M.M Oil Cons. Di Lion 211 8, 1st FORM APPROVED JNITED STATES a) 55210-2834 Form 3160-5 Budget Bureau No. 1004-0135 (June 1990) DEPARTMENT OF THE INTERIOR B. C Expires: March 31, 1993 **BUREAU OF LAND MANAGEMENT** 5 Lease Designation and Serial No. NM 29234 SUNDRY NOTICES AND REPORTS ON WELLS 6. If Indian, Allorier or Tribe Name Do not use this form for proposals to drill or to deepen or reentry to a different reservoir. Use "APPLICATION FOR PERMIT—" for such proposals 7. If Unit or CA, Agreement Designation SUBMIT IN TRIPLICATE 1. Type of Well Well □ Gas
 Well 8. Well Name and No. otos Federal #4 9. API Well No. Sonat Exploration Co. - Midland 3 Address and Telephone No. 30 015 27593 10. Field and Pool, or Exploratory Area 110 W. Louisiana, Ste. 500 Midland, TX 79701 915/684-0400 4 Location of Well (Footage, Sec., T., R., M., or Survey Description) Sand Dunes Delaware West 11. County or Parish, State 2310' FSL 2310' FEL (NW/4 SE/4) Sec. 9 T24S R31E Eddy County, N M CHECK APPROPRIATE BOX(s) TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA 12. TYPE OF SUBMISSION TYPE OF ACTION Nouce of Intent Abandonment Change of Plans Recompletion New Construction Subsequent Report Non-Routine Fracturing Plugging Back Water Shut-Off Casine Repair Altering Casing Final Abandonment Notice Conversion to Injection Other Squeeze perfs __ Dispose Water (Note Report results of multiple completion on Well 13. Describe Proposed or Completed Operations (Clearly state all pertinent details, and give pertinent dates, including estimated date of starting any proposed work. If well is directionally drilled, give subsurface locations and measured and true vertical depths for all markers and zones pertinent to this work.)* SEE ATTACHED

14 Thereby certify that the foregoing is true and correct

Signed Testaw. Muskluha Title Senior Petroleum Engineer

ORIG. SGD.) ALEXIS C. SWOBODA

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Title 18 U.S.C. Section 1001 makes it a crime for any person knowingly and willfully to make to any department or agency of the United States any false, fictitious or fraudulent statements or representations as to any matter within its jurisdiction.

Lotos Federal No. 4 Workover Procedure Squeeze Off Cherry Canyon Interval

- 1. MIRU pulling unit. Kill well w/produced water if required. TOH w/rods and pump.
- 2. NU 3000# 7-1/16" manual double ram BOP w/2-7/8" pipe rams. Release TAC, tag for fill. TOH w/2/7/8" production tbg.
- 3. TIH w/5-1/2" RBP on 2-7/8" tbg and set @ +/- 6400'. Dump 10' sand on top of RBP, allow to fall. TOH w/tbg.
- 4. TIH w/5-1/2" cement retainer on 2-7/8" tbg. Set cement retainer above Cherry Canyon perfs (6305'-6317') @ +/- 6250' (+/- 50' above squeeze holes). Sting out of retainer and load backside. Sting back into retainer, close retainer valve and test tbg to 3000#. Sting back into retainer. Establish rate and pressure into perfs. Squeeze perfs with the following:

Lead - 75 sxs Class 'C' w/0.7% Halad 322 (fluid loss & dispersant) mixed at 14.8 ppg, Y=1.32 cu.ft/sk, W=6.31 gal/sk

Tail - 75 sxs Class 'C' Neat mixed @ 14.8 ppg, Y=1.32 cu.ft/sk, W=6.31 gal/sk

Max pressure - 3000# (500-1000# over pump in pressure)

Rate -< 1 BPM, hesitate if required

Temp - 115 deg F

Min pump time - 3 hrs

Sting out of retainer, pull up 10', reverse out tbg, TOH. WOC.

- 5. TIH w/4-3/4" bit, 6 3-1/2" DC's on tbg. RU reverse unit w/power swivel. Drill out cement retainer and cement to RBP @ +/- 6400'. Close pipe rams and test squeeze to 500# surface pressure for 30 minutes. After tests OK, wash sand off RBP. TOH w/tbg DC's and bit.
- 6. TIH w/retrieving tool on 2-7/8" tbg. Latch onto RBP, TOH w/the same.
- 7. If tagged fill in step 2, TIH w/bit on tbg. Clean out fill to PBTD @ 8227'. TOH w/tbg and bit.
- 8. TIH w/production tbg, set SN below perfs @ +/- 8150'. TIH w/rods and pump, return to production.

TWM (12/10/97)