

District I
1625 N. French Dr., Hobbs, NM 88240
District II
1301 W. Grand Avenue, Artesia, NM 88210
District III
1000 Rio Brazos Road, Aztec, NM 87410
District IV
1220 S. St. Francis Dr., Santa Fe, NM 87505

State of New Mexico
Energy Minerals and Natural Resources

Form C-101
May 27, 2004

Oil Conservation Division
1220 South St. Francis Dr.
Santa Fe, NM 87505

Submit to appropriate District Office

☐ AMENDED REPORT

APR 10 2008

OCD-ARTESIA

APPLICATION FOR PERMIT TO DRILL, RE-ENTER, DEEPEN, PLUG BACK, OR ADD A ZONE

¹ Operator Name and Address LEGACY RESERVES OPERATING LP P.O. BOX 10848, MIDLAND, TX 79702		² OGRID Number 240974
		³ API Number 30-015-32438
⁴ Property Code 30501	⁵ Property Name SHUGART STATE COM	⁶ Well No 2
⁹ Proposed Pool 1 SHUGART, BONE SPRINGS, NORTH		¹⁰ Proposed Pool 2

⁷ Surface Location

UL or lot no K	Section 16	Township 18-S	Range 31-E	Lot Idn	Feet from the 1850	North/South line SOUTH	Feet from the 1650	East/West line WEST	County EDDY
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⁸ Proposed 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
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Additional Well Information

¹¹ Work Type Code P	¹² Well Type Code Oil	¹³ Cable/Rotary	¹⁴ Lease Type Code S	¹⁵ Ground Level Elevation 3659'
¹⁶ Multiple N	¹⁷ Proposed Depth	¹⁸ Formation BONE SPRINGS	¹⁹ Contractor	²⁰ Spud Date
Depth to Groundwater 115'		Distance from nearest fresh water well 2.5 MILES		Distance from nearest surface water
Pit: Liner: Synthetic <input type="checkbox"/> _____ mils thick Clay <input type="checkbox"/> Pit Volume: _____ bbls Drilling Method: Closed-Loop System <input checked="" type="checkbox"/> Fresh Water <input type="checkbox"/> Brine <input type="checkbox"/> Diesel/Oil-based <input type="checkbox"/> Gas/Air <input type="checkbox"/>				

²¹ Proposed Casing and Cement Program

Hole Size	Casing Size	Casing weight/foot	Setting Depth	Sacks of Cement	Estimated TOC

²² Describe the proposed program. If this application is to DEEPEN or PLUG BACK, give the data on the present productive zone and proposed new productive zone. Describe the blowout prevention program, if any. Use additional sheets if necessary.

See attached wellbore diagram for current condition of well.

See attached procedure for proposed workover.

NOTE: Well will be tested in Bone Springs prior to squeezing off Delaware and Brushy Canyon perms. If Bone Springs is not productive, well will most likely be P&A'd.

²³ I hereby certify that the information given above is true and complete to the best of my knowledge and belief. I further certify that the drilling pit will be constructed according to NMOCD guidelines ☐, a general permit ☐, or an (attached) alternative OCD-approved plan ☐.

Signature: *D. Patrick Darden*

Printed name: D. Patrick Darden

Title: Petroleum Engineer

E-mail Address:

Date: 4/1/08

Phone: (432) 689-5200

OIL CONSERVATION DIVISION

Approved by: *Jim Le*

Title: *District II*

Approval Date: 4/23/08

Expiration Date: 4/23/10

Conditions of Approval Attached ☐

PROCEDURE TO TEST BONE SPRING ZONE & PUT WELL ON PRODUCTION

**Shugart State Com #2
Shugart, North (Morrow) Field
Eddy County, New Mexico**

ACID TREATING PROCEDURE

- 1) MIRU WL trk. RU full lubricator. PU & RIH w/4" csg gun. Perf Bone Spring zone fr/7,248'-7,218' w/2 jspf @ 120 degree phasing (30', 60 shots. Depth reference: Halliburton Spectral-Density, Dual Spaced Nuutron, GR log dated 11/05/02). POH w/csg gun. RDMO WL trk.
- 2) PU & RIH w/pkr on WS to 7,300'. Set pkr @ 7,300' (do not set pkr in csg collar). MIRU pmp trk. Press tst csg below pkr to 1,000 psig. Report results to Midland office. Rel press. Rel pkr. POH w/WS & pkr to 7,248'.
- 3) MIRU pmp trk w/3,150 gals 15% NEFE HCl acid & 90 ball sealers (BS). Spot 3 bbls acid @ 7,248'. PUH w/tbg & pkr to 7,050'. Rev circ 3 bbls 2% KCl wtr dwn TCA. Set pkr @ 7,050' (do not set pkr in csg collar). Let acid soak on perfs for 30". Get back on tbg and break down perfs w/2% KCl wtr. Once perfs are broken down EIR & press w/2% KCl wtr.
- 4) Pmp remainder of acid & BS down WS @ 5 BPM & 4,500 psig (max press) as follow: pmp 13 bbls acid, pmp 45 bbls acid dropping 2 BS/bbl acid, pmp 13 bbls acid. Attempt to ballout perfs. Surge balls off perfs and finish ppg acid. Record ISIP, 5", 10" & 15" SIPs. Report results to Midland office. RDMO pmp trk.
- 5) RU swb. Swb back load. Report results to Midland office. RD swb.
- 6) If Bone Spring zone test to be productive, set RBP and sqz Delaware and Brushy Canyon Perfs as per procedure provided fr/Midland office.
- 7) Drillout cmt sqzs & tst. Remove RBP. Put well on production.



SHUGART STATE COM #2

FIELD: SHUGART, NORTH (MORROW)

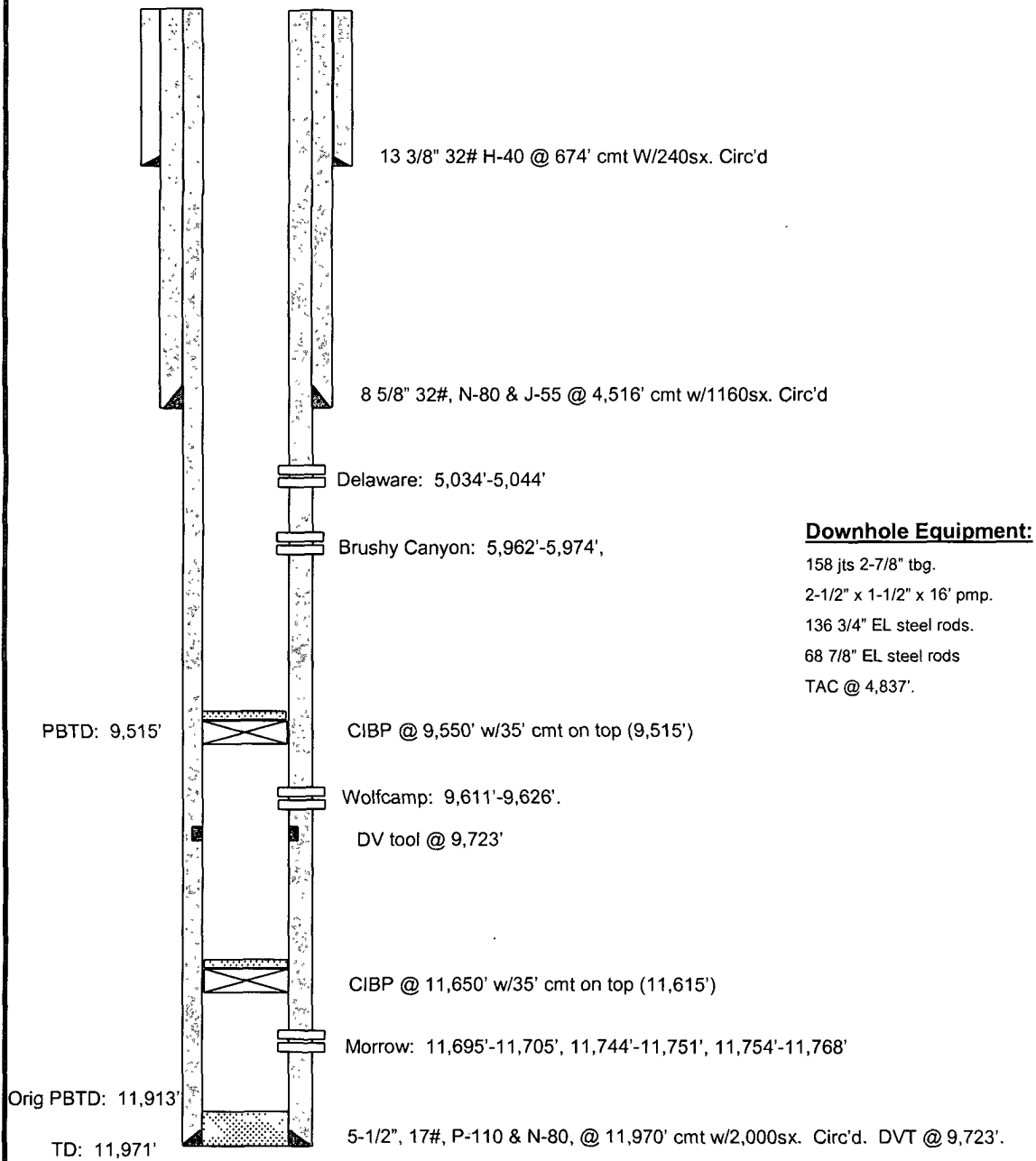
KB: 3,682'

COUNTY, STATE: EDDY, NEW MEXICO

GL: 3,659'

LOCATION: 1650' FWL & 1,850' FSL, Sec 16, T18S, R31E

API #: 3001532438



DP Darden

DATE: 9/26/07