Form 3160-3 (June 2015)	G				FORM A OMB No Expires: Jar	. 1004-0	137
UNITED STATE: DEPARTMENT OF THE I BUREAU OF LAND MAN.	5. Lease Serial No.						
APPLICATION FOR PERMIT TO D	6. If Indian, Allotee of	or Tribe I	Name				
1a. Type of work:   DRILL	a. Type of work: DRILL REENTER						
1b. Type of Well:       Oil Well       Gas Well       O         1c. Type of Completion:       Hydraulic Fracturing       S	8. Lease Name and V	Well No.					
2. Name of Operator					9. API Well No. 30 01	15 48613	
3a. Address	3b. P	hone N	o. (include area cod	e)	10. Field and Pool, or		
<ul> <li>4. Location of Well (<i>Report location clearly and in accordance</i>)</li> <li>At surface</li> <li>At proposed prod. zone</li> </ul>		11. Sec., T. R. M. or	Blk. and	Survey or Area			
14. Distance in miles and direction from nearest town or post off	ice*				12. County or Parish		13. State
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. Space			17. Spaci	ng Unit dedicated to th	iis well	
<ol> <li>Distance from proposed location* to nearest well, drilling, completed, applied for, on this lease, ft.</li> </ol>	19. P	19. Proposed Depth 20. BLM			1/BIA Bond No. in file		
21. Elevations (Show whether DF, KDB, RT, GL, etc.)	22. A	pproxii	nate date work will	start*	23. Estimated duration	on	
	24.	Attacl	hments				
The following, completed in accordance with the requirements o (as applicable)	f Onsho	ore Oil	and Gas Order No. 1	, and the I	Hydraulic Fracturing ru	ile per 43	CFR 3162.3-3
<ol> <li>Well plat certified by a registered surveyor.</li> <li>A Drilling Plan.</li> <li>A Surface Use Plan (if the location is on National Forest Syste SUPO must be filed with the appropriate Forest Service Office</li> </ol>		ds, the	Item 20 above). 5. Operator certific	ation.	ns unless covered by an rmation and/or plans as n		×
25. Signature		Name (Printed/Typed)				Date	
Title							
Approved by (Signature)			(Printed/Typed)		Date		
Fitle Of					I		
Application approval does not warrant or certify that the applicant applicant to conduct operations thereon. Conditions of approval, if any, are attached.	nt holds	s legal c	or equitable title to th	nose rights	in the subject lease wh	nich wou	ld entitle the
Title 18 U.S.C. Section 1001 and Title 43 U.S.C. Section 1212, n of the United States any false, fictitious or fraudulent statements						ny depar	tment or agency
				0.110			



\*(Instructions on page 2)

.

(Continued on page 2)

#### **Additional Operator Remarks**

#### Location of Well

0. SHL: SWSW / 800 FSL / 940 FWL / TWSP: 24S / RANGE: 30E / SECTION: 13 / LAT: 32.212834 / LONG: -103.839925 (TVD: 0 feet, MD: 0 feet ) PPP: SESW / 3 FSL / 1604 FWL / TWSP: 24S / RANGE: 30E / SECTION: 1 / LAT: 32.239655 / LONG: -103.837775 (TVD: 11338 feet, MD: 21767 feet ) PPP: NENW / 1325 FNL / 1589 FWL / TWSP: 24S / RANGE: 30E / SECTION: 13 / LAT: 32.21518 / LONG: -103.837786 (TVD: 11392 feet, MD: 15100 feet ) PPP: SESW / 100 FSL / 1600 FWL / TWSP: 24S / RANGE: 30E / SECTION: 13 / LAT: 32.210906 / LONG: -103.837792 (TVD: 11200 feet, MD: 11311 feet ) BHL: NENW / 20 FNL / 1600 FWL / TWSP: 24S / RANGE: 30E / SECTION: 1 / LAT: 32.254028 / LONG: -103.837767 (TVD: 11294 feet, MD: 27026 feet )

#### **BLM Point of Contact**

Name: TENILLE ORTIZ Title: Legal Instruments Examiner Phone: (575) 234-2224 Email: tortiz@blm.gov

District I 1625 N. French Dr., Hc Phone: (575) 393-6161 District II 811 S. First St., Artesia Phone: (575) 748-1283 District III 1000 Rio Brazos Road, Phone: (505) 334-6178 District IV 1220 S. St. Francis Dr., Phone: (505) 476-3460	Fax: (575) 39 , NM 88210 Fax: (575) 748 Aztec, NM 87 Fax: (505) 334 , Santa Fe, NM	3-0720 8-9720 4410 4-6170 87505	E	State of New Mexico Energy, Minerals & Natural Resources Department OIL CONSERVATION DIVISION 1220 South St. Francis Dr. Santa Fe, NM 87505					als & Natural Resources Department NSERVATION DIVISION 20 South St. Francis Dr.			Form C-102 ed August 1, 2011 copy to appropriate District Office ENDED REPORT	
			WEL	L LOC	ATIC	ON AND	ACR	EAGE DEDIC	ATION PLA	Т			
30-015-	API Number	PI Number 98220 Purple Sage Wolfcamp					<sup>me</sup> D						
<sup>4</sup> Property C	Code		·		NIM		operty N P1 13	Name B_1 FED COM	- -		<sup>6</sup> Well Number 172H		
<sup>7</sup> ogrid m 16690						-	erator N USA	Name A INC.			<sup>9</sup> Elevation 3453'		
						<sup>10</sup> Surf	ace I	Location					
UL or lot no.	Section	Township		Range	Lot Id	n Feet fr	om the	North/South line	Feet from the	East	t/West line	County	
Μ	13	24S	- 30	0E		800		SOUTH	940	WE	ST	EDDY	
			1	<sup>11</sup> Botto	om He	ole Locati	on If	Different From	n Surface				
UL or lot no.	Section	Township	) 1	Range Lot Idn Feet from			om the	North/South line	Feet from the	East	t/West line	County	
L 3	1	24S	30	0E 20 NORTH 1600			WE	ST	EDDY				
<sup>12</sup> Dedicated Acres 959.85	Joint of <b>y</b>	r Infill	<sup>14</sup> Consoli	idation Cod	le <sup>15</sup> (	Order No.		· · · · · ·					

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.

NAD 83, SPCS NM EAST         M           A - X: 692995.10' / Y: 440710.40'         A - X           B - X: 692990.28' / Y: 445996.51'         B - X           C - X: 692949.99' / Y: 451267.97'         C - X           D - X: 692932.31' / Y: 456540.49'         D - X           F - X: 695608.68' / Y: 456560.35'         E - X           F - X: 695607.86' / Y: 451260.02'         F - X           G - X: 695666.40' / Y: 44600.73'         G - X	(: 651806.26' / Y: 445937.58' (: 651766.14' / Y: 451208.92' (: 651748.63' / Y: 456481.32' (: 654424.99' / Y: 456501.18' (: 654444.00' / Y: 451176.98'	SECTION 35	HH T23S R30E SECTION 36 SECTION 31 SECTION 31	<sup>17</sup> <b>OPERATOR CERTIFICATION</b> 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
BOTTOM HOLE LOCATION 20' FNL 1600' FWL, SECTION 1 NAD 83, SPCS NM EAST X:694532.35' / Y:456532.36' LAT:32.25411083N / LON:103.83776842W NAD 27, SPCS NM EAST X:653348.66' / Y:456473.20'		D 1600' 1600'	=0 <sup>E</sup> 1076' LAST ह	interest, or to a voluntary pooling agreement or a compulsory pooling order heretofore entered by the division. Mighen         Janacele         08/27/2020           Signature         Date
LAT:32.25398789N / LON:103.83728218W LAST TAKE POINT 100' FNL 1600' FWL, SECTION 1 NAD 83, SPCS NM EAST X:694532.62' / Y:456452.36' LAT:32.25380929L / LON:103.83776875W NAD 27, SPCS NM EAST VICTORIO 80 VICTORIO 801	SECT	NAD 83 N:451248.84 E:694553.39	F Sector	Stephen Janacek Printed Name Stephen_Janacek@oxy.com E-mail Address
X:653348.93' / Y:456393.20' LAT:32.25376798N / LON:103.83728251W FIRST TAKE POINT 100' FSL 1600' FWL, SECTION 13 NAD 83, SPCS NM EAST X:694595.05' / Y:440815.28' LAT:32.21090693N / LON:103.83780014W NAD 27, SPCS NM EAST X:653410.84' / Y:440756.47' LAT:32.21078358N / LON:103.83731579W	SECTION 11 SECTION 11	C NAD 83 N:445999.02	T245 R30E SECTION 12 SECTION 7 T245 R31E	<b>18SURVEYOR CERTIFICATION</b> I hereby certify that the well location shown on this plat was plotted from field notes of actual surveys
KICK OFF POINT 50' FSL 1600' FWL, SECTION 13 NAD 83, SPCS NM EAST X:694595.07' Y:440765.28' LAT:32.21076949N / LON:103.83780080W NAD 27, SPCS NM EAST X:653410.87' / Y:440706.47' LAT:32.21064614N / LON:103.83731646W SURFACE HOLE LOCATION 2001ECD 2010FWL CECTION 12	NO	E:694574.35 B SHL 940'	G EI SECTION 18 FIRST TAKE	made by me or under my supervision, and that the same is true and correct to the best of my belief. JUNE 11, 2020 Date of Survey Signature and Seal of Professional Surveyor. 11403
800' FSL 940' FWL, SECTION 13 NAD 83, SPCS NM EAST X:693934.77' / Y:441513.07' LAT:32.21283335N / LON:103.83992461W NAD 27, SPCS NM EAST X:652750.59' / Y:441454.24' LAT:32.21271003N / LON:103.83944012W SHEET 1 OF 3 JOB NO. R4073_001_4192 REV 0 JCS 6/10/2020	23	1600' A	H 1073' H 1073' KOP 75 S	Certificate Number DAVID W. MYERS 11403

Distances/areas relative to NAD 83 Combined Scale Factor: 0.99977392 Convergence Angle: 00°15'56.81002"

	E	nergy, Minerals		ources Departme	ent		Subn Via I	nit Electronically E-permitting
		1220	onservation Di South St. Fran nta Fe, NM 87	cis Dr.				
	N	ATURAL G	AS MANA	GEMENT P	LAN			
This Natural Gas Manage	ement Plan m	ust be submitted w	vith each Applica	tion for Permit to I	Drill (A	PD) for a	new or	recompleted well.
		<u>Sectior</u> <u>F</u>	<u>1 – Plan D</u> ffective May 25.	<u>escription</u> 2021				
I. Operator: OXY USA	A Inc.		OGRID: _16	696		Date:	0 6//	1 6 / 2 1
II. Type: 🗹 Original 🗆	Amendment	due to 🗆 19.15.27	7.9.D(6)(a) NMA	C 🗆 19.15.27.9.D(	(6)(b) N	MAC 🗆	Other.	
If Other, please describe:								
<b>III. Well(s):</b> Provide the be recompleted from a signal					wells pr	roposed to	be dri	lled or proposed to
Well Name	API	ULSTR	Footages	Anticipated Oil BBL/D		icipated MCF/D		Anticipated roduced Water BBL/D
SEE ATTACHED PAGE								
IV. Central Delivery Po	oint Name: S	ENM SC 18 CTB				[See 1	9.15.2	7.9(D)(1) NMAC]
V. Anticipated Schedule proposed to be recomplet					vell or s	et of wells	s propo	sed to be drilled or
Well Name	API	Spud Date	TD Reached Date	Completion Commencement		Initial I Back I		First Production Date
SEE ATTACHED PAGE								
VI. Separation Equipm VII. Operational Pract	ices: 🗹 Attac	ch a complete desc		-				• •
Subsection A through F of	JI 19.1J.2/.0	INMAC.						

Page 6

#### <u>Section 2 – Enhanced Plan</u> EFFECTIVE APRIL 1, 2022

Beginning April 1, 2022, an operator that is not in compliance with its statewide natural gas capture requirement for the applicable reporting area must complete this section.

 $\Box$  Operator certifies that it is not required to complete this section because Operator is in compliance with its statewide natural gas capture requirement for the applicable reporting area.

#### IX. Anticipated Natural Gas Production:

Well	API	Anticipated Average Natural Gas Rate MCF/D	Anticipated Volume of Natural Gas for the First Year MCF

#### X. Natural Gas Gathering System (NGGS):

Operator	System	ULSTR of Tie-in	Anticipated Gathering Start Date	Available Maximum Daily Capacity of System Segment Tie-in

**XI. Map.**  $\Box$  Attach an accurate and legible map depicting the location of the well(s), the anticipated pipeline route(s) connecting the production operations to the existing or planned interconnect of the natural gas gathering system(s), and the maximum daily capacity of the segment or portion of the natural gas gathering system(s) to which the well(s) will be connected.

**XII. Line Capacity.** The natural gas gathering system  $\Box$  will  $\Box$  will not have capacity to gather 100% of the anticipated natural gas production volume from the well prior to the date of first production.

**XIII.** Line Pressure. Operator  $\Box$  does  $\Box$  does not anticipate that its existing well(s) connected to the same segment, or portion, of the natural gas gathering system(s) described above will continue to meet anticipated increases in line pressure caused by the new well(s).

□ Attach Operator's plan to manage production in response to the increased line pressure.

**XIV. Confidentiality:**  $\Box$  Operator asserts confidentiality pursuant to Section 71-2-8 NMSA 1978 for the information provided in Section 2 as provided in Paragraph (2) of Subsection D of 19.15.27.9 NMAC, and attaches a full description of the specific information for which confidentiality is asserted and the basis for such assertion.

Page 7

#### Page 6 of 65

#### <u>Section 3 - Certifications</u> <u>Effective May 25, 2021</u>

Operator certifies that, after reasonable inquiry and based on the available information at the time of submittal:

 $\square$  Operator will be able to connect the well(s) to a natural gas gathering system in the general area with sufficient capacity to transport one hundred percent of the anticipated volume of natural gas produced from the well(s) commencing on the date of first production, taking into account the current and anticipated volumes of produced natural gas from other wells connected to the pipeline gathering system; or

 $\Box$  Operator will not be able to connect to a natural gas gathering system in the general area with sufficient capacity to transport one hundred percent of the anticipated volume of natural gas produced from the well(s) commencing on the date of first production, taking into account the current and anticipated volumes of produced natural gas from other wells connected to the pipeline gathering system. *If Operator checks this box, Operator will select one of the following:* 

**Well Shut-In.**  $\Box$  Operator will shut-in and not produce the well until it submits the certification required by Paragraph (4) of Subsection D of 19.15.27.9 NMAC; or

**Venting and Flaring Plan.**  $\Box$  Operator has attached a venting and flaring plan that evaluates and selects one or more of the potential alternative beneficial uses for the natural gas until a natural gas gathering system is available, including:

- (a) power generation on lease;
- (b) power generation for grid;
- (c) compression on lease;
- (d) liquids removal on lease;
- (e) reinjection for underground storage;
- (f) reinjection for temporary storage;
- (g) reinjection for enhanced oil recovery;
- (h) fuel cell production; and
- (i) other alternative beneficial uses approved by the division.

#### Section 4 - Notices

1. If, at any time after Operator submits this Natural Gas Management Plan and before the well is spud:

(a) Operator becomes aware that the natural gas gathering system it planned to connect the well(s) to has become unavailable or will not have capacity to transport one hundred percent of the production from the well(s), no later than 20 days after becoming aware of such information, Operator shall submit for OCD's approval a new or revised venting and flaring plan containing the information specified in Paragraph (5) of Subsection D of 19.15.27.9 NMAC; or

(b) Operator becomes aware that it has, cumulatively for the year, become out of compliance with its baseline natural gas capture rate or natural gas capture requirement, no later than 20 days after becoming aware of such information, Operator shall submit for OCD's approval a new or revised Natural Gas Management Plan for each well it plans to spud during the next 90 days containing the information specified in Paragraph (2) of Subsection D of 19.15.27.9 NMAC, and shall file an update for each Natural Gas Management Plan until Operator is back in compliance with its baseline natural gas capture rate or natural gas capture requirement.

2. OCD may deny or conditionally approve an APD if Operator does not make a certification, fails to submit an adequate venting and flaring plan which includes alternative beneficial uses for the anticipated volume of natural gas produced, or if OCD determines that Operator will not have adequate natural gas takeaway capacity at the time a well will be spud.

Page 8

I certify that, after reasonable inquiry, the statements in and attached to this Natural Gas Management Plan are true and correct to the best of my knowledge and acknowledge that a false statement may be subject to civil and criminal penalties under the Oil and Gas Act.

Signature: Leslie T. Reeves
Printed Name: LESLIE REEVES
Title: REGULATORY ADVISOR
E-mail Address: LESLIE_REEVES@OXY.COM
Date: 06/16/2021
Phone: 713-497-2492
OIL CONSERVATION DIVISION
(Only applicable when submitted as a standalone form)
Approved By:
Title:
Approval Date:
Conditions of Approval:

III. Y	Well	(s)
--------	------	-----

Well Name	API	WELL LOCATION (ULSTR)	Footages	ANTICIPATED OIL BBL/D	ANTICIPATED GAS MCF/D	ANTICIPATED PROD WATER BBL/D
Nimitz MDP1 12-1 Federal Com 174H						
	PENDING	C-13-T24S-R30E	293' FNL 2405' FWL	2200	6800	6300
Nimitz MDP1 12-1 Federal Com 45H	PENDING	P-12-T24S-R30E	439' FSL 1138' FEL	1100	7200	4500
Nimitz MDP1 12-1 Federal Com 46H	PENDING	P-12-T24S-R30E	115' FSL 140'FEL	1100	7200	4500
Nimitz MDP1 13 Federal Com 175H	PENDING	P-12-T24S-R30E	439' FSL 1033' FEL	1200	3700	3400
Nimitz MDP1 13 Federal Com 176H	PENDING	P-12-T24S-R30E	439' FSL 998' FEL	1200	3700	3400
NIMITZ MDP1 13_1 FED COM 171H	PENDING	M-13-T24S-R30E	800' FSL 870' FWL	2800	8600	7900
NIMITZ MDP1 13_1 FED COM 172H	PENDING	M-13-T24S-R30E	800' FSL 940' FWL	2800	8600	7900
NIMITZ MDP1 13_1 FED COM 173H	PENDING	O-13-T24S-R30E	195' FSL 2444' FEL	2800	8600	7900
NIMITZ MDP1 13_1 FED COM 174H	PENDING	P-13-T24S-R30E	230' FSL 350' FEL	2800	8600	7900
NIMITZ MDP1 13_1 FED COM 175H	PENDING	P-13-T24S-R30E	230' FSL 280' FEL	2800	8600	7900
NIMITZ MDP1 13_1 FED COM 1H	PENDING	O-13-T24S-R30E	211' FSL 2413' FEL	3000	4300	5000
NIMITZ MDP1 13_1 FED COM 311H	PENDING	M-13-T24S-R30E	800' FSL 905' FWL	3800	11600	10700
NIMITZ MDP1 13_1 FED COM 312H	PENDING	O-13-T24S-R30E	179' FSL 2475' FEL	3800	11600	10700
NIMITZ MDP1 13_1 FED COM 313H	PENDING	P-13-T24S-R30E	230' FSL 315' FEL	3800	11600	10700

#### V. Anticipated Schedule

Well Name	API	Spud Date	TD Reached Date	<b>Completion Commencement Date</b>	Initial Flow Back Date	First Production Date
Nimitz MDP1 12-1 Federal Com 174H						
	PENDING	TBD	TBD	TBD	TBD	TBD
Nimitz MDP1 12-1 Federal Com 45H	PENDING	TBD	TBD	TBD	TBD	TBD
Nimitz MDP1 12-1 Federal Com 46H	PENDING	TBD	TBD	TBD	TBD	TBD
Nimitz MDP1 13 Federal Com 175H	PENDING	TBD	TBD	TBD	TBD	TBD
Nimitz MDP1 13 Federal Com 176H	PENDING	TBD	TBD	TBD	TBD	TBD
NIMITZ MDP1 13_1 FED COM 171H	PENDING	TBD	TBD	TBD	TBD	TBD
NIMITZ MDP1 13_1 FED COM 172H	PENDING	TBD	TBD	TBD	TBD	TBD
NIMITZ MDP1 13_1 FED COM 173H	PENDING	TBD	TBD	TBD	TBD	TBD
NIMITZ MDP1 13_1 FED COM 174H	PENDING	TBD	TBD	TBD	TBD	TBD
NIMITZ MDP1 13_1 FED COM 175H	PENDING	TBD	TBD	TBD	TBD	TBD
NIMITZ MDP1 13_1 FED COM 1H	PENDING	TBD	TBD	TBD	TBD	TBD
NIMITZ MDP1 13_1 FED COM 311H	PENDING	TBD	TBD	TBD	TBD	TBD
NIMITZ MDP1 13_1 FED COM 312H	PENDING	TBD	TBD	TBD	TBD	TBD
NIMITZ MDP1 13_1 FED COM 313H	PENDING	TBD	TBD	TBD	TBD	TBD

#### Part VI. Separation Equipment

Operator will size the flowback separator to handle 11,000 Bbls of fluid and 6-10MMscfd which is more than the expected peak rates for these wells. Each separator is rated to 1440psig, and pressure control valves and automated communication will cause the wells to shut in in the event of an upset at the facility, therefore no gas will be flared on pad during an upset. Current Oxy practices avoid use of flare or venting on pad, therefore if there is an upset or emergency condition at the facility, the wells will immediately shut down, and reassume production once the condition has cleared.

#### **VII. Operational Practices**

#### **Gathering System and Pipeline Notification**

Well(s) will be connected to a production facility after flowback operations are complete, where a gas transporter system is in place. The gas produced from production facility is dedicated to Enterprise Field Services, LLC ("Enterprise") and is connected to Enterprise low/high pressure gathering system located in Eddy County, New Mexico. OXY USA INC. ("OXY") provides (periodically) to Enterprise a drilling, completion and estimated first production date for wells that are scheduled to be drilled in the foreseeable future. In addition, OXY and Enterprise have periodic conference calls to discuss changes to drilling and completion schedules. Gas from these wells will be processed at Enterprise's Processing Plant located in Sec. 36, Twn. 24S, Rng. 30E, Eddy County, New Mexico. The actual flow of the gas will be based on compression operating parameters and gathering system pressures.

#### Flowback Strategy

After the fracture treatment/completion operations, well(s) will be produced to temporary production tanks and gas will be flared or vented. During flowback, the fluids and sand content will be monitored. When the produced fluids contain minimal sand, the wells will be turned to production facilities. Gas sales should start as soon as the wells start flowing through the production facilities, unless there are operational issues on Enterprise system at that time. Based on current information, it is OXY's belief the system can take this gas upon completion of the well(s).

Safety requirements during cleanout operations from the use of underbalanced air cleanout systems may necessitate that sand and non-pipeline quality gas be vented and/or flared rather than sold on a temporary basis.

#### **VIII. Best Management Practices**

#### Alternatives to Reduce Flaring

Below are alternatives considered from a conceptual standpoint to reduce the amount of gas flared.

#### Power Generation – On lease

Only a portion of gas is consumed operating the generator, remainder of gas will be flared

#### Compressed Natural Gas - On lease

Gas flared would be minimal, but might be uneconomical to operate when gas volume declines

#### NGL Removal - On lease

Plants are expensive, residue gas is still flared, and uneconomical to operate when gas volume declines

# Oxy USA Inc. - Nimitz MDP1 13\_1 Fed Com 172H Drill Plan

# **1. Geologic Formations**

TVD of Target (ft):	11420	Pilot Hole Depth (ft):	
Total Measured Depth (ft):	27027	Deepest Expected Fresh Water (ft):	477

### **Delaware Basin**

Formation	MD-RKB (ft)	TVD-RKB (ft)	<b>Expected Fluids</b>
Rustler	477	477	
Salado	841	841	Salt
Castile	2689	2689	Salt
Lamar/Delaware	4130	4130	Oil/Gas/Brine
Bell Canyon	4160	4160	Oil/Gas/Brine
Cherry Canyon	5079	5079	Oil/Gas/Brine
Brushy Canyon	6311	6300	Losses
Bone Spring	8044	8007	Oil/Gas
Bone Spring 1st	9009	8957	Oil/Gas
Bone Spring 2nd	9772	9709	Oil/Gas
Bone Spring 3rd	10983	10902	Oil/Gas
Wolfcamp	11557	11356	Oil/Gas
Penn			Oil/Gas
Strawn			Oil/Gas

\*H2S, water flows, loss of circulation, abnormal pressures, etc.

# 2. Casing Program

		IV	ID	Τ\	/D				
	Hole	From	То	From	То	Csg.	Csg Wt.		
Section	Size (in)	(ft)	(ft)	(ft)	(ft)	OD (in)	(ppf)	Grade	Conn.
Surface	14.75	0	537	0	537	10.75	45.5	J-55	BTC
Intermediate	9.875	0	10753	0	10672	7.625	26.4	L-80 HC	BTC
Production	6.75	0	27027	0	11420	5.5	20	P-110	DQX

All casing strings will be tested in accordance with Onshore Oil and Gas Order #2 III.B.1.h

\*Oxy requests the option to run the 7.625" Intermediate II as a contingency string to be run only if severe hole conditions dictate an additional casing string necessary.

\*Oxy requests the option to run production casing with DQX, TORQ DQW and/or TORQ SFW connections to accommodate hole conditions or drilling operations.

Occidental - Permian N	New Mexico
------------------------	------------

All Casing SF Values will meet or exceed							
those below							
SF	Joint SF						
Collapse	Burst	Tension	Tension				
1.125	1.2	1.4	1.4				

## **Annular Clearance Variance Request**

As per the agreement reached in the Oxy/BLM face-to-face meeting on Feb 22, 2018, Oxy requests permission to allow deviation from the 0.422" annular clearance requirement from Onshore Order #2 under the following conditions:

- 1. Annular clearance to meet or exceed 0.422" between intermediate casing ID and production casing coupling only on the first 500' overlap between both casings.
- 2. Annular clearance less than 0.422" is acceptable for the curve and lateral portions of the production open hole section.

	Y or N
Is casing new? If used, attach certification as required in Onshore Order #1	Y
Does casing meet API specifications? If no, attach casing specification sheet.	Y
Is premium or uncommon casing planned? If yes attach casing specification sheet.	Y
Does the above casing design meet or exceed BLM's minimum standards?	V
If not provide justification (loading assumptions, casing design criteria).	Y
Will the intermediate pipe be kept at a minimum 1/3 fluid filled to avoid approaching	V
the collapse pressure rating of the casing?	Y
Is well located within Capitan Reef?	N
If yes, does production casing cement tie back a minimum of 50' above the Reef?	
Is well within the designated 4 string boundary.	
Is well located in SOPA but not in R-111-P?	Y
If yes, are the first 2 strings cemented to surface and 3 <sup>rd</sup> string cement tied back 500' into previous casing?	Y
Is well located in R-111-P and SOPA?	N
If yes, are the first three strings cemented to surface?	
Is 2 <sup>nd</sup> string set 100' to 600' below the base of salt?	
Is well located in high Cave/Karst?	N
If yes, are there two strings cemented to surface?	
(For 2 string wells) If yes, is there a contingency casing if lost circulation occurs?	
Is well located in critical Cave/Karst?	N
If yes, are there three strings cemented to surface?	

# 3. Cementing Program

Section	Stage	Slurry:	Capacities	ft^3/ft	Excess:	From	То	Sacks	Volume (ft^3)	Placement
Surface	1	Surface - Tail	OH x Csg	0.5563	100%	537	-	449	597	Circulate
Int.	1	Intermediate 1S - Tail	OH x Csg	0.2148	5%	10,753	6,561	573	945	Circulate
Int.	2	Intermediate 2S - Tail BH	OH x Csg	0.2148	25%	6,561	537	842	1617	Bradenhead
Int.	2	Intermediate 2S - Tail BH	Csg x Csg	0.2338	0%	537	-	65	126	Bradenhead
Prod.	1	Production - Tail	OH x Csg	0.0835	20%	27,027	10,753	1182	1631	Circulate
Prod.	1	Production - Tail	Csg x Csg	0.0999	0%	10,753	10,253	36	50	Circulate

Description	Density (Ib/gal)	Yield (ft3/sk)	Water (gal/sk)	500psi Time (hh:mm)	Cmt. Class	Accelerator	Retarder	Dispersant	Salt
Surface - Tail	14.8	1.33	6.365	5:26	С	х			
Intermediate 1S - Tail	13.2	1.65	8.64	11:54	Η	Х	Х	X	х
Intermediate 2S - Tail BH	12.9	1.92	10.41	23:10	С	х			
Production - Tail	13.2	1.38	6.686	3:39	Н		х	х	х

•

# **Offline Cementing**

Oxy requests a variance to cement the 9.625" and/or 7.625" intermediate casing strings offline in accordance to the approved variance, EC Tran 461365.

The summarized operational sequence will be as follows:

Run casing as per normal operations. While running casing, conduct negative pressure test and confirm integrity of the float equipment (float collar and shoe).

Land casing.

Fill pipe with kill weight fluid, and confirm well is static.

If well Oxy requests a variance to cement the 9.625" and/or 7.625" intermediate casing strings offline in accordance to the approved variance, EC Tran 461365.

The summarized operational sequence will be as follows:

- 1. Run casing as per normal operations. While running casing, conduct negative pressure test and confirm integrity of the float equipment (float collar and shoe).
- 2. Land casing.
- 3. Fill pipe with kill weight fluid, and confirm well is static.
  - a. If well is not static notify BLM and kill well.
  - b. Once well is static notify BLM with intent to proceed with nipple down and offline cementing.
- 4. Set and pressure test annular packoff.
- 5. After confirmation of both annular barriers and internal barriers, nipple down BOP and install cap flange. If any barrier fails to test, the BOP stack will not be nippled down until after the cement job is completed.
- 6. Skid rig to next well on pad.
- 7. Confirm well is static before removing cap flange.
- 8. If well is not static notify BLM and kill well prior to cementing or nippling up for further remediation.
- 9. Install offline cement tool.
- 10. Rig up cement equipment.
  - a. Notify BLM prior to cement job.
- 11. Perform cement job.
- 12. Confirm well is static and floats are holding after cement job.
- 13. Remove cement equipment, offline cement tools and install night cap with pressure gauge for monitoring.

Oxy requests permission to adjust the CBL requirement after bradenhead cement jobs, on 7-5/8" intermediate casings, as per the agreement reached in the OXY/BLM meeting on September 5, 2019.

### Three string wells:

- CBL will be required on one well per pad
- If the pumped volume of cement is less than permitted in the APD, BLM will be notified and a CBL may be run
- Echometer will be used after bradenhead cement job to determine TOC before pumping top-out cement

# **4. Pressure Control Equipment**

BOP installed and tested before drilling which hole?	Size?	Min. Required WP	Туре	~	Tested to:	Deepest TVD Depth (ft) per Section:
		5M	Annular	$\checkmark$	70% of working pressure	
			Blind Ram	$\checkmark$		10672
9.875" Hole	13-5/8"	5M	Pipe Ram		250 pci / 5000 pci	
			Double Ram	$\checkmark$	250 psi / 5000 psi	
			Other*			
		5M	Annular	$\checkmark$	70% of working pressure	
			Blind Ram	$\checkmark$		
6.75" Hole	13-5/8"	514	Pipe Ram		250 pai / 5000 pai	11420
		5M	Double Ram	$\checkmark$	250 psi / 5000 psi	
			Other*			

\*Specify if additional ram is utilized

BOP/BOPE will be tested by an independent service company to 250 psi low and the high pressure indicated above per Onshore Order 2 requirements. The System may be upgraded to a higher pressure but still tested to the working pressure listed in the table above. If the system is upgraded all the components installed will be functional and tested.

Pipe rams will be operationally checked each 24 hour period. Blind rams will be operationally checked on each trip out of the hole. These checks will be noted on the daily tour sheets. Other accessories to the BOP equipment will include a Kelly cock and floor safety valve (inside BOP) and choke lines and choke

Occidental - Permian New Mexico

Formation integrity test will be performed per Onshore Order #2.							
On Exploratory wells or on that portion of any well approved for a 5M BOPE system or greater, a							
pressure integrity test of each casing shoe shall be performed. Will be tested in accordance with							
Onshore Oil and Gas Order #2 III.B.1.i.							
A variance is requested for the use of a flexible choke line from the BOP to Choke Manifold. See							
attached for specs and hydrostatic test chart.							
Y Are anchors required by manufacturer?							
A multibowl or a unionized multibowl wellhead system will be employed. The wellhead and							
connection to the BOPE will meet all API 6A requirements. The BOP will be tested per Onshore							
Order #2 after installation on the surface casing which will cover testing requirements for a							
maximum of 30 days. If any seal subject to test pressure is broken the system must be tested. We							
will test the flange connection of the wellhead with a test port that is directly in the flange. We							
are proposing that we will run the wellhead through the rotary prior to cementing surface casing							
as discussed with the BLM on October 8, 2015.							
See attached schematics.							

# **BOP Break Testing Request**

Oxy requests permission to adjust the BOP break testing requirements as per the agreement reached in the OXY/BLM meeting on September 5, 2019. A separate sundry will be sent prior to spud that reflects the pad based break testing plan.

BOP break test under the following conditions:

- After a full BOP test is conducted

- When skidding to drill an intermediate section where ICP is set into the third Bone Spring or shallower.

- When skidding to drill a production section that does not penetrate into the third Bone Spring or deeper.

If the kill line is broken prior to skid, two tests will be performed.

- 1) Wellhead flange, co-flex hose, kill line connections and upper pipe rams
- 2) Wellhead flange, HCR valve, check valve, upper pipe rams

If the kill line is not broken prior to skid, only one test will be performed.

Castion		Depth - MD		Depth - TVD		Tuno	Weight	Viscosity	Water			
Section	From (ft)	To (ft)	From (ft)	To (ft)	Туре	(ppg)	viscosity	Loss				
	Surface	0	537	0	537	Water-Based Mud	8.6 - 8.8	40-60	N/C			
	Intermediate	537	10753	537	10672	Saturated Brine-Based or Oil-Based Mud	8.0 - 10.0	35-45	N/C			
	Production	10753	27027	10672	11420	Water-Based or Oil- Based Mud	9.5 - 12	38-50	N/C			

# 5. Mud Program

Sufficient mud materials to maintain mud properties and meet minimum lost circulation and weight increase requirements will be kept on location at all times. The following is a general list of products: Barite, Bentonite, Gypsum, Lime, Soda Ash, Caustic Soda, Nut Plug, Cedar Fiber, Cotton Seed Hulls, Drilling Paper, Salt Water Clay, CACL2. Oxy will use a closed mud system.

What will be used to monitor the	PVT/MD Totco/Visual Monitoring	
loss or gain of fluid?	PVT/IVID TOLCO/VISUALIVIONILOTINg	

# 6. Logging and Testing Procedures

Log	Logging, Coring and Testing.						
Yes	Will run GR from TD to surface (horizontal well – vertical portion of hole).						
res	Stated logs run will be in the Completion Report and submitted to the BLM.						
No	Logs are planned based on well control or offset log information.						
No	Drill stem test? If yes, explain						
No	Coring? If yes, explain						

Add	Additional logs planned				
No	Resistivity				
No	Density				
No	CBL				
Yes	Mud log	Bone Spring – TD			
No	PEX				

# **7. Drilling Conditions**

Condition	Specify what type and where?
BH Pressure at deepest TVD	7127 psi
Abnormal Temperature	No
BH Temperature at deepest TVD	172°F

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

Hydrogen Sulfide (H2S) monitors will be installed prior to drilling out the surface shoe. If H2S is detected in concentrations greater than 100 ppm, the operator will comply with the provisions of Onshore Oil and Gas Order #6. If Hydrogen Sulfide is encountered, measured values and formations will be provided to the BLM.

Ν	H2S is present
Y	H2S Plan attached

# 8. Other facets of operation

	Yes/No
Will the well be drilled with a walking/skidding operation? If yes, describe.	
We plan to drill the 3 well pad in batch by section: all surface sections, intermediate	Yes
sections and production sections. The wellhead will be secured with a night cap whenever	105
the rig is not over the well.	
Will more than one drilling rig be used for drilling operations? If yes, describe.	
Oxy requests the option to contract a Surface Rig to drill, set surface casing, and cement for	
this well. If the timing between rigs is such that Oxy would not be able to preset surface,	Yes
the Primary Rig will MIRU and drill the well in its entirety per the APD. Please see the	
attached document for information on the spudder rig.	

Total Estimated Cuttings Volume: 1802 bbls

Attachments

- \_x\_\_ Directional Plan
- \_x\_\_ H2S Contingency Plan
- \_x\_\_ Flex III Attachments
- \_x\_\_ Spudder Rig Attachment

# 9. Company Personnel

Name	Title	<b>Office Phone</b>	<b>Mobile Phone</b>
Linsay Earle	Drilling Engineer	713-350-4921	832-596-5507
William Turner	Drilling Engineer Supervisor	713-350-4951	661-817-4586
Simon Benavides	Drilling Superintendent	713-522-8652	281-684-6897
Diego Tellez	Drilling Manager	713-350-4602	713-303-4932

## OXY

PRD NM DIRECTIONAL PLANS (NAD 1983) Nimitz MDP1 13\_1 Nimitz MDP1 13\_1 Fed Com 172H

Wellbore #1

**Plan: Permitting Plan** 

# **Standard Planning Report**

13 July, 2020

Database:

Company:

Project: Site:

Wellbore:

Design:

Project

Site

Well

Map System:

Geo Datum: Map Zone:

Site Position: From:

Well Position

Wellbore

Magnetics

Design Audit Notes: Version:

1

Vertical Section:

Plan Survey Tool Program Depth From

0.00

(ft)

**Position Uncertainty:** 

**Position Uncertainty** 

Well:

HOPSPP ENGINEERING DESIGNS PRD NM DIRECTIONAL PLANS (NAD 1983) Nimitz MOP1 13, 1 Fed Com 172H Wellbore #1 Permitting Plan PRD NM DIRECTIONAL PLANS (NAD 1983) US State Plane 1983 New Mexico Eastern Zone North Reference: Survey Calculation Method: Wellbore #1 Permitting Plan North American Datum 1983 New Mexico Eastern Zone Northinge: 100 ft Stot Radius: 13.200 in Fasting: 695,931.15 usf Latitude: 13.200 in Grid Convergence: 0.271 Nimitz MDP1 13_1 Fed Com 172H *1V-S *552.72.1t Northing: 441,513.07 usft Latitude: 100 ft Stot Radius: 13.200 in Grid Convergence: 0.271 Nimitz MDP1 13_1 Fed Com 172H *1V-S *552.72.1t Northing: 441,513.07 usft Latitude: 103 *50 0.322510 W 0.327.2859 IW Grid Convergence: 0.271 Nimitz MDP1 13_1 Fed Com 172H *1V-S *552.72.1t Northing: 441,513.07 usft Latitude: 32* 12* 46.200080 N *2* 12* 40.342765 N *2* 12* 46.200080 N *2* 12* 40.342765 N *2* 12* 46.200080 N *100 ft Wellboard Elevation: *2* 12* 46.200080 N *100 ft Wellbead Elevation: *2* 12* 46.200080 N *2* 12* 46.200080 N *100 ft Wellbead Elevation: ************************************	ENSINEERING DESIGNS PRO MU DIRECTIONAL PLANS (NAD 1983) Nimitz MDP1 13_1 Fed Com 172H Wellbore #1 Permitting Plan         TVD Reference: MD Reference: Survey Calculation Method:         RKB=26.5'@ 3479.50ft Grid Minimum Curvature           PRD NM DIRECTIONAL PLANS (NAD 1983)         Survey Calculation Method:         Minimum Curvature           Velibore #1 Permitting Plan         System Datum:         Mean Sea Level           Vorth American Datum 1983 New Mexico Eastern Zone         Using geodelic scale factor           Nimitz MDP1 13_1         Morthing:         440,930.39 usft Easting:         Latitude:         32° 12' 40.342765 h Longitude:           Map         Easting:         695,931.15 usft 13.200 in         Congitude:         103° 50' 05.22510 V Longitude:           Nimitz MDP1 13_1 Fed Com 172H         ************************************	6/	22/2021 7:.	26:50 AM		<b>Oxy Inc.</b> Planning Report				1	Page 22
US State Plane 1983 North American Datum 1983 New Mexico Easterr Zone         System Datum: Using geodetic scale factor           Nimitz MDP1 13_1         Vorthing: Easting: 10.0 ft         440,930.39 usft Easting: 500.522510 W 500 Kadius:         Latitude: 103° 50° 0.522510 W 103° 50° 0.522510 W 103° 50° 0.522510 W 103° 50° 0.522510 W 103° 50° 0.522510 W 0.27°           Nimitz MDP1 13_1 Fed Com 172H         Latitude: 103° 50° 0.522510 W 103° 50° 0.522510 W 0.27°           Nimitz MDP1 13_1 Fed Com 172H         Latitude: 103° 50° 0.522510 W 93,934.77 usft           +W/-S         582.72 ft 1.996.51 ft Easting: 10.0 ft           *UW         1.00 ft           Wellbore #1           Model Name         Sample Date           Permitting Plan           Permitting Plan           Program         Date           Date         7/13/2020           Depth From (TVD) (ft)         Tool Name           Remarks           27.026.62 Permitting Plan (Wellbore #1)         B001Mb_MWD+HRGM	US State Plane 1983 North American Datum 1983 New Mexico Easterr Zone         System Datum: Using geodetic scale factor           Nimitz MDP1 13_1		ENGINEER PRD NM DI Nimitz MDP Nimitz MDP Wellbore #1	RECTIONAL P 91 13_1 91 13_1 Fed Co 1	LANS (NAD 1983	TVD Reference: MD Reference: North Reference:		RKB=26.5' ( RKB=26.5' ( Grid	@ 3479.50ft @ 3479.50ft	<sup>-</sup> ed Com 172H	
Morth American Datum 1983 New Mexico Eastern Zone         Using geodetic scale factor           Nimitz MDP1 13_1         Northing:         440,930.39 usf 695,931.15 usf 103* 50' 0.522510 W         Latitude:         32* 12' 40.342765 N           Map         Easting:         695,931.15 usf 103* 50' 0.522510 W         Longitude:         32* 12' 40.342765 N           Nimitz MDP1 13_1 Fed Com 172H         Easting:         693,934.77 usf         Latitude:         32* 12' 46.20080 N           +M/-S         582.72 ft -1.996.51 ft         Northing:         693,934.77 usf         Latitude:         32* 12' 46.20080 N           Veilbore #1         Easting:         693,934.77 usf         Longitude:         32* 12' 46.20080 N           Weilbore #1         Phase         Declination (')         Dip Angle (')         Field Strength (nT)           Weilbore #1         Phase:         PROTOTYPE         Tie On Depth         0.00           Permitting Plan         Depth From (TVD)         +N/-S         +E/-W         Direction (ft)         O           Oot         0.00         0.00         0.00         2.28	Morth American Datum 1983 New Mexico Eastern Zone         Using geodetic scale factor           Nimitz MDP1 13_1         Northing:         440,930.39 usft 695,931.15 usft 103° 50° 0.522510 W         Latitude:         32° 12' 40.342765 N           Map         Easting:         695,931.15 usft 13.200 in         Latitude:         32° 12' 40.342765 N           Nimitz MDP1 13_1 Fed Com 172H         Easting:         693,934.77 usft         Latitude:         32° 12' 46.20080 N           +M/-S         582.72 ft -1,996.51 ft         Northing:         441,513.07 usft         Latitude:         32° 12' 46.20080 N           Wellbore #1         Onoth         Wellhead Elevation:         Ground Level:         32° 12' 46.20080 N           Wellbore #1         Phase:         PROTOTYPE         Tie On Depth:         0.00           Permitting Plan         Phase:         PROTOTYPE         Tie On Depth:         0.00           Permitting Plan         Direction (ft)         Oir (°)         0.00         2.28           Program         Date         7/13/2020         Easting:         Tool Name         Remarks           27,026.62         Permitting Plan (Wellbore #1)         B001Mb_MWD+HRGM         B001Mb_MWD+HRGM         Northing:         Addition (%)		PRD NM DIF	RECTIONAL PL	ANS (NAD 1983)						
Nimitz MDP1 13_1         Northing:         440,930.39 usft Easting:         Latitude:         32° 12' 40.342765 N           Map         Easting:         695,931.15 usft         Longitude:         103' 50' 0.522510 W           Nimitz MDP1 13_1 Fed Com 172H         13.200 in         Grid Convergence:         0.27'           Nimitz MDP1 13_1 Fed Com 172H         441,513.07 usft         Latitude:         32° 12' 46.20080 N           +E/-W         -1,996.51 ft         Easting:         693,934.77 usft         Longitude:         103' 50' 23.728591 W           +te/-W         -1,996.51 ft         Easting:         693,934.77 usft         Longitude:         103' 50' 23.728591 W           vity         1.00 ft         Wellbead Elevation:         Ground Level:         3.453.00 ft           Wellbore #1         Model Name         Sample Date         Declination (°)         Dip Angle (°)         Field Strength (nT)           Permitting Plan         Phase:         PROTOTYPE         Tie On Depth:         0.00           Permitting Plan         0.00         0.00         0.00         2.28           Program         Date         7/13/2020         2.28           Program         Date         7/13/2020         Tool Name         Remarks           27,026.62         Permitting Pl	Nimitz MDP1 13_1         Northing:         440,930.39 usft 695,931.15 usft         Latitude:         32° 12' 40.342765 N           Map         Easting:         695,931.15 usft         Longitude:         103° 50' 0.522510 W           Nimitz MDP1 13_1 Fed Com 172H		North America	an Datum 1983		System Datum:					
Map         Northing: Easting:         440,930.39 ush 695,931.15 ush 13.200 in         Latitude: Longitude:         32° 12' 40.342765 N 103° 50' 0.522510 W 103° 50' 0.522510 W 0.27'           Nimitz MDP1 13_1 Fed Com 172H         Italian         Italian         0.27'           Nimitz MDP1 13_1 Fed Com 172H         Italian         693,934.77 ush Longitude:         Latitude:         32° 12' 46.20080 N 0'''           +N/-S         582.72 ft +E/-W         Northing:         441,513.07 ush Gogund Level:         Latitude:         32° 12' 46.20080 N 0'''           +E/-W         -1,996.51 ft 1.00 ft         Easting:         693,934.77 ush Gogund Level:         Longitude:         103° 50' 23.728591 W Ground Level:           Wellbore #1         Northing:         7/13/2020         6.67         59.87         47.794.60000000           Permitting Plan         Phase:         PROTOTYPE         Tie On Depth:         0.00           Depth From (TVD)         +N/-S         +E/-W         Direction (ft)         0.00           0.00         0.00         0.00         2.28         103''''           Program         Date 7/13/2020         Tool Name         Remarks           27,026.62         Permitting Plan (Wellbore #1)         B001Mb_MWD+HRGM	Map         Northing: Easting:         440,930.39 ush 695,931.15 ush 13.200 in         Latitude: Longitude:         32° 12' 40.342765 h 103° 50' 0.522510 W 0.3° 50' 0.522510 W Grid Convergence:         32° 12' 40.342765 h 103° 50' 0.522510 W 0.27           Nimitz MDP1 13_1 Fed Com 172H         Image: Second Convergence:         0.27           Nimitz MDP1 13_1 Fed Com 172H         Image: Second Convergence:         32° 12' 46.200800 h 103° 50' 23.728591 W 100 ft           +N/-S         582.72 ft Lasting:         Northing:         441,513.07 usft 693,934.77 usft         Latitude:         32° 12' 46.200800 h 103° 50' 23.728591 W Ground Level:         3453.00 f           Wellbore #1         100 ft         Wellbead Elevation:         Ground Level:         3453.00 f           Wellbore #1         7/13/2020         6.67         59.87         47.794.60000000           Program         Date         7/13/2020         0.00         0.00         2.28           Program         Date         7/13/2020         Tool Name         Remarks           27.026.62         Permitting Plan (Wellbore #1)         B001Mb_MWD+HRGM         B001Mb_MWD + HRGM	_									
Map         Easting:         695,931.15 usft 13.200 in         Longitude:         103° 50' 0.522510 W.           Nimitz MDP1 13_1 Fed Com 172H	Map         Easting:         695,931.15 usft         Longitude:         103° 50' 0.522510 W           ty:         1.00 ft         Slot Radius:         13.200 in         Grid Convergence:         0.27           Nimitz MDP1 13_1 Fed Com 172H		Nimitz MDP1	1 13_1							
+N/-S       582.72 ft -1,996.51 ft 1.00 ft       Northing: Easting: Northing: 1.00 ft       441,513.07 usft 693,934.77 usft Wellbace: 693,934.77 usft Ground Level:       Latitude: 103° 50' 23.728591 W 3,453.00 ft         Wellbore #1       Northing: Nodel Name       Sample Date       Declination (°)       Dip Angle (°)       Field Strength (nT)         HDGM_FILE       7/13/2020       6.67       59.87       47,794.6000000         Permitting Plan       Phase:       PROTOTYPE       Tie On Depth: (ft)       0.00       0.00         Program       Date       7/13/2020       0.00       0.00       2.28         Program       Date       7/13/2020       700 Name       Remarks         27,026.62       Permitting Plan (Wellbore #1)       B001Mb_MWD+HRGM       Souther #1	+N/-S       582.72 ft       Northing:       441,513.07 usft       Latitude:       32° 12' 46.20080 ft       32° 12' 46.20080 ft       103° 50' 23.72851 Wt       103° 50' 23.72851 Wt       103° 50' 23.72851 Wt       103° 50' 23.72851 Wt       3453.00 ft         Wellbore #1       Northing:       Sample Date       Declination (°)       Dip Angle (°)       Field Strength (°)       3,453.00 ft         Wellbore #1       Model Name       Sample Date       Declination (°)       Dip Angle (°)       Field Strength (°)       100 ft         HDGM_FILE       7/13/2020       6.67       59.87       47,794.60000000         Permitting Plan       Phase:       PROTOTYPE       Tie On Depth:       0.00         Depth From (TVD) (ft)       +N/-S       +E/-W       Direction (°)       0.00         0.00       0.00       0.00       2.28       Program       2.28         Program (ft)       Survey (Wellbore)       Tool Name       Remarks         27,026.62       Permitting Plan (Wellbore #1)       B001Mb_MWD+HRGM       B001Mb_MWD+HRGM	nty	•	1.00 ft	Easting:	695,931.15 us	ft Longitud	de:			
+E/-W       -1,996.51 ft 1.00 ft       Easting: Wellbead Elevation:       693,934.77 usft Ground Level:       Longitude: 103° 50' 23.728591 W 3,453.00 ft         Wellbore #1       Model Name       Sample Date       Declination (°)       Dip Angle (°)       Field Strength (nT)         HDGM_FILE       7/13/2020       6.67       59.87       47,794.60000000         Permitting Plan       Phase:       PROTOTYPE       Tie On Depth:       0.00         Depth From (TVD) (ft)       +N/-S (ft)       +E/-W (ft)       Direction (°)       Direction (°)         Program       Date       7/13/2020       Depth To (ft)       Tool Name       Remarks         27,026.62       Permitting Plan (Wellbore #1)       B001Mb_MWD+HRGM       Remarks	+E/-W       -1,996.51 ft       Easting:       693,934.77 usft       Longitude:       103° 50' 23.728591 W         Model Name       Sample Date       Declination       Dip Angle       100 ft       3,453.00 ft         Wellbore #1       Model Name       Sample Date       Declination       Dip Angle       Field Strength       3,453.00 ft         HDGM_FILE       7/13/2020       6.67       59.87       47,794.60000000         Permitting Plan       Phase:       PROTOTYPE       Tie On Depth:       0.00         Depth From (TVD)       +N/-S       +E/-W       Direction         (ft)       0.00       0.00       0.00       2.28         Program         Date       7/13/2020         Depth To       Tool Name       Remarks         27,026.62       Permitting Plan (Wellbore #1)       B001Mb_MWD+HRGM		Nimitz MDP1	13_1 Fed Com	172H						
Model Name         Sample Date         Declination (°)         Dip Angle (°)         Field Strength (nT)           HDGM_FILE         7/13/2020         6.67         59.87         47,794.60000000           Permitting Plan         PROTOTYPE         Tie On Depth:         0.00           Depth From (TVD)         +N/-S         +E/-W         Direction (°)           0.00         0.00         0.00         2.28           Program           Date         7/13/2020           Tool Name           27,026.62         Permitting Plan (Wellbore #1)	Model Name         Sample Date         Declination (°)         Dip Angle (°)         Field Strength (nT)           HDGM_FILE         7/13/2020         6.67         59.87         47,794.6000000           Permitting Plan         PROTOTYPE         Tie On Depth         0.00         0.00           Depth From (TVD) (ft)         +N/-S (ft)         +E/-W (ft)         Direction (°)         Direction (°)           Program         Date         7/13/2020         0.00         0.00         2.28           Program         Date         7/13/2020         700 Name         Remarks           27,026.62         Permitting Plan (Wellbore #1)         B001Mb_MWD+HRGM         50.00	nty	+E/-W	-1,996.51 ft	Easting:	693,934		Longitude:		103° 50' 23.7	28591 W
(°)         (°)         (°)         (nT)           HDGM_FILE         7/13/2020         6.67         59.87         47,794.60000000           Permitting Plan         Phase:         PROTOTYPE         Tie On Depth:         0.00           Depth From (TVD)         +N/-S         +E/-W         Direction           (ft)         (ft)         (ft)         (°)         0.00           0.00         0.00         0.00         2.28	(°)         (°)         (°)         (nT)           HDGM_FILE         7/13/2020         6.67         59.87         47,794.60000000           Permitting Plan         Phase:         PROTOTYPE         Tie On Depth:         0.00           Depth From (TVD)         +N/-S         +E/-W         Direction (°)         Outer (°)           0.00         0.00         0.00         2.28		Wellbore #1								
Permitting Plan         Phase:         PROTOTYPE         Tie On Depth:         0.00           Depth From (TVD)         +N/-S         +E/-W         Direction           (ft)         (ft)         (ft)         (°)           0.00         0.00         0.00         2.28           Program           Date         7/13/2020           Depth To (ft)         Tool Name         Remarks           27,026.62         Permitting Plan (Wellbore #1)         B001Mb_MWD+HRGM	Permitting Plan         Phase:         PROTOTYPE         Tie On Depth:         0.00           Depth From (TVD)         +N/-S         +E/-W         Direction           (ft)         (ft)         (ft)         (°)           0.00         0.00         0.00         2.28           Program         Date 7/13/2020         7/13/2020         2.28           27,026.62         Permitting Plan (Wellbore #1)         B001Mb_MWD+HRGM		Model N	ame	Sample Date		C		Fie		
Phase:     PROTOTYPE     Tie On Depth:     0.00       Depth From (TVD) (ft)     +N/-S (ft)     +E/-W (ft)     Direction (°)       0.00     0.00     0.00     2.28	Phase:     PROTOTYPE     Tie On Depth:     0.00       Depth From (TVD) (ft)     +N/-S (ft)     +E/-W (ft)     Direction (°)       0.00     0.00     0.00     2.28		HDG	M_FILE	7/13/2020	6.67	7	59.87	<b>'</b> 4	7,794.6000000	)
Depth From (TVD) (ft)         +N/-S (ft)         +E/-W (ft)         Direction (°)           0.00         0.00         0.00         2.28           Program         Date 7/13/2020         Tool Name         Remarks           27,026.62         Permitting Plan (Wellbore #1)         B001Mb_MWD+HRGM	Depth From (TVD) (ft)         +N/-S (ft)         +E/-W (ft)         Direction (°)           0.00         0.00         0.00         2.28           Program         Date 7/13/2020         Tool Name         Remarks           27,026.62         Permitting Plan (Wellbore #1)         B001Mb_MWD+HRGM		Permitting Pl	lan							
(ft)         (ft)         (ft)         (°)           0.00         0.00         0.00         2.28           Program         Date         7/13/2020           Depth To (ft)         Survey (Wellbore)         Tool Name         Remarks           27,026.62         Permitting Plan (Wellbore #1)         B001Mb_MWD+HRGM	(ft)         (ft)         (ft)         (°)           0.00         0.00         0.00         2.28           Program         Date         7/13/2020         Remarks           Depth To (ft)         Survey (Wellbore)         Tool Name         Remarks           27,026.62         Permitting Plan (Wellbore #1)         B001Mb_MWD+HRGM				Phase:	PROTOTYPE	Tie On Dept	:h:	0.00		
0.00       0.00       0.00       2.28         Program       Date       7/13/2020         Depth To (ft)       Survey (Wellbore)       Tool Name       Remarks         27,026.62       Permitting Plan (Wellbore #1)       B001Mb_MWD+HRGM	0.00       0.00       0.00       2.28         Program       Date       7/13/2020         Depth To (ft)       Survey (Wellbore)       Tool Name       Remarks         27,026.62       Permitting Plan (Wellbore #1)       B001Mb_MWD+HRGM										
Depth To (ft)     Survey (Wellbore)     Tool Name     Remarks       27,026.62     Permitting Plan (Wellbore #1)     B001Mb_MWD+HRGM	Depth To (ft)     Survey (Wellbore)     Tool Name     Remarks       27,026.62     Permitting Plan (Wellbore #1)     B001Mb_MWD+HRGM			0	0.00	0.00	0.00				
Depth To (ft)     Survey (Wellbore)     Tool Name     Remarks       27,026.62     Permitting Plan (Wellbore #1)     B001Mb_MWD+HRGM	Depth To (ft)     Survey (Wellbore)     Tool Name     Remarks       27,026.62     Permitting Plan (Wellbore #1)     B001Mb_MWD+HRGM	Pı	rogram	Date 7/13/	2020						
				Survey (Well	bore)	Tool Name	Remar	ks			
			27,026.62	Permitting Pla	n (Wellbore #1)	—					

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	
4,895.00	0.00	0.00	4,895.00	0.00	0.00	0.00	0.00	0.00	0.00	
5,895.00	10.00	141.56	5,889.93	-68.18	54.12	1.00	1.00	0.00	141.56	
10,852.68	10.00	141.56	10,772.29	-742.48	589.33	0.00	0.00	0.00	0.00	
11,835.79	90.47	359.77	11,419.50	-169.92	658.23	10.00	8.19	-14.42	-141.31	
27,026.62	90.47	359.77	11,294.50	15,020.29	597.62	0.00	0.00	0.00	0.00	PBHL (Nimitz MDP1

7/13/2020 3:23:13PM

Released to Imaging: 6/25/2021 3:15:43 PM

Database:	HOPSPP	Local Co-ordinate Reference:	Well Nimitz MDP1 13_1 Fed Com 172H
Company:	ENGINEERING DESIGNS	TVD Reference:	RKB=26.5' @ 3479.50ft
Project:	PRD NM DIRECTIONAL PLANS (NAD 1983)	MD Reference:	RKB=26.5' @ 3479.50ft
Site:	Nimitz MDP1 13_1	North Reference:	Grid
Well:	Nimitz MDP1 13_1 Fed Com 172H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Permitting Plan		

#### 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
100.00	0.00	0.00	100.00	0.00	0.00	0.00	0.00	0.00	0.00
200.00	0.00	0.00	200.00	0.00	0.00	0.00	0.00	0.00	0.00
300.00	0.00	0.00	300.00	0.00	0.00	0.00	0.00	0.00	0.00
400.00	0.00	0.00	400.00	0.00	0.00	0.00	0.00	0.00	0.00
500.00	0.00	0.00	500.00	0.00	0.00	0.00	0.00	0.00	0.00
600.00	0.00	0.00	600.00	0.00	0.00	0.00	0.00	0.00	0.00
700.00	0.00	0.00	700.00	0.00	0.00	0.00	0.00	0.00	0.00
800.00	0.00	0.00	800.00	0.00	0.00	0.00	0.00	0.00	0.00
900.00	0.00	0.00	900.00	0.00	0.00	0.00	0.00	0.00	0.00
1,000.00	0.00	0.00	1,000.00	0.00	0.00	0.00	0.00	0.00	0.00
1,100.00	0.00	0.00	1,100.00	0.00	0.00	0.00	0.00	0.00	0.00
1,200.00	0.00	0.00	1,200.00	0.00	0.00	0.00	0.00	0.00	0.00
1,300.00	0.00	0.00	1,300.00	0.00	0.00	0.00	0.00	0.00	0.00
1,400.00	0.00	0.00	1,400.00	0.00	0.00	0.00	0.00	0.00	0.00
1,500.00	0.00	0.00	1,500.00	0.00	0.00	0.00	0.00	0.00	0.00
1,600.00	0.00	0.00	1,600.00	0.00	0.00	0.00	0.00	0.00	0.00
1,700.00	0.00	0.00	1,700.00	0.00	0.00	0.00	0.00	0.00	0.00
1,800.00	0.00	0.00	1,800.00	0.00	0.00	0.00	0.00	0.00	0.00
1,900.00	0.00	0.00	1,900.00	0.00	0.00	0.00	0.00	0.00	0.00
2,000.00	0.00	0.00	2,000.00	0.00	0.00	0.00	0.00	0.00	0.00
2,100.00	0.00	0.00	2,100.00	0.00	0.00	0.00	0.00	0.00	0.00
2,200.00	0.00	0.00	2,200.00	0.00	0.00	0.00	0.00	0.00	0.00
2,300.00	0.00	0.00	2,300.00	0.00	0.00	0.00	0.00	0.00	0.00
2,400.00	0.00	0.00	2,400.00	0.00	0.00	0.00	0.00	0.00	0.00
2,500.00	0.00	0.00	2,500.00	0.00	0.00	0.00	0.00	0.00	0.00
2,600.00	0.00	0.00	2,600.00	0.00	0.00	0.00	0.00	0.00	0.00
2,700.00	0.00	0.00	2,700.00	0.00	0.00	0.00	0.00	0.00	0.00
2,800.00	0.00	0.00	2,800.00	0.00	0.00	0.00	0.00	0.00	0.00
2,900.00	0.00	0.00	2,900.00	0.00	0.00	0.00	0.00	0.00	0.00
3,000.00	0.00	0.00	3,000.00	0.00	0.00	0.00	0.00	0.00	0.00
3,100.00	0.00	0.00	3,100.00	0.00	0.00	0.00	0.00	0.00	0.00
3,200.00	0.00	0.00	3,200.00	0.00	0.00	0.00	0.00	0.00	0.00
3,300.00	0.00	0.00	3,300.00	0.00	0.00	0.00	0.00	0.00	0.00
3,400.00	0.00	0.00	3,400.00	0.00	0.00	0.00	0.00	0.00	0.00
3,500.00	0.00	0.00	3,500.00	0.00	0.00	0.00	0.00	0.00	0.00
3,600.00	0.00	0.00	3,600.00	0.00	0.00	0.00	0.00	0.00	0.00
3,700.00	0.00	0.00	3,700.00	0.00	0.00	0.00	0.00	0.00	0.00
3,800.00	0.00	0.00	3,800.00	0.00	0.00	0.00	0.00	0.00	0.00
3,900.00	0.00	0.00	3,900.00	0.00	0.00	0.00	0.00	0.00	0.00
4,000.00	0.00	0.00	4,000.00	0.00	0.00	0.00	0.00	0.00	0.00
4,100.00	0.00	0.00	4,100.00	0.00	0.00	0.00	0.00	0.00	0.00
4,200.00	0.00	0.00	4,200.00	0.00	0.00	0.00	0.00	0.00	0.00
4,300.00	0.00	0.00	4,300.00	0.00	0.00	0.00	0.00	0.00	0.00
4,400.00	0.00	0.00	4,400.00	0.00	0.00	0.00	0.00	0.00	0.00
4,500.00	0.00	0.00	4,500.00	0.00	0.00	0.00	0.00	0.00	0.00
4,600.00	0.00	0.00	4,600.00	0.00	0.00	0.00	0.00	0.00	0.00
4,700.00	0.00	0.00	4,700.00	0.00	0.00	0.00	0.00	0.00	0.00
4,800.00	0.00	0.00	4,800.00	0.00	0.00	0.00	0.00	0.00	0.00
4,895.00	0.00	0.00	4,895.00	0.00	0.00	0.00	0.00	0.00	0.00
4,900.00	0.05	141.56	4,900.00	0.00	0.00	0.00	1.00	1.00	0.00
5,000.00	1.05	141.56	4,999.99	-0.75	0.60	-0.73	1.00	1.00	0.00
5,100.00 5,200.00	2.05	141.56	5,099.96	-2.87	2.28	-2.78	1.00	1.00	0.00
	3.05	141.56	5,199.86	-6.36	5.05	-6.15	1.00	1.00	0.00

7/13/2020 3:23:13PM

Database:	HOPSPP	Local Co-ordinate Reference:	Well Nimitz MDP1 13 1 Fed Com 172H
Company:	ENGINEERING DESIGNS	TVD Reference:	RKB=26.5' @ 3479.50ft
Project:	PRD NM DIRECTIONAL PLANS (NAD 1983)	MD Reference:	RKB=26.5' @ 3479.50ft
Site:	Nimitz MDP1 13_1	North Reference:	Grid
Well:	Nimitz MDP1 13_1 Fed Com 172H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Permitting Plan		

#### 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)
5,300.00	4.05	141.56	5,299.66	-11.21	8.90	-10.84	1.00	1.00	0.00
5,400.00	5.05	141.56	5,399.35	-17.42	13.83	-16.86	1.00	1.00	0.00
5,500.00	6.05	141.56	5,498.88	-25.00	19.84	-24.19	1.00	1.00	0.00
5,600.00	7.05	141.56	5,598.22	-33.93	26.93	-32.83	1.00	1.00	0.00
5,700.00	8.05	141.56	5,697.35	-44.22	35.10	-42.79	1.00	1.00	0.00
5,800.00	9.05	141.56	5,796.24	-55.87	44.34	-54.06	1.00	1.00	0.00
5,895.00	10.00	141.56	5,889.93	-68.18	54.12	-65.97	1.00	1.00	0.00
5,900.00	10.00	141.56	5,894.85	-68.86	54.66	-66.63	0.00	0.00	0.00
6,000.00	10.00	141.56	5,993.34	-82.46	65.45	-79.79	0.00	0.00	0.00
6,100.00	10.00	141.56	6,091.82	-96.06	76.25	-92.95	0.00	0.00	0.00
6,200.00	10.00	141.56	6,190.30	-109.66	87.04	-106.12	0.00	0.00	0.00
6 200 00	10.00	111 50	6 000 70	100.00	07.04	110.00	0.00	0.00	0.00
6,300.00	10.00	141.56	6,288.78	-123.26	97.84	-119.28	0.00	0.00 0.00	0.00
6,400.00	10.00	141.56	6,387.26	-136.86	108.63	-132.44	0.00		0.00
6,500.00	10.00	141.56	6,485.74	-150.47	119.43	-145.60	0.00	0.00	0.00
6,600.00	10.00	141.56	6,584.22	-164.07	130.22	-158.76	0.00	0.00	0.00
6,700.00	10.00	141.56	6,682.70	-177.67	141.02	-171.92	0.00	0.00	0.00
6,800.00	10.00	141.56	6,781.18	-191.27	151.82	-185.08	0.00	0.00	0.00
6,900.00	10.00	141.56	6,879.66	-204.87	162.61	-198.24	0.00	0.00	0.00
7,000.00	10.00	141.56	6,978.14	-218.47	173.41	-211.41	0.00	0.00	0.00
7,100.00	10.00	141.56	7.076.62	-232.07	184.20	-224.57	0.00	0.00	0.00
7,200.00	10.00		7,175.11	-245.67	195.00	-224.57	0.00		0.00
7,200.00	10.00	141.56	7,175.11	-245.07	195.00	-231.13	0.00	0.00	0.00
7,300.00	10.00	141.56	7,273.59	-259.28	205.79	-250.89	0.00	0.00	0.00
7,400.00	10.00	141.56	7,372.07	-272.88	216.59	-264.05	0.00	0.00	0.00
7,500.00	10.00	141.56	7,470.55	-286.48	227.39	-277.21	0.00	0.00	0.00
7,600.00	10.00	141.56	7,569.03	-300.08	238.18	-290.37	0.00	0.00	0.00
7,700.00	10.00	141.56	7,667.51	-313.68	248.98	-303.53	0.00	0.00	0.00
7,800.00	10.00	141.56	7,765.99	-327.28	259.77	-316.70	0.00	0.00	0.00
7,900.00	10.00	141.56	7,864.47	-340.88	270.57	-329.86	0.00	0.00	0.00
8,000.00	10.00	141.56	7,962.95	-354.48	281.36	-343.02	0.00	0.00	0.00
8,100.00	10.00	141.56	8,061.43	-368.08	292.16	-356.18	0.00	0.00	0.00
8,200.00	10.00	141.56	8,159.91	-381.69	302.95	-369.34	0.00	0.00	0.00
0 200 00	10.00	111 56	0 250 20	205 20	240 7F	202 50	0.00	0.00	0.00
8,300.00	10.00	141.56	8,258.39	-395.29	313.75	-382.50	0.00	0.00	0.00
8,400.00	10.00	141.56	8,356.87	-408.89	324.55	-395.66	0.00	0.00	0.00
8,500.00	10.00	141.56	8,455.36	-422.49	335.34	-408.82	0.00	0.00	0.00
8,600.00	10.00	141.56	8,553.84	-436.09	346.14	-421.98	0.00	0.00	0.00
8,700.00	10.00	141.56	8,652.32	-449.69	356.93	-435.15	0.00	0.00	0.00
8,800.00	10.00	141.56	8,750.80	-463.29	367.73	-448.31	0.00	0.00	0.00
8,900.00	10.00	141.56	8,849.28	-476.89	378.52	-461.47	0.00	0.00	0.00
9,000.00	10.00	141.56	8,947.76	-490.50	389.32	-474.63	0.00	0.00	0.00
9,100.00	10.00	141.56	9.046.24	-504.10	400.12	-487.79	0.00	0.00	0.00
9,200.00	10.00	141.56	9,144.72	-517.70	410.91	-500.95	0.00	0.00	0.00
9,300.00	10.00	141.56	9,243.20	-531.30	421.71	-514.11	0.00	0.00	0.00
9,400.00	10.00	141.56	9,341.68	-544.90	432.50	-527.27	0.00	0.00	0.00
9,500.00	10.00	141.56	9,440.16	-558.50	443.30	-540.44	0.00	0.00	0.00
9,600.00	10.00	141.56	9,538.64	-572.10	454.09	-553.60	0.00	0.00	0.00
9,700.00	10.00	141.56	9,637.12	-585.70	464.89	-566.76	0.00	0.00	0.00
9,800.00			9,735.61						
	10.00	141.56		-599.30	475.68	-579.92	0.00	0.00	0.00
9,900.00	10.00	141.56	9,834.09	-612.91	486.48	-593.08	0.00	0.00	0.00
10,000.00	10.00	141.56	9,932.57	-626.51	497.28	-606.24	0.00	0.00	0.00
10,100.00	10.00	141.56	10,031.05	-640.11	508.07	-619.40	0.00	0.00	0.00
10,200.00	10.00	141.56	10,129.53	-653.71	518.87	-632.56	0.00	0.00	0.00
10,300.00	10.00	141.56	10.228.01	-667.31	529.66	-645.73	0.00	0.00	0.00
10,400.00	10.00	141.56	10,326.49	-680.91	540.46	-658.89	0.00	0.00	0.00
	10.00		10,020.40	000.01	070.70	000.00	0.00	0.00	0.00

7/13/2020 3:23:13PM

COMPASS 5000.15 Build 91E

Database:	HOPSPP	Local Co-ordinate Reference:	Well Nimitz MDP1 13_1 Fed Com 172H
Company:	ENGINEERING DESIGNS	TVD Reference:	RKB=26.5' @ 3479.50ft
Project:	PRD NM DIRECTIONAL PLANS (NAD 1983)	MD Reference:	RKB=26.5' @ 3479.50ft
Site:	Nimitz MDP1 13_1	North Reference:	Grid
Well:	Nimitz MDP1 13_1 Fed Com 172H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Permitting Plan		

#### 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)
10,600.00	10.00	141.56	10,523.45	-708.11	562.05	-685.21	0.00	0.00	0.00
10,700.00	10.00	141.56	10,621.93	-721.71	572.84	-698.37	0.00	0.00	0.00
10,800.00	10.00	141.56	10,720.41	-735.32	583.64	-711.53	0.00	0.00	0.00
10,852.68	10.00	141.56	10,772.29	-742.48	589.33	-718.47	0.00	0.00	0.00
10,900.00	6.96	116.37	10,819.11	-746.97	594.45	-722.75	10.00	-6.43	-53.23
11,000.00	9.28	41.73	10,918.33	-743.64	605.28	-718.99	10.00	2.32	-74.64
11,100.00	17.98	19.49	11,015.49	-723.02	615.82	-697.96	10.00	8.69	-22.24
11,200.00	27.56	11.90	11,107.61	-685.74	625.77	-660.32	10.00	9.58	-7.59
11,300.00	37.34	8.05	11,191.90	-632.94	634.81	-607.21	10.00	9.79	-3.85
11,400.00	47.21	5.62	11,265.80	-566.23	642.67	-540.23	10.00	9.87	-2.43
11,500.00	57.12	3.87	11,327.07	-487.62	649.12	-461.43	10.00	9.90	-1.75
11,600.00	67.04	2.47	11,373.84	-399.51	653.95	-373.19	10.00	9.92	-1.40
11,700.00	76.97	1.27	11,404.69	-304.57	657.03	-278.21	10.00	9.93	-1.20
11,800.00	86.91	0.16	11,418.69	-205.69	658.25	-179.36	10.00	9.94	-1.11
11,835.79	90.47	359.77	11,419.50	-169.92	658.23	-143.61	10.00	9.94	-1.09
11,900.00	90.47	359.77	11,418.98	-105.70	657.97	-79.46	0.00	0.00	0.00
12,000.00	90.47	359.77	11,418.15	-5.71	657.57	20.44	0.00	0.00	0.00
12,100.00	90.47	359.77	11,417.33	94.29	657.18	120.34	0.00	0.00	0.00
12,200.00	90.47	359.77	11,416.51	194.28	656.78	220.24	0.00	0.00	0.00
12,300.00	90.47	359.77	11,415.68	294.28	656.38	320.14	0.00	0.00	0.00
12,400.00	90.47	359.77	11,414.86	394.27	655.98	420.04	0.00	0.00	0.00
12,500.00	90.47	359.77	11,414.04	494.27	655.58	519.94	0.00	0.00	0.00
12,600.00 12,700.00 12,800.00 12,900.00 13,000.00	90.47 90.47 90.47 90.47 90.47	359.77 359.77 359.77 359.77 359.77 359.77	11,413.22 11,412.39 11,411.57 11,410.75 11,409.92	594.27 694.26 794.26 894.25 994.25	655.18 654.78 654.38 653.98 653.58	619.84 719.74 819.64 919.55 1,019.45	0.00 0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00 0.00
13,100.00	90.47	359.77	11,409.10	1,094.25	653.19	1,119.35	0.00	0.00	0.00
13,200.00	90.47	359.77	11,408.28	1,194.24	652.79	1,219.25	0.00	0.00	0.00
13,300.00	90.47	359.77	11,407.45	1,294.24	652.39	1,319.15	0.00	0.00	0.00
13,400.00	90.47	359.77	11,406.63	1,394.23	651.99	1,419.05	0.00	0.00	0.00
13,500.00	90.47	359.77	11,405.81	1,494.23	651.59	1,518.95	0.00	0.00	0.00
13,600.00 13,700.00 13,800.00 13,900.00 14,000.00	90.47 90.47 90.47 90.47 90.47	359.77 359.77 359.77 359.77 359.77	11,404.99 11,404.16 11,403.34 11,402.52 11,401.69	1,594.22 1,694.22 1,794.22 1,894.21 1,994.21	651.19 650.79 650.39 649.99 649.59	1,618.85 1,718.75 1,818.65 1,918.55 2,018.46	0.00 0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00 0.00 0.00
14,100.00 14,200.00 14,300.00 14,400.00 14,500.00	90.47 90.47 90.47 90.47 90.47	359.77 359.77 359.77 359.77 359.77	11,400.87 11,400.05 11,399.23 11,398.40 11,397.58	2,094.20 2,194.20 2,294.20 2,394.19 2,494.19	649.20 648.80 648.40 648.00 647.60	2,118.36 2,218.26 2,318.16 2,418.06 2,517.96	0.00 0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00 0.00 0.00
14,600.00	90.47	359.77	11,396.76	2,594.18	647.20	2,617.86	0.00	0.00	0.00
14,700.00	90.47	359.77	11,395.93	2,694.18	646.80	2,717.76	0.00	0.00	0.00
14,800.00	90.47	359.77	11,395.11	2,794.17	646.40	2,817.66	0.00	0.00	0.00
14,900.00	90.47	359.77	11,394.29	2,894.17	646.00	2,917.56	0.00	0.00	0.00
15,000.00	90.47	359.77	11,393.47	2,994.17	645.60	3,017.46	0.00	0.00	0.00
15,100.00	90.47	359.77	11,392.64	3,094.16	645.21	3,117.37	0.00	0.00	0.00
15,200.00	90.47	359.77	11,391.82	3,194.16	644.81	3,217.27	0.00	0.00	0.00
15,300.00	90.47	359.77	11,391.00	3,294.15	644.41	3,317.17	0.00	0.00	0.00
15,400.00	90.47	359.77	11,390.17	3,394.15	644.01	3,417.07	0.00	0.00	0.00
15,500.00	90.47	359.77	11,389.35	3,494.14	643.61	3,516.97	0.00	0.00	0.00
15,600.00 15,700.00 7/13/2020 3:23:13PM	90.47 90.47	359.77 359.77	11,388.53 11,387.71	3,594.14 3,694.14	643.21 642.81	3,616.87 3,716.77	0.00 0.00	0.00	0.00 0.00

7/13/2020 3:23:13PM

.

Database:	HOPSPP	Local Co-ordinate Reference:	Well Nimitz MDP1 13_1 Fed Com 172H
Company:	ENGINEERING DESIGNS	TVD Reference:	RKB=26.5' @ 3479.50ft
Project:	PRD NM DIRECTIONAL PLANS (NAD 1983)	MD Reference:	RKB=26.5' @ 3479.50ft
Site:	Nimitz MDP1 13_1	North Reference:	Grid
Well:	Nimitz MDP1 13_1 Fed Com 172H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Permitting Plan		

#### 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)
15,800.00	90.47	359.77	11,386.88	3,794.13	642.41	3,816.67	0.00	0.00	0.00
15,900.00	90.47	359.77	11,386.06	3,894.13	642.01	3,916.57	0.00	0.00	0.00
16,000.00	90.47	359.77	11,385.24	3,994.12	641.61	4,016.47	0.00	0.00	0.00
16,100.00	90.47	359.77	11,384.41	4,094.12	641.22	4,116.37	0.00	0.00	0.00
16,200.00	90.47	359.77	11,383.59	4,194.12	640.82	4,216.28	0.00	0.00	0.00
16,300.00	90.47	359.77	11,382.77	4,294.11	640.42	4,316.18	0.00	0.00	0.00
16,400.00	90.47	359.77	11,381.95	4,394.11	640.02	4,416.08	0.00	0.00	0.00
16,500.00	90.47	359.77	11,381.12	4,494.10	639.62	4,515.98	0.00	0.00	0.00
16,600.00	90.47	359.77	11,380.30	4,594.10	639.22	4,615.88	0.00	0.00	0.00
16,700.00	90.47	359.77	11,379.48	4,694.09	638.82	4,715.78	0.00	0.00	0.00
16,800.00	90.47	359.77	11,378.65	4,794.09	638.42	4,815.68	0.00	0.00	0.00
16,900.00	90.47	359.77	11,377.83	4,894.09	638.02	4,915.58	0.00	0.00	0.00
17,000.00	90.47	359.77	11,377.01	4,994.08	637.62	5,015.48	0.00	0.00	0.00
17,100.00	90.47	359.77	11,376.19	5,094.08	637.23	5,115.38	0.00	0.00	0.00
17,200.00	90.47	359.77	11,375.36	5,194.07	636.83	5,215.28	0.00	0.00	0.00
17,300.00	90.47	359.77	11,374.54	5.294.07	636.43	5,315.19	0.00	0.00	0.00
17,400.00	90.47	359.77	11,373.72	5,394.07	636.03	5,415.09	0.00	0.00	0.00
17,500.00	90.47	359.77	11,372.89	5,494.06	635.63	5,514.99	0.00	0.00	0.00
17,600.00	90.47	359.77	11.372.07	5,594.06	635.23	5.614.89	0.00	0.00	0.00
17,700.00	90.47	359.77	11,371.25	5,694.00 5,694.05	634.83	5,714.79	0.00	0.00	0.00
17,800.00	90.47	359.77	11,371.25	5,094.05 5,794.05	634.63	5,714.79	0.00	0.00	0.00
17,900.00	90.47	359.77	11,370.42	5,794.05 5,894.04	634.43 634.03	5,014.09 5,914.59	0.00	0.00	0.00
18,000.00	90.47	359.77	11,368.78	5,994.04 5,994.04	633.63	6,014.49	0.00	0.00	0.00
18,100.00	90.47	359.77	11,367.96	6,094.04	633.24	6,114.39	0.00	0.00	0.00
18,200.00	90.47	359.77	11,367.13	6,194.03	632.84	6,214.29	0.00	0.00	0.00
18,300.00	90.47	359.77	11,366.31	6,294.03	632.44	6,314.19	0.00	0.00	0.00
18,400.00 18,500.00	90.47 90.47	359.77 359.77	11,365.49 11,364.66	6,394.02 6,494.02	632.04 631.64	6,414.10 6,514.00	0.00 0.00	0.00 0.00	0.00 0.00
18,600.00	90.47	359.77	11,363.84	6,594.02	631.24	6,613.90	0.00	0.00	0.00
18,700.00	90.47	359.77	11,363.02	6,694.01	630.84	6,713.80	0.00	0.00	0.00
18,800.00	90.47	359.77	11,362.20	6,794.01	630.44	6,813.70	0.00	0.00	0.00
18,900.00	90.47	359.77	11,361.37	6,894.00	630.04 630.65	6,913.60 7.013.50	0.00	0.00	0.00
19,000.00	90.47	359.77	11,360.55	6,994.00	629.65	7,013.50	0.00	0.00	0.00
19,100.00	90.47	359.77	11,359.73	7,093.99	629.25	7,113.40	0.00	0.00	0.00
19,200.00	90.47	359.77	11,358.90	7,193.99	628.85	7,213.30	0.00	0.00	0.00
19,300.00	90.47	359.77	11,358.08	7,293.99	628.45	7,313.20	0.00	0.00	0.00
19,400.00	90.47	359.77	11,357.26	7,393.98	628.05	7,413.10	0.00	0.00	0.00
19,500.00	90.47	359.77	11,356.44	7,493.98	627.65	7,513.01	0.00	0.00	0.00
19,600.00	90.47	359.77	11,355.61	7,593.97	627.25	7,612.91	0.00	0.00	0.00
19,700.00	90.47	359.77	11,354.79	7,693.97	626.85	7,712.81	0.00	0.00	0.00
19,800.00	90.47	359.77	11,353.97	7,793.97	626.45	7,812.71	0.00	0.00	0.00
19,900.00	90.47	359.77	11,353.14	7,893.96	626.05	7,912.61	0.00	0.00	0.00
20,000.00	90.47	359.77	11,352.32	7,993.96	625.66	8,012.51	0.00	0.00	0.00
20,100.00	90.47	359.77	11,351.50	8,093.95	625.26	8,112.41	0.00	0.00	0.00
20,200.00	90.47	359.77	11,350.68	8,193.95	624.86	8,212.31	0.00	0.00	0.00
20,300.00	90.47	359.77	11,349.85	8,293.94	624.46	8,312.21	0.00	0.00	0.00
20,400.00	90.47	359.77	11,349.03	8,393.94	624.06	8,412.11	0.00	0.00	0.00
20,500.00	90.47	359.77	11,348.21	8,493.94	623.66	8,512.01	0.00	0.00	0.00
20,600.00	90.47	359.77	11,347.38	8,593.93	623.26	8,611.92	0.00	0.00	0.00
20,700.00	90.47	359.77	11,346.56	8,693.93	622.86	8,711.82	0.00	0.00	0.00
20,800.00	90.47	359.77	11,345.74	8,793.92	622.46	8,811.72	0.00	0.00	0.00
20,900.00	90.47	359.77	11,344.92	8,893.92	622.06	8,911.62	0.00	0.00	0.00
21,000.00	90.47	359.77	11,344.09	8,993.92	621.67	9,011.52	0.00	0.00	0.00
21,100.00	90.47	359.77	11,343.27	9,093.91	621.27	9,111.42	0.00	0.00	0.00

.

Database:	HOPSPP	Local Co-ordinate Reference:	Well Nimitz MDP1 13_1 Fed Com 172H
Company:	ENGINEERING DESIGNS	TVD Reference:	RKB=26.5' @ 3479.50ft
Project:	PRD NM DIRECTIONAL PLANS (NAD 1983)	MD Reference:	RKB=26.5' @ 3479.50ft
Site:	Nimitz MDP1 13_1	North Reference:	Grid
Well:	Nimitz MDP1 13_1 Fed Com 172H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Permitting Plan		

#### 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)
21,200.00	90.47	359.77	11,342.45	9,193.91	620.87	9,211.32	0.00	0.00	0.00
21,300.00	90.47	359.77	11,341.62	9,293.90	620.47	9,311.22	0.00	0.00	0.00
21,400.00	90.47	359.77	11,340.80	9,393.90	620.07	9.411.12	0.00	0.00	0.00
21,500.00	90.47	359.77	11,339.98	9,493.89	619.67	9,511.02	0.00	0.00	0.00
21,000.00	50.47	000.11	11,000.00	3,433.03	013.07	3,511.02		0.00	
21,600.00	90.47	359.77	11,339.16	9,593.89	619.27	9,610.92	0.00	0.00	0.00
21,700.00	90.47	359.77	11,338.33	9,693.89	618.87	9,710.83	0.00	0.00	0.00
21,800.00	90.47	359.77	11,337.51	9,793.88	618.47	9,810.73	0.00	0.00	0.00
21,900.00	90.47	359.77	11,336.69	9,893.88	618.07	9,910.63	0.00	0.00	0.00
22,000.00	90.47	359.77	11,335.86	9,993.87	617.68	10,010.53	0.00	0.00	0.00
22,100.00	90.47	359.77	11,335.04	10,093.87	617.28	10,110.43	0.00	0.00	0.00
22,200.00	90.47	359.77	11,334.22	10,193.86	616.88	10,210.33	0.00	0.00	0.00
22,300.00	90.47	359.77	11,333.39	10,293.86	616.48	10,310.23	0.00	0.00	0.00
22,400.00	90.47	359.77	11,332.57	10,393.86	616.08	10,410.13	0.00	0.00	0.00
22,500.00	90.47	359.77	11,331.75	10,493.85	615.68	10,510.03	0.00	0.00	0.00
22,600.00	90.47	359.77	11,330.93	10,593.85	615.28	10,609.93	0.00	0.00	0.00
22,700.00	90.47	359.77	11,330.10	10,693.84	614.88	10,709.83	0.00	0.00	0.00
22,800.00	90.47	359.77	11,329.28	10,793.84	614.48	10,809.74	0.00	0.00	0.00
22,900.00	90.47	359.77	11,328.46	10,893.84	614.08	10,909.64	0.00	0.00	0.00
23,000.00	90.47	359.77	11,327.63	10,993.83	613.69	11,009.54	0.00	0.00	0.00
23,100.00	90.47	359.77	11,326.81	11,093.83	613.29	11.109.44	0.00	0.00	0.00
23,200.00	90.47	359.77	11,325.99	11,193.82	612.89	11,209.34	0.00	0.00	0.00
23,300.00	90.47	359.77	11,325.17	11,293.82	612.49	11,309.24	0.00	0.00	0.00
23,400.00	90.47	359.77	11,324.34	11,393.81	612.09	11,409.14	0.00	0.00	0.00
23,500.00	90.47	359.77	11,323.52	11,493.81	611.69	11,509.04	0.00	0.00	0.00
,				,					
23,600.00	90.47	359.77	11,322.70	11,593.81	611.29	11,608.94	0.00	0.00	0.00
23,700.00	90.47	359.77	11,321.87	11,693.80	610.89	11,708.84	0.00	0.00	0.00
23,800.00	90.47	359.77	11,321.05	11,793.80	610.49	11,808.74	0.00	0.00	0.00
23,900.00	90.47	359.77	11,320.23	11,893.79	610.09	11,908.65	0.00	0.00	0.00
24,000.00	90.47	359.77	11,319.41	11,993.79	609.70	12,008.55	0.00	0.00	0.00
24,100.00	90.47	359.77	11,318.58	12,093.79	609.30	12,108.45	0.00	0.00	0.00
24,200.00	90.47	359.77	11,317.76	12,193.78	608.90	12,208.35	0.00	0.00	0.00
24,300.00	90.47	359.77	11,316.94	12,293.78	608.50	12,308.25	0.00	0.00	0.00
24,400.00	90.47	359.77	11,316.11	12,393.77	608.10	12,408.15	0.00	0.00	0.00
24,500.00	90.47	359.77	11,315.29	12,493.77	607.70	12,508.05	0.00	0.00	0.00
24,600.00	90.47	359.77	11,314.47	12,593.76	607.30	12,607.95	0.00	0.00	0.00
24,700.00	90.47	359.77	11,313.65	12,693.76	606.90	12,707.85	0.00	0.00	0.00
24,800.00	90.47	359.77	11,312.82	12,793.76	606.50	12,807.75	0.00	0.00	0.00
24,900.00	90.47	359.77	11,312.00	12,893.75	606.10	12,907.65	0.00	0.00	0.00
25,000.00	90.47	359.77	11,311.18	12,993.75	605.71	13,007.56	0.00	0.00	0.00
25,100.00	90.47	359.77	11,310.35	13,093.74	605.31	13,107.46	0.00	0.00	0.00
25,200.00	90.47	359.77	11,309.53	13,193.74	604.91	13,207.36	0.00	0.00	0.00
25,300.00	90.47	359.77	11,308.71	13,293.74	604.51	13,307.26	0.00	0.00	0.00
25,400.00	90.47	359.77	11,307.89	13,393.73	604.11	13,407.16	0.00	0.00	0.00
25,500.00	90.47	359.77	11,307.06	13,493.73	603.71	13,507.06	0.00	0.00	0.00
25 600 00	00.47	250 77	11 206 04		602.24	12 606 06	0.00	0.00	0.00
25,600.00	90.47	359.77	11,306.24	13,593.72 13,693.72	603.31 602.01	13,606.96	0.00	0.00	0.00
25,700.00	90.47	359.77	11,305.42		602.91	13,706.86	0.00	0.00	0.00
25,800.00 25.900.00	90.47	359.77	11,304.59	13,793.71	602.51	13,806.76	0.00	0.00	0.00
25,900.00 26,000.00	90.47 90.47	359.77	11,303.77	13,893.71	602.11 601.72	13,906.66 14,006.56	0.00	0.00 0.00	0.00 0.00
		359.77	11,302.95	13,993.71		,	0.00		
26,100.00	90.47	359.77	11,302.13	14,093.70	601.32	14,106.47	0.00	0.00	0.00
26,200.00	90.47	359.77	11,301.30	14,193.70	600.92	14,206.37	0.00	0.00	0.00
26,300.00	90.47	359.77	11,300.48	14,293.69	600.52	14,306.27	0.00	0.00	0.00
26,400.00	90.47	359.77	11,299.66	14,393.69	600.12	14,406.17	0.00	0.00	0.00
26,500.00	90.47	359.77	11,298.83	14,493.69	599.72	14,506.07	0.00	0.00	0.00
			•						

7/13/2020 3:23:13PM

COMPASS 5000.15 Build 91E

Database:	HOPSPP	Local Co-ordinate Reference:	Well Nimitz MDP1 13_1 Fed Com 172H
Company:	ENGINEERING DESIGNS	TVD Reference:	RKB=26.5' @ 3479.50ft
Project:	PRD NM DIRECTIONAL PLANS (NAD 1983)	MD Reference:	RKB=26.5' @ 3479.50ft
Site:	Nimitz MDP1 13_1	North Reference:	Grid
Well:	Nimitz MDP1 13_1 Fed Com 172H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Permitting Plan		

#### 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)
26,600.00	90.47	359.77	11,298.01	14,593.68	599.32	14,605.97	0.00	0.00	0.00
26,700.00	90.47	359.77	11,297.19	14,693.68	598.92	14,705.87	0.00	0.00	0.00
26,800.00	90.47	359.77	11,296.37	14,793.67	598.52	14,805.77	0.00	0.00	0.00
26,900.00	90.47	359.77	11,295.54	14,893.67	598.12	14,905.67	0.00	0.00	0.00
27,000.00	90.47	359.77	11,294.72	14,993.66	597.73	15,005.57	0.00	0.00	0.00
27,026.62	90.47	359.77	11,294.50	15,020.29	597.62	15,032.17	0.00	0.00	0.00

Design Targets									
Target Name - hit/miss target - Shape	Dip Angle (°)	Dip Dir. (°)	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Northing (usft)	Easting (usft)	Latitude	Longitude
PBHL (Nimitz MDP1 - plan hits target cer - Point	0.00 hter	0.00	11,294.50	15,020.29	597.62	456,532.36	694,532.35	32° 15' 14.798953 N	103° 50' 15.966307
FTP (Nimitz MDP1 - plan misses target - Point	0.00 center by 20		11,419.50 1400.00ft ME	-697.84 0 (11265.80 T	660.32 VD, -566.23 I	440,815.28 N, 642.67 E)	694,595.05	32° 12' 39.264890 N	103° 50' 16.080454

#### Formations Vertical Measured Dip Direction Depth Depth Dip (ft) (ft) (°) (°) Lithology Name 476.50 476.50 RUSTLER 840.50 840.50 SALADO 2,688.50 2,688.50 CASTILE 4,129.50 4,129.50 LAMAR/DELAWARE 4,159.50 BELL CANYON 4,159.50 5,078.53 5,078.50 CHERRY CANYON 6,310.89 6,299.50 BRUSHY CANYON 8,044.22 8,006.50 BONE SPRING 8,956.50 BONE SPRING 1ST 9,008.88 9,708.50 BONE SPRING 2ND 9,772.48 10,982.97 10,901.50 BONE SPRING 3RD 11,556.77 11,355.50 WOLFCAMP

Plan Annotatio	ons					
	Measured	Vertical	Local Coor	dinates		
	Depth (ft)	Depth (ft)	+N/-S (ft)	+E/-W (ft)	Comment	
	4,895.00	4,895.00	0.00	0.00	Build 1°/100'	
	5,895.00	5,889.93	-68.18	54.12	Hold 10° Tangent	
	10,852.68	10,772.29	-742.48	589.33	KOP, Build & Turn 10°/100'	
	11,835.79	11,419.50	-169.92	658.23	Landing Point	
	27,026.62	11,294.50	15,020.29	597.62	TD at 27026.62' MD	

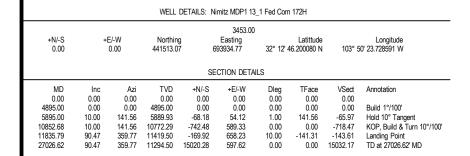
7/13/2020 3:23:13PM

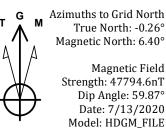
Released to Imaging: 6/25/2021 3:15:43 PM

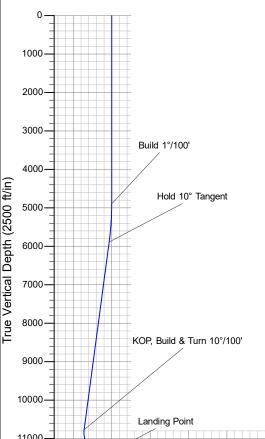


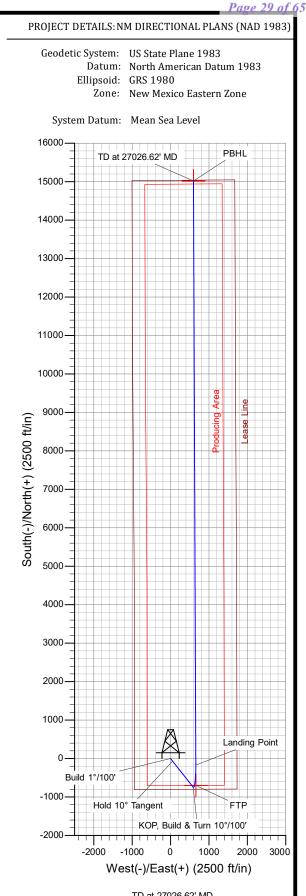
Project: PRD NM DIRECTIONAL PLANS (NAD 1983) Site: Nimitz MDP1 13\_1 Well: Nimitz MDP1 13\_1 Fed Com 172H Wellbore: Wellbore #1

Design: Permitting Plan









### PECOS DISTRICT DRILLING CONDITIONS OF APPROVAL

<b>OPERATOR'S NAME:</b>	OXY USA INC.
LEASE NO.:	NMNM120897
LOCATION:	Section 13 T.24 S., R.30 E., NMP
COUNTY:	Eddy County, New Mexico

WELL NAME & NO.:	NIMITZ MDP1 13-1 FEDERAL COM 172H
SURFACE HOLE FOOTAGE:	800'/S & 940'/W
<b>BOTTOM HOLE FOOTAGE</b>	20'/N & 1600'/W

#### COA

H2S	C Yes	💽 No	
Potash	C None	Secretary	© R-111-P
Cave/Karst Potential	💽 Low	C Medium	C High
Cave/Karst Potential	Critical		
Variance	C None	Section Flex Hose	C Other
Wellhead	Conventional	C Multibowl	Soth
Other	4 String Area	Capitan Reef	□ WIPP
Other	Fluid Filled	Cement Squeeze	Pilot Hole
Special Requirements	□ Water Disposal	COM	🗖 Unit

#### A. HYDROGEN SULFIDE

Hydrogen Sulfide (H2S) monitors shall be installed prior to drilling out the surface shoe. If H2S is detected in concentrations greater than 100 ppm, the Hydrogen Sulfide area shall meet Onshore Order 6 requirements, which includes equipment and personnel/public protection items. If Hydrogen Sulfide is encountered, provide measured values and formations to the BLM.

#### **B.** CASING

#### Casing Design:

- 1. The **10-3/4** inch surface casing shall be set at approximately **595** feet (a minimum of **70 feet (Eddy County)** into the Rustler Anhydrite and above the salt) and cemented to the surface.
  - a. If cement does not circulate to the surface, the appropriate BLM office shall be notified and a temperature survey utilizing an electronic type temperature survey with surface log readout will be used or a cement bond log shall be run to verify the top of the cement. Temperature survey will be run a minimum of

six hours after pumping cement and ideally between 8-10 hours after completing the cement job.

- b. Wait on cement (WOC) time for a primary cement job will be a minimum of <u>24 hours in the Potash Area</u> or 500 pounds compressive strength, whichever is greater. (This is to include the lead cement)
- c. Wait on cement (WOC) time for a remedial job will be a minimum of 4 hours after bringing cement to surface or 500 pounds compressive strength, whichever is greater.
- d. If cement falls back, remedial cementing will be done prior to drilling out that string.
- 2. The minimum required fill of cement behind the **7-5/8** inch intermediate casing is:

#### **Option 1 (Single Stage):**

• 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 or potash.

#### **Option 2:**

Operator has proposed a DV tool, the depth may be adjusted as long as the cement is changed proportionally. The DV tool may be cancelled if cement circulates to surface on the first stage.

- a. First stage to DV tool: Cement to circulate. If cement does not circulate off the DV tool, contact the appropriate BLM office before proceeding with second stage cement job.
- b. Second stage above DV tool:
  - Cement to surface. If cement does not circulate, contact the appropriate BLM office.
     Wait on cement (WOC) time for a primary cement job is to include the lead cement slurry due to cave/karst or potash.
- In <u>Secretary Potash Areas</u> if cement does not circulate to surface on the first two casing strings, the cement on the 3rd casing string must come to surface.

# Operator has proposed to pump down 10-3/4" X 7-5/8" annulus. <u>Operator must run</u> a CBL or ECHO-METER from TD of the 7-5/8" casing to surface. Submit results to <u>BLM</u>.

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

#### **Option 1 (Single Stage):**

• Cement should tie-back at least **500 feet** into previous casing string. Operator shall provide method of verification.

#### **Option 2:**

Operator has proposed a DV tool, the depth may be adjusted as long as the cement is changed proportionally. The DV tool may be cancelled if cement circulates to surface on the first stage.

- a. First stage to DV tool: Cement to circulate. If cement does not circulate off the DV tool, contact the appropriate BLM office before proceeding with second stage cement job.
- b. Second stage above DV tool:
  - Cement should tie-back at least **500 feet** into previous casing string. Operator shall provide method of verification.

#### C. PRESSURE CONTROL

1. Variance approved to use flex line from BOP to choke manifold. Manufacturer's specification to be readily available. No external damage to flex line. Flex line to be installed as straight as possible (no hard bends).'

2.

#### **Option 1:**

- a. 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.
- b. Minimum working pressure of the blowout preventer (BOP) and related equipment (BOPE) required for drilling below the intermediate casing shoe shall be **5000** (**5M**) psi.

#### **Option 2:**

- 1. 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.

Page 3 of 9

- 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. 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.
- e. Whenever any seal subject to test pressure is broken, all the tests in OOGO2.III.A.2.i must be followed.

#### **D. SPECIAL REQUIREMENT (S)**

#### **Communitization Agreement**

- The operator will submit a Communitization Agreement to the Santa Fe Office, 301 Dinosaur Trail Santa Fe, New Mexico 87508, at least 90 days before the anticipated date of first production from a well subject to a spacing order issued by the New Mexico Oil Conservation Division. The Communitization Agreement will include the signatures of all working interest owners in all Federal and Indian leases subject to the Communitization Agreement (i.e., operating rights owners and lessees of record), or certification that the operator has obtained the written signatures of all such owners and will make those signatures available to the BLM immediately upon request.
- If the operator does not comply with this condition of approval, the BLM may take enforcement actions that include, but are not limited to, those specified in 43 CFR 3163.1.
- In addition, the well sign shall include the surface and bottom hole lease numbers. <u>When the Communitization Agreement number is known, it shall also be on the sign.</u>

**Approval Date: 06/04/2021** 

### **GENERAL 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
  - Lea County
     Call the Hobbs Field Station, 414 West Taylor, Hobbs NM 88240, (575) 393-3612
- 1. 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.
  - a. In the event the operator has proposed to drill multiple wells utilizing a skid/walking rig. Operator shall secure the wellbore on the current well, after installing and testing the wellhead, by installing a blind flange of like pressure rating to the wellhead and a pressure gauge that can be monitored while drilling is performed on the other well(s).
  - b. When the operator proposes to set surface casing with Spudder Rig
    - Notify the BLM when moving in and removing the Spudder Rig.
    - Notify the BLM when moving in the 2<sup>nd</sup> Rig. Rig to be moved in within 90 days of notification that Spudder Rig has left the location.
    - BOP/BOPE test to be conducted per Onshore Oil and Gas Order No. 2 as soon as 2nd Rig is rigged up on well.
- 2. Floor controls are required for 3M or Greater systems. These controls will be on the rig floor, unobstructed, readily accessible to the driller and will be operational at all times during drilling and/or completion activities. Rig floor is defined as the area immediately around the rotary table; the area immediately above the substructure on which the draw works are located, this does not include the dog house or stairway area.
- 3. 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.

#### A. CASING

- 1. 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.
- <u>Wait on cement (WOC) for Potash Areas:</u> 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 for all cement blends, 2) until cement has been in place at least <u>24</u> <u>hours</u>. WOC time will be recorded in the driller's log. The casing intergrity test can be done (prior to the cement setting up) immediately after bumping the plug.
- 3. <u>Wait on cement (WOC) for Water Basin:</u> 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 <u>8 hours</u>. WOC time will be recorded in the driller's log. See individual casing strings for details regarding lead cement slurry requirements. The casing intergrity test can be done (prior to the cement setting up) immediately after bumping the plug.
- 4. Provide compressive strengths including hours to reach required 500 pounds compressive strength prior to cementing each casing string. Have well specific cement details onsite prior to pumping the cement for each casing string.
- 5. No pea gravel permitted for remedial or fall back remedial without prior authorization from the BLM engineer.
- 6. On that portion of any well approved for a 5M BOPE system or greater, a pressure integrity test of each casing shoe shall be performed. Formation at the shoe shall be tested to a minimum of the mud weight equivalent anticipated to control the formation pressure to the next casing depth or at total depth of the well. This test shall be performed before drilling more than 20 feet of new hole.
- 7. 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.
- 8. Whenever a casing string is cemented in the R-111-P potash area, the NMOCD requirements shall be followed.

#### B. 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. If a variance is approved for a flexible hose to be installed from the BOP to the choke manifold, the following requirements apply: The flex line must meet the requirements of API 16C. 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.
- 3. 5M or higher 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. If the operator has proposed a multi-bowl wellhead assembly in the APD. The following requirements must be met:
  - 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. Whenever any seal subject to test pressure is broken, all the tests in OOGO2.III.A.2.i must be followed.
  - 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.
- 5. The appropriate BLM office shall be notified a minimum of 4 hours in advance for a representative to witness the tests.
  - a. In a water basin, for all casing strings utilizing slips, these are to be set as soon as the crew and rig are ready and any fallback cement remediation has been done. The casing cut-off and BOP installation can be initiated four hours after installing the slips, which will be approximately six hours after bumping the plug. For those casing strings not using slips, the minimum wait time before cut-off is eight hours after bumping the plug. BOP/BOPE testing can begin after cut-off or once cement reaches 500 psi compressive strength (including

#### Approval Date: 06/04/2021

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. In potash areas, 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. For all casing strings, casing cut-off and BOP installation can be initiated at twelve hours after bumping the plug. However, **no tests** shall commence until the cement has had a minimum of 24 hours setup time, except the casing pressure test can be initiated immediately after bumping the plug (only applies to single stage cement jobs).
- c. The tests shall be done by an independent service company utilizing a test plug not a cup or J-packer. The operator also has the option of utilizing an independent tester to test without a plug (i.e. against the casing) pursuant to Onshore Order 2 with the pressure not to exceed 70% of the burst rating for the casing. Any test against the casing must meet the WOC time for water basin (8 hours) or potash (24 hours) or 500 pounds compressive strength, whichever is greater, prior to initiating the test (see casing segment as lead cement may be critical item).
- d. 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.
- e. The results of the test shall be reported to the appropriate BLM office.
- f. 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.
- g. 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.
- h. BOP/BOPE must be tested by an independent service company within 500 feet of the top of the Wolfcamp formation if the time between the setting of the intermediate casing and reaching this depth exceeds 20 days. This test does not exclude the test prior to drilling out the casing shoe as per Onshore Order No. 2.

#### **PM** Approval Date: 06/04/2021

# C. DRILLING MUD

Mud system monitoring equipment, with derrick floor indicators and visual and audio alarms, shall be operating before drilling into the Wolfcamp formation, and shall be used until production casing is run and cemented.

#### D. 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.

### NMK01192021

Page 9 of 9

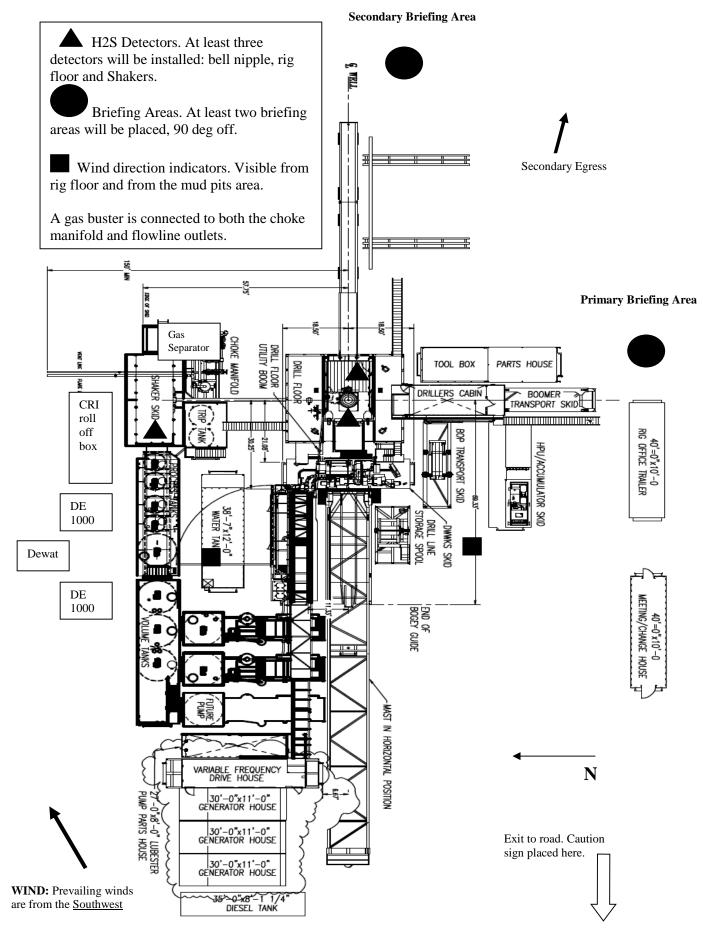


# Permian Drilling Hydrogen Sulfide Drilling Operations Plan Nimitz MDP1 13\_1 Fed Com 172H

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 Southeast 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.





# Permian Drilling Hydrogen Sulfide Drilling Operations Plan New Mexico

# <u>Scope</u>

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

# **Hydrogen Sulfide Training**

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

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

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

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

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

Service company and visiting personnel

- A. Each service company that will be on this well will be notified if the zone contains H2S.
- B. Each service company must provide for the training and equipment of their employees before they arrive at the well site.
- C. Each service company will be expected to attend a well site briefing

# **Emergency Equipment Requirements**

# 1. <u>Well control equipment</u>

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. <u>Protective equipment for personnel</u>

- 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. <u>Hydrogen sulfide sensors and alarms</u>

- 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. <u>Visual Warning Systems</u>

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. <u>Mud Program</u>

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. <u>Metallurgy</u>

- 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. <u>Well Testing</u>

No drill stem test will be performed on this well.

#### 8. <u>Evacuation plan</u>

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

- 9. <u>Designated area</u>
  - 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.
2	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.
2	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.

#### <u>Taking a kick</u>

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.

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

# 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.

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

### **Emergency actions**

#### Well blowout – if emergency

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

#### Person down location/facility

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

# Toxic effects of hydrogen sulfide

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

Common name	Chemical formula	Specific gravity	Threshold limit	Hazardous limit	Lethal concentration (3)
		(sc=1)	(1)	(2)	
Hydrogen	Hcn	0.94	10 ppm	150 ppm/hr	300 ppm
Cyanide					
Hydrogen	H2S	1.18	10 ppm	250 ppm/hr	600 ppm
Sulfide Sulfur	<b>C</b> - <b>O</b>	2.21	5		1000
Dioxide	So2	2.21	5 ppm	-	1000 ppm
Chlorine	Cl2	2.45	1 ppm	4 ppm/hr	1000 ppm
			11	11	11
Carbon	Co	0.97	50 ppm	400 ppm/hr	1000 ppm
Monoxide					
Carbon	Co2	1.52	5000 ppm	5%	10%
Dioxide					
Methane	Ch4	0.55	90,000 ppm	Combustibl	e above 5% in air

#### Table i <u>Toxicity of various gases</u>

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

		<b>Concentration</b>	Physical effects
Percent (%)	<u>Ppm</u>	Grains	
		100 std. Ft3*	
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 facepiece 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.

#### <u>Rescue</u> <u>First aid for H2S poisoning</u>

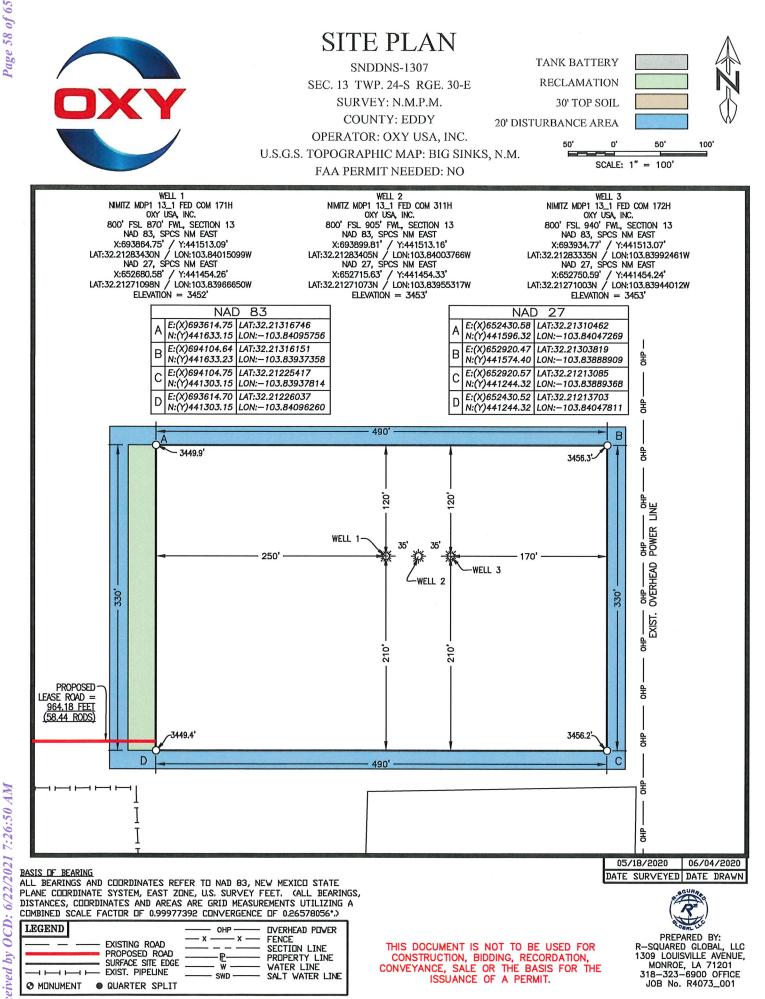
Do not panic!

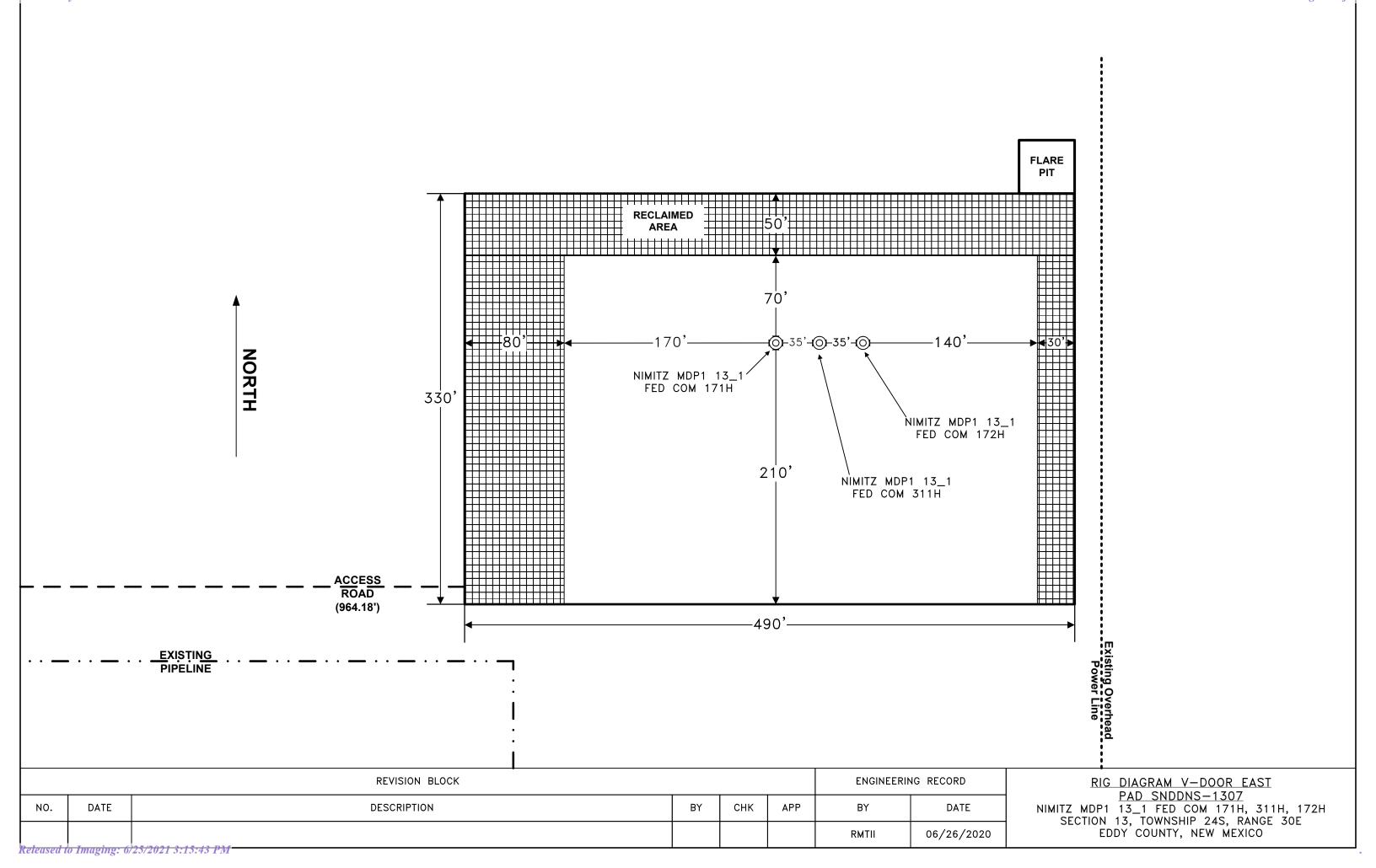
Remain calm – think!

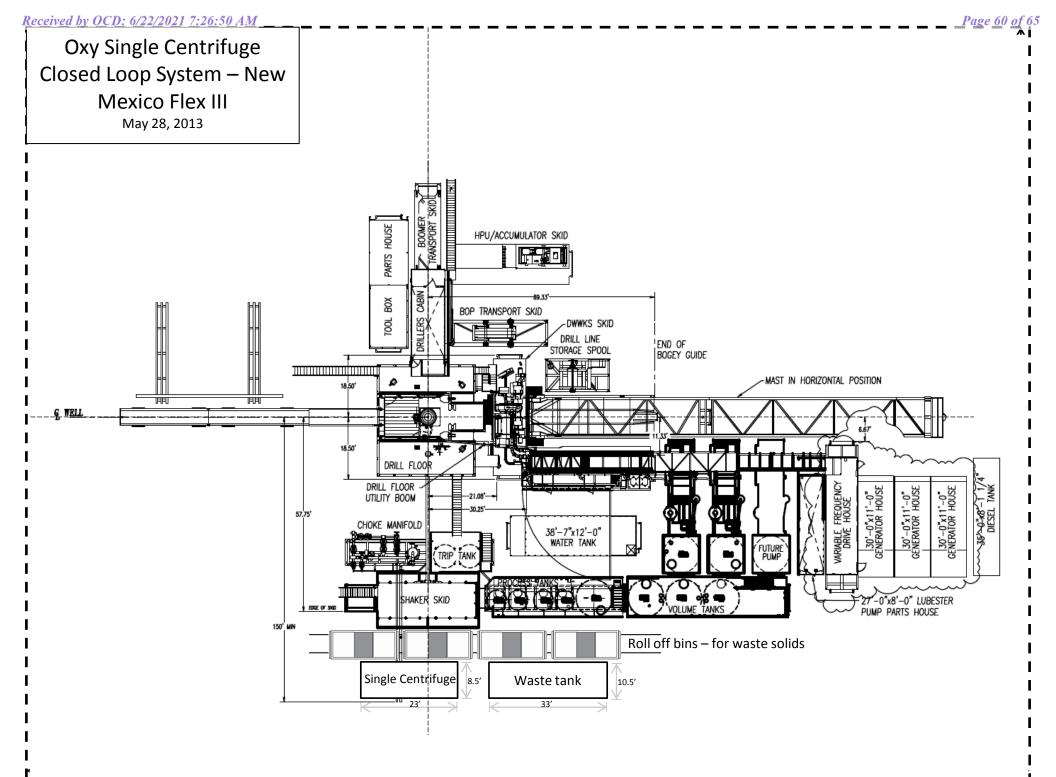
- 1. Don SCBA breathing equipment.
- 2. Remove victim(s) utilizing buddy system to fresh air as quickly as possible. (go up-wind from source or at right angle to the wind. Not down wind.)
- 3. Briefly apply chest pressure arm lift method of artificial respiration to clean the victim's lungs and to avoid 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.

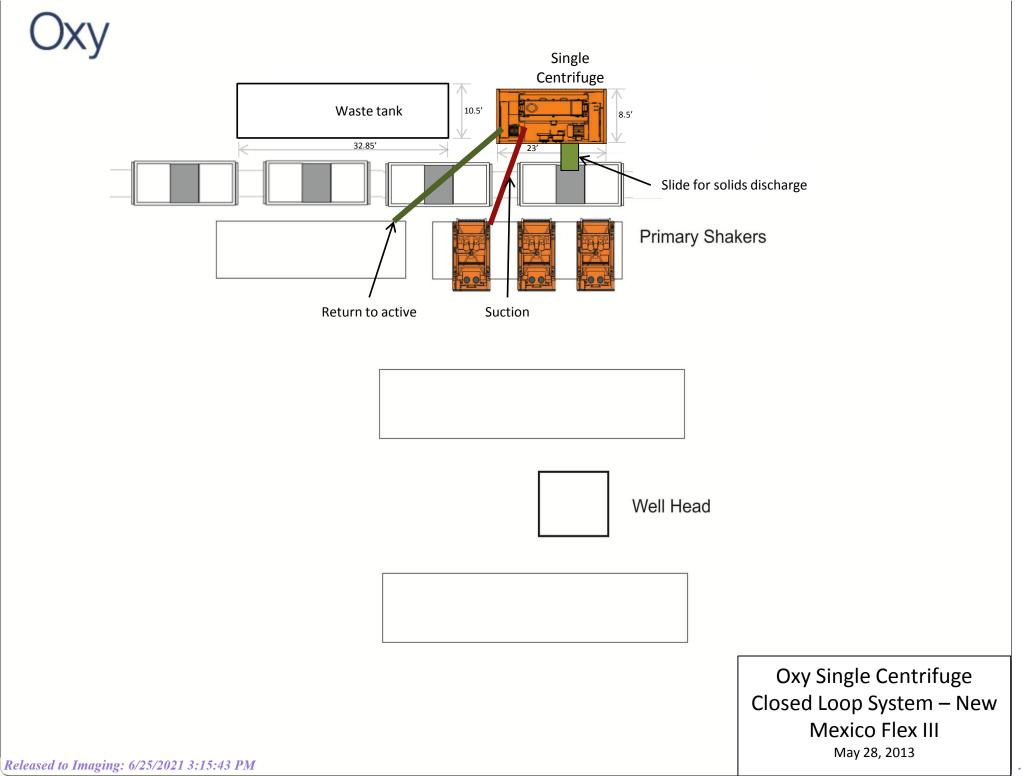
Besides basic first aid, everyone on location should have a good working knowledge of artificial respiration.

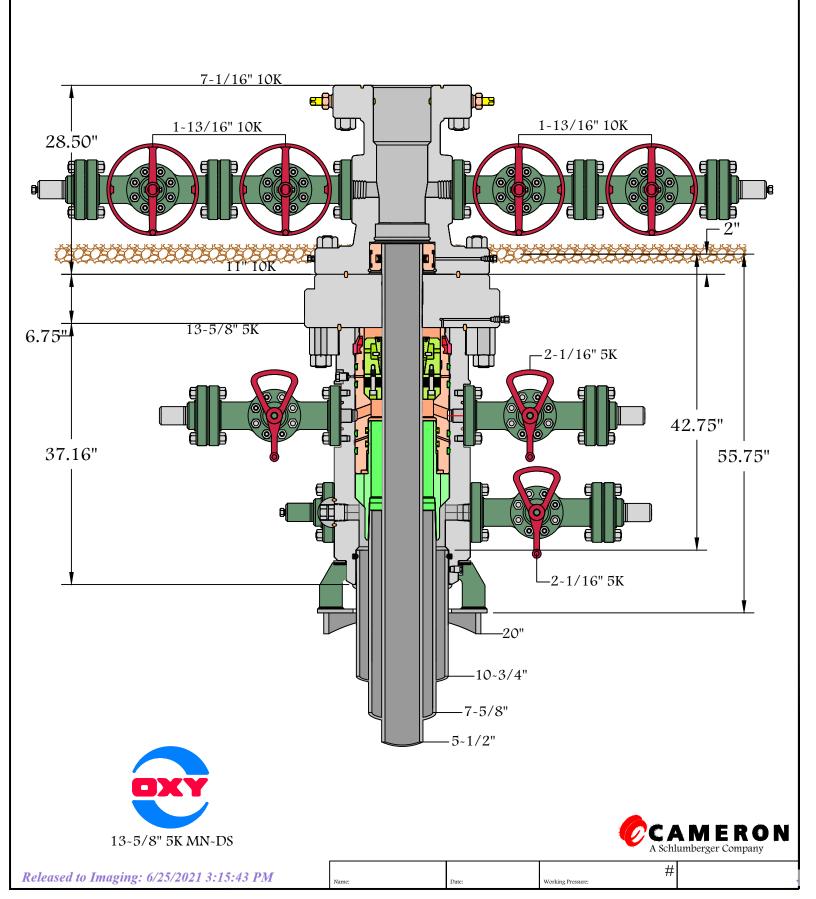
Revised CM 6/27/2012

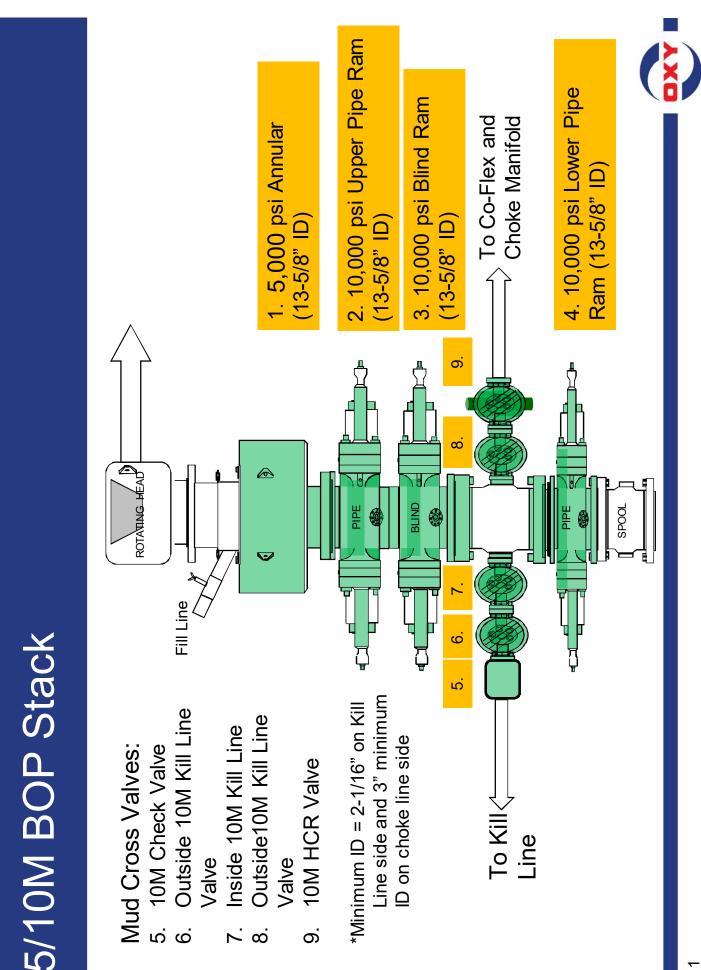












District I 1625 N. French Dr., Hobbs, NM 88240 Phone:(575) 393-6161 Fax:(575) 393-0720 District II

811 S. First St., Artesia, NM 88210 Phone:(575) 748-1283 Fax:(575) 748-9720

District III

1000 Rio Brazos Rd., Aztec, NM 87410 Phone:(505) 334-6178 Fax:(505) 334-6170

District IV

1220 S. St Francis Dr., Santa Fe, NM 87505 Phone: (505) 476-3470 Fax: (505) 476-3462

# **State of New Mexico Energy, Minerals and Natural Resources Oil Conservation Division** 1220 S. St Francis Dr. Santa Fe, NM 87505

73	11		0 -
Page	64	<b>n1</b>	65
Luse	0.7	<b>V</b> 1	00

COMMENTS

Action 33053

COMMENTS		
Operator:	OGRID:	
OXY USA INC	16696	
P.O. Box 4294	Action Number:	
Houston, TX 772104294	33053	
	Action Type:	
	[C-101] BLM - Federal/Indian Land Lease (Form 3160-3)	

#### COMMENTS

Created By	Comment	Comment Date
kpickford	KP GEO Review 6/25/2021	6/25/2021

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 Rd., Aztec, NM 87410 Phone:(505) 334-6178 Fax:(505) 334-6170

District IV 1220 S. St Francis Dr., Santa Fe, NM 87505 Phone:(505) 476-3470 Fax:(505) 476-3462

# **State of New Mexico Energy, Minerals and Natural Resources Oil Conservation Division** 1220 S. St Francis Dr. Santa Fe, NM 87505

CONDITIONS

Operator:	OGRID:
OXY USA INC	16696
P.O. Box 4294	Action Number:
Houston, TX 772104294	33053
	Action Type:
	[C-101] BLM - Federal/Indian Land Lease (Form 3160-3)

#### CONDITIONS

Created By	Condition	Condition Date
kpickford	Will require a administrative order for non-standard location prior to placing the well on production	6/25/2021
kpickford	Notify OCD 24 hours prior to casing & cement	6/25/2021
kpickford	Will require a File As Drilled C-102 and a Directional Survey with the C-104	6/25/2021
	Once the well is spud, to prevent ground water contamination through whole or partial conduits from the surface, the operator shall drill without interruption through the fresh water zone or zones and shall immediately set in cement the water protection string	6/25/2021
kpickford	Cement is required to circulate on both surface and intermediate1 strings of casing	6/25/2021
	Oil base muds are not to be used until fresh water zones are cased and cemented providing isolation from the oil or diesel. This includes synthetic oils. Oil based mud, drilling fluids and solids must be contained in a steel closed loop system	6/25/2021

CONDITIONS

Action 33053