

Submit 3 Copies To Appropriate District Office  
District I  
1625 N. French Dr., Hobbs, NM 88240  
District II  
1301 W. Grand Ave., Artesia, NM 88210  
District III  
1000 Rio Brazos Rd., 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-103  
May 27, 2004

OIL CONSERVATION DIVISION  
1220 South St. Francis Dr.  
Santa Fe, NM 87505

<b>SUNDRY NOTICES AND REPORTS ON WELLS</b> (DO NOT USE THIS FORM FOR PROPOSALS TO DRILL OR TO DEEPEN OR PLUG BACK TO A DIFFERENT RESERVOIR. USE "APPLICATION FOR PERMIT" (FORM C-101) FOR SUCH PROPOSALS.)		WELL API NO. 30-025-29021
1. Type of Well: Oil Well <input type="checkbox"/> Gas Well <input type="checkbox"/> Other (Salt Water Disposal)		5. Indicate Type of Lease STATE <input checked="" type="checkbox"/> FEE <input type="checkbox"/>
2. Name of Operator E.G.L. Resources, Inc.		6. State Oil & Gas Lease No. E-1582
3. Address of Operator PO Box 10886, Midland, TX 79702		7. Lease Name or Unit Agreement Name ARCO STATE SWD
4. Well Location Unit Letter <u>O</u> : <u>405</u> feet from the <u>South</u> line and <u>1850</u> feet from the <u>East</u> line Section <u>16</u> Township <u>18-S</u> Range <u>35-E</u> NMPM <u>Lea</u> County		8. Well Number <u>2</u>
11. Elevation (Show whether DR, RKB, RT, GR, etc.) 3910.3' (GL)		9. OGRID Number 173413
Pit or Below-grade Tank Application <input type="checkbox"/> or Closure <input type="checkbox"/>		10. Pool name or Wildcat SWD; DEVONIAN
Pit type _____ Depth to Groundwater _____ Distance from nearest fresh water well _____ Distance from nearest surface water _____		
Pit Liner Thickness: _____ mil Below-Grade Tank: Volume _____ bbls; Construction Material _____		

12. Check Appropriate Box to Indicate Nature of Notice, Report or Other Data

NOTICE OF INTENTION TO:

PERFORM REMEDIAL WORK ☐ PLUG AND ABANDON ☒  
TEMPORARILY ABANDON ☐ CHANGE PLANS ☐  
PULL OR ALTER CASING ☐ MULTIPLE COMPL ☐

OTHER: ☐

SUBSEQUENT REPORT OF:

REMEDIAL WORK ☐ ALTERING CASING ☐  
COMMENCE DRILLING OPNS. ☐ P. AND A ☐  
CASING/CEMENT JOB ☐

OTHER: ☐

13. Describe proposed or completed operations. (Clearly state all pertinent details, and give pertinent dates, including estimated date of starting any proposed work). SEE RULE 1103. For Multiple Completions: Attach wellbore diagram of proposed completion or recompletion.

**WORK NEEDS TO START WITHIN 45 DAYS**

NOTICE OF INTENTION TO PLUG AND ABANDON [Detailed Procedure and Wellbore Diagrams Attached]

1. POOH w/ injection tubing and pkr.
2. RIH w/ CIBP and set at +/-11,775'. Spot 25 sxs cement on top of CIBP. WOC & tag.
3. Displace wellbore w/ 9.5 #/gal salt gel mud.
4. Spot 50 sxs cement plug from +/-10,000' to +/-9,516'.
5. Spot 25 sxs cement plug from +/-6,600' to 6,369'.
6. Run CBL and verify cement across intermediate casing shoe and top of cement behind 5-1/2" production casing.
7. Spot 25 sxs cement plug from +/-4,900' to +/-4,669'. WOC & tag.
8. Cut 5-1/2" casing (estimate 4,100' recovery).
9. Spot 50 sxs cement plug from 50' below 5-1/2" casing stub (est. 4,150' to 4,022').
10. Spot 60 sxs cement plug from +/-3,240' to +/-3,133'.
11. Spot 60 sxs cement plug from +/-1,780' to +/-1,673'.
12. Spot 60 sxs cement plug from +/-516' to +/-409'.
13. Spot 35 sxs cement plug from +/-60' to surface.
14. Install P&A marker. Clean location and remove facilities. Have NMOCD inspect location. File final Form C-103 w/ OCD.

I hereby certify that the information above is true and complete to the best of my knowledge and belief. I further certify that any pit or below-grade tank has been/will be constructed or closed according to NMOCD guidelines ☐, a general permit ☐ or an (attached) alternative OCD-approved plan ☐.

SIGNATURE John A. Langhoff TITLE Petroleum Engineer DATE 9-11-2006

Type or print name John A. Langhoff E-mail address: johnl@egresources.com Telephone No. 432-687-6560  
For State Use Only

APPROVED BY: Larry W. Wink OC FIELD REPRESENTATIVE STAFF MANAGER DATE SEP 14 2006

Conditions of Approval (if any):

**THE OIL CONSERVATION DIVISION MUST  
BE NOTIFIED 24 HOURS PRIOR TO THE  
BEGINNING OF PLUGGING OPERATIONS**

**ARCO STATE NO. 2 SWD  
405' FSL & 1850' FEL  
SEC. 16, TWP. 18-S, RGE. 35-E  
LEA COUNTY, NEW MEXICO**

**WELL DATA**

Conductor Pipe: 30" set at 40 feet

Surface Casing: Ran 21 jts 16", H-40 buttress casing and 16", 84 #/ft, J-55 buttress casing. Set casing at 466' (KB). Cemented w/ 675 sxs Class "C" w/ 2% CaCl<sub>2</sub>. Circulated cement to surface.

Intermediate Casing: Ran 122 jts 11-3/4", 71 #/ft, S-95 buttress casing, 11-3/4", 64 #/ft, S-95 buttress casing, and 11-3/4", 54 #/ft, S-80 buttress casing. Set casing at 4818' (KB). Cemented in two stages: 1-st stage – 2000 sxs Howco Lite w/ 15# salt/sk, 5# Gilsonite/sk followed by 300 sxs Class "C" w/ 2% CaCl<sub>2</sub>. Full returns throughout job. Recovered good cement off top of DV tool. 2-nd stage – 1200 sxs Howco Lite w/ 1/4# Flowseal/sk followed by 200 sxs Class "C" w/ 2% CaCl<sub>2</sub>. Circulated 500 sxs cement to pit.

Production Casing: Ran 318 jts 5-1/2", 23 #/ft, S-95 LT&C casing, 5-1/2" 20 #/ft, N-80 LT&C casing, 5-1/2", 17 #/ft, N-80 LT&C casing, and 5-1/2", 23 #/ft, P-110 LT&C casing. Set casing at 12,173' (KB) with DV tool at 9,478'. Cemented in two stages: 1-st stage – 650 sxs Class "H" 50-50 poz w/ 5% CFR-2 + 5# KCl/bbl w/ full returns. PD @ 4:45 pm. Open DV tool and circulate 4-1/4 hours. Cmt 2-nd stage – 850 sxs Howco Lite w/ 6# salt/bbl. Plug down at 10:05 pm.

Cement Top: 5,025 feet from surface by temperature survey 2/7/85. 5,100 feet from surface by CBL 3/22/85.

Cement Squeeze: Shot cement squeeze perfs at 5,090' and squeezed w/ 300 sxs Class "C" cement. Placed 285 sxs cement behind casing. Calculated cement top behind 5-1/2" casing is 4,109'.

Squeezed Wolfcamp Perforations: 10043', 10063', 10082', 10098'-99', 10102', 10116', 10134'-35', 10137', 10140'-41', 10143', 10147'-48', 10156', 10158'-59', 10189'-92', 10199'-202', 10207'-220'.

Squeezed Devonian Perforations: 11821', 11834'-36', 11867'-69', 11877'-81', 12029'-40', 12123'-29'.

Devonian Open Hole: 12173' to 12,300'

Fish: Baker Lok-Set nickel plated packer set at 12,135' with 9 jts 2-7/8" Duo-line tubing above it. Top of fish is +/- 11,856'.

Injection String Data: 376 jts 2-7/8", 6.5 #/ft, J-55 Duo-line tubing, XO, On-Off tool, and Arrowset 1X 7K nickel plated packer. Packer set at 11,675'.

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**PLUG AND ABANDONMENT PROCEDURE**

1. MIRU workover rig. ND wellhead. Release Arrowset 1X 7K pkr from 11,675'. NU BOP. POOH tallying tubing. LD On-Off tool and pkr.
2. RIH w/ CIBP on tubing and set at +/- 11,775' (46' above top Devonian squeezed perf). Release from CIBP. Mix and pump 25 sxs Class "G" neat cement and spot as balanced plug on top of CIBP. Pull above top of cement and reverse tubing clean. Wait on cement and tag. Top of cement should be approximately 242' above CIBP by calc and must be 100' above CIBP to meet NMOCD requirements.
3. Displace wellbore w/ salt gel mud (9.5 #/gal brine water mixed w/ 12.5 pounds salt gel per barrel). Total displacement of wellbore should be approximately 217 BBLS. (Note: Internal capacity of 2-7/8" Duoline tubing is approximately 0.004915 bbls/ft.)
4. PUH w/ tubing to +/- 10,000' (43' above top Wolfcamp squeeze perf). Mix and pump 50 sxs Class "G" neat cement and spot as balanced plug from +/- 10,000' to +/- 9,270'. Pull above plug leaving top of plug at +/- 9,516' (Wolfcamp formation top at 9,645').
5. PUH w/ tubing to +/- 6,600'. Mix and pump 25 sxs Class "G" neat cement and spot balanced plug from +/- 6,600' to +/- 6,259'. Pull above plug leaving top of plug at +/- 6,369'.
6. POOH w/ tubing.
7. RU wireline truck. RIH w/ CBL to 5,100'. Pull log to confirm cement outside 5-1/2" casing and across 11-3/4" casing shoe at 4,818'. Log to top of cement estimated at 4,109'. POOH w/ logging tool. Determine if squeeze perms are necessary.
8. RIH w/ tubing to +/- 4,900'. Mix and pump 25 sxs Class "G" neat cement and spot balanced plug from +/- 4,900' to +/- 4,559'. Pull above plug leaving top of plug at +/- 4,669'. Wait on cement and tag. Confirm top of cement above 4,768'. POOH w/ tubing.
9. Cut 5-1/2" casing above cement top identified by CBL log in Step 7 above (estimated at 4,109'). POOH and LD 5-1/2" casing to cut (estimate 4,100' recovery).
10. RIH w/ tubing to 50' below 5-1/2" casing cut-off (assuming plug set at 4,150'). Mix and pump 50 sxs Class "G" neat cement and spot balanced plug at +/- 4,150'. Pull above plug leaving top of plug at +/- 4,022'. Wait on cement & tag.
11. PUH w/ tubing to +/- 3,240'. Mix and pump 60 sxs Class "G" neat cement and spot balanced plug at +/- 3,240'. Pull above plug leaving top of plug at +/- 3,133' (Top of Yates/Bottom of salt at 3,190').

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**PLUG AND ABANDONMENT PROCEDURE**

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12. PUH w/ tubing to +/- 1,780'. Mix and pump 60 sxs Class "G" neat cement and spot balanced plug at +/- 1,780'. Pull above plug leaving top of plug at +/- 1,673' (Top of salt at 1,730').
13. PUH w/ tubing to +/- 516'. Mix and pump 60 sxs Class "G" neat cement and spot balanced plug at +/- 516'. Pull above plug leaving top of plug at +/- 409'. Wait on cement and tag. Confirm top of cement above 416'.
14. PUH w/ tubing to +/- 60'. Mix and pump 35 sxs Class "G" neat cement and spot balanced plug from +/- 60' to surface. POOH w/ tubing. Fill casing with cement and install P&A marker. P&A marker should extend four feet (4') above mean ground level and should include the following information: E.G.L. Resources, Inc., Arco State #2, Unit O, Sec. 16, Twp. 18-S, Rge. 35-E, Lea Co., NM.
15. Move off workover rig.
16. Clean location, fill all pits, level location, remove deadmen and all other junk, and remove tanks and facilities. Contact Hobbs District office of New Mexico Oil Conservation Division for final inspection.
17. File final reports (Form C-103) with New Mexico Oil Conservation Division.

# WELL DATA SHEET

**FIELD:** SWD; DEVONIAN

**WELL NAME:** Arco State #2 SWD

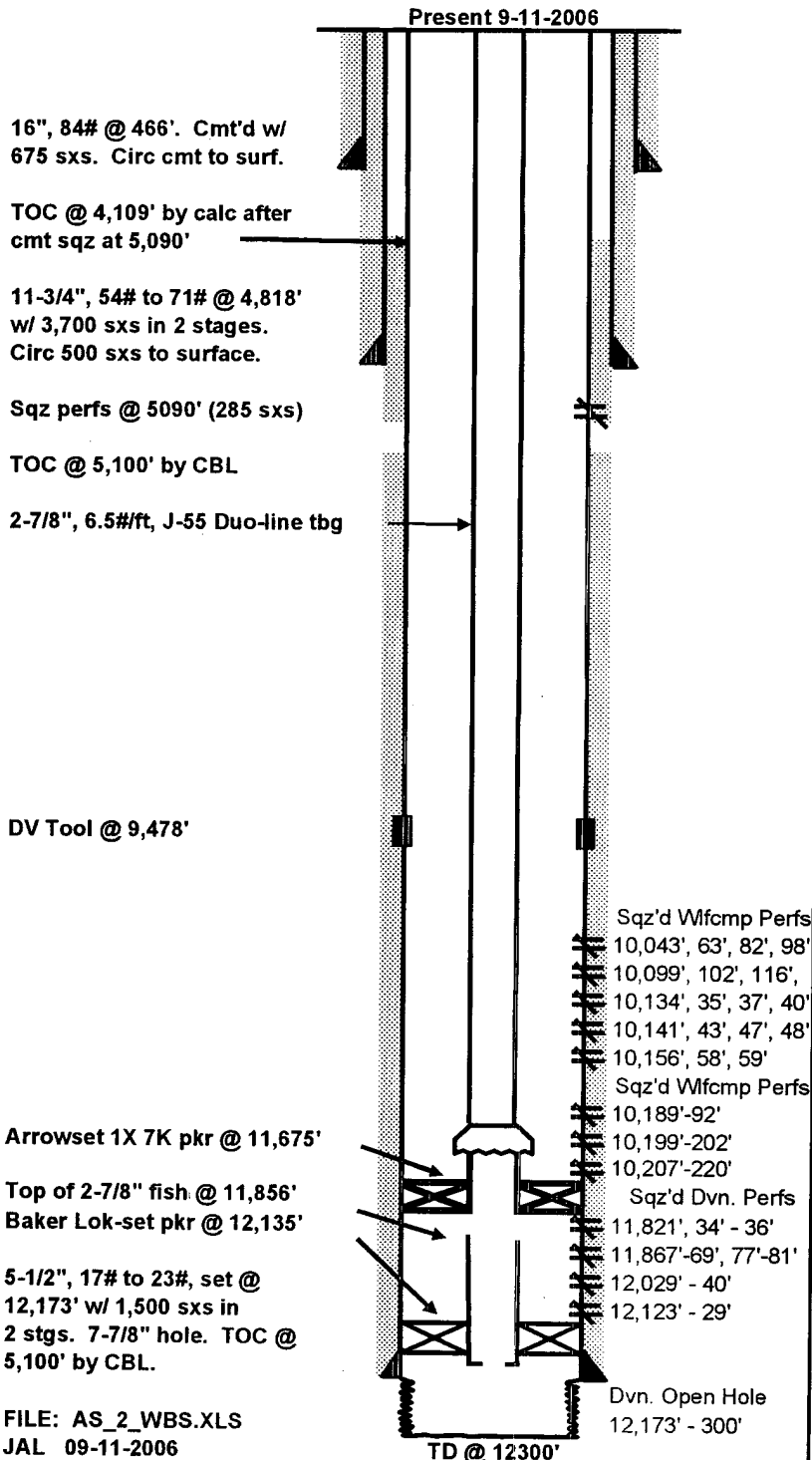
**FORMATION:** Devonian

**LOC:** 405' FSL & 1850' FEL  
**SEC:** 16 TWP: 18S RGE: 35E

**COUNTY:** LEA  
**STATE:** NM

**GL:** 3910.3'  
**KB to GL:** 22.8'

**CURRENT STATUS:** Shut-In SWD  
**API NO:** 30-025-29021



**Date Completed:** 4/18/1985

**Initial Production:** Pmpg 156 BO/198 BW/250 MCF

**Initial Formation:** Wolfcamp **From:** 10189' **To:** 10220'

**Completion Data:** Acdz w/ 250 gal. 15% NEFE.

## Wellbore History:

02/18/85 Drill out FC & GS @ 12,173'. Swb tst OH 12173'-97'. Tstd water. Set CIBP @ 12142' w/ 20' cmt. Perf 12123'-29' & test. Swb dry. Set CIBP @ 12080' w/ 10' cmt. Perf 12029'-40' & test. Swb water. Set CIBP @ 11950' w/ 20' cmt. Perf 11821', 34'-36', 67'-69', 77'-81' & test. Test uneconomic. Set CIBP @ 10500' w/ 20' cmt. Perf 10189'-92', 10199'-202', 10207'-20'. Swb commercial oil. Set CIBP @ 8435', ran CBL & ID TOC @ 5,100'. Perf 5090' and sqz w/ 300 sxs cmt (285 sxs behind pipe). Drill out and test sqz good. Drill out CIBP @ 8435' and clean out to PBDT @ 10,845'. Ran 2-3/8" tubing. Ran pump & rods. PWOP.

07/29/85 Run CBL 10,300' to 8,300' to check bond. Looked good. Set CIBP @ 10,180' and cap w/ cmt. Selectively perf 10,043' to 10,159'. BD perfs and swab test 15% oil cut. Acdz w/ 4000 gal NEFE acid. Swb test w/ 20% oil cut. Run pump and rods. PWOP.

02/27/87 Clean out wellbore and cement squeeze all perfs from 10,043' to 12,129' in multiple cement squeeze jobs. Test squeezed perfs to 500 psi and held okay. Drilled out and deepened well to 12,300'. Acidize open hole w/ 5000 gal. 15% HCl. Ran pkr and found tight spot 45' from surface. Mill out tight spots at 45' and 90'. Ran pkr and tested casing. Found that 5-1/2" casing is hung off in 11-3/4" head making it appear that there is communication between the two strings. RIH w/ nickle plated Baker Lok-set pkr and 391 jts. 2-7/8" J-55 tubing and set pkr at 12,135'. Test csg to 350 psig for 30 min. Held good. Place well on disposal injection 4-10-87.

02/15/90 Acidize w/ 2000 gal 8% acid down tubing. Place well on injection 3.8 BPM @ 1200 psig.

05/23/05 Attempt to rise pkr f/ 12135' w/o success. Freepoint and found free down to 11,855'. Back off tubing and POOH. Found 1 jt tubing w/ hole in collar. Ran pkr and found tight csg @ 55'. Ran 4-1/2" swage to 1000'. RIH w/ Arrowset 1X 7K pkr (worked thru tight csg) testing tubing to 4000 psi. Set pkr at 11,675'. Load casing w/ pkr fluid. Pressure test and pump into 2 BPM @ 150 psig. RD workover unit. Leave well shut-in.

## Additional Data:

### Formation Tops

Anhydrite @ 1720'  
Yates @ 3190'  
Queen @ 4396'  
Wolfcamp @ 9645'  
Penn @ 10577'  
Miss @ 10902'  
Devonian @ 11766'

# WELL DATA SHEET

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WELL NAME: Arco State #2 SWD

FORMATION: Devonian

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