DISTRICT I P.0. Box 1980, Hobbs, RM 88241-1980

.

F.S. DOR 1900, AUDIS, AR GOAT 1900

DISTRICT II P.O. Drawer DD, Artenia, NM 88211-0719

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

DISTRICT IV P.O. BOX 2088, SANTA PE, N.M. 87504-2088

State of New Mexico

Energy, Minerals and Natural Resources Department

Form C-102 Revised February 10, 1994 Submit to Appropriate District Office State Lease - 4 Copies Fee Lease - 3 Copies

OIL CONSERVATION DIVISION P.O. Box 2088

Santa Fe, New Mexico 87504-2088

□ AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

	N			D O		••••••••••••••••••••••••••••••••••••••						
	Number	0-1		Pool Code 3230 ARTESIA (Q-G-SA)								
<u> </u>		516		3230	Property Nam		Q-G-SA					
229:	1			WAS	SHINGTON 33	Well Number 3						
OGRID No	1.		·····		, Operator Nam			Elevati	on			
00099	0	<u> </u>			ARCO PERM			367	7'			
; 	Surface Location											
UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County			
B	33	17 S	28 E		260	NORTH	1550	EAST	EDDY			
Bottom Hole Location If Different From Surface UL or lot No. Section Township Range Lot Idn Feet from the North/South line Feet from the East/West line County												
UL or lot No.	Section	Township	Range	Lot Idn	Feet from the			East/West line	County			
B	33	173	28E		1207	NORTH	1870	EAST	EDDY			
Dedicated Acres	Joint o	r Infill C	onsolidation (Code Or	der No.							
40						<u> </u>	,,					
NO ALLO	WABLE W					NTIL ALL INTER		EEN CONSOLIDA	ATED			
·····		OR A	NON-STAN	DARD UN	TT HAS BEEN	APPROVED BY T	THE DIVISION					
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	,				\overline{N}			n is true and compl				
					260'		best of my know	vledge and belief.				
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					01	3 ELIZA	LIZABETH A CASBEER					
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08				012		014	Date	1				
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022	1							JARY 25, 1998				
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							Konals	S Billion	3-04.98			
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								ESSION SON	12641			
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WORKOVER PROCEDURE

DATE: February 21, 2001

WELL: Washington 33 State # 3 DRILLED: 1998 FIELD: Redlake COUNTY: Eddy, New Mexico

BY:	Dan Tuffly	TD:	2950'	PBD:	2904'	DATUM:	7' KB
CASI SURF	ACE:	<u>SIZE</u> 8 5/8"	WEIGHT 24	GRADE J-55	<u>SET@</u> 532'	<u>SX CMT</u> 325	<u>TOC</u> Surf-Circ
	RMEDIATE: DUCTION:	5 1/2"	15.5 #	J-55	2950'	600	Surf-Circ

TUBING: 2 7/8", 6.5#, J-55 @ 2263'

PACKER: TAC @ 2178'

PERFORATIONS: San Andres 2286-2808', Shallow Sand 1422'-2068'

HISTORY AND BACKGROUND: Drilled in July, 1998. Added Shallow Sand perfs in August, 1999.

SCOPE OF WORK: Drill horizontal lateral in the San Andres formation.

PROCEDURE

- 1) MIRU pulling unit. POOH with rods and pump.
- 2) ND wellhead and NU BOP. Release tubing anchor and POOH LD tubing.
- 3) RD and release pulling unit.
- 4) Move pumping unit off well.
- 5) MIRU Key deepening rig and H₂S safety trailer. Conduct safety meeting reminding everyone of BP requirements. Have other safety meetings at regular intervals.
- 6) RU electric line. Set CIBP @ \pm 2195'. Pressure test casing to 500 psi.
- 7) GIH w/ window mill & watermelon mill picking up 2 7/8" AOH drillpipe and tag CIBP @ 2195'. Convert drillpipe measurements to electric line measurement.
- 8) Displace hole with 8.5# brine water.

February 21, 2001

- 9) Pick up to 2100'. Circulate blocking agent up to 1000' to block off Shallow Sand perfs. Squeeze into perforations. POOH.
- 10) Pick up whipstock and starter mill. GIH to CIBP. RU wireline and GIH with gyro. Orient whipstock to an azimuth of 199° and set. Run directional survey as POOH.
- 11) Start cutting window @ \pm 2180'. POOH with drillpipe.
- 12) Run window mill & watermelon mill and finish cutting window. POOH.
- 13) GIH w/ 4 ³/₄" bit, build motor and directional drilling assembly. RU mud logger. Drill 120' radius curve and reach desired inclination at 2300' TVD. Use gyro until can switch to MWD. Drill with 8.5# brine water and gel sweeps as necessary. POOH w/ build assembly.
- 14) GIH w/ 4 ³/₄" PDC bit and drilling motor and drill lateral as instructed to achieve a vertical section of about 1000' at a TVD of 2800'. Circ hole clean.
- 15) POOH LD 2 7/8" AOH drillpipe. RD & release Key rig.
- 16) MIRU pulling unit. NU BOP.
- 17) Run 2 7/8" tbg and treating packer. Set packer @ \pm 2125'.
- 18) RU coiled tubing unit and GIH with vortex nozzle to packer. Pump fresh or 2% KCL? water as GIH to end of lateral.
- 19) Close casing annulus and pump 3000 gal 15% HCL into formation as POOH to KOP.
- 20) GIH to end of lateral flushing acid with fresh or 2% KCL? water.
- 21) POOH & RD coiled tbg. POOH with packer.
- Note: Steps 22 and 23 are optional.
- 22) GIH with hook on 2 7/8" tbg. Engage whipstock and POOH. (It is possible will not be able to pull sufficiently with the J-55 tbg to release the whipstock. If this happens will need to pick up an N-80 workstring.)
- 23) Run drill bailer on sand line and knock out CIBP to PBTD.
- 24) Run production equipment.
- 25) RD pulling unit and TOPS.

Dan L. Tuffly



WASHINGTON 33 STATE # 3 Redlake Queen Grbg SA

260' FNL & 1550' FEL, Section 33 T-17-S, R-28-E, Unit B

Eddy County, New Mexico



9	Scientif Drilling	-	P		DI 1g Repor			ŧ			
Field: Site:	BP Recliaics Que Eddy County Washington 1	New Medic	0		Ci Vi Se	nte: 2/20/20 p-ordinate(NE ertical (TVD) I ertion (VS) Ref an:) Reference: Reference:	SITE 0.0	shington "	Page 33" Slate #3 98.66Azl)	1
Geo Datum		arke 1866)	rg nate System 1	927		Map Zone: Coordinate : Geomagneti	•	New Me Well Ce igrf2000		em Zone	
Site:	Eddy Coun	ty, New Mex	ico	<u></u>							
Site Position From: Position Un Ground Lev	Local Only certainty:		Northi Easting) ft) ft	-	ft ft	Latitude: Longitude: North Refer Grid Conve			True deg		
Well:	Washingto	n "33" State	#3			Slot Name:				<u></u>	
Well Positio	+E.	-W 0.0) ft Northi) ft Easting) ft	-	π π	Latitude: Longitude:					
Position Un Wellpath: Current Da Magnetic D Field Streng Vertical Sec	1 ntama: Si7 Data: gth:		4 mT	Height +N/-S ft	0.0 ft	Drilled From Tie-on Dept Above Syste Dectination: Mag Dip An +E/-W ft	h: m Datam:		0.0 ft ea Level -7.15 deg 28.26 deg		
		0.0		0.0		0.0		198.66			
Plan: Principal:	Plan #1 Yes					Date Comp Version: Tied-to:	ped:	2/20/20 1 User D			
Plan Section	a Informatio	b									
MD ft	inci deg	Axim deg	TVD R	+N/-S ft	+ <u>K/</u> -W R	DLS deg/100/t	Build deg/100ft	Turn deg/100ft	TPO deg	Target	
2000.0 2180.0 2325.1 2339.8 3381.6	0.00 0.00 60.00 61.77 61.77	0.00 0.00 198.66 198.66 198.66	2000.0 2180.0 2300.0 2307.2 2800.0	0.0 0.0 -65.6 -77.8 -947.4	0.0 0.0 -22.2 -26.3 -320.0	0.00 0.00 41.35 12.00 0.00	0.00 0.00 41.35 12.00 0.00	0.00 0.00 0.00 0.02 0.02	0.00 0.00 198.66 0.10 0.00	Toe Wash State	
	1 : Start Hold	<u> </u>									
MD	laci deg	Arina dag	TVD R	+N/-S ft	+B/-W R	VS ft	DLS deg/100	Build t deg/1001	Turn deg/100	TPO t deg	
2000.0 2100.0 2180.0	0.00 0.00 0.00	0.00 0.00 0.00	2000.0 2100.0 2180.0	0.0 0.0 0.0	0.0 0.0 0.0	0.0 0.0 0.0	0.00 0.00 0.00	0.00 0.00 0.00	0.00 0.00 0.00	0.00 0.00 0.00	
	2 : Start DLS		198.66			······································					
MD R	inci deg	Astes deg	TVD ft	+N/-S R	-+£/-W	vs A	DLS deg/100	Build deg/1008	Turn deg/100	TFO deg 1	
2190.0 2200.0 2210.0 2220.0 2230.0 2230.0 2240.0 2250.0	4.13 8.27 12.40 16.54 20.67 24.81 28.94	198.66 198.66 198.66 198.66 198.66 198.66 198.66 198.66	2190.0 2199.9 2209.8 2219.4 2228.9 2238.1 2247.1	-0.3 -1.4 -3.1 -5.4 -8.5 -12.1 -16.4	-0.1 -0.5 -1.0 -1.8 -2.9 -4.1 -5.5	0.4 1.4 3.2 5.7 8.9 12.8 17.3	41.35 41.35 41.35 41.35 41.35 41.35 41.35	41.35 41.35 41.35 41.35 41.35 41.35 41.35 41.35	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	
2260.0 2270.0	33.08 37.21	198.66 198.66	2255.6 2263.8	-21.3 -26.7	-7.2 -9.0	22.5 28.2	41.35 41.35	41.35 41.35	0.00 0.00	0.00 0.00	



SDI Planning Report



Company: Field: Blie: Well: Wellpath:	Rediake Eddy Co	Queen Graybur unty, New Mand ton "33" State I	co		Co Ve	rtical (TVD) rtion (VS) Re	E) Reference Reference:	SITE 0.0	chington "3		Bage: 2
Section	2 : Start [DLS 41.35 TFO	198.66								
MD	linci deg	Azim deg	TVD ft	+N/-S ft	+E/-W ft	VS R	DLS deg/100fi	Build deg/100ft	Turn deg/100ft	TFO deg	
2300.0	49.62	198.66	2285.6	-46.2	-15.6	48.8	41.35	41.35	0.00	0.00	
2310.0	53.75	198.66	2291.8	-53.7	-18.1	56.6	41.35	41.35	0.00	0.00	
2320.0	57.89	198.66	2297.4	-61.5	-20.8	64.9	41.35	41.35	0.00	0.00	
2325.1	60.00		2300.0	-65.6	-22.2	69.3	41.35	41.35	0.00	0.00	
Section	3 : Start [DLS 12.00 TFO	0.10								
MD	Inci	Azim	TVD	+N/-S	+E/-W	VS	DLS	Build	Turn	TFO	
ft .	deg	deg	ft	A	ft	î,	deg/100ft	deg/100ft	deg/100ft	deg	
2339.8	61.77	198.66	2307.2	-77.8	-26.3	82.1	12.00	12.00	0.02	0.10	
Section	4 : Start I	loid									
MD	Inci	Autor	TVD ft	+N/-S ft	+E/-W R	VS A	DLS	Build deg/100ft	Ture deg/100ft	TFO deg	
R	deg	deg 🦾					0.00	0.00	0.00	180.00	
2400.0			2335.6	-128.1	-43.2	135.2	0.00	0.00	0.00	180.00	
2500.0			2382.9	-211.5	-71.4	223.3				180.00	
2600.0			2430.2	-295.0	-99.6	311.4	0.00	0.00	0.00 0.00	180.00	
2700.0			2477.6	-378.5	-127.8	399.5	0.00	0.00			
2800.0			2524.9	-461.9	-156.0	487.6	0.00	0.00	0.00	180.00 180.00	
2900.0			2572.2	-545.4	-184.2	575.7	0.00	0.00	0.00		
3000.0			2619.5	-628.9	-212.4	663.8	0.00	0.00	0.00	180.00	
3100.0			2666.8	-712.3	-240.6	751.9	0.00	0.00	0.00	180.00	
3200.0	61.77		2714.1	-795.8	-268.8	840.0	0.00	0.00	0.00	180.00	
3300.0	61.77	198.66	2761.4	-879.3	-297.0	928.1	0.00	0.00	0.00	180.00	
3381.6	61.77	198.66	2800.0	-947.4	-320.0	1000.0	0.00	0.00	0.00	180.00	



BP

Field: Redlake Queen Grayburg Site: Eddy County, New Mexico Well: Washington "33" State #3 Plan: Plan #1





True Vertical Depth [200f/in]



NEW MEXICO ENERGY, MINERALS & NATURAL RESOURCES DEPARTMENT

OIL CONSERVATION DIVISION 2040 South Pachaco Street Santa Fa, New Mexico 87608 (608) 827-7131

June 19, 1998

ARCO Permian P. O. Box 1610 Midland, Texas 79702-1610 Attention: Elizabeth A. Casbeer

Administrative Order NSL-4060

Dear Ms. Casbeer:

Reference is made to: (i) your applications dated April 29, May 12, May 20, June 3, and June 16, 1998 for several unorthodox oil well locations in the Artesia-Queen-Grayburg-San Andres Pool within ARCO Permian's ("ARCO") Washington "33" State Lease in Section 33, Township 17 South, Range 28 East, NMPM, Eddy County, New Mexico; (ii) the records of the Division in Santa Fe including the files on Division Administrative Orders NSL-915-A, NSL-915-B, NSL-4003, NSL-4007, NSL-4035, and NSL-4036; and (iii) a telephone conversation between David Pearcy with ARCO in Midland and Mr. Michael E. Stogner, Engineer with the New Mexico Oil Conservation Division ("Division") on Monday, June 18, 1998.

The Division Director Finds That:

(1) ARCO is the owner and operator of the Washington "33" State Lease, which comprises the following described 600 acres, more or less, that comprise a portion of New Mexico State Land Office Lease No. X-00647:

> TOWNSHIP 17 SOUTH. RANGE 28 EAST. NMPM Section 33: NE/4, NE/4 NW/4, S/2 NW/4, and S/2;

- (2) The Artesia-Queen-Grayburg-San Andres Pool underlying this area is subject to the statewide nules for oil wells, as set forth in Division Rule 104.C(1), which provides for 40-acre oil spacing and proration units, or drilling units, and requires that wells be located no closer than 330 feet to the outer boundary of such a unit;
- (3) All mineral interests are common throughout this lease;
- (4) The application has been duly filed under the provisions of Division Rule 104.F;
- (5) Approval of the above referenced applications is in the best interest of conservation, will serve to prevent waste, protects correlative rights, exhibits sound engineering principles, and will allow ARCO to develop the Artesia-Queen-Grayburg-San Andres Pool with infill wells in order to recover additional reserves that might not otherwise be produced; and
- (6) A procedure that allows ARCO to include additional Artesia-Queen-Grayburg-San Andres oil wells as needed within its Washington "33" State at locations that are unorthodox under Division Rule 104.C(1)(a) without further administrative review by the Director should be

Administrative Order NSL-4060 ARCO Permian June 19, 1998 Page 2

> adopted, provided that any such unorthodox location within the Washington "33" State Lease is no closer than the required minimum orthodox distance (330 feet) to the outer boundary of the lease nor closer than 10 feet to any quarter-quarter section line or subdivision inner boundary.

It Is Therefore Ordered That:

(1) By the authority granted me under the provisions of Division Rule 104.F(2), ARCO Pennian ("ARCO") is hereby authorized to recomplete five existing wells and drill two additional wells at unorthodox oil well locations in the Artesia-Queen-Grayburg-San Andres Pool within its Washington "33" State Lease in Section 33, Township 17 South, Range 28 East, NMPM, Eddy County, New Mexico, as follows:

Well Name and No.	API Number	Footage Location	Dais	Dedicated 40-Acre Tract
Washington "33" State Well No. 16 (formerly the Empire Abo Unit "G" Well No. 323)	30-015-22415	1500' FSL - 700' FEL	I	NE/4 SE/4
Wushington "33" State Well No. 17 (formerly the Empire Abo Unit "G" Well No. 315)	30-015-22821	1900' FSL & 1450' FEL	Ј	NW/4 SE/4
Washington "33" State Well No. 18 (formerly the Empire Abo Unit "G" Well No. 312)	30-015-21745	1550' FSL & 2511' FEL	- J	NW/4 SE/4
Washington "33" State Well No. 19 (new drill)	NA	2360' FSL - 2165' FWL	E.	NE/4 SW/4
Washington "33" State Well No. 23 (new drill)	NA	975' FSL - 1060' FWL	М	SW/4 SW/4
Washington "33" State Well No. 27 (formerly the Empire Abo Unit "H" Well No. 312)	30-015-22605	815 FSL & 2525' FEL	0	SW/4 SE/4
Washington "33" State Well No. 30 (formerly the Empire Abo Unit "H" Well No. 322)	30-015-22465	750' FSL & 1150' FEL	P	SE/4 SE/4

It Is Further Ordered That:

(2) Within the following described 600 acres, known as the Washington "33" State Lease, ARCO is hereby authorized to locate wells within the Artesia-Queen-Grayburg-San Andres Pool that are Administrative Order NSL-4060 ARCO Permian June 19, 1998 Page 3

unorthodox based on the well location requirements of Division Rule 104.C(1)(a), provided that any such unorthodox location is no closer than the required minimum orthodox distance (330 feet) to the outer boundary of the Washington "33"Lease nor closer than 10 feet to any quarter-quarter section line or subdivision inner boundary:

TOWNSHIP 17 SOUTH, RANGE 28 EAST, NMPM Section 33: NE/4, NE/4 NW/4, S/2 NW/4, and S/2;

(3) Any unorthodox location authorized by Ordering Paragraph (2) shall require the submission of a Division Form C-102, in accordance with Division Rules 1101 and 1102, and the approval of the Supervisor of the Division's District Office in Artesia. The Form C-102 for any such well shall include the following additional information: (1) the boundary of the Washington "33" State Lease must be outlined; (ii) the designated 40 acres to be dedicated to the well must be highlighted or outlined; (iii) all other wells within the Artesia-Queen-Grayburg-San Andres Pool that are dedicated to this 40-acre tract must be identified and described; and, (iv) this administrative order (NSL-4060) must be referenced.

(4) Jurisdiction of this cause is retained for the entry of such further orders as the Division may deem necessary.

Sincerely otenbery Director

LW/MES/kv

cc: New Mexico Oil Conservation Division - Artesia New Mexico State Land Office - Santa Fe Dave Pearcy, ARCO - Midland, Texas William F. Carr, Legal Counsel for ARCO - Santa Fe