

UNITED STATES DEPARTMENT OF THE INTERIOR BUREAU OF LAND MANAGEMENT

Do not use this form for proposals to drill or to re-enter an abandoned well. Use Form 3160-3 (APD) for such proposals.

OCD-ARTESIA

FORM APPROVED OMB No 1004-0137 Expires March 31, 2007

5 Lease Serial No NMNM \$23414

AUG 02 2007

6 If Indian, Allottee or Tribe Name

OCD-ARTESIA

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	IN TRIPLICATE – Other in	7 If Unit of CA/Agreement, Name and/or No					
1. Type of Well ☐ Oil Well ☑ Gas W	ell Other	8. Well Name and No EMPIRE SOUTH DEEP UNIT 2					
2 Name of Operator CHESAPEAKE OPERATING, INC	ATTN:	9 API Well No. 30-015-20584					
3a Address		area code)	10 Field and Pool or Exploratory Area				
P O BOX 18496 OKLAHOMA CITY, OK 73154-0496	405-767-4275	EMPIRE SOUTH					
4 Location of Well (Footage, Sec., T.,			11. Country or Parish, State EDDY CO., NM				
1980' FSL & 1900' FWL, NESW, SECTION 6, T					ED DAMA		
	K THE APPROPRIATE BOX	(ES) TO INDICATE			ER DATA		
TYPE OF SUBMISSION		—	TYPE OF ACT		[
✓ Notice of Intent	Acidize Alter Casing	Deepen Fracture Trea		duction (Start/Resume) Water Shut-Off [] Well Integrity			
Subsequent Report	Casing Repair	New Construc	= '		Other Workover Wolfcamp		
Final Abandonment Notice	Change Plans Convert to Injection	Plug and Aba		ooranly Abandon r Disposal	and Ottawn		
testing has been completed. Final determined that the site is ready for Chesapeake, respectfully, request processes the same and the same are sent to the same are same as a same are same as a same are same as a same are same are same are same are same as a same are same ar	r final inspection.)	·		edure.	PROVED JUL 3 1 2007 LES BABYAK ROLEUM ENGINEER		
(CHK PN 890426)				L PF1	CRATTER COLLEGE MARKET CARREST COLLEGE		
14 I hereby certify that the foregoing is Name (Printed/Typed) LINDA GOOD	rue and correct	Title	FEDERAL REGUL	ATORY ANALYST			
Signature Linda	Good	Date	07/25/2007				
	THIS SPACE F	OR FEDERAL	OR STATE OF	FICE USE			
Approved by							
217777777777777777777777777777777777777			Γitle		Date		
Conditions of approval, if any, are attached that the applicant holds legal or equitable entitle the applicant to conduct operations.	title to those rights in the subject		Office				
fictitious or fraudulent statements or repr			nowingly and willfully	to make to any departme	nt or agency of the United States any false,		
(Instructions on page 2)							

Empire SDU #2 Re-Complete to Strawn/Wolfcamp Eddy County, New Mexico

GENERAL INFORMATION

Location: 1980' FSL & 1900' FWL, Sec 6 - T18S - R29E

API No.: 30-015-20584

WELL INFORMATION

String OD	Weight & Grade	<u>Depth</u>	<u>ID</u>	<u>Drift</u>	<u>Burst</u>	<u>TOC</u>
12-3/4"	35#	0' – 318'	~12.000"	~12.000"	~1730	0'
8-5/8"	24/32#	0' – 4500'	7.921"	7.796"	2950	2410'
4-1/2"	11.6#	0' - 10992'	4.000"	3.875"	5350	8521'

Perfs: Morrow 10814 - 10890' (OA)

TD/PBTD: 10992' / 10850'

Recommended Strawn Perfs: 10167-10190'

Recommended Wolfcamp Perfs: 8060-8220' (OA)

WORKOVER PROCEDURE

- 1. MIRU Service Rig and requisite equipment. Kill well as required with 7% KCL. NDWH, NU BOP. Release packer and POOH with packer and 2-3/8" tubing.
- 2. MIRU Wireline Service Company. Run a strip log and correlate depth with attached OH log to set a 4-1/2" CIBP at +/- 10760'. Bail 2 sx (35' minimum) of cement on 4-1/2" plug.
- 3. Load hole with 2% KCL brine and pressure test to 1000#.
- 4. RU lubricator and RIH with casing gun. Perforate the Strawn with 2 spf, 120 degree phasing, 23 gram charge, 0.37" holes from 10167-90'.
- 5. RIH with 4-1/2" treating packer and SN on 2-3/8" tubing. Pressure test tubing in hole. Space out with EOT at 10190'.
- 6. RU Acid Service Company. Spot 200 gal of 15% HCL Acid containing 4 gpt of iron control, 1 gpt each of corrosion inhibitor, surface tension reducer, and non-emulsifier. Pull packer to 10117'. Reverse circulate to ensure packer is clear of acid, set packer. Pressure test annulus to 1000#.
- 7. ND BOP. NU tree. Pressure annulus to 1000 psi. Displace spot acid, establish rate of 4 to 5 BPM with 2% KCL. (Keep KCL water usage to a minimum). Acidize with 1,300 gal of same acid. Displace with 2% KCL. Do not over-displace. Pump at 4 to 5 BPM max. Launch 50 ball sealers during job. Note rates and pressures. Note ISIP. Max pressure 6000#.
- 8. Flow/swab back job. Swab/flow test zone.

- 9. Re-treat as warranted. Pressure backside to 1000# and re-treat with 5000 gal 20% Ultragel.
- 10. Flow back job. Swab to clean up and test.
- 11. Put well to sales. RDMO.
- 12. If Strawn is not economical, prep to test Wolfcamp. MIRU Service Rig and requisite equipment. Kill well as required with 7% KCL. NDWH, NU BOP. Release packer and POOH with packer and 2-3/8" tubing.
- 13. MIRU Wireline Service Company. Run a strip log and correlate depth with attached OH log to set a 4-1/2" CIBP at +/- 10117'. Bail 2 sx (35' minimum) of cement on 4-1/2" plug.
- 14. Load hole with 2% KCL brine and pressure test to 1000#.
- 15. Shoot two squeeze holes at 8370'. Set a cement retainer at 8320'. RDMO Wireline Service Company.
- 16. RIH with 2-3/8" tubing. Sting into retainer. Pressure annulus to 1000#. Break/establish circulation up 4-1/2" x 8-5/8" annulus with 2% KCL brine water. Pump 15 bbl of mud sweep and cement with 150 sx plus additives per squeeze recommendation. Sting out of retainer, reverse clean, and POOH with tubing.
- 17. Run temperature log to establish TOC. WOC overnight.
- 18. RU lubricator and RIH with casing gun. Perforate the Wolfcamp with 2 spf, 120 degree phasing, 23 gram charge, 0.37" holes from 8060–66', 8077-84', 8169-84', and 8191-220' (118 holes).
- 19. RIH with 4-1/2" treating packer and SN on 2-3/8" tubing. Space out with EOT at 8220'.
- 20. RU Acid Service Company. Spot 200 gal of 15% HCL Acid containing 4 gpt of iron control, 1 gpt each of corrosion inhibitor, surface tension reducer, and non-emulsifier. Pull packer to 8010'. Reverse circulate to ensure packer is clear of acid, set packer. Pressure test annulus to 1000#.
- 21. ND BOP. NU tree. Pressure annulus to 1000 psi. Displace spot acid, establish rate of 4 to 5 BPM with 2% KCL. (Keep KCL water usage to a minimum). Acidize with 1,300 gal of same acid. Displace with 2% KCL. Do not over-displace. Pump at 4 to 5 BPM max. Launch 130 ball sealers during job. Note rates and pressures. Note ISIP. Max pressure 6000#.
- 22. Flow/swab back job. Swab/flow test zone.
- 23. Re-treat as warranted. Pressure backside to 1000# and re-treat as follows:
 - a. 1500 gal 20% NEFE Acid.
 - b. 3000 gal 20% Ultragel.
 - c. 1000 gal 20% gelled NEFE.
 - d. 4000 gal 20% Ultragel.
 - e. 500 gal 20% gelled NEFE. Overdisplace by 50 bbls of 2% KCL. Treat via 2-3/8" production tubing at 5 to 6 BPM.

- 24. Flow back job. Swab to clean up and test.
- 25. Put well on pump as required. POOH with tubing and packer.
- 26. RIH with MA, PS, SN, TAC (at ~7800') and 2-3/8" tubing. Space out and land SN at ~8230'.
- 27. Swab to clean up as required.
- 28. Set 640 PU. RIH with 1-1/2" pump and a high strength tapered rod string. Run pump, 350' of 1-1/2" sinker bars, 189 3/4", and 126 7/8". Space out/seat pump. Load and test. PWOP at 6 SPM, 144" SL.
- 29. Put well to sales. RDMO.