439037.02	614266.95	N 32 12 23.36	W 103 57 50.02
	3000.00	0.00	15.86	3000.00	31.10	0.00	0.00	0.00	0.00	439037.02	614266.95	N 32 12 23.36	W 103 57 50.02
	3100.00	0.00	15.86	3100.00	131.10	0.00	0.00	0.00	0.00	439037.02	614266.95	N 32 12 23.36	W 103 57 50.02
	3200.00	0.00	15.86	3200.00	231.10	0.00	0.00	0.00	0.00	439037.02	614266.95	N 32 12 23.36	W 103 57 50.02
	3300.00	0.00	15.86	3300.00	331.10	0.00	0.00	0.00	0.00	439037.02	614266.95	N 32 12 23.36	W 103 57 50.02
	3400.00	0.00	15.86	3400.00	431.10	0.00	0.00	0.00	0.00	439037.02	614266.95	N 32 12 23.36	W 103 57 50.02
	3500.00	0.00	15.86	3500.00	531.10	0.00	0.00	0.00	0.00	439037.02	614266.95	N 32 12 23.36	W 103 57 50.02
	3600.00	0.00	15.86	3600.00	631.10	0.00	0.00	0.00	0.00	439037.02	614266.95	N 32 12 23.36	W 103 57 50.02
	3700.00	0.00	15.86	3700.00	731.10	0.00	0.00	0.00	0.00	439037.02	614266.95	N 32 12 23.36	W 103 57 50.02
Build 2° DLS	3703.00	0.06	15.86	3703.00	734.10	0.00	0.00	0.00	0.00	439037.02	614266.95	N 32 12 23.36	W 103 57 50.02
	3800.00	1.94	15.86	3799.98	831.08	0.81	1.58	0.45	2.00	439038.60	614267.40	N 32 12 23.38	W 103 57 50.02
	3900.00	3.94	15.86	3899.84	930.94	2.50	6.51	1.85	2.00	439043.53	614268.80	N 32 12 23.43	W 103 57 50.00
	4000.00	5.94	15.86	3999.47	1030.57	5.68	14.60	4.20	2.00	439051.81	614271.15	N 32 12 23.51	W 103 57 49.97
	4100.00	7.94	15.86	4098.73	1129.83	10.15	26.42	7.51	2.00	439063.44	614274.46	N 32 12 23.63	W 103 57 49.93
	4200.00	9.94	15.86	4197.51	1228.61	15.89	41.37	11.76	2.00	439078.38	614278.70	N 32 12 23.77	W 103 57 49.88
	4300.00	11.94	15.86	4295.69	1326.79	22.90	59.62	16.94	2.00	439096.63	614283.89	N 32 12 23.95	W 103 57 49.82
Hold 12° Inc	4303.18	12.00	15.86	4298.80	1329.90	23.14	60.25	17.12	2.00	439097.27	614284.07	N 32 12 23.96	W 103 57 49.82
	4400.00	12.00	15.86	4393.50	1424.60	30.58	79.62	22.63	0.00	439116.64	614289.58	N 32 12 24.15	W 103 57 49.75
	4500.00	12.00	15.86	4491.32	1522.42	38.27	99.63	28.31	0.00	439136.64	614295.26	N 32 12 24.35	W 103 57 49.69
	4600.00	12.00	15.86	4589.13	1620.23	45.95	119.63	34.00	0.00	439156.64	614300.95	N 32 12 24.55	W 103 57 49.62
	4700.00	12.00	15.86	4686.94	1718.04	53.63	139.64	39.68	0.00	439176.65	614306.63	N 32 12 24.74	W 103 57 49.55
	4800.00	12.00	15.86	4784.76	1815.86	61.32	159.64	45.37	0.00	439196.65	614312.32	N 32 12 24.94	W 103 57 49.49
	4900.00	12.00	15.86	4882.57	1913.67	69.00	179.65	51.06	0.00	439216.66	614318.00	N 32 12 25.14	W 103 57 49.42
	5000.00	12.00	15.86	4980.38	2011.48	76.68	199.65	56.74	0.00	439236.66	614323.69	N 32 12 25.34	W 103 57 49.35
	5100.00	12.00	15.86	5078.20	2109.30	84.37	219.66	62.43	0.00	439256.66	614329.37	N 32 12 25.54	W 103 57 49.29
	5200.00	12.00	15.86	5176.01	2207.11	92.05	239.66	68.11	0.00	439276.67	614335.06	N 32 12 25.73	W 103 57 49.22
	5300.00	12.00	15.86	5273.82	2304.92	99.73	259.67	73.80	0.00	439296.67	614340.74	N 32 12 25.93	W 103 57 49.15
	5400.00	12.00	15.86	5371.64	2402.74	107.42	279.68	79.48	0.00	439316.67	614346.43	N 32 12 26.13	W 103 57 49.08
	5500.00	12.00	15.86	5469.45	2500.55	115.10	299.68	85.17	0.00	439336.68	614352.11	N 32 12 26.33	W 103 57 49.02
	5600.00	12.00	15.86	5567.26	2598.36	122.78	319.69	90.85	0.00	439356.68	614357.80	N 32 12 26.52	W 103 57 48.95
	5700.00	12.00	15.86	5665.08	2696.18	130.47	339.69	96.54	0.00	439376.68	614363.48	N 32 12 26.72	W 103 57 48.88
	5800.00	12.00	15.86	5762.89	2793.99	138.15	359.70	102.22	0.00	439396.69	614369.17	N 32 12 26.92	W 103 57 48.82
	5900.00	12.00	15.86	5860.70	2891.80	145.84	379.70	107.91	0.00	439416.69	614374.85	N 32 12 27.12	W 103 57 48.75
	6000.00	12.00	15.86	5958.52	2989.62	153.52	399.71	113.60	0.00	439436.70	614380.54	N 32 12 27.32	W 103 57 48.68
	6100.00	12.00	15.86	6056.33	3087.43	161.20	419.71	119.28	0.00	439456.70	614386.22	N 32 12 27.51	W 103 57 48.62
	6200.00	12.00	15.86	6154.14	3185.24	168.89	439.72	124.97	0.00	439476.70	614391.91	N 32 12 27.71	W 103 57 48.55
	6300.00	12.00	15.86	6251.96	3283.06	176.57	459.72	130.65	0.00	439496.71	614397.59	N 32 12 27.91	W 103 57 48.48
	6400.00	12.00	15.86	6349.77	3380.87	184.25	479.73	136.34	0.00	439516.71	614403.28	N 32 12 28.11	W 103 57 48.42
	6500.00	12.00	15.86	6447.58	3478.68	191.94	499.73	142.02	0.00	439536.71	614408.96	N 32 12 28.30	W 103 57 48.35
	6600.00	12.00	15.86	6545.40	3576.50	199.62	519.74	147.71	0.00	439556.72	614414.65	N 32 12 28.50	W 103 57 48.28
	6700.00	12.00	15.86	6643.21	3674.31	207.30	539.74	153.39	0.00	439576.72	614420.33	N 32 12 28.70	W 103 57 48.21
	6800.00	12.00	15.86	6741.02	3772.12	214.99	559.75	159.08	0.00	439596.72	614426.02	N 32 12 28.90	W 103 57 48.15

DP-3

Comments	MD (ft)	Incl (°)	Azim Grid (°)	TVD (ft)	TVDSS (ft)	VSEC (ft)	NS (ft)	EW (ft)	DLS (°/100ft)	Northing (ftUS)	Easting (ftUS)	Latitude (N/S ° ' ")	Longitude (E/W ° ' ")
	6900.00	12.00	15.86	6838.84	3869.94	222.67	579.75	164.76	0.00	439616.73	614431.70	N 32 12 29.10	W 103 57 48.08
	7000.00	12.00	15.86	6936.65	3967.75	230.36	598.78	170.45	0.00	439636.73	614437.39	N 32 12 29.29	W 103 57 48.01
	7100.00	12.00	15.86	7034.46	4065.56	238.04	617.76	176.13	0.00	439656.74	614443.07	N 32 12 29.49	W 103 57 47.95
	7200.00	12.00	15.86	7132.26	4163.36	245.72	636.77	181.82	0.00	439676.74	614448.76	N 32 12 29.69	W 103 57 47.88
	7300.00	12.00	15.86	7230.09	4261.19	253.41	655.77	187.51	0.00	439696.74	614454.44	N 32 12 29.89	W 103 57 47.81
	7400.00	12.00	15.86	7327.91	4359.01	261.09	674.78	193.19	0.00	439716.75	614460.13	N 32 12 30.08	W 103 57 47.75
	7500.00	12.00	15.86	7425.72	4456.82	268.77	693.78	198.88	0.00	439736.75	614465.81	N 32 12 30.28	W 103 57 47.68
	7600.00	12.00	15.86	7523.53	4554.63	276.46	712.79	204.56	0.00	439756.75	614471.50	N 32 12 30.48	W 103 57 47.61
Drop 2° DLS	7621.13	12.00	15.86	7544.20	4575.30	278.08	724.02	205.78	0.00	439760.90	614472.70	N 32 12 30.52	W 103 57 47.60
	7700.00	10.43	15.86	7621.56	4652.66	283.75	738.77	209.96	2.00	439775.73	614476.89	N 32 12 30.67	W 103 57 47.55
	7800.00	8.43	15.86	7720.21	4751.31	289.80	754.52	214.43	2.00	439791.49	614481.37	N 32 12 30.82	W 103 57 47.50
	7900.00	6.43	15.86	7819.36	4850.46	294.57	768.96	217.97	2.00	439803.92	614484.90	N 32 12 30.95	W 103 57 47.45
	8000.00	4.43	15.86	7918.91	4950.01	298.07	778.05	220.55	2.00	439813.01	614487.48	N 32 12 31.04	W 103 57 47.42
	8100.00	2.43	15.86	8018.73	5049.83	300.27	781.80	222.19	2.00	439818.78	614489.12	N 32 12 31.09	W 103 57 47.40
	8200.00	0.43	15.86	8118.69	5149.79	301.19	784.19	222.87	2.00	439821.15	614489.80	N 32 12 31.12	W 103 57 47.40
Vertical Point	8221.31	0.00	15.86	8140.00	5171.10	301.22	784.27	222.89	2.00	439821.23	614489.82	N 32 12 31.12	W 103 57 47.40
ICP	8278.31	0.00	15.86	8195.00	5226.10	301.22	784.27	222.89	0.00	439821.23	614489.82	N 32 12 31.12	W 103 57 47.40
KOP Build 9° DLS	8296.31	0.00	15.86	8215.00	5246.10	301.22	784.27	222.89	0.00	439821.23	614489.82	N 32 12 31.12	W 103 57 47.40
	8300.00	0.33	89.81	8218.69	5249.79	301.23	784.27	222.90	9.00	439821.23	614489.83	N 32 12 31.12	W 103 57 47.40
	8400.00	9.33	89.81	8318.23	5349.33	309.61	784.30	231.31	9.00	439821.26	614498.24	N 32 12 31.12	W 103 57 47.30
	8500.00	18.33	89.81	8415.23	5446.33	333.38	784.38	255.20	9.00	439821.34	614522.13	N 32 12 31.12	W 103 57 47.02
	8600.00	27.33	89.81	8507.30	5538.40	371.95	784.51	293.96	9.00	439821.47	614560.89	N 32 12 31.12	W 103 57 46.57
	8700.00	36.33	89.81	8592.17	5623.27	424.39	784.68	346.65	9.00	439821.64	614613.57	N 32 12 31.12	W 103 57 45.96
	8800.00	45.33	89.81	8667.76	5698.86	489.39	784.90	411.96	9.00	439821.86	614678.58	N 32 12 31.12	W 103 57 45.20
	8900.00	54.33	89.81	8732.20	5763.30	565.36	785.15	488.30	9.00	439822.11	614755.21	N 32 12 31.12	W 103 57 44.31
	9000.00	63.33	89.81	8785.90	5815.00	650.42	785.43	573.78	9.00	439822.39	614840.68	N 32 12 31.12	W 103 57 43.31
	9100.00	72.33	89.81	8821.59	5852.69	742.49	785.74	666.29	9.00	439822.70	614933.19	N 32 12 31.12	W 103 57 42.24
	9200.00	81.33	89.81	8844.05	5875.45	839.29	786.06	763.56	9.00	439823.02	615030.45	N 32 12 31.12	W 103 57 41.10
Landing Point	9269.87	88.66	89.81	8851.50	5882.90	922.39	786.34	847.06	9.00	439823.30	615113.94	N 32 12 31.12	W 103 57 40.13
	9300.00	88.66	89.81	8851.81	5882.91	938.44	786.39	863.19	0.01	439823.35	615130.07	N 32 12 31.12	W 103 57 39.94
	9348.18	88.66	89.81	8852.75	5883.85	986.36	786.55	911.34	0.01	439823.51	615178.22	N 32 12 31.12	W 103 57 39.38
	9400.00	88.66	89.81	8853.76	5884.86	1037.94	786.72	963.17	0.00	439823.68	615230.05	N 32 12 31.12	W 103 57 38.78
	9500.00	88.66	89.81	8855.71	5886.81	1137.44	787.04	1063.15	0.00	439824.00	615330.02	N 32 12 31.12	W 103 57 37.62
	9600.00	88.66	89.81	8857.66	5888.76	1236.94	787.37	1163.13	0.00	439824.32	615429.99	N 32 12 31.12	W 103 57 36.45
	9700.00	88.66	89.81	8859.60	5890.70	1336.44	787.69	1263.11	0.00	439824.65	615529.96	N 32 12 31.12	W 103 57 35.29
	9800.00	88.66	89.81	8861.55	5892.65	1435.94	788.01	1363.09	0.00	439824.97	615629.94	N 32 12 31.12	W 103 57 34.13
	9900.00	88.66	89.81	8863.50	5894.60	1535.44	788.33	1463.07	0.00	439825.29	615729.91	N 32 12 31.12	W 103 57 32.96
	10000.00	88.66	89.81	8865.45	5896.55	1634.93	788.66	1563.05	0.00	439825.62	615829.88	N 32 12 31.11	W 103 57 31.80
	10100.00	88.66	89.81	8867.39	5898.49	1734.43	788.98	1663.03	0.00	439825.94	615929.85	N 32 12 31.11	W 103 57 30.63
	10200.00	88.66	89.81	8869.34	5900.44	1833.93	789.30	1763.02	0.00	439826.26	616029.83	N 32 12 31.11	W 103 57 29.47
	10300.00	88.66	89.81	8871.29	5902.39	1933.43	789.63	1863.00	0.00	439826.58	616129.80	N 32 12 31.11	W 103 57 28.31
	10400.00	88.66	89.81	8873.23	5904.33	2032.93	789.95	1962.98	0.00	439826.91	616229.77	N 32 12 31.11	W 103 57 27.14
	10500.00	88.66	89.81	8875.18	5906.28	2132.43	790.27	2062.96	0.00	439827.23	616329.75	N 32 12 31.11	W 103 57 25.98
	10600.00	88.66	89.81	8877.13	5908.23	2231.92	790.60	2162.94	0.00	439827.55	616429.72	N 32 12 31.11	W 103 57 24.82
	10700.00	88.66	89.81	8879.08	5910.18	2331.42	790.92	2262.92	0.00	439827.88	616529.69	N 32 12 31.11	W 103 57 23.65
	10800.00	88.66	89.81	8881.02	5912.12	2430.92	791.24	2362.90	0.00	439828.20	616629.66	N 32 12 31.11	W 103 57 22.49
	10900.00	88.66	89.81	8882.97	5914.07	2530.42	791.57	2462.88	0.00	439828.52	616729.64	N 32 12 31.11	W 103 57 21.33
	11000.00	88.66	89.81	8884.92	5916.02	2629.92	791.89	2562.86	0.00	439828.85	616829.61	N 32 12 31.11	W 103 57 20.16
	11100.00	88.66	89.81	8886.86	5917.96	2729.42	792.21	2662.84	0.00	439829.17	616929.58	N 32 12 31.11	W 103 57 19.00
	11200.00	88.66	89.81	8888.81	5919.91	2828.92	792.54	2762.82	0.00	439829.49	617029.55	N 32 12 31.11	W 103 57 17.83
	11300.00	88.66	89.81	8890.76	5921.86	2928.41	792.86	2862.80	0.00	439829.82	617129.53	N 32 12 31.11	W 103 57 16.67
	11400.00	88.66	89.81	8892.71	5923.81	3027.91	793.18	2962.78	0.00	439830.14	617229.50	N 32 12 31.11	W 103 57 15.51
	11500.00	88.66	89.81	8894.65	5925.75	3127.41	793.50	3062.76	0.00	439830.46	617329.47	N 32 12 31.11	W 103 57 14.34
	11600.00	88.66	89.81	8896.60	5927.70	3226.91	793.83	3162.74	0.00	439830.79	617429.45	N 32 12 31.11	W 103 57 13.18
	11700.00	88.66	89.81	8898.55	5929.65	3326.41	794.15	3262.72	0.00	439831.11	617529.42	N 32 12 31.11	W 103 57 12.02
	11800.00	88.66	89.81	8900.50	5931.60	3425.91	794.47	3362.70	0.00	439831.43	617629.39	N 32 12 31.11	W 103 57 10.85
	11900.00	88.66	89.81	8902.44	5933.54	3525.41	794.80	3462.68	0.00	439831.76	617729.36	N 32 12 31.11	W 103 57 9.69
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	12100.00	88.66	89.81	8906.34	5937.44	3724.40	795.44	3662.64	0.00	439832.40	617929.31	N 32 12 31.11	W 103 57 7.36
	12200.00	88.66	89.81	8908.28	5939.38	3823.90	795.77	3762.63	0.00	439832.72	618029.28	N 32 12 31.11	W 103 57 6.20
	12300.00	88.66	89.81	8910.23	5941.33	3923.40	796.09	3862.61	0.00	439833.05	618129.25	N 32 12 31.11	W 103 57 5.03
	12400.00	88.66	89.81	8912.18	5943.28	4022.90	796.41	3962.59	0.00	439833.37	618229.23	N 32 12 31.11	W 103 57 3.87
	12500.00	88.66	89.81	8914.13	5945.23	4122.40	796.74	4062.57	0.00	439833.69	618329.20	N 32 12 31.11	W 103 57 2.71
	12600.00	88.66	89.81	8916.07	5947.17	4221.89	797.06	4162.55	0.00	439834.02	618429.17	N 32 12 31.11	W 103 57 1.54
	12700.00	88.66	89.81	8918.02	5949.12	4321.39	797.38	4262.53	0.00	439834.34	618529.15	N 32 12 31.11	W 103 57 0.38
	12800.00	88.66	89.81	8919.97	5951.07	4420.89	797.71	4362.51	0.00	439834.66	618629.12	N 32 12 31.11	W 103 56 59.22
	12900.00	88.66	89.81	8921.91	5953.01	4520.39	798.03	4462.49	0.00	439834.99	618729.09	N 32 12 31.11	W 103 56 58.05
	13000.00	88.66	89.81	8923.86	5954.96	4619.89	798.35	4562.47	0.00	439835.31	618829.06	N 32 12 31.11	W 103 56 56.89
	13100.00	88.66	89.81	8925.81	5956.91	4719.39	798.68	4662.45	0.00	439835.63	618928.04	N 32 12 31.11	W 103 56 55.73
	13200.00	88.66	89.81	8927.76	5958.86	4818.89	799.00	4762.43	0.00	439835.96	619029.01	N 32 12 31.11	W 103 56 54.56
	13300.00	88.66	89.81	8929.70	5960.80	4918.38	799.32	4862.41	0.00	439836.28	619128.98	N 32 12 31.11	W 103 56 53.40
	13400.00	88.66	89.81	8931.65	5962.75	5017.88	799.64	4962.39	0.00	439836.60	619228.95	N 32 12 31.10	W 103 56 52.23
	13500.00	88.66	89.81	8933.60	5964.70	5117.38	799.97	5062.37	0.00	439836.93	619328.93	N 32 12 31.10	W 103 56 51.07
	13600.00	88.66	89.81	8935.55	5966.65	5216.88	800.29	5162.35	0.00	439837.25	619428.90	N 32 12 31.10	W 103 56 49.91
	13700.00	88.66	89.81	8937.49	5968.59	5316.38	800.61	5262.33	0.00	439837.57	619528.87	N 32 12 31.10	W 103 56 48.74
	13800.00	88.66	89.81	8939.44	5970.54	5415.88	800.94	5362.31	0.00	439837.89	619628.85	N 32 12 31.10	W 103 56 47.58
	13900.00	88.66	89.81	8941.39	5972.49	5515.37	801.26	5462.29	0.00	439838.22	619728.82	N 32 12 31.10	W 103 56 46.42
	14000.00	88.66	89.81	8943.33	5974.43	5614.87	801.58	5562.27	0.00	439838.54	619828.79	N 32 12 31.10	W 103 56 45.25
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	14200.00	88.66	89.81	8947.23	5978.33	5813.87	802.23	5762.24	0.00	439839.19	620028.74	N 32 12 31.10	W 103 56 42.93
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	14400.00	88.66	89.81	8951.12	5982.22	6012.87	802.88	5962.20	0.00	439839.83	620228.68	N 32 12 31.10	W 103 56 40.60
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	14600.00	88.66	89.81	8955.02	5986.12	6211.86	803.52	6162.16	0.00	439840.48	620428.63	N 32 12 31.10	W 103 56 38.27
	14700.00	88.66	89.81	8956.96	5988.06	6311.36	803.85	6262.14	0.00	439840.80	620528.60	N 32 12 31.10	W 103 56 37.11
	14800.00	88.66	89.81	8958.91	5990.01	6410.86	804.17	6362.12	0.00	439841.13	620628.57	N 32 12 31.10	W 103 56 35.94
	14900.00	88.66	89.81	8960.86	5991.96	6510.36	804.49	6462.10	0.00	439841.45	620728.55	N 32 12 31.10	W 103 56 34.78
	15000.00	88.66	89.81	8962.81	5993.91	6609.86	804.81	6562.08	0.00	439841.77	620828.52	N 32 12 31.10	W 103 56 33.62
	15100.00	88.66	89.81	8964.75	5995.85	6709.36	805.14	6662.06	0.00	439842.10	620928.49	N 32 12 31.10	W 103 56 32.45
	15200.00	88.66	89.81	8966.70	5997.80	6808.86	805.46	6762.04	0.00	439842.42	621028.46	N 32 12 31.10	W 103 56 31.29
	15300.00	88.66	89.81	8968.65	5999.75	6908.35	805.78	6862.02	0.00	439842.74	621128.44	N 32 12 31.10	W 103 56 30.13
	15400.00	88.66	89.81	8970.59	6001.69	7007.85	806.11	6962.00	0.00	439843.06	621228.41	N 32 12 31.10	W 103 56 28.96
	15500.00	88.66	89.81	8972.54	6003.64	7107.35	806.43	7061.98	0.00	439843.39	621328.38	N 32 12 31.10	W 103 56 27.80
	15600.00	88.66	89.81	8974.49	6005.59	7206.85	806.75	7161.96	0.00	439843.71	621428.35	N 32 12 31.10	W 103 56 26.64
	15700.00	88.66	89.81	8976.44	6007.54	7306.35	807.08	7261.94	0.00	439844.03	621528.33	N 32 12 31.10	W 103 56 25.47
	15800.00	88.66	89.81	8978.38	6009.48	7405.85	807.40	7361.92	0.00	439844.36	621628.30	N 32 12 31.10	W 103 56 24.31
	15900.00	88.66	89.81	8980.33	6011.43	7505.34	807.72	7461.90	0.00	439844.68	621728.27	N 32 12 31.10	W 103 56 23.14
	16000.00	88.66	89.81	8982.28	6013.38	7604.84	808.05	7561.88	0.00	439845.00	621828.25	N 32 12 31.09	W 103 56 21.98
	16100.00	88.66	89.81	8984.23	6015.33	7704.34	808.37	7661.87	0.00	439845.33	621928.22	N 32 12 31.09	W 103 56 20.82
	16200.00	88.66	89.81	8986.17	6017.27	7803.84	808.69	7761.85	0.00	439845.65	622028.19	N 32 12 31.09	W 103 56 19.65
Bottom Perf	16237.35	88.66	89.81	8986.90	6018.00	7841.00	808.81	7799.19	0.00	439845.77	622065.53	N 32 12 31.09	W 103 56 19.22
	16300.00	88.66	89.81	8988.12	6019.22	7903.34	809.02	7861.83	0.00	439845.97	622128.18	N 32 12 31.09	W 103 56 18.49
PBHL	16382.35	88.66	89.81	8989.72	6020.82	7985.27	809.28	7944.16	0.00	439846.24	622210.49	N 32 12 31.09	W 103 56 17.53

Survey Type: Non-Def Plan

Survey Error Model: ISCWSA Rev 0 *** 3-D 95.000% Confidence 2.7955 sigma
Survey Program:

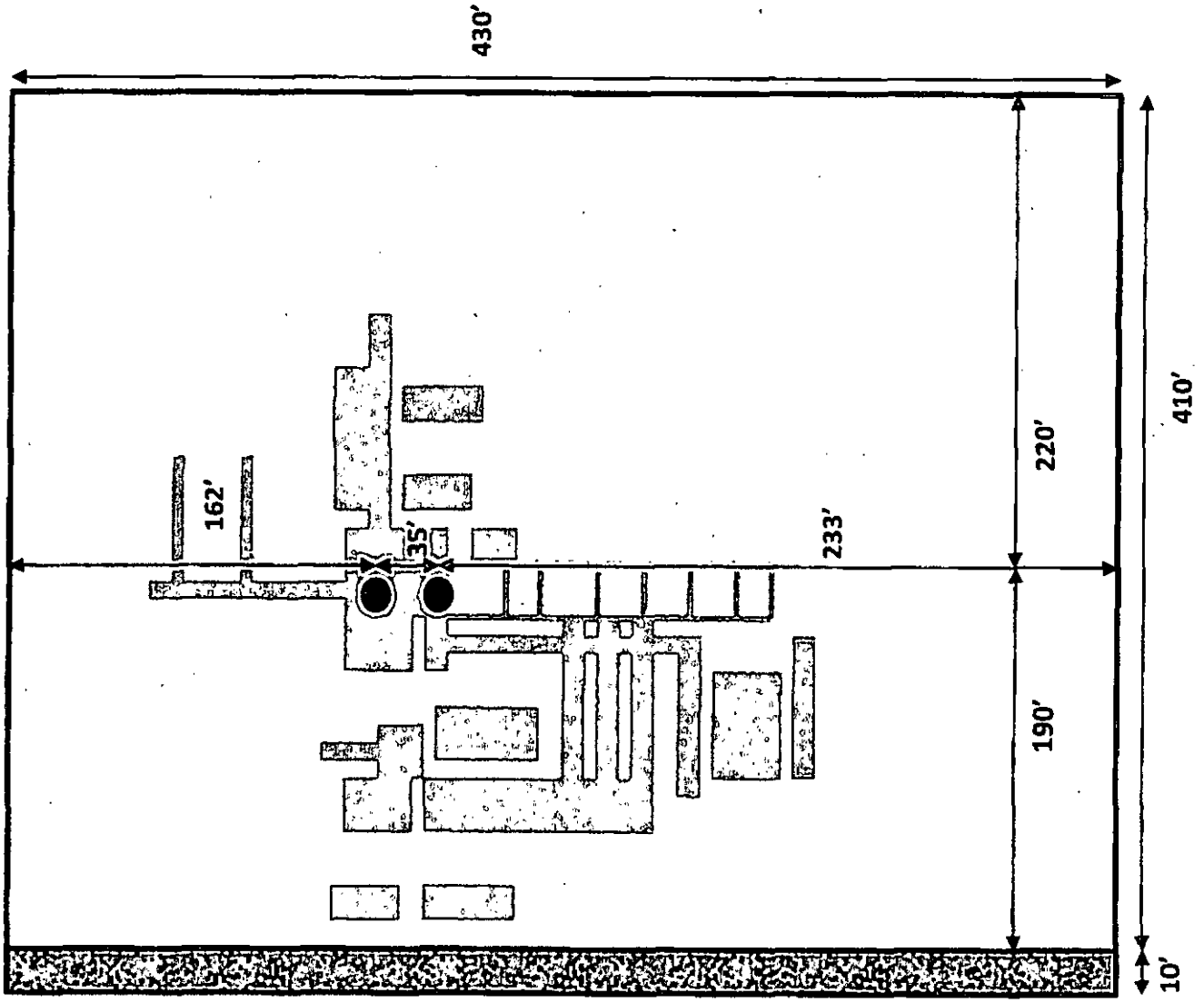
DP-9

Comments	MD (ft)	Incl (°)	Azim Grid (°)	TVD (ft)	TVDSS (ft)	VSEC (ft)	NS (ft)	EW (ft)	DLS (°/100ft)	Northing (ftUS)	Easting (ftUS)	Latitude (N/S ° ' ")	Longitude (E/W ° ' ")

Description	Part	MD From (ft)	MD To (ft)	EOU Freq (ft)	Hole Size (in)	Casing Diameter (in)	Survey Tool Type	Borehole / Survey
	1	0.000	26.500	1/100.000	30.000	30.000	SLB_MWD-STD_HDGM-Depth Only	Oxy Cedar Canyon 23 Fed. 5H - Original Borehole / Oxy Cedar Canyon 23 Fed. 5H Rev0 MMC
	1	26.500	16382.349	1/100.000	30.000	30.000	SLB_MWD-STD_HDGM	Oxy Cedar Canyon 23 Fed. 5H - Original Borehole / Oxy Cedar

Pad Layout

Pad Site Overall Rig Layout Cedar Canyon 23 Fed 5H and 4H Pad

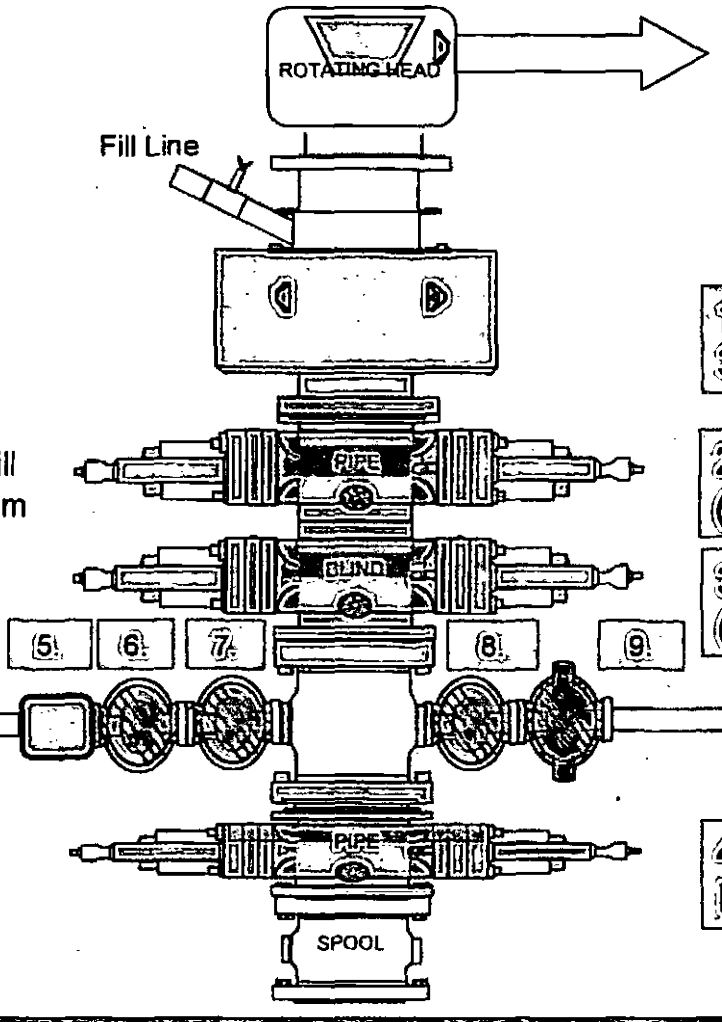


5M BOP Stack

Mud Cross Valves:

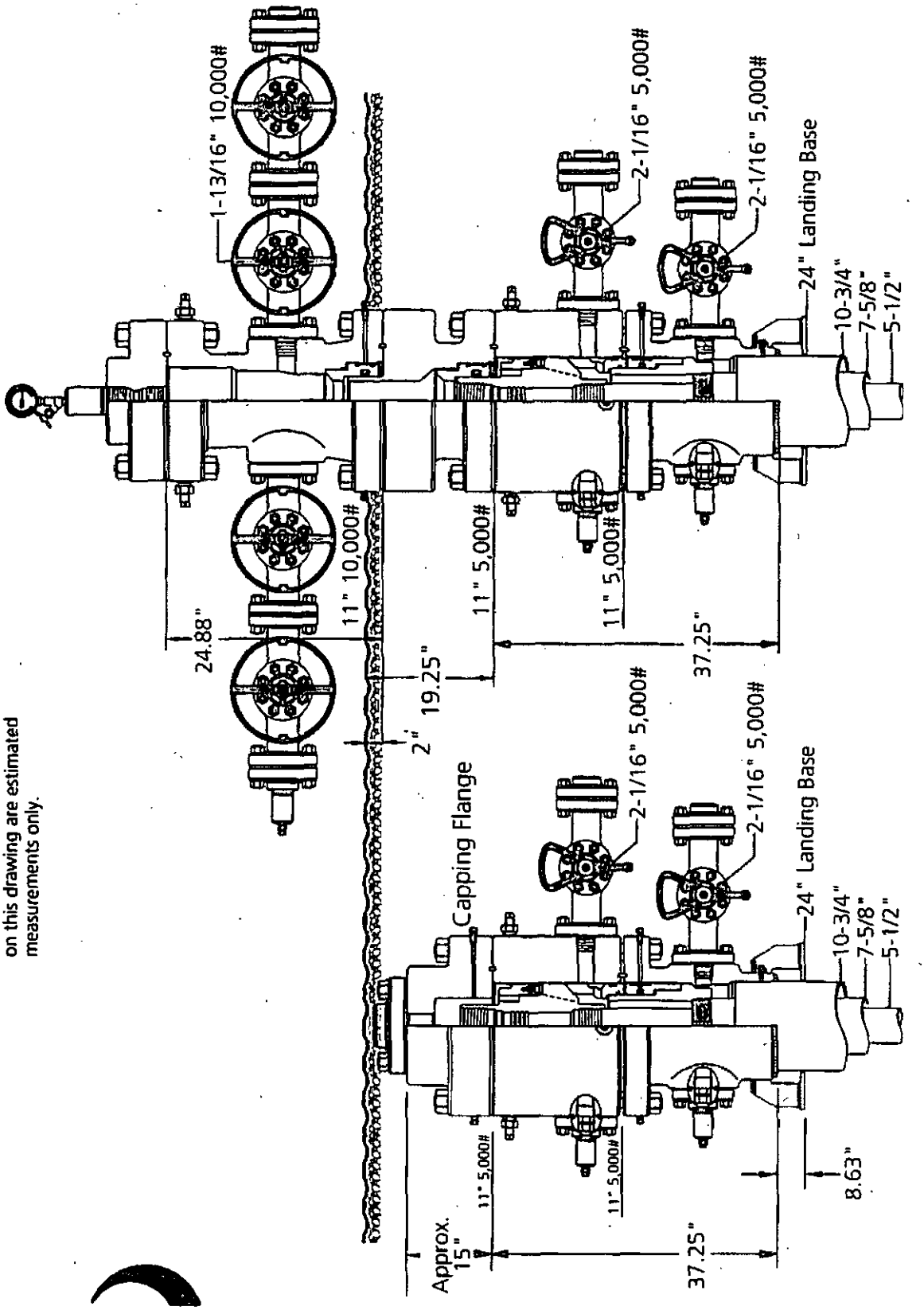
5. 5M Check Valve
6. Outside 5M Kill Line Valve
7. Inside 5M Kill Line
8. Outside 5M Kill Line Valve
9. 5M HCR Valve

*Minimum ID = 2-1/16" on Kill Line side and 3" minimum ID on choke line side



1. 5000 psi Annular (13-3/8" ID)
2. 5,000 psi Upper Pipe Ram ((13-3/8" ID)
3. 5,000 psi Blind Ram ((13-3/8" ID)
4. 5,000 psi Lower Pipe Ram ((13-3/8" ID)

Wellhead



Note: Dimensional information reflected on this drawing are estimated measurements only.

OXY

11" 10K MBS w/ 5.5" Mandrel

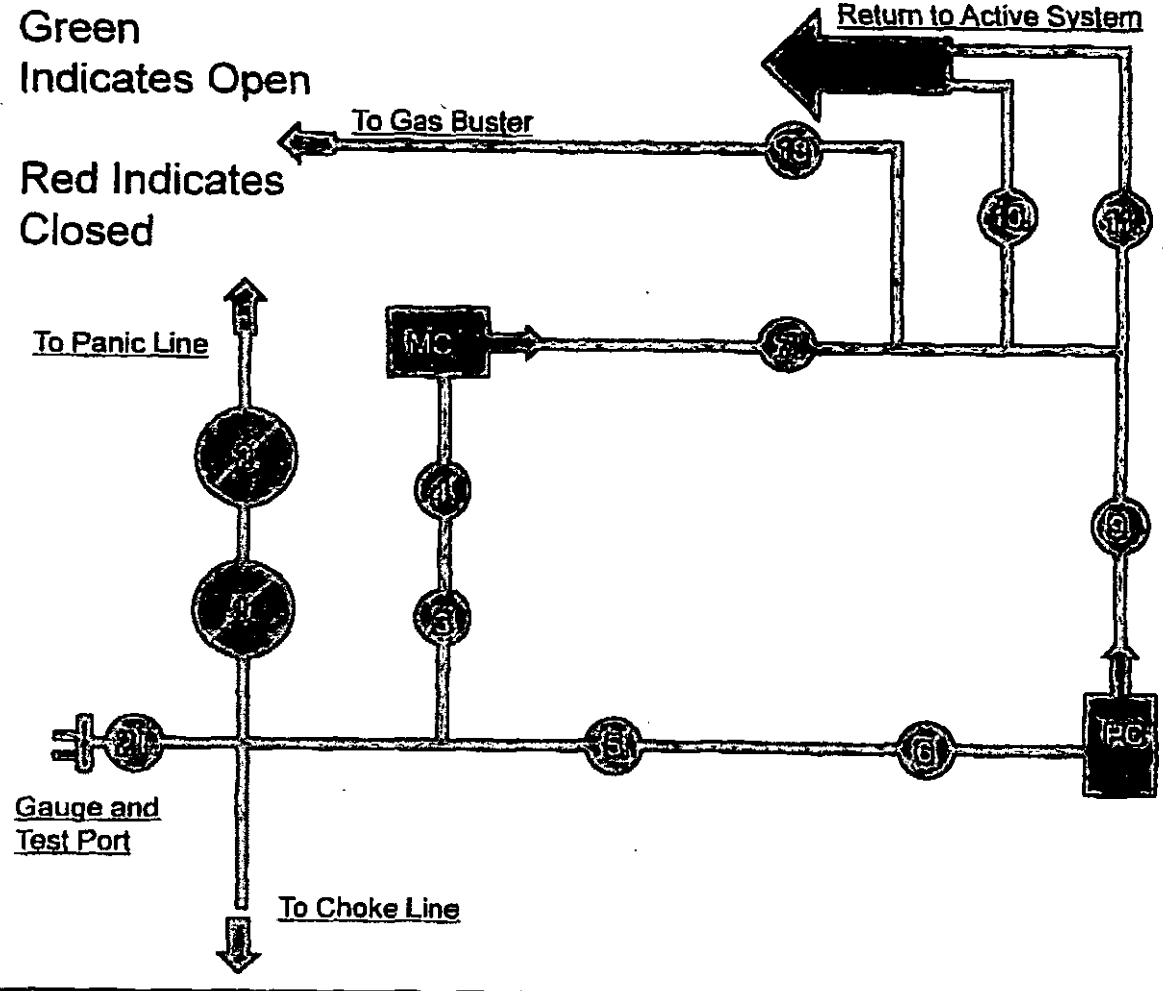
CAMERON

Jeanette	8-5-15		# J-9579-4

5M Choke Panel

Green
Indicates Open

Red Indicates
Closed



1. 4" Choke Manifold Valve
2. 4" Choke Manifold Valve
3. 3" Choke Manifold Valve
4. 3" Choke Manifold Valve
5. 3" Choke Manifold Valve
6. 3" Choke Manifold Valve
7. 3" Choke Manifold Valve
8. PC – Power Choke
9. 3" Choke Manifold Valve
10. 3" Choke Manifold Valve
11. Choke Manifold Valve
12. MC – Manual Choke

18. Choke Manifold Valve

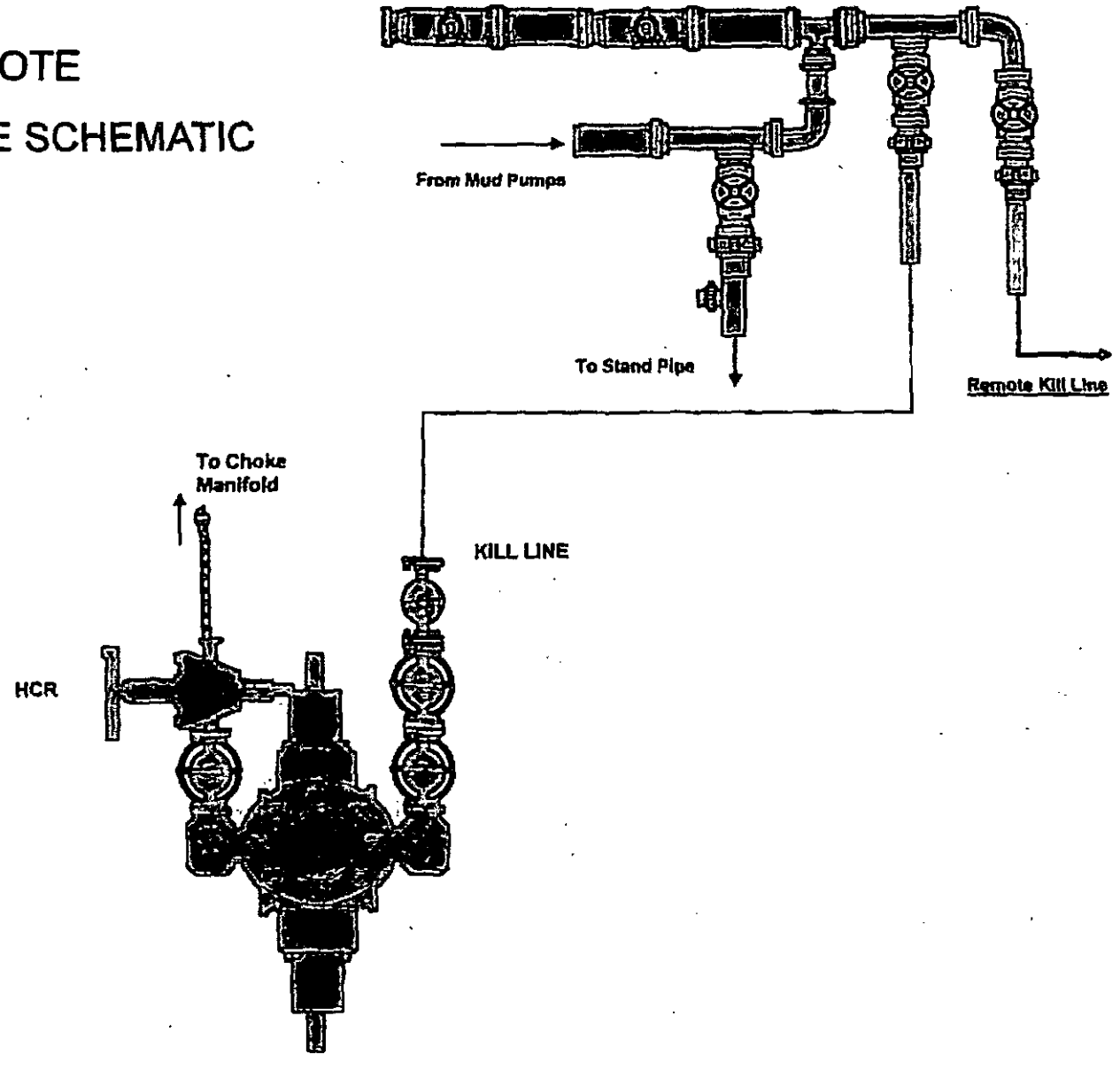
21. Vertical Choke Manifold Valve

***All Valves 3" minimum**

Choke Manifold-1

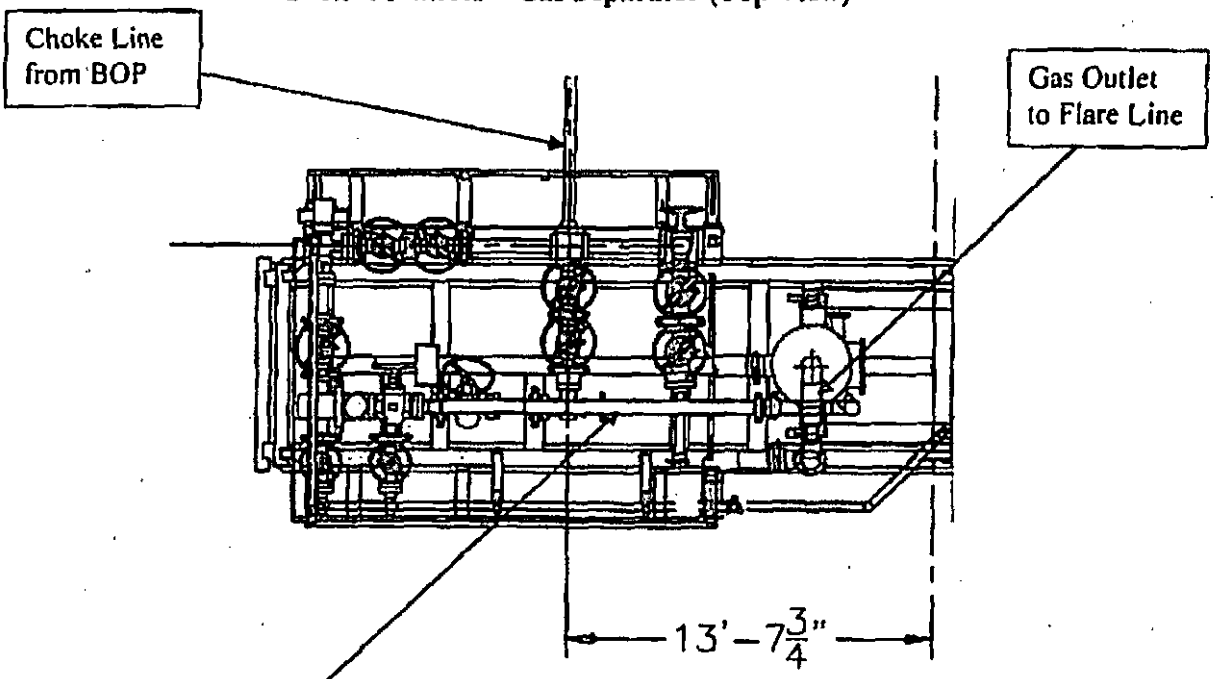
10M REMOTE

KILL LINE SCHEMATIC

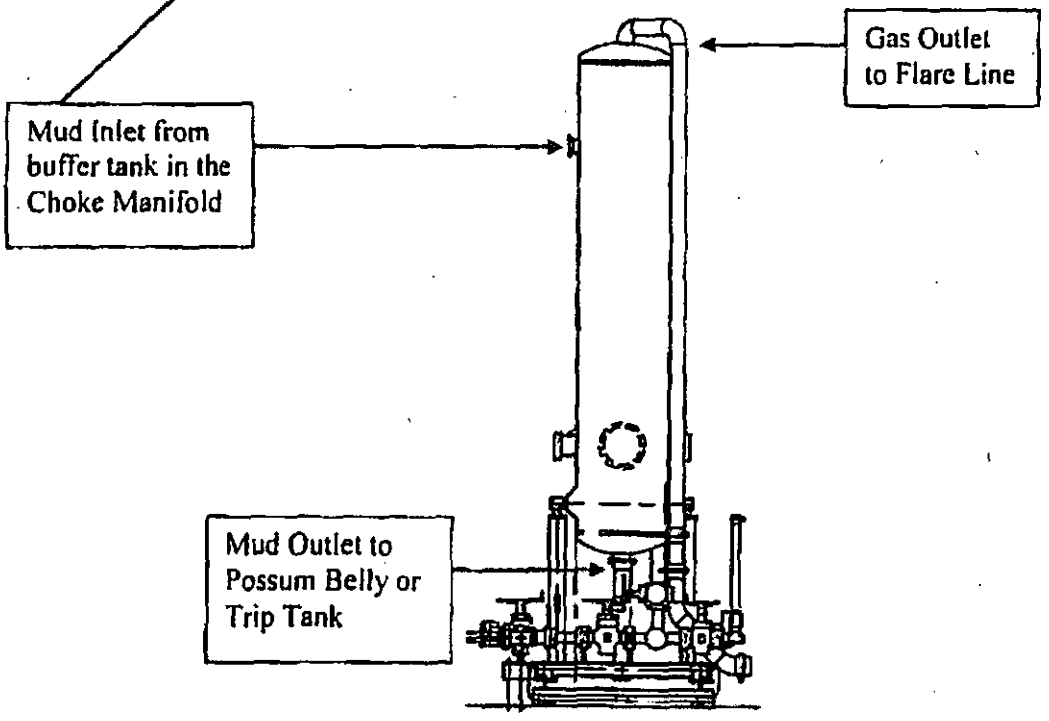


CM-2

Choke Manifold – Gas Separator (Top View)

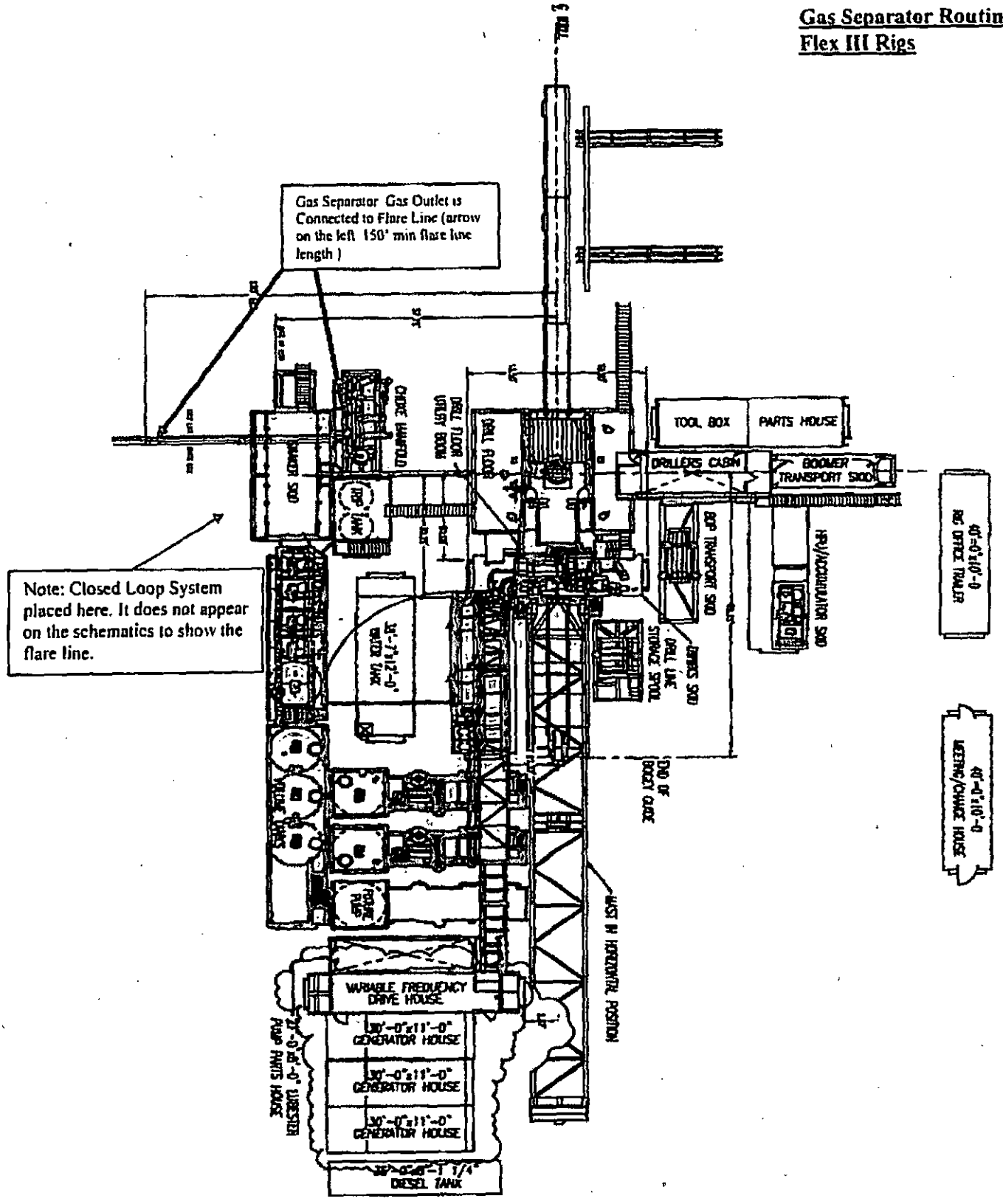


Choke Manifold – Gas Separator (Side View)

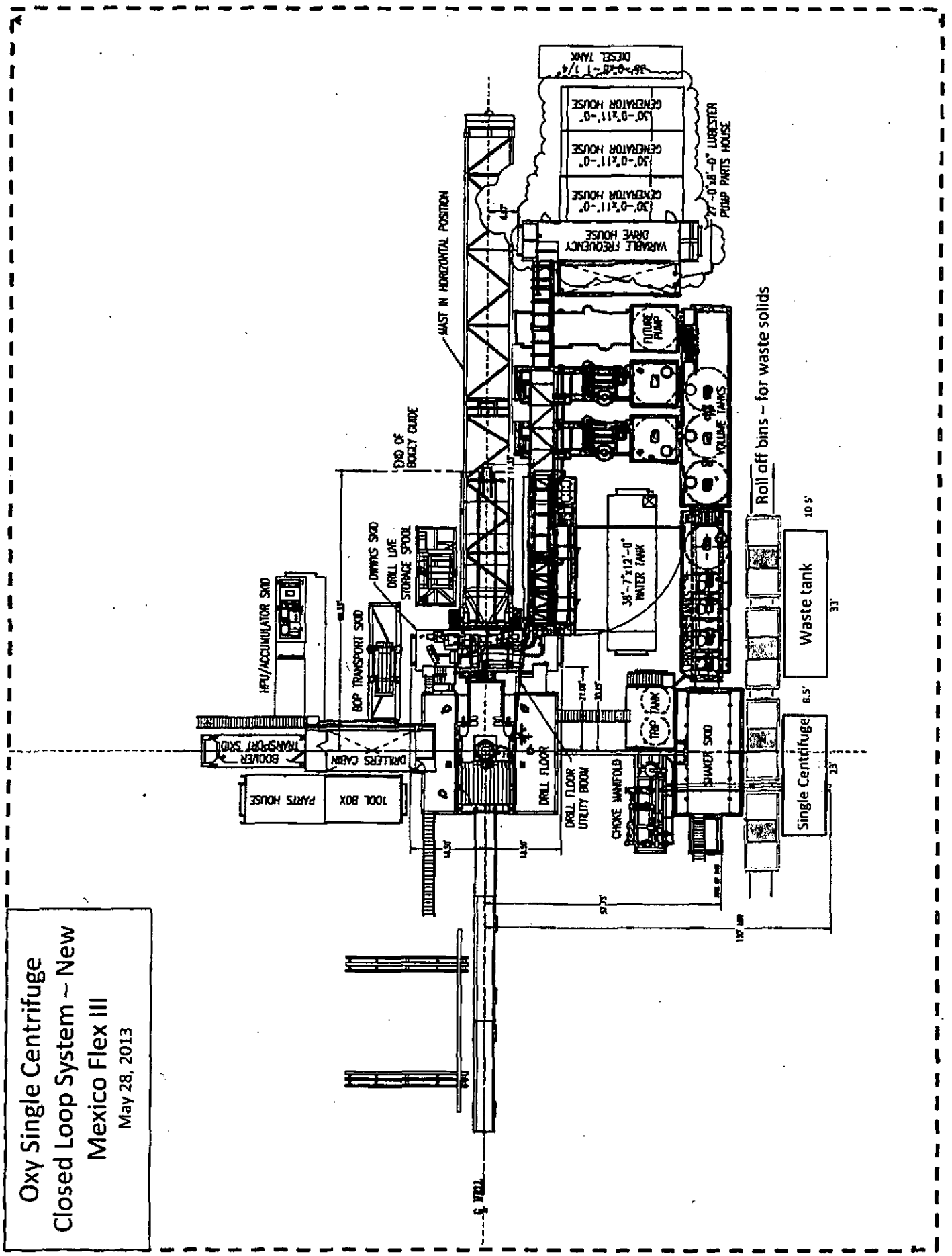


CM-4

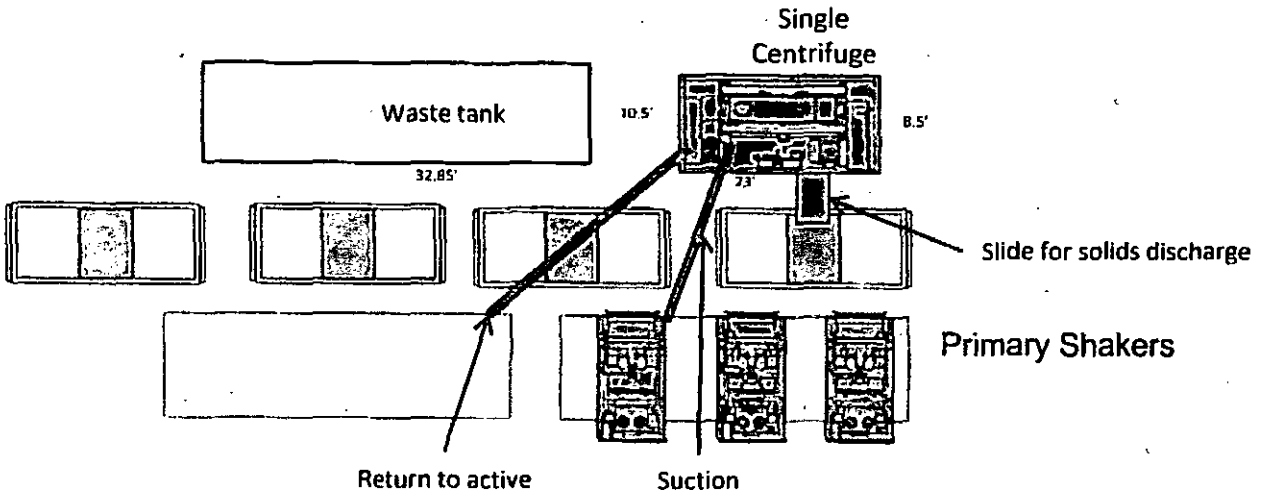
Gas Separator Routing
Flex III Rigs

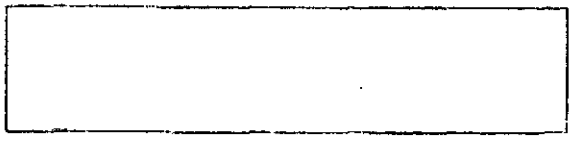


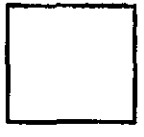
Closed Loop - 1



Oxy







Oxy Single Centrifuge Closed Loop System – New Mexico Flex III

May 28, 2013

CL-2

PECOS DISTRICT
CONDITIONS OF APPROVAL

OPERATOR'S NAME:	OXY USA Inc
LEASE NO.:	NM81586
WELL NAME & NO.:	Cedar Canyon 23 Fed Com 5H
SURFACE HOLE FOOTAGE:	1317'/N & 195'/E Sec. 22
BOTTOM HOLE FOOTAGE	535'/N & 2460'/W Sec. 24
LOCATION:	Section 24, T. 24 S., R. 29 E., NMPM
COUNTY:	Eddy County, New Mexico

A. CASING

Changes to the approved APD casing program need prior approval if the items substituted are of lesser grade or different casing size or are Non-API. 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.). The initial wellhead installed on the well will remain on the well with spools used as needed.

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

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

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

Medium cave/karst
Possible water flows in Castile and Salado.
Posible lost circulation in Rustler, Salado and Delaware.

1. The **10 3/4** inch surface casing shall be set at approximately **440** feet (a minimum of 25 feet into the Rustler Anhydrite and above the salt) and cemented to the surface. **If salt is encountered, the operator shall set the casing 25' 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 10-3/4" 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.

The 7-5/8 inch intermediate casing must be kept liquid filled while running into hole to meet minimum BLM requirements for collapse.

2. The minimum required fill of cement behind the **7-5/8** inch intermediate casing is:

a. First stage to DV tool:

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

Operator has proposed a contingency DV tool at 3075'. If operator circulates cement on the first stage, operator is approved to inflate the ACP and run the DV tool cancellation plug and cancel the second stage of the proposed cement plan. If cement does not circulate, operator will inflate ACP and proceed with the second stage.

b. Second stage above DV tool:

☒ Cement to surface. If cement does not circulate 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.**

Formation below the 7-5/8" 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.

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

   ☒ Cement should tie-back at least 500 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.

CRW 103015