Form 3160-5 (August 2007)	RIOR	FORM AP	PROVED
-BUREAU OF LAND MANAGE	MENT	Expires: Ju	ly 31, 2010
IAN 1.6 2014		5. Lease Senal No. SF-	078144
JAIN 10 "SUNDRY NOTICES AND REPORTS Do not use this form for proposals to drill	ON WELLS or to re-enter an	<ol> <li>If Indian, Allottee or Tribe Na</li> </ol>	ime
abandoned well. Use Form 3160-3 (APD) fo	or such proposals.		·
Lange OTLE SUBMIT IN TRIPLICATE - Other instructions	s on page 2.	7. If Unit of CA/Agreement, Nar	ne and/or No.
Oil Well X Gas Well Other	. ·	8. Well Name and No.	
2. Name of Operator		9. API Well No.	
3a. Address 3b. Pho	ne No. (include area code)	30-04 10. Field and Pool or Explorator	<b>5-25810</b>
PO Box 4289, Farmington, NM 87499	(505) 326-9700	Blanco M	///Basin DK
Surface UNIT N (SESW), 970' FSL & 1680' FWL, Sec.	13, T30N, R11W	San Juan ,	New Mexico
12. CHECK THE APPROPRIATE BOX(ES) TO INE	DICATE NATURE OF NO	FICE, REPORT OR OTHER	R DATA
	TYPE OF AC	TION	······································
X Notice of Intent     Acidize     De       Alter Casing     Frage	epén P acture Treat P	roduction (Start/Resume)	Water Shut-Off
Subsequent Report	w Construction	ecomplete	X Other P&A of
Final Abandonment Notice	ıg and Abandon T ıg Back V	emporarily Abandon Vater Disposal	Monitoring Well -7
13. Describe Proposed or Completed Operation: Clearly state all pertinent details, incl If the proposed is to deepen directionally or recomplete horizontally, give subsurf	uding estimated starting date of	any proposed work and approxim	nate duration thereof.
Attach the bond under which the work will be performed or provide the Bond No	o, on file with BLM/BIA. Requi	red subsequent reports must be fil	nt markers and zones. led within 30 days
Testing has been completed. Final Abandonment Notices must be filed only after	r all requirements, including rec	a in a new interval, a Form 3160- lamation, have been completed a	4 must be filed once nd the operator has
determined that the site is ready for final inspection.)		÷	•
· · ·			
Burlington Resources intends to Plug and Abandon the Mo	onitoring Well drilled in	1998. Please see the atta	ached approved well
Burlington Resources intends to Plug and Abandon the Mo plugging plan from the NMOSE and map of location of MM	onitoring Well drilled in /-7.	1998. Please see the att	ached approved well
Burlington Resources intends to Plug and Abandon the Mo plugging plan from the NMOSE and map of location of MV	onitoring Well drilled in I-7.	1998. Please see the att	ached approved well
Burlington Resources intends to Plug and Abandon the Mo plugging plan from the NMOSE and map of location of MM	onitoring Well drilled in J-7.	1998. Please see the att	ached approved well RCVD JAN 23 '14 DIL CONS. DIV.
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Burlington Resources intends to Plug and Abandon the Moplugging plan from the NMOSE and map of location of MM         14. I hereby certify that the foregoing is true and correct. Name (Printed/Typed)         Image: Denise Journey         Signature         Signature	Title	1998. Please see the atta Regulatory Techni 1/15/2014	ached approved well RCVD JAN 23 '14 DIL CONS. DIV. DIST. 3
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Burlington Resources intends to Plug and Abandon the Mo plugging plan from the NMOSE and map of location of MM 14. Thereby certify that the foregoing is true and correct. Name (Printed/Typed) 14. Thereby certify that the foregoing is true and correct. Name (Printed/Typed) DENISE JOURNEY Signature DIMUMANY THIS PLACE FOR FEE Approved by Original Signed: Stephen Mason	Title	1998. Please see the atta Regulatory Techni 1/15/2014 FICE USE	ached approved well RCVD JAN 23 '14 DIL CONS. DIV. DIST. 3 cian JAN 2 2 2014 Date
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### STATE OF NEW MEXICO OFFICE OF THE STATE ENGINEER AZTEC

Scott A. Verhines, P.E. State Engineer

January 13, 2014

100 Gossett Drive, Suite A Aztec, New Mexico 87410

Sent via Electronic Mail

ConocoPhillips Company Attn: Terry Lauck 315 Johnstone Avenue, 1380G Plaza Office Bldg. Bartlesville, OK 74004 RCVD JAN 23'14 OIL CONS. DIV. DIST. 3

RE: Well Plugging Plan of Operations for monitoring well MW-7 at ConocoPhillips Hampton #4M well site; south of Hampton Canyon Road and NM Hwy. 173, San Juan County, NM

Greetings:

After review of the Well Plugging Plan of Operations received on January 13, 2014, the OSE is returning this approval with Specific Plugging Conditions (attached). Please pay special attention to Specific Plugging Condition number 3, which requires the hydration of the bentonite (if used), with the correct amount of water, before mixing into the cement slurry. Minor annotations have been made on the plugging plan forms submitted.

Please submit a completed Well Plugging Report (OSE Form WD-11), along with a copy of the approved plugging conditions, describing the actual abandonment process and itemized materials used to the address referenced in the attached approval conditions within 20 days after completion of well plugging.

Should you have any further questions or concerns regarding this correspondence, feel free to contact me at 505-334-4571.

Sincerely,

Blance A. Watsa

Blaine A. Watson, P.G. District V Manager

Enclosures

cc: Aztec Reading (cover only) Aztec File WATERS Conestoga-Rovers & Associates, Attn: Jeffrey Walker, via e-mail



# WELL PLUGGING PLAN OF OPERATIONS



2014 J

I. FILING FEE: Th	ere is no filing fee for this form.			· ·		G H
II. GENERAL/WE	LL OWNERSHIP:					្ត្រ
Existing Office of the	State Engineer POD Number (W	/ell Number) for	well to b	e plugged:	<u>MW-7</u>	
Name of well owner:	ConocoPhillips Co	<u>impany</u>		**		
Mailing address:	315 Johnstone Ave, 1380G	Plaza Office Bld	<u>u</u>		· · ·	
City: Bar	tlesville	State:		ОК		Zip code:7400
Phone number:	918-661-0935		_ E-mail	l: <u>Terry.S.L</u>	auck@conoco	phillips.com
III. WELL DRILLE	R INFORMATION:		`			
Well Driller contracte	d to provide plugging services:	National	IEWP -			
New Mexico Well Dr	iller License No.:	WD 1210			Expiration Dat	e: <u>12/31/2014</u>
IV. WELL INFORM	<u>MATION:</u>			<i>,</i>	2 F	CND, JAN 23.
Note: A copy of the o	existing Well Record for the well	to be plugged sl	wuld be	attached to t	lhis plan.	DIST. 3

)	GPS Well Location:	Latitude:	<u>36</u> deg	48	, min,	34.04	sec	
		Longitude:	<u>107</u> dcg	56	min,	47.44	sec,	NAD 83

2) Reason(s) for plugging well: \_\_\_\_\_\_\_ Surface completion damaged by heavy rains. No longer viable as groundwater monitoring well

Was well used for any type of monitoring program? Y If yes, please use section VII of this form to detail what hydrogeologic parameters were monitored. If the well was used to monitor contaminated or poor quality water, authorization from the New Mexico Environment Department may be required prior to plugging.

4)

3)

Does the well tap brackish, saline, or otherwise poor quality water? <u>N</u> If yes, provide additional detail, including analytical results and/or laboratory report(s):

5)

Static water level: \_\_\_\_\_\_ see VII hellow\_\_\_\_\_ feet below land surface / feet above land surface (circle onc)

6) Depth of the well: \_\_\_\_\_21\_\_\_feet

Well Plugging Plan Version: December, 2011 Page 1 of 5

7)	Inside diameter of innermost casing: inches.
8)	Casing material: Sch. 40 PVC
9)	The well was constructed with:
	an open-hole production interval, state the open interval:
	x a well screen or perforated pipe, state the screened interval(s): 10-20 ft.
10)	What annular interval surrounding the artesian casing of this well is cement-grouted? <u>N/A</u>
11)	Was the well built with surface casing? N/A If yes, is the annulus surrounding the surface casing grouted
	or otherwise sealed? If yes, please describe:
12)	Has all pumping equipment and associated piping been removed from the well? N/A If not, describe remaining equipment and intentions to remove prior to plugging in Section VII of this form.
<u>v. de</u>	SCRIPTION OF PLANNED WELL PLUGGING:
Note: pipe, a technic	If this plan proposes to plug an artesian well in a way other than with cement grout, placed bottom to top with a tremie detailed diagram of the well showing proposed final plugged configuration shall be attached, as well as any additional al information, such as geophysical logs, that are necessary to adequately describe the proposal.
1)	Describe the method by which cement grout shall be placed in the well, or describe requested plugging methodology
	proposed for the well: Cement/bentonite grout placed by tremmie pipe from bottom of well (TD) to top
2)	Will well head be cut-off below land surface after plugging?Y
<u>VI. P</u>	LUGGING AND SEALING MATERIALS:
Note:	The plugging of a well that taps poor quality water may require the use of a specialty cement or specialty sealant
1)	For plugging intervals that employ cement grout, complete and attach Table A.
2)	For plugging intervals that will employ approved non-cement based sealant(s), complete and attach Table B.
3)	Theoretical volume of grout required to plug the well to land surface: no less them 3.36 gella
4)	Type of Cement proposed: Type 1 or Type 11 Portland with 3% to 5% bentonite
5)	Proposed cement grout mix:6.0 gallons of water per 94 pound sack of Portland coment.
6)	Will the grout be: batch-mixed and delivered to the site Don't exceed 6 gallons 1720
,	X mixed on site water to Separately hydrate
7)	Grout additives requested, and percent by dry weight relative to cement: 3% to 5% bentonite (parcale)
	hydrate socarately from comant, use outs stallous
	per 190 additive when wiving in cement preped from - Bu

~

Well Plugging Plan Version: December, 2011 Page 2 of 5 Additional notes and calculations: ,

VII. ADDITIONAL INFORMATION: List additional information below, or on separate sheet(s);

Well was part of a network of monitoring wells monitoring groundwater elevations (depth to water) and groundwater quality as a result of a release of petroleum hydrocarbons. Well was installed hydraulically down-gradient of the release site in 1998, this well has been non-detect for hydrocarbons since 2009 and dry since October 2011.

. <u>...</u> F СЛ VIII. SIGNATURE:

, say that I have carefully read the foregoing Well Plugging Plan of arl Green I. Operations and any attachments, which are a part hercof; that I am familiar with the rules and regulations of the State Engineer pertaining to the plugging of wells and will comply with them, and that each and all of the statements in the Well Plugging Plan of Operations and attachments are true to the best of my knowledge and belief.

Signature of Applicant

Date

#### **IX. ACTION OF THE STATE ENGINEER:**

This Well Plugging Plan of Operations is:

X Approved subject to the attached conditions.

Not approved for the reasons provided on the attached letter.

Witness my hand and official seal this	13th	day of January, 2	.014
•		Scott A. Verhines, State Engineer	
		By Blaine A. Wite	·
		Blaine A. Watson, P.G.	
		Water Rights Division	Well Plugging Plan Version: December, 2011 Page 3 of 5

8)

# TABLE A - For plugging intervals that employ coment grout. Start with deepest

interval.

	Interval I – deepest	Interval 2	Interval 3 most shallow
			Note: if the well is non-artesian and breaches only one aquifer, use only this column.
Top of proposed interval of grout placement (fi bgl)			1
Bottom of proposed interval of grout placement (ft bgl)	an a		21
Theoretical volume of grout required per interval (gallons)		:	3tr3.5 no less than 3.36 gel -Bb
Proposed cement grout mix gallons of water per 94-lb. sack of Portland cement			6.0, see note @#5,0.2 - Blue
Mixed on-site or batch- mixed and delivered?	<u>                                      </u>	a an	On-site
Grout additive 1 requested			Bentonite Must use powder, not - Bw
Additive I percent by dry weight relative to cement	an de Andreanna (1997) a sea ann an Ann a Ann an Ann an	a - """""""""""""""""""""""""""""""""""	3-5, hydrate separate From - 500
Grout additive 2			STATE
Additive 2 percent by dry weight relative to cement		· · · · · · · · · · · · · · · · · · ·	EC. NEW MEXICO

Well Plugging Plan Version: December, 2011 Page 4 of 5 NMOSE Plugging Plan of Operations Conditions Of Approval No OSE File # January 13, 2014 Page 1 of 2



# DISTRICT 5 Scott A. Verhines, P.E. NEW MEXICO STATE ENGINEER

Jeff Walker of Conestoga-Rovers & Associates (consultant for ConocoPhillips Company; COP) has identified one existing non-permitted monitoring well (MW-7; OSE File to be assigned), as tabulated below, to be plugged in accordance with OSE requirements for a petroleum release investigation in which the well had been used to contaminant migration but has become damaged and won't be repaired or replaced. The well will be associated with a new permit being established to properly document and permit other wells that will remain in service at the location. National EWP will perform the plugging under well driller license #WD-1210. Depth to water is unknown because the well has gone dry. The total depth of the well is reported to be approximately 21 feet below land surface with a 2-inch diameter, Schedule 40 PVC casing and screen.

Location: COP Hampton #4M Petroleum Release Investigation Site, south of Hampton Canyon Road and NM Hwy 173, in rural San Juan County, New Mexico.

Approximate coordinates: See tabulated data below.

<u>Well</u>	OSE File #	<u>Inside Diameter</u>	Depth to Water	<u>Total Depth</u>	<u>Latitude</u>	Longitude
<u>Name</u>		(inches)	(feet)	(feet)	North	<u>West</u>
MW-7	N/A	2" (Schd. 40 PVC)	>21 (estimated)	21	36.89045	107.94561

#### Specific Plugging Conditions of Approval:

- Water well drilling and other well drilling activities, including well plugging, are regulated under 19.27.4 NMAC, which requires any person engaged in the business of well drilling within New Mexico to obtain a Well Driller License issued by the New Mexico Office of the State Engineer (NMOSE). Therefore, the firm of a New Mexico licensed Well Driller shall perform the well plugging.
- 2. Theoretical volume of sealant required for abandonment of 2-inch well casing is estimated to be approximately 0.16 gallons per linear foot of casing. The plugging plan of operations listed approximately 21 feet as the total footage in one 2-inch diameter casing. For a total depth of 21 feet in 2-inch casing, the required plugging volume should not be less than 3.36 gallons. Total minimum volume of sealant required shall be calculated upon sounding the actual pluggable depth of the boreholes/wells and multiplying by the correct volume factor for the casing diameter.
- 3. The Well Plugging Plans of Operation submitted request the use of Type I/II Portland cement. Portland cement has a fundamental water demand of 5.2 gallons water per 94-lb. sack of cement, and the mix rate proposed in the plan is approximately 7.4 gallons per 94-lb. sack of cement. The mix rate should not exceed 6 gallons per 94-lb sack (water used for separate bentonite hydration is excluded in this) for cement mixing, as this is the upper limit allowed by OSE for pumpability concerns.

Pure bentonite powder ("90 barrel yield") is allowed as a cement additive under NMOSE / AWWA guidelines, and neither granular bentonite nor extended-yield bentonite shall be mixed with cement for the purpose of this plugging. When supplementing a cement slurry with bentonite powder, water demand for the mix increases at a rate of approximately 0.65 gallons of water for each 1% increment of bentonite bdwc (by dry weight cement) above the stated base water demand of 5.2 gallons water per 94-

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## NMOSE Plugging Plan of Operations Conditions Of Approval

## No OSE File # January 13, 2014 Page 2 of 2

lb. sack of cement for neat cement. The proposed plan does not reference the rate of water use per 1% bentonite additive, but it provides a bentonite additive rate of 3-%. The use of bentonite additive at a 3% rate will require approximately 1.95 gallons of water to separately hydrate the bentonite powder, before the bentonite slurry is added into the proposed cement mix described by applicant (6 gallons per 94-lb. sack). A bentonite additive rate of 5% would require approximately 3.25 gallons of water for separately hydrating the bentonite:

As noted above, the bentonite must be hydrated separately with its required increment of water before being mixed into the wet neat cement. If water is otherwise added to the combination of dry ingredients or the dry bentonite is blended into wet cement, the alkalinity of the cement will restrict the yield of the bentonite powder, resulting in excess free water in the slurry and excessive cement shrinkage upon curing.

4. Placement of the sealant within the boreholes shall be by pumping through a tremie pipe extended to near the bottom of the borehole, and kept below top of the slurry column as the borehole is plugged from bottom-upwards in a manner that displaces the standing water column.

5. Should the NMED, or another regulatory agency sharing jurisdiction of the project authorize, or by regulation require a more stringent well plugging procedure than herein acknowledged, the more-stringent procedure should be followed. This, in part, includes provisions regarding pre-authorization to proceed, contaminant remediation, inspection, pulling/perforating of casing, or prohibition of free discharge of any fluid from the borehole during or related to the plugging process.

6. Witnessing of the plugging work by NMOSE will not be required, but shall be facilitated if a NMOSE observer is onsite. NMOSE witnessing may be requested during normal work hours by calling the District 5 NMOSE Office at 505-334-4571, at least 48-hours in advance. NMOSE inspection will occur dependent on personnel availability.

 Well Plugging Record(s) (available at: <u>http://www.ose.state.nm.us/PDF/WellDrillers/WD-11.pdf</u>) itemizing the actual abandonment process and materials used shall be filed with the State Engineer (NMOSE, 100 Gossett, Suite A, Aztec, NM 87410), within 20 days after completion of well plugging. Please reference the OSE File number on the submittal.

The NMOSE Well Plugging Plan of Operations notice(s) dated January 10, 2014, with any OSE annotations, are hereby approved with the aforesaid conditions applied, when signed by an authorized designee of the State Engineer:

Date: 1/13/14

Blaine Watson, P.G. District V Manager, Water Rights Division

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