	HOBBS					
orm 3160-5 (ugust 2007) E SUNDRY Do not use the abandoned we	UNITED STATES EPARTMENT OF THE INTERIOR BUREAU OF LAND MANAGEMENT NOTICES AND REPORTS ON WELLS his form for proposals to drill or to re-enter an ell. Use form 3160-3 (APD) for such proposals.			<ul> <li>FORM APPROVED OMB NO. 1004-0135 Expires: July 31, 2010</li> <li>5. Lease Serial No. NMNM120907</li> <li>6. If Indian, Allottee or Tribe Name</li> </ul>		
SUBMIT IN TR	7. If Unit or CA/Agreement, Name and/or No.					
. Type of Well				8. Well Name and No.		
Oil Well Gas Well Of Name of Operator	ther: INJECTION Contact: BR			9. API Well No.		
	30-025-41570					
ONE CONCHO CENTER 600 MIDLAND, TX 79701	0 W. ILLINOIS AVE	h: 432-221-0467	-)	SWD		
<ol> <li>Location of Well (Footage, Sec., 2)</li> <li>Sec 26 T24S R32E NESW 23</li> </ol>		11. County or Parish, and State LEA COUNTY, NM				
12. CHECK APP	ROPRIATE BOX(ES) TO IN	NDICATE NATURE OF	NOTICE, RE	PORT, OR OTHEF	R DATA	
TYPE OF SUBMISSION		ТҮРЕ С	F ACTION		· · · · · · · · · · · · · · · · · · ·	
<ul> <li>Notice of Intent</li> <li>Subsequent Report</li> <li>Final Abandonment Notice</li> </ul>	<ul> <li>Acidize</li> <li>Alter Casing</li> <li>Casing Repair</li> <li>Change Plans</li> <li>Convert to Injection</li> </ul>	<ul> <li>Deepen</li> <li>Fracture Treat</li> <li>New Construction</li> <li>Plug and Abandon</li> <li>Plug Back</li> </ul>	<ul> <li>Production</li> <li>Reclamation</li> <li>Recomplication</li> <li>Tempora</li> <li>Water Display</li> </ul>	on (Start/Resume) tion ete rily Abandon sposal	<ul> <li>Water Shut-Off</li> <li>Well Integrity</li> <li>Other</li> </ul>	
testing has been completed. Final Al determined that the site is ready for f COG Operating LLC respectfor recently drilled Gold Coast 26 Revisions have been made in original notice of intent approv	bandonment Notices shall be filed of final inspection.) i Federal SWD #1. order to comply with the con yed on 4/21/15	nly after all requirements, inclue ed revised procedure in co ditions of approval include	ding reclamation, completing the ed with the	have been completed, a SUBJEC APPROV	TTOLIKE	
4. I hereby certify that the foregoing is	s true and correct. Electronic Submission #2995 For COG OPE	561 verified by the BLM We RATING LLC, sent to the	C( II Information + Hobbs	SEE ATTA ONDITIONS	CHED FOR OF APPROVA	
Name(Printed/Typed) BRIAN MA	iame (Printed/Typed) BRIAN MAIORINO Title AUTHORIZED R		BIZED REPF	ESENTATIVE		
Signature (Electronic S	Submission)	Date 04/27/2	015 A	PRUVE		
	THIS SPACE FOR	FEDERAL OR STATE	OFFICE US	E	7	
pproved By nditions of approval, if any, are attached tify that the applicant holds legal or equich would entitle the applicant to condu- te 18 U.S.C. Section 1001 and Title 43 tates any false firstions or fraudulent 6	d. Approval of this notice does not o intable title to those rights in the subj ict operations thereon. U.S.C. Section 1212, make it a crim statements or representations as to a	Title warrant or ject lease Office e for any person knowingly and w mater within its invisitietee	BUREAU (	AY 4 2015 A Suras DF LAND MANAGE BBAD Fleed of File	Date Date	
onditions of approval, if any, are attached rtify that the applicant holds legal or equi- hich would entitle the applicant to condu- tle 18 U.S.C. Section 1001 and Title 43 States any false, fictitious or fraudulent sector ** OPFRA1	<ul> <li>d. Approval of this notice does not visibile title to those rights in the subjuct operations thereon.</li> <li>U.S.C. Section 1212, make it a crimistatements or representations as to an FOR-SUBMITTED ** OPEI</li> </ul>	e for any person knowingly and ny matter within its jurisdiction RATOR-SUBMITTED *		DF LAND MANAGE	Ency of the United	

•

### Gold Coast 26 Fed SWD 1 2310' fsl, 2310' fwl K-26-24s-32e Lea Co., NM

### Revised SWD Completion Procedure 27 Apr 15

#### **Basic Data:**

13-3/8" @ 1079' Circ. Cmt.

9-5/8" @ 4903' Circ. Cmt. (DV/ECP @ 4673', DV tool wouldn't open, TOC @ 4040' TS stage 1, perf casing 4000-4002', circulate cement on stage 2)

7" @ 7200' DV/ECP @ 5040', didn't circulate cement on stage 1, TOC stage 2 @ xxxx' CBL.

**Objective:** Well drilled as SWD well. Complete as Delaware SWD 5042-7074'. See wellbore schematic. Give OCD Hobbs and BLM 24 hrs notice to witness MIT after running injection packer and tubing (Order SWD-1391, permitted 4900-7200', injection pressure limit = 980 psi).

**Note:** Delaware section has no mud log shows. There are no mud log shows in this section on nearby wells. The open hole logs can be characterized as having very low resistivity and high water saturations. There is no evidence of hydrocarbon potential in this section of the Delaware.

### Procedure (See BLM Conditions of Approval on NOI for Completion Procedure):

- 1. Clean location, set anchors, MIRU WSU, reverse unit and other completion equipment. NU 7-1/16" hydraulic BOP with 2-7/8" pipe rams and blind rams. Close blind rams and test BOP and top of casing to 2000 psi.
- 2. Take delivery of 2-7/8" L80/N80 work string and DCs. Pick up 6-1/8" bit, drill out DV/ECP at 5040' with 9 ppg cut brine water and RIH to tag PBD (PBD needs to be at least 7100'). TOOH, pick up scraper, make a few passes through DV/ECP then RIH to PBD. Circulate the well clean, close pipe rams, test casing to 2000 psi for 30 minutes while recording test on a chart and TOOH.
- 3. RU lubricator, run gauge ring/junk basket to PBD if necessary and run GR/CCL/Cement Bond Log from PBD to 500' above the definite TOC with 0 psi (no pressure) in the casing.

## Note: Depending on results of the Cement Bond Log, decision might be made to modify this completion procedure—let's discuss before perforating.

4. RU lubricator and perf Delaware with 3 spf at 60 or 120 deg phasing at the depths shown below using 3-1/8" or 4" casing gun. Total number of perfs approx. 2178.

	Bttn	Ft of	Cumul Ft of	# Perfs	Cumul # Perfs
Top Perf	Perf	Perfs	Perfs	@ 3 spf	@ 3 spf
5042	5054	12	12	36	36
5094	5120	26	38	78	114
5144	5150	6	44	18	132

5162	5186	24	68	72	204
5182	5198	16	84	48	252
5224	5234	10	94	30	282
5242	5258	15	110	48	330
5268	5276	8	118	24	354
5297	5301	4	122	12	366
5330	5358	28	150	84	450
5402	5430	28	178	84	534
5460	5468	8	186	24	558
5488	5500	12	198	36	594
5556	5588	32	230	96	690
5620	5650	30	260	90	780
5694	5714	20	280	60	840
5750	5756	6	286	18	858
5762	5766	4	290	12	870
5828	5878	50	340	150	1020
5924	5956	32	372	96	1116
5982	6000	18	390	54	1170
6048	6054	6	396	18	1188
6068	6092	24	420	72	1260
6124	6130	6	426	18	1278
6170	6176	6	432	18	1296
6184	6190	6	438	18	1314
6200	6208	8	446	24	1338
6226	6236	10	456	30	1368
6254	6278	24	480	72	1440
6286	6350	64	544	192	1632
6410	6428	18	562	54	1686
6566	6580	14	576	42	1728
6624	6638	14	590	42	1770
6674	6692	18	608	54	1824
6804	6820	16	624	48	1872
6862	6918	56	680	168	2040
6978	6984	. 6	686	18	2058
7020	7026	6	692	18	2076
7040	7074	34	726	102	2178
		726		2178	,
					-

- 5. Set coated frac tank for acid and a tank for brine. Load approximately 19,500 gals NE Fe 15% HCL acid into coated tank. Fill other tank with 9 ppg brine water.
- 6. Install stripper head, install standpipe, install basic choke manifold for controlling casing pressure while acidizing, pick up oscillation tool, xo, joint of tubing, check valve and remaining 2-7/8" work string and RIH to 7074'.
- 7. Pump acid to the end of the tubing then use choke on tubing x casing annulus to limit the casing pressure to 980 psi when acidizing with oscillation tool. Pump 25 gals per foot of perforations of

acid at 2 bpm and cycle oscillation tool across each interval twice with annulus choked back (pump acid into formation) without exceeding 980 psi casing pressure.

- 8. Lay down oscillation tool, RIH with packer to approx. 5000' and swab test Delaware until notified to do otherwise. Will probably need to swab at least 1000 bbls fluid. If we get a significant oil show, we will have to pick up a packer/RBP combo and swab test various intervals to locate the source of the oil show—let's discuss. Contact the BLM Petroleum Tech and report the swab results when done swabbing prior to moving to Step 10.
- 9. RU pickup/laydown machine and 4.5" casing tongs. Install 4.5" pipe rams.
- 10. RIH with injection packer on 4-1/2" Glassbore lined injection tubing to approx. 5000'.
- 11. Space out to put 20 pts compression on packer, set packer and get off of on/off tool. Reverse circulate annulus with approx 120 bbls fresh water packer fluid containing corrosion inhibitor/biocide/oxygen scavenger.
- 12. Latch onto on/off tool, install injection tree and plumb all casing and casing x tubing annuli to surface.
- 13. Give OCD Hobbs and BLM 24 notice for MIT. Test tubing x casing annulus to 500 psi for 30 minutes (see conditions of approval). Record pressure test on a chart for submittal to the OCD and BLM. Limit injection pressure to 980 psi using a pressure limiting device.
- 14. Run injection profile logs, while limiting injection pressure to 980 psi, to determine the location and distribution of the injected water while the injection battery facility and annulus monitoring systems are being constructed.

### **Conditions of Approval**

## COG Operating LLC Gold Coast - 01, API 3002541570 T24S-R32E, Sec 26, 2310FSL & 2310FWL May 04, 2015

- Due to being within the Lesser Prairie Chicken habitat, this workover activity will be restricted to the hours of 9:00am through 3:00am for the period of March 1 through June 15. Exceptions to these restrictions may be granted by BLM's Johnny Chopp
   <a href="mailto:jchopp@blm.gov">jchopp@blm.gov</a>> 575.234.2227 or Bob Ballard <a href="mailto:source">ballard@blm.gov</a>> 575.234.5973.
- 2. Subject to like approval by the New Mexico Oil Conservation Division.
- **3.** Before casing or a liner is added, replaced, or repaired prior BLM approval of the design is required. Use notice of intent Form 3160-5.
- 4. Provide BLM with an electronic copy (Adobe Acrobat Document) cement bond log record from PBTD to top of cement <u>taken with 0psig casing pressure</u>. The CBL may be attached to a <u>pswartz@blm.gov</u> email. The CFO BLM on call engineer may be reached at 575-706-2779.
- 5. Do not exceed the approved SWD-1391 injection pressure of 980 with stimulation pump pressure to attain the 3-5 BMP rate of the submitted procedure.
- 6. Surface disturbance beyond the existing pad shall have prior approval.
- 7. A closed loop system is required. The operator shall properly dispose of drilling/circulating contents at an authorized disposal site. Tanks are required for all operations, no excavated pits.
- 8. Functional  $H_2S$  monitoring equipment shall be on location.
- 9. 2000 (2M) Blow Out Prevention Equipment to be used. All BOPE and workover procedures shall establish fail safe well control. Blind ram(s) and pipe ram(s) designed to close on all workstring diameters used is required equipment. A manual BOP closure system (hand wheels) shall be available for use regardless of BOP design. Function test the installed BOPE to 500psig when well conditions allow. Related equipment, (choke manifolds, kill trucks, gas vent or flare lines, etc.) shall be employed when needed for reasonable well control requirements.
- 10. All waste (i.e. trash, salts, chemicals, sewage, gray water, etc.) created as a result of work over 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.
- 11. File intermediate **subsequent sundry** Form 3160-**5** within 30 days of any interrupted workover procedures and a complete workover subsequent sundry.

- 12. Submit the BLM Form 3160-4 **Recompletion Report** within 30 days of the date all BLM approved procedures are complete.
- 13. Workover approval is good for 90 days (completion to be within 90 days of approval). A legitimate request is necessary for extension of that date.
- 14. The operator shall test for oil and gas production from the injection zone. Demonstrate that paying quantities of hydrocarbons are not produced when the well has a pumped off fluid level. Open hole logs may support the evaluation. BLM agreement is to be obtained prior completion as a disposal well.
- 15. Approval is granted for disposal of water produced from the lease, communitization, or unit agreement of this well only. Disposal fluid from another operator, lease, communitization, or unit agreement require BLM surface right-of-way agreement **approvals** and if applicable, authorization from the surface owner.
- **16.** Disposal of water from another operator requires that the well be designated as a commercial well and BLM surface right-of-way agreement **approvals.**
- 17. If the well is to receive off-lease water or commercial disposal, the operator shall provide proof of surface right-of-way approval prior to injection.
- 18. Enclose a site security diagram for the water disposal facility upstream of this well. Document the lease name and the lease number of the source(s) of production water disposed to that facility with the diagram.

### Well with a Packer - Operations

- 1) Conduct a Mechanical Integrity Test of the tubing/casing annulus after a tubing, packer or casing seal is established.
- 2) The minimum test pressure should be 500 psig for 30 minutes or 300 psig for 60 minutes, with a minimum 200 psig differential between tubing and casing pressure (at test time) but no more than 70% of casing burst pressure as described by Onshore Order 2.III.B.1.h. (The tubing or reservoir pressure may need to be reduced). Verify all annular casing vents are plumbed to surface and those valves open to the surface during this pressure test. An alternate method for a BLM approved MIT is to have the fluid filled system open to atmospheric pressure and have a loss of less than five barrels in 30 days witnessed by a BLM authorized officer.
- 3) Document the pressure test on a one hour full rotation chart recorder (calibrated within the last 6 months) registering within 25 to 85 per cent of its full range. Greater than 10% pressure leakoff will be viewed as a failed MIT. Less than 10% pressure leakoff will be evaluated site specifically and may restrict injection approval.
- 4) Make arrangements 24 hours before the test for BLM to witness. In Lea County phone 575-393-3612. If no answer, leave a voice mail or email with the API#, workover purpose, and a call back phone number.

- 5) Submit a subsequent Sundry Form 3160-5 relating the dated daily wellbore and MIT activities. Include a copy of the recorded MIT pressure chart. List the name of the BLM witness, or the notified person and date of notification. NMOCD is to retain the original recorded MIT chart.
- 6) Use of tubing internal protection, tubing on/off equipment just above the packer, a profile nipple, and an in line tubing check valve below the packer or between the on/off tool and packer is a "Best Management Practice". The setting depths and descriptions of each are to be included in the subsequent sundry.
- 7) Submit the original subsequent sundry with three copies to BLM Carlsbad.
- 8) Compliance with a NMOCD Administrative Order is required, submit documentation of that authorization.
  - a) Approved injection pressure compliance is required.
  - b) If injection pressure exceeds the approved pressure you are required to reduce that pressure and notify the BLM within 24 hours.
  - c) When injection pressure is within 50 psig of the maximum pressure, install automation equipment that will prevent exceeding that maximum. Submit a subsequent report (Sundry Form 3160-5) describing the installed automation equipment within 30 days.
- 9) Unexplained significant variations of rate or pressure to be reported within 5 days of notice.
- 10) The casing/tubing annulus is required to be monitored for communication with injection fluid or loss of casing integrity. A BLM inspector may request verification of a full annular fluid level at any time.
- 11) A "Best Management Practice" is to maintain the annulus full of packer fluid at atmospheric pressure. Equipment that will display on site, continuous open to the air fluid level is necessary to achieve this goal.
- 12) Loss of packer fluid above five barrels per month indicates a developing problem. Notify BLM Carlsbad Field Office, Petroleum Engineering within 5 days.
- 13) A suggested format for monthly records documenting that the casing annulus is fluid filled is available from the BLM Carlsbad Field Office.
- 14) Gain of annular fluid pressure requires notification within 24 hours. Cease injection and maintain a production casing pressure of 0psia. Notify the BLM's authorized officer ("Paul R. Swartz" <<u>pswartz@blm.gov></u>, cell phone 575-200-7902). If there is no response phone 575-361-2822.
- 15) Submit a (Sundry Form 3160-5) subsequent report (daily reports) describing all wellbore activity and Mechanical Integrity Test as per item 1) above. Include the date(s) of the well work, and the setting depths of installed equipment: internally corrosive protected tubing, tubing on/off equipment just above the packer, and an in line tubing check valve below the packer or between the on/off tool and packer. The setting depths and descriptions of each are to be included in the subsequent sundry.
- 16) A request for increased wellhead pressures is to be accompanied by a step rate test. PRIOR to a Step Rate Test BLM – CFO is requiring a Notice of Intent.

# 17) Class II (production water disposal) wells will not be permitted stimulation injection pressures that exceed frac pressure.

Access information for use of Form 3160-5 "Sundry Notices and Reports on Wells"

NM Fed Regs & Forms - <u>http://www.blm.gov/nm/st/en/prog/energy/oil\_and\_gas.html</u>

§ 43 CFR 3162.3-2 Subsequent Well Operations.

§ 43 CFR 3160.0-9 (c)(1) Information collection.

§ 3162.4-1 (c) Well records and reports.