	·	DEPARTMEN	T OF THE	INTEDIOD	1 216	10 10	Expires: r	comary 28,	1995
		If earthen pits a			L-CO-	SIA [	5. LEASE DESIGNA NM-9465	TION AND BI	ERIAL NO.
٠, –		association with	the drilling of	thic -					
·  —	APL	well, an OCD pi	t nermit must	be PRD	EEPEN		6. IF INDIAN, ALLO	OTTER OR TR	IBE NAME
1a	TIP <b>ro</b> port <b>X</b> DF				Mon	7. No.	7. UNIT AGREEME	NT NAME	
ч ь	Dr. TIPE OF WELL	() Obtained prior	<b></b>						
_	or to	CAS WELL OTHER		SINGLE XX	MULTONE		8. FARM OR LEASE NAM	IE WELL NO.	
2.	NAME OF OPERATOR	178	G I	2011 (12)	- \ 20.72		VORTEC "27"	# 3	3590
	POGO PRODUCIN	NG COMPANY	7 / (RTCHART	WRIGHT 432-	.685_817 <del>77</del>		9. AFI WELL NO.		
	ADDRESS AND TELEPHONE NO.		THE CITETION	2 WKTGHT 432-	.00.1 <del>-</del> 0.140,	<del></del>	30-011	35	493
	P.O. BOX 1034	0 MIDLAND, TEX	AS 79702-73	340 (432–685	-8100)	-	10. FIELD AND PO	Se Paris	CAT
4.	LOCATION OF WELL (F	Report location clearly and	in accordance w	ith any State require	ments.	F	PIERCE CROSS	ING-BO	NE SPR
		330 Pex Surc 4 <del>30</del> ' FEL SECTION		3-16-0°		-	11. SEC., T., R., M., AND SURVEY O		
(C)	At proposed prod. zo:	ne		29E EDDY CO.	. NM	s	SECTION 27	T24S-1	D 2 0 F
		660' FEL SECTION			. NM	٦	DOITON 27	1245-1	KZ JE
14.	DISTANCE IN MILES	AND DIRECTION FROM NEA	BEST TOWN OR PO	ST OFFICE*			12. COUNTY OR PAR	ISH   13. 8	TATE
		y 7 miles East o	of Malaga Ne	ew Mexico		F	EDDY CO.	NFW	MEXICO
15.	DISTANCE FROM PROP LOCATION TO NEARES	USED"		16. NO. OF ACRES	IN LEASE	17. NO. OF	ACRES ASSIGNED S WELL	10	
	PROPERTY OR LEASE ! (Also to nearest drl	LINE, FT.	30 <b>'</b>	- 440		IO INI		80	
13.	DISTANCE FROM PROD			19. PROPOSED DEP	TH -	20. ROTARI	OR CABLE TOOLS		
	OR APPLIED FOR, ON TH	IIS LEASE, FT.	00'	MD-10,137'	TVD-7700	ROTARY			
$\frac{\overline{21.}}{\overline{21.}}$	ELEVATIONS (Show The	CLED WATER BAS	IN				22. APPROX. DATE	WORK WIL	L START*
CA	KL3BAD CONTR	2	918' GR.				WHEN APPROV	VED	
23.			PROPOSED CAS	ING AND CEMENTI	NG PROGRAM	Bw	14W#P	za	ವಿ2೩೪
	SIZE OF HOLE	GRADE, SIZE OF CASING	WEIGHT PER F		<del></del>	<u> </u>			300
				FOOT   SETTIN	G DEPTH		QUANTITY OF CE	MENT	
	2511	Conductor				Cement			
	25'' 17 <sup>1</sup> 2''	Conductor H-40 13 3/8"	NA 48#		40"		to surface	W/Redi	-mix.
			NA		40" O'		to surface Circulate	W/Redi	-mix.
	17½" 12½" 8½" & 7 7/8"	H-40 13 3/8" J-55 9 5/8" N-80 5½" " hole to 40'. 5	NA 48# 40# 17#	550 2860 10,137	40" 0"	350 Sx. 1000 Sx 900 Sx.	to surface Circulate . " TOC Est 29	W/Redi cement " 00' FS	-mix.
	17½"  12½"  8½" & 7 7/8"  1. Drill 26 Redi-mix  2. Drill 17 ST&C cas Sx. of C	H-40 13 3/8"  J-55 9 5/8"  N-80 5½"  "hole to 40'. 5  ½" hole to 550'  ing. Cement with  lass "C" cement  ½" hole to 2900'	NA 48# 40# 17# Set 40' of 2 with fresh 150 Sx. of + 2% CaCl,	550 2860 10,137 20" conductor water. Run a f 65/35/6 Cla + ½# Flocele	pipe and set 5. ss "C" Po	350 Sx. 1000 Sx 900 Sx. d cement 50' of 3 0Z/GEL, culate of	to surface Circulate " TOC Est 29 t to surface 13 3/8" 48# tail in with the sum of the surface o	W/Redi cement " 00' FS e with H-40 th 200 urface.	
	17½" 12½" 8½" & 7 7/8"  1. Drill 26 Redi-mix  2. Drill 17 ST&C cas: Sx. of C  3. Drill 12 LT&C cas: with 200	H-40 13 3/8"  J-55 9 5/8"  N-80 5½"  "hole to 40'. Soling. Cement with lass "C" cement  ½" hole to 2900' ing. Cement with Sx. of Class "C"	NA 48# 40# 17# Set 40' of 2 with fresh 150 Sx. of + 2% CaCl, with brine 800 Sx. of 2" cement +	550 2860 10,137 20" conductor water. Run a f 65/35/6 Cla + ½# Flocele water. Run f 65/35/6 Cla 2% CaCl, + ½	and set 5.  ss "C" Poers and set 2.  and set 2.  ss "C" Poers and set 2.  ss "C" Poers and set 2.	350 Sx. 1000 Sx 900 Sx. d cement 50' of 2 0Z/GEL, culate of 0Z/GEL +	to surface Circulate " TOC Est 29 t to surface 13 3/8" 48# tail in with the cement to see 15 5/8" 40 5% Salt, irculate cement	W/Redi cement " 00' FS e with H-40 th 200 urface. # J-55 tail in	
	17½" 12½" 8½" & 7 7/8"  1. Drill 26 Redi-mix  2. Drill 17 ST&C cas: Sx. of C  3. Drill 12 LT&C cas: with 200	H-40 13 3/8"  J-55 9 5/8"  N-80 5½"  "hole to 40'. \$  ½" hole to 550'  ing. Cement with  lass "C" cement  ½" hole to 2900'  ing. Cement with	NA 48# 40# 17# Set 40' of 2 with fresh 150 Sx. of + 2% CaCl, with brine 800 Sx. of 2" cement +	550 2860 10,137 20" conductor water. Run a f 65/35/6 Cla + ½# Flocele water. Run f 65/35/6 Cla 2% CaCl, + ½	and set 5.  ss "C" Poers and set 2.  and set 2.  ss "C" Poers and set 2.  ss "C" Poers and set 2.	350 Sx. 1000 Sx 900 Sx. d cement 50' of 2 0Z/GEL, culate of 0Z/GEL +	to surface Circulate " TOC Est 29 t to surface 13 3/8" 48# tail in with the cement to see 15 5/8" 40 5% Salt, irculate cement	W/Redi cement " 00' FS e with H-40 th 200 urface. # J-55 tail in	
	17½" 12½" 8½" & 7 7/8"  1. Drill 26 Redi-mix  2. Drill 17 ST&C cas: Sx. of C:  3. Drill 12 LT&C cas: with 200 surface,  4. Drill 8½' 8½" hole 10,800' N	H-40 13 3/8"  J-55 9 5/8"  N-80 5½"  "hole to 40'. Soling. Cement with lass "C" cement  ½" hole to 2900' ing. Cement with Sx. of Class "C' volumes of cement "hole to 8200', to 7730'± throw MD. Run and set	NA 48# 40# 17# Set 40' of 2 with fresh 150 Sx. of + 2% CaCl, with brine 1800 Sx. of 2" cement + ent may be of log well page curve. Of 10,800' of	550 2860 2860 10,137 20" conductor water. Run as f 65/35/6 Cla + ½# Flocele water. Run f 65/35/6 Cla 2% CaCl, + ½ changed after plug back to Change to a 7 5½" 17# N-80	and set 5. ss "C" PO  And set 2. ss "C" PO  Flocele  fluid ca  7225' for  7/8" bit  LT&C & H	350 Sx. 1000 Sx 900 Sx. d cement 50' of 1 0Z/GEL, culate of 0Z/GEL + e/Sx. cit aliper d c kick-of and dr 3TC. Cem	to surface Circulate " TOC Est 29 to surface 13 3/8" 48# tail in with cement to see to	W/Redi cement " 00' FS e with H-40 th 200 urface. # J-55 tail in ment to drill of 00 Sx.	
	17½" 12½" 8½" & 7 7/8"  1. Drill 26 Redi-mix  2. Drill 17 ST&C cas: Sx. of C:  3. Drill 12: LT&C cas: with 200 surface,  4. Drill 8½' 8½" hole 10,800' Nof Class 2900' fro	H-40 13 3/8"  J-55 9 5/8"  N-80 5½"  "hole to 40'. S.  ½" hole to 550' ing. Cement with lass "C" cement  ½" hole to 2900' ing. Cement with Sx. of Class "C volumes of ceme "hole to 8200', to 7730'± through D. Run and set "C" Premium ceme om surface.	NA 48# 40# 17# Set 40' of : with fresh 150 Sx. of + 2% CaCl, with brine 1800 Sx. of :" cement + ent may be of log well point igh curve. Of 10,800' of tent + addit	550 2860 2860 10,137 20" conductor water. Run as f 65/35/6 Cla + ½# Flocele water. Run f 65/35/6 Cla 2% CaCl, + ½ changed after clug back to Change to a 7 5½" 17# N-80 cives, mixed	and set 5: and set 5: and set 6: and set 7:	350 Sx. 1000 Sx 900 Sx. d cement 50' of 3 0Z/GEL, culate of 0Z/GEL + e/Sx. ci aliper d ckick-c and dr 3TC. Cem PPG. Est	to surface Circulate " TOC Est 29 to surface 13 3/8" 48# tail in with 96 to surface 15 5/8" 40 15 5	W/Redi cement " 00' FS e with H-40 th 200 urface. # J-55 tail in ment to drill of 00 Sx. of ceme	nt
IN AB	17½" 12½" 8½" & 7 7/8"  1. Drill 26 Redi-mix  2. Drill 17 ST&C cas: Sx. of C:  3. Drill 12 LT&C cas: with 200 surface,  4. Drill 8½' 8½" hole 10,800' Nof Class 2900' from	H-40 13 3/8"  J-55 9 5/8"  N-80 5½"  "hole to 40'. 3  ½" hole to 550' ing. Cement with lass "C" cement  ½" hole to 2900' ing. Cement with Sx. of Class "C volumes of ceme "hole to 8200', to 7730'± through D. Run and set "C" Premium ceme	NA 48# 40# 17# Set 40' of 2 with fresh 150 Sx. of + 2% CaCl, with brine 1800 Sx. of 2" cement + ent may be of 10g well proposed is to deepen	2860 2860 10,137 20" conductor water. Run as f 65/35/6 Cla + ½# Flocele water. Run f 65/35/6 Cla 2% CaCl, + ½ changed after plug back to Change to a 7 5½" 17# N-80 cives, mixed	and set 5. ss "C" PO # Flocele fluid ca 7225' for 7/8" bit LT&C & H at 15.7 H	350 Sx. 1000 Sx 900 Sx. d cement 50' of 2 02/GEL, culate of 02/GEL + e/Sx. ci aliper d c kick-of and dr 3TC. Cem PPG. Est	to surface  Circulate  " TOC Est 29  to surface  13 3/8" 48#  tail in with 90 component with 90 component to surface  Tocology and the surface to surface	W/Redi cement " 00' FS e with H-40 th 200 urface. # J-55 tail in ment to drill of 00 Sx. of ceme	nt
IN A	17½" 12½" 8½" & 7 7/8"  1. Drill 26 Redi-mix  2. Drill 17 ST&C cas: Sx. of C:  3. Drill 12 LT&C cas: with 200 surface,  4. Drill 8½' 8½" hole 10,800' Nof Class 2900' from	H-40 13 3/8"  J-55 9 5/8"  N-80 5½"  "hole to 40'. \$\frac{1}{2}\]  "hole to 550'  ing. Cement with lass "C" cement  \text{L" hole to 2900'}  ing. Cement with Sx. of Class "C  volumes of ceme  "hole to 8200', to 7730'\text{through}  MD. Run and set "C" Premium ceme  msurface. EPROPOSED PROGRAM: 16; EPROPOSED PROGRAM: 16; EPROPOSED PROGRAM: 16; EPROPOSED PROGRAM: 16;	NA 48# 40# 17# Set 40' of 2 with fresh 150 Sx. of + 2% CaCl, with brine 1800 Sx. of 2" cement + ent may be of 10g well proposed is to deepen	2860 2860 10,137 20" conductor water. Run as f 65/35/6 Cla + ½# Flocele water. Run f 65/35/6 Cla 2% CaCl, + ½ changed after plug back to Change to a 7 5½" 17# N-80 cives, mixed	and set 5. ss "C" PO # Flocele fluid ca 7225' for 7/8" bit LT&C & H at 15.7 H	350 Sx. 1000 Sx 900 Sx. d cement 50' of 2 02/GEL, culate of 02/GEL + e/Sx. ci aliper d c kick-of and dr 3TC. Cem PPG. Est	to surface Circulate " TOC Est 29 to surface 13 3/8" 48# tail in with 96 to surface 15 5/8" 40 to 5% Salt, troulate certification to To the surface to productive zone. In the surface to productive zone.	W/Redi cement " 00' FS e with H-40 th 200 urface. # J-55 tail in ment to drill of 00 Sx. of ceme	nt
IN AB	17½" 12½" 8½" & 7 7/8"  1. Drill 26 Redi-mix  2. Drill 17 ST&C cas: Sx. of C:  3. Drill 12 LT&C cas: with 200 surface,  4. Drill 8½' 8½" hole 10,800' Nof Class 2900' from	H-40 13 3/8"  J-55 9 5/8"  N-80 5½"  "hole to 40'. \$\frac{1}{2}\$  ing. Cement with lass "C" cement  "hole to 2900' ing. Cement with \$\frac{1}{2}\$  wolumes of cement with \$\frac{1}{2}\$  to 7730' ± through the through \$\frac{1}{2}\$  "C" Premium cement with \$\frac{1}{2}\$  "EPROPOSED PROGRAM: If a cent data on submarface location in the cement with the cement wit the cement with the cement with the cement with the cement with	NA 48# 40# 17# Set 40' of 2 with fresh 150 Sx. of 2 2% CaCl, with brine 1800 Sx. of 20 20 cement + 20 20 cement	2860 2860 10,137 20" conductor water. Run as f 65/35/6 Cla + ½# Flocele water. Run f 65/35/6 Cla 2% CaCl, + ½ changed after plug back to Change to a 7 5½" 17# N-80 cives, mixed	and set 5. ss "C" PO # Flocele fluid ca 7225' for 7/8" bit LT&C & H at 15.7 H	350 Sx. 1000 Sx 900 Sx. d cement 50' of 2 02/GEL, culate of 02/GEL + e/Sx. ci aliper d c kick-of and dr 3TC. Cem PPG. Est	to surface  Circulate  " TOC Est 29  to surface  13 3/8" 48#  tail in with 90 component with 90 component to surface  Tocology and the surface to surface	W/Redi cement " 00' FS e with H-40 th 200 urface. # J-55 tail in ment to drill of 00 Sx. of ceme	nt

\*See Instructions On Reverse Side

/s/ Don Peterson

MAR 2 2 2007

APPROVAL FOR 1 YEAR

ATTIONS of equipple title to those rights in the subject CONDITIONS OF APPROVALOR

#### State of New Mexico

DISTRICT I 1625 N. FERNCE DR., BORBS, NM 88240

DISTRICT IV

Energy, Minerals and Natural Resources Department

DISTRICT II 1301 W. GRAND AVENUR, ARTESIA, NM 86210

DISTRICT III 1000 Rio Brazos Rd., Artec, NM 87410

1220 S. ST. FRANCIS DR., SANYA FE, NM 87505 API Number

#### OIL CONSERVATION DIVISION 1220 SOUTH ST. FRANCIS DR. Santa Fe, New Mexico 87505

WELL LOCATION AND ACREAGE DEDICATION PLAT

Pool Code

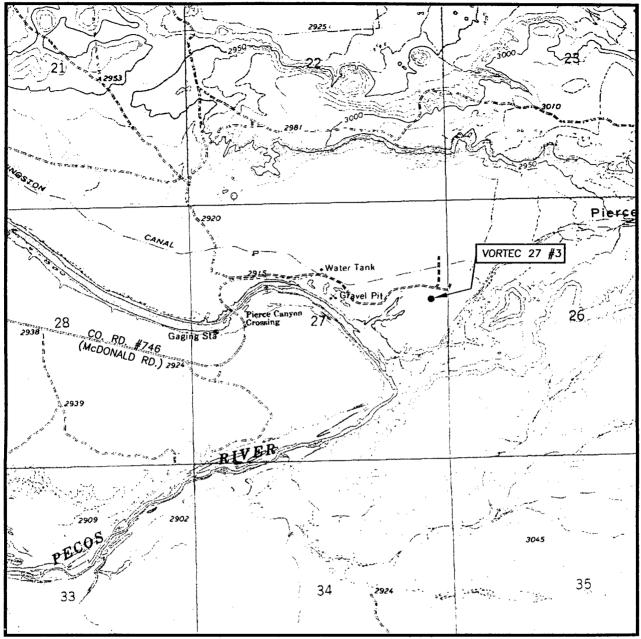
Form C-102
Revised October 12, 2005
Submit to Appropriate District Office
State Lease - 4 Copies
Fee Lease - 3 Copies

Pool Name

☐ AMENDED REPORT

	F0071	96	473	PI	ERCE CROSSING	G-BONE SPRIN	ig , East			
Property C	ode				Prop	erty Nam			Well Number	
OGRID No. VORTEC 27									Elevation	
017891	DOCO PRODUCING COMPANY							6'		
					Surfac	ce Loca	ation			
UL or lot No.	Section	Township	Range	Lot Idn	Feet fro	m the	North/South line	Feet from the	East/West line	County
Н _	27	24-S	29-E		201	10	NORTH	330	EAST	EDD
			Bottom	Hole I	ocation l	f Diffe	rent From Sur	face		-
UL or lot No.	Section	Township	Range	Lot Idn			North/South line	Feet from the	East/West line	County
Р	27	24-S	29-E	<u> </u>	33	30	SOUTH	660	EAST	EDD,
Dedicated Acres	Joint o	or Infill Co	nsolidation	Code	Order No.					
NO ALLO	WABLE V						NTIL ALL INTE		EEN CONSOLID	ATED
		OK A I	NON-STAIN	DAKD	UNII HAS	DEEN	AFFROVED BI	THE DIVISION		
	1	GE	ODETIC CO		ITES	1	†	OPERATO	OR CERTIFICAT	rion
	1		NAD 27 SURFACE		)A <i>i</i>	1		I hereby	certify that the ini	ormetion
	1		Y=4330		·/ V	1		my knowledge	and belief, and the ither owns a workin	t this
	1		X=6141	27.8 E				or unleased m	ineral interest in the proposed bottom ho	e land
	I		LAT.=32.1	80007	N	ł	.1	or has a right	to drill this well a ant to a contract w	t this
l L			DAT 32. T. DNG. = 103.			- 1	2010	owner of such	mineral or working ary pooling agreeme	interest,
						I			oling order Meretofo	
	<sub> </sub>					1				`
				ı				Lee	T. Jan	u
	1					1		Signature	De	te
				1			SEE SUI	⊭ll Joe T. J	anica 03/	16/07
	1					ı	DETAILY 35	O' Printed Nam		
	1			ı			1	Agent		
	1			<u> </u>		L	!	SURVEYO	OR CERTIFICAT	TION
	J	DET	AL D	ן אר דבניז	AREA-	N	M-94651	I bereby	certify that the we	U location
	Ī	2918.0	<sup>29</sup> .	XOJ EC1	AREA		+ <del>-</del> <del>-</del>	notes of actua	plat was plotted fro I surveys made by a ervision, and that the	
	ı	  -	İ	 	TNO ADEL	Ĺ	92.9 <b>2.4</b> .5	true and corre	ct to the best of m	y belief.
	1	60 60 61	)   1	RODUC.	ING AREA		× × ×	Enter pay		
		L_60	0,	1		ļ	N. 1.	1975' FSL &		7
		2914.1	2915.9	İ		1	0 42. DIST.	Date Surveyo	RUARY 8, 2007	
				L		!	HORZ. D	Signature &		AR
	_							Professional		
	j			I				$\mathcal{L}$	1	
	ı					i		Nona lil	18:11.	۔۔ایرا۔
	1	B	оттом но			1		gunany	- WWW	41410
	1			065.1 N		ľ		1	J/.11.015/	
			x=613	776.1 E 	· •		B.H. 660'-	Certificate N	o. GARY EIDSON	1264
							ခွန	J	RONALD J. KIDS	ON 323

## LOCATION VERIFICATION MAP



SCALE: 1" = 2000'

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

SEC. 27 TWP. 24-S RGE. 29-E

SURVEY N.M.P.M.

COUNTY EDDY STATE NEW MEXICO

DESCRIPTION 2010' FNL & 330' FEL

ELEVATION 2916'
POGO

OPERATOR PRODUCING COMPANY

LEASE VORTEC 27

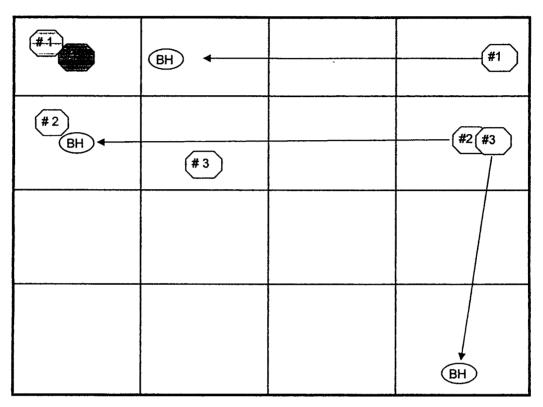
U.S.G.S. TOPOGRAPHIC MAP
PIERCE CANYON, N.M.



PROVIDING SURVEYING SERVICES SINCE 1946 JOHN WEST SURVEYING COMPANY 412 N. DAL PASO HOBBS, N.M. 88240 (505) 393-3117

## **VORTEC 27 WELL GROUPINGS**

Sec 27, T-24-S, R-29-E, Eddy County, New Mexico



Well Name	Legal Location in 22	Depth and Strata	<b>Current Prod Zone</b>
VORTEC 27 # 3	2010 FNL & 330 FEL	TD= 9419' Horiz 1st Bone	PROPOSED
VORTEC 27 # 1	660 FNL & 330 FEL	TD = 10,848' Horiz 1st Bone Sprg	Drilled & Completed
VORTEC 27 # 2	1650 FNL & 330 FEL	TD = 10,800 Horiz 1st Bone	PROPOSED
Modiszazo astrologia	66075SEE8660E2WE	10 - SON DEAWARE	Drill&Abandoned
Cedar Canyon 27 Fd # 3	2310 FNL & 1980 FWL	NOT DRILLED	NOT DRILLED

## AFE VORTEC 27 # 3H

\* COPYRIGHT 1990 MITCHELL ENGINEERING, PO BOX 1492. GOLDEN, CO, 80402, USA (303) 273 3744

## LONG'S METHOD OF SURVEY COMPUTATION

OBLI	OBLIQUE CIRCULAR ARC INTERPOLATION DISTANCE TABLE									
	0	MD OF	INTERPOL	ATION DEPTH	,(feet)		STATION A	STATION B		
	#N/A	TVD CO	ORDINATE	OF THE DEPT	ΓH (feet)					
	#N/A	N/S CO	ORDINATE	OF DEPTH (fe	et)					
	#N/A			OF DEPTH (fe	•					
	#10/5	L/11 00		•	•	A AND STATION B	0.00	ft		
				3 D DISTANCE DI	I WEEN STATION	A AND STATION B	L	111		
TABL	E OF SURV	EYSTA	HONS				Calculator =	1		
STA	ΔMD	INCL	AZIM	MD	TVD	N+/S-	E+/W-	DLS		
#	ft	deg	deg	ft	ft	ft	ft	deg/100FT		
1	TIE POINT =>	0	0	650.00	650.00	0.00	0.00			
2	100	3	186.4044	750.00	749.95	-2.60	-0.29	3.00		
3	100	6	186.4044	850.00	849.63	-10.40	-1.17	3.00		
4 5	100	9 12	186.4044	950.00	948.77	-23.37	-2.62	3.00		
6	100 100	14	186.4044 186.4044	1050.00 1150.00	1047.08 1144.51	-41.47 -63.83	-4.66 -7.16	3.00 2.00		
7	100	14	186.4044	1250.00	1241.54	-63.83 -87.87	-7.16 -9.86	0.00		
8	100	14	186.4044	1350.00	1338.57	-07.87 -111.91	-9.66 -12.56	0.00		
9	500	14	186.4044	1850.00	1823.72	-232.12	-26.05	0.00		
10	500	14	186.4044	2350.00	2308.87	-352.32	-39.55	0.00		
11	500	14	186.4044	2850.00	2794.02	-472.53	-53.04	0.00		
12	100	14	186,4044	2950.00	2891.05	-496.57	-55.74	0.00		
13	500	14	186.4044	3450.00	3376.19	-616.78	-69.23	0.00		
14	500	14	186.4044	3950.00	3861.34	-736.98	-82.72	0.00		
15	500	14	186.4044	4450.00	4346.49	-857.19	-96.22	0.00		
16	500	10	186.4044	4950.00	4835.46	-960.47	-107.81	0.80		
17	500	5	186.4044	5450.00	5331.03	-1025.31	-115.09	1.00		
18	500	5	186.4044	5950.00	5829.13	-1068.62	-119.95	0.00		
19	100	5	186,4044	6050.00	5928.75	-1077.28	-120.92	0.00		
20	100	5	186.4044	6150.00	6028.37	-1085.94	-121.89	0.00		
21	100	5	186.4044	6250.00	6127.99	-1094.60	-122.86	0.00		
22	100	5	186.4044	6350.00	6227.60	-1103.26	-123.84	0.00		
23	100	5	186.4044	6450.00	6327.22	-1111.92	-124.81	0.00		
24	896	0	186.4044	7346.00	7222.09	-1150.75	-129.17	0.56		
25	100	12	186.4044	7446.00	7321.36	-1161.12	-130.33	12.00		
26 27	100 100	24 36	186.4044 186.4044	7546.00 7646.00	7416.29	-1191.77	-133.77	12.00		
28	100	48	186.4044	7646.00	7502.73 7576.91	-1241.37 -1307.74	-139.34 -146.79	12.00 12.00		
29	100	60	186.4044	7846.00	7635.58	-1387.99	-155.79	12.00		
30	100	72	186.4044	7946.00	7676.18	-1478.61	-165.97	12.00		
31	100	84	186.4044	8046.00	7696.94	-1575.64	-176.86	12.00		
32	50	90	186.4044	8096.00	7699.55	-1625.23	-182.42	12.00		
33	100	90	186.4044	8196.00	7699.55	-1724.61	-193.58	0.00		
34	100	90	186.4044	8296.00	7699.55	-1823.99	-204.73	0.00		
35	100	90	186.4044	8396.00	7699.55	-1923.36	-215.89	0.00		
36	100	90	186.4044	8496.00	7699.55	-2022.74	-227.04	0.00		
37	100	90	186.4044	8596.00	7699.55	-2122.11	-238.20	0.00		
38	100	90	186.4044	8696.00	7699.55	-2221.49	-249.35	0.00		
39	100	90	186.4044	8796.00	7699.55	-2320.87	-260.51	0.00		
40	100	90	186.4044	8896.00	7699.55	-2420.24	-271.66	0.00		
41	100	90	186.4044	8996.00	7699.55	-2519.62	-282.81	0.00		
42	100	90	186.4044	9096.00	7699.55	-2618.99	-293.97	0.00		
43	100	90	186.4044	9196.00	7699.55	-2718.37	-305.12	0.00		

## AFE VORTEC 27 # 3H

STA	ΔMD	INCL	AZIM	MD	TVD	N+/S-	E+/W-	DLS
#	ft	deg	deg	ft	ft	ft	ft	deg/100FT
44	100	90	186.4044	9296.00	7699.55	-2817.74	-316.28	0.00
45	100	90	186.4044	9396.00	7699.55	-2917.12	-327.43	0.00
46	23	90	186.4044	9419.00	7699.55	-2939.98	-330.00	0.00
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#### APPLICATION TO DRILL

# POGO PRODUCING COMPANY VORTEC "27" #3 UNIT "H" SECTION 27

T24S-R29E EDDY CO. NM

In response to questions asked under Section II of Bulletin NTL-6 the following information on the above well is provided for your consideration.

- 1. Location of well: 430' FEL & 1650' FNL SECTION 27 T24S-R29E EDDY CO. NM
- 2. Ground Elevation above Sea Level: 2918' GR.
- 3. Geological age of surface formation: Quaternary Deposits:
- 4. <u>Drilling tools and associated equipment:</u> Conventional rotary drilling rig using drilling mud as a circulating medium to remove solids from hole.
- 5. Proposed drilling depth: MD-10I37' TVD-7700'
- 6. Estimated tops of geological markers:

Basal Anhydrite	2720'	Manzanita	3980'
Delaware Lime	2930'	Brushy Canyon	5050 <b>'</b>
Bell Canyon	2960 <b>'</b>	Bone Spring	6700 <b>'</b>
Cherry Canyon	3830'	lst Bone Spring	7700 <b>'</b>

7. Possible mineral bearing formations:

Bone Spring

0il

1st Bone Spring Sd

Oil

#### 8. Casing Program:

Hole Size	Interval	OD of Casing	Weight	Thread	Collar	Grade
26"	0-40'	20"	NA	NA	NA	Conductor
1711	0-5501	13 3/8"	48#	8-R	ST&C	H-40
12111	0-2900	9 5/8"	40 <i>#</i>	8-R	ST&C	J-55
8 ½" &7 7/8"	0-10,137'	5½"	17#	8-R & Butt.	LT&C BTC	N-80·

#### APPLICATION TO DRILL

POGO PRODUCING COMPANY
VORTEC "27" #3
UNIT "H" SECTION 27
T24S-R29E EDDY CO. NM

#### 9. CASING CEMENTING & SETTING DEPTHS:

20"	Consuctor	Set 40' of 20" conductor pipe and cement to surface with Redi-mix.
13 3/8"	Surface	Set 550' of 13 $3/8$ " $48\#$ H-40 ST&C casing. Cement with 150 Sx. of 65/35/6 Class "C" POZ/GEL, tail in with 200 Sx. of Class "C" cement + 2% CaCl, circulate cement.
9 5/8"	Intermediate	Set 2900' of 9 $5/8$ " $40\#$ J-55 ST&C casing. Cement with 800 Sx. of $65/35/6$ Class "C" POZ/GEL + 5% Salt, tail in with 200 Sx. of Class "C" cement + 2% CaCl, circulate cement to surface.
: 5 <u>1</u> "	Production	Set 10, $\pm 37$ of $5\frac{1}{2}$ " 17# N-80 LT&C & BTC cement with 900 Sx. of Class "C" Premium cement + additives, estimate top of cement 2900'.

10. PRESSURE CONTROL EQUIPMENT: Exhibit "E" shows a 900 Series 3000 PSI working pressure B.O.P. consisting of an annular bag type preventor, middle blind rams and bottom pipe rams. The B.O.P. will be nippled up on the 13 3/8" casing and tested to API specifications. The B.O.P. will be operated at least once in each 24 hour period and the blind rams will be operated each time the drill pipe is out of the hole on trips. Full opening stabbing valve and upper kelly cock will utilized. Exhibit "E-1" shows a hydraulically operated closing unit and a 3" 3000 PSI choke manifold with dual adjustable chokes. No abnormal pressures or temperatures are expected while drilling this well.

#### 11. PROPOSED MUD CIRCULATING SYSTEM:

DEPTH	MUD WT.	VISC.	FLUID LOSS	TYPE MUD SYSTEM
40– <u>,</u> 550 <b>'</b>	8.4-8.7	29-32	NC	Fresh water Spud Mud add paper to control seepage.
550 <b>-</b> 2900'	10.0-10.2	29–38	NC	Brine water use paper to control seepage and high viscosity sweeps to clean hole.
2900-10,137'	9.0-9.8	29-38	NC*	Cut brine use high viscosity sweeps to clean hole. If water loss control is necessary go to
	s control may		y to run	Dris-Pac system.

Sufficient mud materials will be kept on location at all times in order to combat lost circulation, or unexpected kicks. In order to run DST's, cut cores, run open hole logs and casing, the water loss may have to be reduced in order to get these things done.

#### APPLICATION TO DRILL

POGO PRODUCING COMPANY
VORTEC "27" #3
UNIT "H" SECTION 27
T24S-R29E EDDY CO. NM

#### 12. LOGGING, CORING, & TESTING PROGRAM:

- A. Open hole logs: Dual Laterolog, SNP, LDT, MSFL, Gamma Ray, Caliper from 8200' back to 9 5/8" casing shoe.
- B. Cased hole logs: Gamma Ray, Neutron from 9 5/8" casing shoe to surface.
- C. Mud logger may be rigged up on the hole at 2900' and ramain on the hole to 8200'.
- D. No cores or DST's are planned at this time.

#### 13. POTENTIAL HAZARDS:

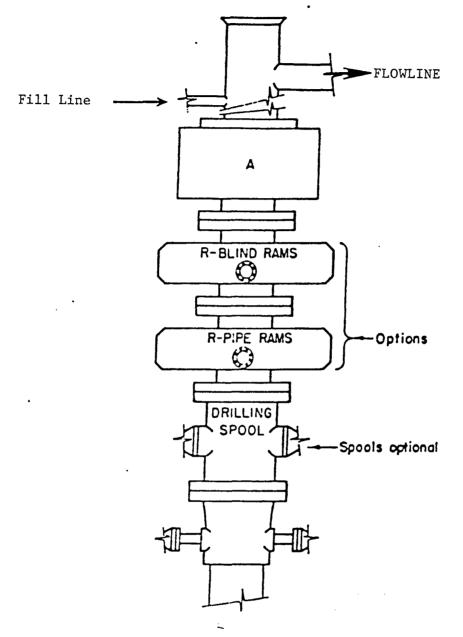
No abnormal pressures or temperatures are expected. There is no known presence of  $\rm H^2S$  in this area. If  $\rm H^2S$  is encountered the operator will comply with the provisions of Onshore Oil and Gas Order No. 6. No lost circulation is expected to occur. All personnel will be familiar with all aspects of safe operation of equipment being used to drill this well. Estimated BHP  $\frac{4000\pm}{180^{\circ}}$  PSI, and Estimated BHT  $\frac{180^{\circ}}{180^{\circ}}$ .

#### 14. ANTICIPATED STARTING DATE AND DURATION OF OPERATION:

Road and location construction will begin after the BLM has approved the APD. Anticipated spud date will be as soon after BLM approval and as soon as a rig will be available. Move in operation and drilling is expected to take 30 days. If production casing is run then an additional 30 days will be needed to complete well and construct surface facilities and/or lay flowlines in order to place well on production.

#### 15. OTHER FACETS OF OPERATIONS:

After running casing, cased hole Gamma Ray, Neutron Collar logs will be run from TD back to all possible productive zones. The <u>Bone Spring</u> formation will be perforated and stimulated in order to establish production. The well will be swab tested and potentialed as an oil well.

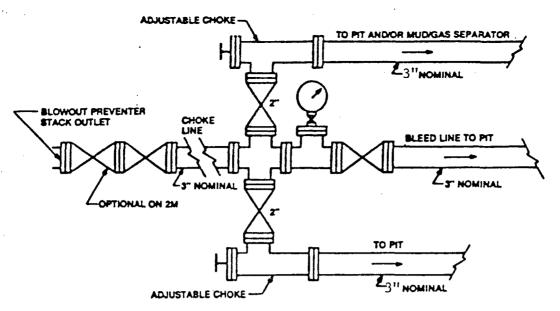


#### ARRANGEMENT SRRA

SERIES 900 3000 PSI WP

EXHIBIT "E"
SKETCH OF B.O.P. TO BE USED ON

POGO PRODUCING COMPANY
VORTEC "27" #3
UNIT "H" SECTION 27
T24S-R29E EDDY CO. NM



Typical choke manifold assembly for  $3M\ WP$  system

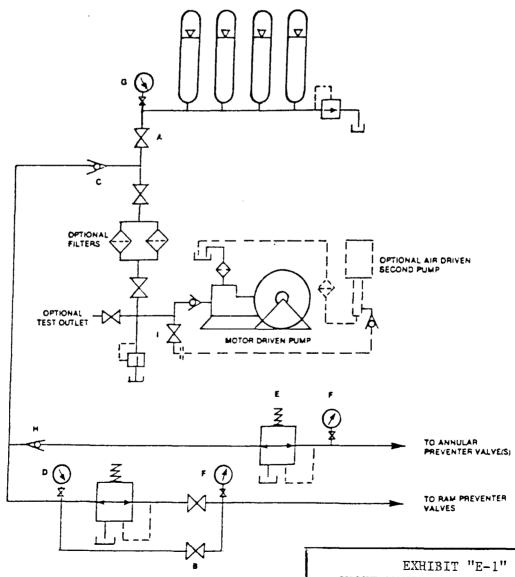


EXHIBIT "E-1"
CHOKE MANIFOLD & CLOSING UNIT

POGO PRODUCING COMPANY
VORTEC "27" #3
UNIT "H" SECTION 27
T24S-R29E EDDY CO. NM

#### HYDROGEN SULFIDE DRILLING OPERATIONS PLAN

- 1. All Company and Contract personnel admitted on location must be trained by a qualified  ${\rm H}_2{\rm S}$  safety instructor to the following:
  - A. Characteristics of H2S
  - B. Physical effects and hazzards
  - C. Proper use of safety equipment and life support systems.
  - D. Principle and operation of H2S detectors, warning system and briefing areas.
  - E. Evacuation procedure, routes and first aid.
  - F. Proper use of 30 minute pressure demand air pack.
- 2. H<sub>2</sub>S Detection and Alarm Systems
  - A. H<sub>2</sub>S detectors and audio alarm system to be located at bell nipple, end of blooie line (mud pit) and on derrick floor or doghouse.
- 3. Windsock and/or wind streamers
  - A. Windsock at mudpit area should be high enough to be visible.
  - B. Windsock at briefing area should be high enough to be visible.
  - C. There should be a windsock at entrance to location.
- 4. Condition Flags and Signs
  - A. Warning sign on access road to location.
  - B. Flags to be displayed on sign at entrance to location. Green flag, normal safe condition. Yellow flag indicates potential pressure and danger. Red flag, danger, H<sub>2</sub>S present in dangerous concentration. Only emergency personnel admitted to location.
- 5. Well control equipment
  - A. See exhibit "E"
- 6. Communication
  - A. While working under masks chalkboards will be used for communication.
  - B. Hand signals will be used where chalk board is inappropriate.
  - C. Two way radio will be used to communicate off location in case of emergency help is required. In most cases cellular telephoned will be available at most drilling foreman's trailer or living quarters.
- 7. Drillstem Testing
  - A. Exhausts will be watered.
  - B. Flare line will be equipped with an electric ignitor or a propane pilot light in case gas reaches the surface.
  - C. If location is near any dwelling a closed D.S.T. will be performed.

#### HYDROGEN SULFIDE DRILLING OPERATIONS PLAN

- 8. Drilling contractor supervisor will be required to be familiar with the effects  $\rm H_2S$  has on tubular goods and other mechanical equipment.
- 9. If  $H_2S$  is encountered, mud system will be altered if necessary to maintain control of formation. A mud gas seperator will be brought into service along with  $H_2S$  scavengers if necessary.

#### CONDITIONS OF APPROVAL-DRILLING

Operator's Name: POGO Producing Company

Well Name & No: Vortec 27 No 03

SHL: 2010 FNL & 330' FEL, BHL: 330' FSL & 660' FEL, Sec.27, T. 24 S., R. 29 E.

Lease: NM 94651

Eddy County, New Mexico

#### I. DRILLING OPERATIONS REQUIREMENTS:

1. The Bureau of Land Management (BLM) is to be notified at the Roswell Field Office, 2909 West Second St., Roswell, NM 88201, (505) 627-0272 for wells in Chaves and Roosevelt Counties; the Carlsbad Field Office, 620 East Greene St., Carlsbad, NM 88220, (505) 361-2822 for wells in Eddy County; and the Hobbs Field Station, 414 West Taylor, Hobbs NM 88240, (505) 393-3612 for wells in Lea County, in sufficient time for a representative to witness:

- A. Spudding
- B. Cementing casing: 13 % inch; 9 % inch; 5 ½ inch.
- C. BOP Tests
- 2. A Hydrogen Sulfide (H2S) Drilling Plan is not required for this well bore.
- 3. 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.
- 4. Submit a Sundry Notice (Form 3160-5, one original and five copies) for each casing string, describing the casing and cementing operations. Include pertinent information such as; spud date, hole size, casing (size, weight, grade and thread type), cement (type, quantity and top), water zones and problems or hazards encountered. The Sundry shall be submitted within 15 days of completion of each casing string. The reports may be combined into the same Sundry if they fall within the same 15 day time frame.
- 5. The API No. assigned to the well by NMOCD shall be included on the subsequent report of setting the first casing string.
- 6. A communitization agreement shall be submitted to this office for approval prior to any sales form this well.

#### II. CASING:

- 1. The 13 % inch shall be set at 350 Feet with cement circulated to the surface. If cement does not circulate to the surface the appropriate BLM office shall be notified and a temperature survey or cement bond log shall be run to verify the top of the cement. Remedial cementing shall be completed prior to drilling out that string.
- 2. The minimum required fill of cement behind the 9 % inch Intermediate casing is to circulate to surface.
- 3. The minimum required fill of cement behind the 5 ½ inch Production casing is to tie back by at least 200 ft.

#### **III. PRESSURE CONTROL:**

1. All BOP systems and related equipment shall comply with well control requirements as described in Onshore Oil and Gas Order No. 2. The BOP and related equipment shall be installed and operational before drilling below the 13 % inch casing shoe and shall be tested as described in Onshore Order No. 2. Any equipment failing to test satisfactorily shall be repaired or replaced.

#### (III Cont):

- 2. Minimum working pressure of the blowout preventer and related equipment (BOPE) shall be 3 M psi.
- 3. The appropriate BLM office shall be notified in sufficient time for a representative to witness the test.
- -The test shall be done by an independent service company
- -The results of the test shall be reported to the appropriate BLM office.
- -Testing fluid must be water or an appropriate clear liquid suitable for sub-freezing temperatures.
- -Use of drilling mud for testing is not permitted since it can mask small leaks.
- -Testing must be done in safe workman-like manner. Hard line connections shall be required.
- -Both low pressure and high pressure testing of BOPE is required.

G. Gourley RFO 09/25 / 2006