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

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

Form C-103
May 27, 2004

WELL API NO. **30 – 015 – 00901**

13. Indicate Type of Lease STATE ☒ FEE ☐

13. State Oil & Gas Lease No. **2029**

SUNDRY NOTICES AND REPORTS ON WELLS
(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.)

7. Lease Name or Unit Agreement Name: **Empire Abo Unit "Q"**

1. Type of Well: Oil Well ☒ Gas Well ☐ Other

8. Well Number: **5**

2. Name of Operator: **BP America Production Company**

9. OGRID Number: **000778**

3. Address of Operator: **P. O. Box 1089 Eunice, New Mexico 88231**

10. Pool name or Wildcat: **Empire Abo**

RECEIVED DEC 01 2010

13. Well Location
Unit Letter **D** : **660** feet from the **North** line and **990** feet from the **West** line
Section **16** Township **18S** Range **27E** NMPM County **Eddy**

11. Elevation *(Show whether DR, RKB, RT, GR, etc.)* **3484' GR**

Pit or Below-grade Tank Application ☐ or Closure ☐

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:				SUBSEQUENT REPORT OF:			
PERFORM REMEDIAL WORK	☐	PLUG AND ABANDON	☐	REMEDIAL WORK	☐	ALTERING CASING	☐
TEMPORARILY ABANDON	☐	CHANGE PLANS	☐	COMMENCE DRILLING OPNS.	☐	P AND A	☒
PULL OR ALTER CASING	☐	MULTIPLE COMPL	☐	CASING/CEMENT JOB	☐		
OTHER:			☐	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.

Approved for plugging of well bore only. Liability under bond is retained pending receipt of C-103 (Subsequent Report of Well Plugging) which may be found at OCD Web Page under Forms, www.emnrd.state.nm.us/ocd.

P&A operations were commenced 7/16/10 and successfully plugged the wellbore through the Queen formation at 598'. After setting the Queen plug that also included squeezing the top of this zone, pressure still existed to the surface via the 8 5/8" x 4½" annulus; at this time, operations were suspended on 8/16/10 for further evaluation and planning. Operations resumed 10/11/10 and the abandonment was completed 11/23/10; the final abandonment included (1) section milling and removing the 4½" production casing between 280' - 358'; however, slight pressure still remained on the 8 5/8" x 4½" annulus; (2) the 4½" casing was then washed over / milled and removed to 149'; (3) since the wellbore remained static to being on a vacuum at this point in the operation, approval was sought and received from Randy Cade, NMOCD District 2 Supervisor, to set the final plug; (4) the top plug was set from 0' - 348' with 141 sx "C" containing 5 pps Microbond & 1% $CaCl_2$; and (5) the WH was cut off and the dry hole marker installed on 11/23/10. Due to the length and complexity of this operation, the following attachments to this C-103 are included to provide a more complete operations history of this abandonment: (A) a schematic depicting the final P&A status of the entire wellbore and (B) a chronological operations summary for the entire job. (Note: Apache Corporation acquired the BP interest in the Empire Abo Unit and will assume its operatorship on 12/1/10.)

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 M. D. Westmoreland TITLE **Wells Operation Superintendent** DATE **11 / 30 / 10**

Type or print name **M. D. Westmoreland** E-mail address: **dan.westmoreland@bp.com** Telephone No. **432 / 688-5245**

For State Use Only

APPROVED BY: [signature] TITLE Approval Granted provided work is completed by DATE 12/1/2010

Approved for plugging of well bore only. Liability under bond is retained pending receipt of C-103 (Subsequent Report of Well Plugging) which may be found at OCD Web Page under Forms, www.emnrd.state.nm.us/ocd.

Conditions of Approval (if any):

Cat

Empire Abo Unit "Q" #5
Empire Abo Field

API No. 30-015-00901

660' FNL & 990' FWL
Section 16 - T18S - R27E
Eddy County, New Mexico

As of 10/7/10 when suspended operations were resumed, the 8 5/8" x 4 1/2" annulus had built to 8 psi with a steady oil / water drip when open to containment. The 4 1/2" production csg had built to 3 psi. Resumed operations 10/11/10 and was successful in sectioning 4 1/2" csg from 280' - 358' (total = 78' of planned 100') where progress ceased on 10/22/10. After sectioning, the 4 1/2" would not build any pressure but the 8 5/8" x 4 1/2" annulus built to 17 psi overnight. Decision was made to make internal cuts in 4 1/2" to relieve any trapped pressure in annulus. Cuts were made @ 220', 110' and 60'; in 48 hrs, the 4 1/2" csg had 3 psi and the annulus 2 psi. Additional cuts were made at 190', 140' & 80' and after overnight SI, the 4 1/2" built to 5 psi & annulus to 2 psi. Decision was made and NMOCD approval received as of 11/2/10 to washover 4 1/2" to allow setting plug inside 8 5/8" to complete the P&A.

Washed over and milled 4 1/2" casing from 0' - 149'. On 11/10/10 after removing 4 1/2" csg to 52', observed very slight leakage of water outside of the 8 5/8" while reverse circulating during milling operations. Switched to conventional circulation and no further leakage outside of the 8 5/8" was observed after 11/11/10.

Wellbore shut-in pressures were observed to be a vacuum to only very slight positive pressure upon removing casing to 149' and decision was made to set final plug. Discussed with NMOCD District Supervisor Randy Cade on 11/20/10 and received approval to set top plug and complete abandonment. A cement plug was successfully spotted from 348' - 0' on 11/21/10 and the WH was cut-off on 11/23/10.

RKB 3495'
GL 3484'

EAU "Q" #5

Top Plug
141 sx Class "C"
0' - 348'

Set 11/21/10

Internal Casing Cuts
60' 80' 110' 140' 190' & 220'. 4 1/2" removed to 149' by washing over / milling.

4 1/2" casing sectioned from 280' - 358'.

Fish in Hole
4.40' mule shoe sub w/ approx 8' piece of jet cut tubing above sub
TOF @ 375'
EOF @ 387'

Queen 598'

Perfed @ 598' - top of Queen - to attempt squeeze of mirco-annulus & potential pressure source. Set pkr @ 300', est injection w/ 2150 psi, 2 BPM - no returns to surface. Squeezed perfs w/ 150 sx "C", final pump in press = 1000 psi @ 2 BPM , ISIP = 433 psi . WOC & tag plug @ 417'. Decision made to section csg for setting plug. Suspended operations 8/16/10.

Perfed @ 1000' to attempt to squeeze mirco-annulus. Set CR @ 796', est injection w/ 1400 psi, 2 BPM - no returns to surface. Squeezed perfs w/ 150 sx "C", final pump in press = 900psi @ 2 BPM , ISIP = 480 psi. Squeezed 8/5/10, WOC & tag plug @ 752' on 8/6/10.

8 5/8" 24# J55 STC @ 1527'

Schlumberger USIT (CBL) log identified top of good bonding @ 1530' - probable poor to fair bonding to surface with micro-annulus.

Surface Csg Shoe Plug
1201' - 1580'
25 sx "C"
Set 8/4/10

TAGGED - 8/4/10

Perfed @ 1520' to squeeze shoe, unable to pump into perfs w/ 2800 psi.

Glorieta 2910'

Glorieta Plug
2695' - 3100'
25 sx "C"
Set 7/30/10

TAGGED 8/2/10

Abo Plug
4897' - 5366'
25 sx "C"
Set 7/20/10

TAGGED 7/26/10

CIBP @ 5366' w/ cmt to 5345' (12/20/04)

Abo Perfs
5396' - 5610' overall

4 1/2" 9.5 J-55 STC @ 5700'

5668' PBD
5700' TD

Attachment to C-103, Subsequent Report of P&A, dated 11/30/10.

BP America Production Company

Empire Abo Unit "Q" #5

API No. 30 - 015 - 00901

Plugging Operations Summary

Date	
716/10 through 7/27/10	MIRU. Repaired rig's radiator hose. Check SIP - 0 psi on pressure on casing. NU BOP and test to 250 & 500 psi, OK. TIH w/ open-ended 2 3/8" tbg to bottom @ 5345', top of cmt cap on CIBP @ 5366'. Spotted 25 sx Class "C" onto existing plug, POH & circ 90 bbls of 9.5 ppg mud laden fluid, witnessed by Phil Hawkins with NMOCD. POH to 3100' & SDON and no operations the next day due to meeting regarding Apache acquisition. On 7/22/10, checked pressures - 0 psi on tbg & 4 1/2" csg, the 8 5/8" surface had 9 psi. Released pressure & checked gas - 2 PPM H2S. POH with tubing and WO Schlumberger to run USIT log (CBL). In 4 hours, surface csg built to 20 psi. SD until 7/26/10 until Schlumberger equip was available for safety stand down. On 7/26/10, tbg and 4 1/2" csg had 0 psi and 8 5/8" surface csg had built to 41 psi. TIH with bit & scraper - tagged top of plug @ 4897', **bottom hole plug is set from 4897' to CIBP @ 5366'**. Circ'd mud from hole with freshwater and POH w/ bit & scraper. Logging tools not available until 7/28/10.
7/28/10	8 5/8" = 49 psi 4 1/2" = 0 psi 2 3/8" = 0 psi RU Schlumberger and ran GR - CNL from 4845' to surface. Ran GR - USIT log from 4830' WLTD to 0' with no applied pressure. Re-ran GR - USIT log from 4830' - 0' with 500 psi applied pressure. RD Schlumberger & SDON. USIT log indicated top of cement w/ good bonding @ 1530' with probable poor to fair bond to surface and likely presence of micro annulus. No significant difference in USIT logging runs.
7/29/10	8 5/8" = 46 psi 4 1/2" = 0 psi 2 3/8" = 0 psi Bled 8 5/8" and then monitored - built to 24 psi in 1 hr. TIH w/ tbg to bottom to again circ mud. The 8 5/8" built to 46 psi by end of day. SDON.
7/30/10	8 5/8" = 46 psi 4 1/2" = 0 psi 2 3/8" = 0 psi Circ'd hole w/ 80 bbls 9.5 ppg mud laden fluid. POH to 3100' & spotted 25 sx "C" across top of Glorieta @ 2910'. Pulled tbg to 1935' & WOC. SD over weekend.
8/2/10	8 5/8" = 45 psi 4 1/2" = 0 psi 2 3/8" = 0 psi **TIH & tagged top of plug @ 2695', Glorieta plug set from 2695' - 3100'.** POH, LD 38 jts and now have 131 jts on racks. Discussed plan forward with Mr. Randy Dade, NMOCD District Supervisor and received approval to proceed.
8/3/10	8 5/8" = 38 psi 4 1/2" = 0 psi 2 3/8" = 0 psi Re-test BOP to 250 & 500 psi, OK. RU Apollo WL & perfed at 1520' w/ 4 squeeze holes at 120 degree phasing using 3 1/8" csg gun - 8 5/8" shoe @ 1527'. RD WL. TIH w/ pkr on tbg & set @ 1020', pressured annulus to 400 psi, OK. Pressured perfs to 1900 psi but no rate established. Re-set pkr @ 1430' w/ 500 psi on annulus. Pressured perfs to 2800 psi, no rate established. POH, LD pkr and ran 30 jt kill string. SDON.
8/4/10	8 5/8" = 3 psi 4 1/2" = 0 psi 2 3/8" = 0 psi Received approval from Phil Hawkins w/ NMOCD to set inside plug across 8 5/8" shoe. TIH w/ tbg to 1586' = 59' below shoe & spotted 25 sx "C" w/ 2% $CaCl_2$. POH to 483' & WOC. **TIH & tagged top of plug @ 1201', shoe plug set 1201' - 1580'.** POH w/ tbg & RU Apollo WL to perf 4 squeeze holes at 1000' as approved by Phil Hawkins. Pressured 4 1/2" to 500 psi prior to perfing. Shot 4 squeeze holes at 1000' @ 120 degree phasing, 3 1/8" csg gun. Pressure dropped 200 psi when shot - monitored 8 5/8" outlet but no change at surface when gun fired. RD WL. Ran & set pkr @ 790', pressure csg - tbg annulus to 500 psi, pressured perfs to max of 2550 psi - pressure dropped faster each time applied but still no circ to surface. SDON with 550 psi on perfs.

BP America Production Company

Empire Abo Unit "Q" #5

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Plugging Operations Summary

Date	
8/5/10	8 5/8" = 4 psi 4 1/2" = 0 psi 2 3/8" = 0 psi Pressured annulus to 300 psi, pressured perfs to 2300 psi & established injection rate of 2.0 BPM & 1400 psi, 2.5 BPM @ 1600 psi & 3.0 BPM @ 1800 psi. Bled down all pressures, when shutting in 4 1/2" casing it would drop to 0 psi and immediately build back to 500 psi. Checked surface casing outlets to be sure these remained clear of obstructions, OK. Received approval from Phil Hawkins to use cement retainer to squeeze perfs. POH w/ pkr, TIH & set CR @ 796', mix & pumped 150 sx "C" - initial rate 2 BPM @ 1400 psi and final @ 2 BPM & 900 psi. ISIP = 480 psi. Closed retainer & dumped 5 sx onto top of CR. POH w/ 3 jts, reversed out 3 bbls cmt & POH w/ tbg. SDON.
8/6/10	8 5/8" = 1 psi 4 1/2" = 0 psi 2 3/8" = 0 psi **TIH w/ tbg & tagged cmt @ 752'.** SI and monitor pressures. SD over weekend.
8/9/10	8 5/8" = 2 psi 4 1/2" = 0 psi 2 3/8" = 0 psi POH w/ tbg. RU Apollo WL & perfed 4 1/2" csg at top of Queen w/ 4 squeeze holes @ 598' using 3 1/8" gun. Had 500 SIP on csg and it dropped 200 psi when gun fired. RD WL. TIH w/ pkr & set at 300'. Pressured annulus to 400 psi, broke perfs with 2150 psi & pumped 30 BW at 1500 psi. Mixed & pumped 150 sx "C" at 2 BPM & 1000 psi and displaced to below pkr. ISIP = 433 psi. SDON.
8/10/10	8 5/8" = 0 psi 4 1/2" = 0 psi 2 3/8" = vac (gauge would not register anything on 8 5/8" but had light "puff" when opened) POH w/ pkr, WIH w/ tbg & tagged top of plug at 417'. **Queen plug set from 417' - 598'.** POH w/ tbg. Installed B-1 bonnet & monitored well with 8 5/8" outlet open. No flow - SION.
8/11/10	8 5/8" has 1 - 2 psi. Released pressure and recovered small amount of oil & water. Monitored 4 1/2" hours and observed steady drip of oil. SION for buildup.
8/12/10	8 5/8" = 2 1/2 psi 4 1/2" = 0 psi Open to containment, still dripping fluid. Discussed with Phil Hawkins with NMOCD the plan to run section mill to remove 4 1/2"csg in order to spot plug in 8 5/8" - he approved and operations will be suspended while procedure is developed.
8/13/10	8 5/8" = 2 1/2 psi 4 1/2" = 0 psi. SD over weekend of 8/14 & 8/15.
8/16/10	SIP not reported. ND BOP & installed B-1 bonnet. RD & MO PU.

Operations Suspended August 16 - October 11, 2010

10/11/10	8 5/8" = 4 psi 4 1/2" = 0 psi. Bled 8 5/8" - no volume. ND B1 bonnet & installed BOP, ran pkr & tested connection, OK. POH w/ pkr. SDON.
10/12/10	No SIP reported. Attempted to test blind rams, failed. Ran pkr & try to test pipe rams, failed. Reset pkr @ 6' below WH, try to test pipe rams, had communication to 8 5/8" x 4 1/2" annulus. WO test plug - tested BOP to 250 & 750 psi, OK. TIH w/ section mill & 6 DC's & SDON.
10/13/10	8 5/8" = 41 psi 4 1/2" = 41 psi. This may be trapped pressure from testing BOP. Made initial cut of 4 1/2" with section mill @ 280' and the pressure on the 8 5/8" bled to 0 psi. Continued sectioning but hole not cleaning - added polymer sweeps to clean hole. Milled 7' of csg, hole packed off & tbg pumped up hole. POH to inspect equipment. SDON.
10/14/10	8 5/8" = 5 psi Milled 294' - 298', press increased from 300 to 500 psi, pumped sweep and then tried to resume milling - noticed 100 psi rise in circ pressure on 4 1/2" csg & 8 5/8" now showing 25 psi. SD & cleared surface lines of metal cuttings. Resumed milling to 301' & SDON.

BP America Production Company

Empire Abo Unit "Q" #5

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Plugging Operations Summary

Date	
10/15/10	8 5/8" = 5 psi Resumed milling. At 304' returns were cement and 1/8" metal shavings. Still using polymer sweeps to clean hole. Returns started showing 2" - 3" slivers and last 4' milled at aproximately 10 minutes / foot. Milled 15' today, 2 day progress is 25' and total section is 32' on 2 mills. POH to check mill, worn out. SDON.
10/16/10	8 5/8" = 41 psi 4 1/2" = 8 psi. Attended safety stand down in Midland due to rash of minor incidents in Permian area and to assure we remain focused on operating safely. TIH w/ new mill to 319' & SDON.
10/19/10	8 5/8" = 5 psi 4 1/2" = 0 psi. Resumed milling, made 12' to 331', PU & circ hole clean, made 1' in 1 hour & SDON. The current depth is 333' and total section = 53'.
10/20/10	8 5/8" = 0 psi 4 1/2" = 0 psi. Milled from 333' - 336' and began to torque, suspect mill is worn out or 4 1/2" collar is at 337'. POH, redressed cutter and re-ran assembly. Milled 336' - 344', 12' total today, 9' on this mill #4 and total of 64' of section. Pumped three polymer sweeps today. SDON.
10/21/10	8 5/8" = 2 psi 4 1/2" = 0 psi. Milled 344' - 358' = 14', 21' on mill #4, total of 78' of section. Circ hole clean, got lots of cmt and metal to surface. POH, redressed mill & TIH to 340'. SDON.
10/22/10	8 5/8" = 4 psi 4 1/2" = 0 psi. Resumed milling at 358', only made 3" in 45 minutes - suspect that mill is against the 8 5/8" casing - torque is noticeably higher. POH w/ section mill & LD. TIH w/ 3 7/8" mill tooth bit, tagged top of stub @ 358', wash & drill to 381' - trouble with hole packing off. POH & SDON.
10/23/10	SIP not reported. Monahans NU tested BOP to 250 & 1000 psi, OK. SD due to high winds.
10/26/10	Shut down to attend required annual training Midland.
10/27/10	Shut down to attend required annual training Midland.
10/28/10	Shut down to attend required annual training Midland.
10/29/10	8 5/8" = 17 psi 4 1/2" = 0 psi. TIH with 3 7/8" bit, tagged @ 381' & cleaned out to 416', top of cement on CR. Short trip to 358', wait 30 minutes and tag @ 413', wash down to 416', circulate out large chunks of cement. POH & LD bit & 5 DC's. TIH with internal cutter on tbg - 8 5/8" has 12 psi SIP. Cut 4 1/2" csg @ 220', no change in 8 5/8" pressure. POH & replaced one cutter blade. TIH & cut csg @ 110', no change in 8 5/8" pressure. POH to inspect cutter, replaced 2 blades. TIH, cut csg @ 60', no change in 8 5/8" pressure. POH & SD for weekend.
11/1/10	8 5/8" = 1.7 psi 4 1/2" = 3.25 psi. Decided to make additional cuts to see if this would allow any trapped pressure to deplete. Made cuts @ 190', 140' & 80'. No immediate change in wellbore was noticed. Left well open 4 hrs, no flow or gas. SI and SDON.
11/2/10	8 5/8" = 1.7 psi 4 1/2" = 5 psi. 4 1/2" blew down in 3 - 4 seconds. 8 5/8" blew down in 1 second. Ran cutter on 1 - DC & cut csg 1' below slips. POH. Check with 3-way monitor, LEL was 56 and dropped to nil after blown down for 3 seconds. SDON.

BP America Production Company

Empire Abo Unit "Q" #5

API No. 30 - 015 - 00901

Plugging Operations Summary

Date	
11/3/10	8 5/8" = 1.8 psi 4 1/2" = 1.8 psi. (Pressures taken by company obtaining gas sample for analysis, the gas analysis is listed below.) Oxygen O2: 0.0000 Carbon Dioxide C02: 0.0537 Calc. Ideal Gravity: 0.9719 Nitrogen N2: 92.4235 Calc. Real Gravity: 0.9720 Hydrogen Sulfide H2S: 0.5000 Field Gravity: Standard Pressure: 14.696 Methane C1: 3.4888 Ideal BTU Dry: 124.417 Ethane C2: 1.6241 0.4319 Ideal BTU Wet: 122.252 Propane C3: 1.0723 0.2937 Z Factor: 0.9995 Bled pressures, no flow - instant blow down. Unload equip for washover operations and continued to monitor WB - no flow. SI & SDON.
11/4/10	8 5/8" = 2.25 psi 4 1/2" = 2.25 psi. Bled instantly - dry gas. ND 7 1/16" BOP & tubinghead. PU spear & pulled 4 1/2" hanger & cut piece. NU 11" - 3K BOP w/ annular. Monahans NU tested BOP to 250 &1000 psi, OK. Installed two deadmen anchors to assure WH stability during washover operations. SDON.
11/5/10	SIP not reported. WIH w/ washover shoe #1 & 1 jt of 7 3/8" x 6 5/8" wash pipe. Washed over to 35' RKB, using vac truck to pick up returns from cellar. Made connection, washed over to 41' and shoe appeared worn out. POH. Ran spear to see if casing was free, pulled 10K and spear pulled loose. LD spear. Prepped shoe #2. SDON.
11/6/10	8 5/8" = slight vac 4 1/2" = slight vac TIH w/ shoe #2, cut over from 41' - 47' and shoe quit cutting. Circ clean & POH. SI & SDON and for Sunday.
11/8/10	8 5/8" = light blow 4 1/2" = light blow TIH w/ washover assembly - took 0.2 bbls to fill hole. Tag at 46' - lost 1'. Made 1' in 1/2 hr, POH - shoe was worn out. Ran 4 1/2" grapple to 18' RKB & caught fish. POH & recovered 1 cut piece of 4 1/2" csg, coupling, + 21.76' of 4 1/2" csg. With RKB included, pipe is removed to 40.76'. TIH w/ 7 7/8" concave mill & 2 - 4 1/8" DC's, established circ & tagged at 41.32'. Milled csg to 47.5', circ'd clean & SDON.
11/9/10	8 5/8" = slight vac Loaded hole w/ 0.10 bbl. Tagged @ 47.5', milled to 48', circulated clean & POH. Mill worn. Ran concave mill #2, milled 1' to 49'. In the next 2 hrs, no progress made - circ clean and POH w/ mill - looked good with only 10% wear, appears fish is turning below mill. Ran spear & tagged @ 49', attempted to spear inside 4 1/2" but never caught. POH & LD tools, spear had bright metal on very bottom of grapple, not entering fish deep enough to engage grapple. SI & SDON.
11/10/10	8 5/8" = 1 psi. TIH w/ washover shoe & 1 jt washpipe & tagged @ 49', wash over 4 1/2" csg from 49' - 52' and circ clean. While circ clean, noticed water coming to surface from outside the 8 5/8" surface casing - hole was being reverse circulated w/ 80 - 90 psi & 2 BPM. When circ rate was increased to 3 BPM @ 100 - 150 psi, noticed that the outside flow increased but also slowed when circulation was ceased. Discussed with Wells Supt - POH w/ with washover assembly and loaded hole. Recovered several large pieces of cement from inside the shoe. Shut well in and had a two person safety team monitor well during the night. No outside flow during night - as of 6:00 AM on 11-11-10, the well was on a slight vacuum.

BP America Production Company

Empire Abo Unit "Q" #5

API No. 30 - 015 - 00901

Plugging Operations Summary

Date	
11/11/10	No report of SIP. Gravity fed 0.50 bbl water into WB - a small amount of water appeared on outside of 8 5/8" but quickly stopped and no other show of water outside of pipe during operations today. Removed security flange, check 8 5/8" SIP = vac. TIH with 5" grapple to catch 4 1/2" coupling, tagged at 49', worked to 50' & POH, no recovery. TIH w/ 4 1/2" grapple, tagged at 49', worked to 50' & POH - recovered 10.10' piece of 4 1/2" csg (internal cut had been made at 60'). TIH w/ 7 15/16" Metal Muncher Mill, removed cmt from 52' - 60' & milled 4 1/2" csg from 60' - 80'. Pumped sweep and circ'd hole clean w/ 170 BFW. SDON.
11/12/10	8 5/8" = vacuum Loaded hole w/ 0.20 BFW and circulating conventionally w/ 4.5 BPM & 150 psi. Resumed milling csg from 80' - 85', swept hole clean and milled 85' - 97.5'. Pumped sweep & circ'd hole clean. SDON - will pull and change mill tomorrow.
11/13/10	8 5/8" = slight positive pressure. POH w/ MM mill #1 - estimated to be 60% worn. Ran same size - type mill, established circulation w/ 1 BFW, 4.25 BPM @ 150 psi. Resumed milling 4 1/2" casing 97.5' - 102.5', circ at 4.55 BPM @ 170 psi. Swept and circ hole clean and resumed milling from 102.5' - 109.5', swept & circ hole clean. Milled from 109.5' - 117', circ 4.90 BPM & 200 psi. Circ'd hole clean w/ 35 BFW at 5.5 BPM & 230 psi. Brined up pump and lines, pulled mill to 20' off bottom and SD over Sunday.
11/14/10	Operations shut down for Sunday. Well monitored at all times by safety personnel. No flow observed from outside of 8 5/8" surface casing.
11/15/10	8 5/8" = 4 1/4 psi. Loaded hole w/ 1.0 BFW, conventionally circulating with 4.6 BPM @ 170 psi. Milled from 117' - 128' pumped sweep & 50 BFW to clean hole. Milled from 128 - 133', pumped sweep & 50 BW to clean hole. Milled total of 16' and lost approx 5 bbls water during today's operations.
11/16/10	8 5/8" = slight vacuum. Loaded hole with 0.8 BFW & established conventional circ at 4.6 BPM & 175 psi. Milled 4 1/2" csg to 137.5' in 5 hours. Pumped sweep, circ clean w/ 50 BW & POH. Ran new mill of same size and type. Circ conventionally w/ 4.6 BPM & 170 psi - milled to 149' in less than 3 hrs, pumped sweep, circulated 100 BW to clean hole and pulled 20' off btm. Lost estimated 4.5 - 5.0 bbls water during operations today. SDON.
11/17/10	8 5/8" = slight positive pressure. POH & LD swivel, DC's & Metal Muncher Mill #3. RU Monahans NU to test BOP, unable to get the test plug through the 11" - 3K annular. Tested BOP - found blind ram seals leaking. ND 11" - 3K annular and sent to shop. SDON.
11/18/10	8 5/8" = static, no pressure or vacuum. Received approval to break containment - removed and replaced blind ram door gaskets on 11" - 3K BOP. Ran test plug, tested blind rams to 250 & 1000 psi, OK. NU repaired annular and tested to 250 & 1000 psi, OK. TIH w/ 3 7/8" cone buster mill, 1 - 3 1/8" DC, jars, 3 - 3 1/8" DC's on 2 3/8" tbg. Washed each jt of tubing down and circulated 35 BW to assure hole was clean on each jt. Tagged on 9th jt @ 402', washed down to cement plug @ 417', pumped sweep followed by 150 BW, recovered mostly cement cuttings. POH and left end of assembly @ 331'. Secured well & SDON.
11/19/10	8 5/8" = static, no pressure or vacuum. TIH to 361', circulated 63 BW to assure hole was clean & continued in hole to bottom at 417'. Pumped sweep and freshwater to assure hole was clean to bottom. POH & LD DC's, jars & cone buster mill. TIH w/ 2 3/8" mule-shoed sub & 13 jts 2 3/8" tbg, tagged at 353'. Worked and washed down to 415', pumped sweep & 50 BW. Washed to 417' & circ'd clean w/ 110 BW. RD power swivel, pulled up hole - tbg was dragging and became stuck with 28' of first jt above floor. Worked tbg to try to free, unsuccessful. End of mule shoe is at 387'. Secured tbg with valve & gauge and closed pipe rams. SDON.

BP America Production Company

Empire Abo Unit "Q" #5

API No. 30 - 015 - 00901

Plugging Operations Summary

Date	
11/20/10	8 5/8" = static, no pressure or vacuum. 2 3/8" = static, no pressure or vacuum. Broke out and LD top joint of tubing, installed 6' L-80 tbg sub. Loaded hole w/ 3.5 BW and established circulation with 0.69 BPM @ 280 psi & 1.08 BPM @ 520 psi. Worked tbg to try to free, unsuccessful. Pulled 25,000# tension and circulated at 1.08 BPM w/ 520 psi while waiting on wireline truck. MIRU Baker Atlas WL, ran free point - found 2 3/8" collar @ 380' and it was 100% stuck. Found tubing to be 100% free @ 375'. POH w/ tools & TIH w/ jet cutter. Pulled 10,000# tension on tbg and cut @ 375' - tbg was free. RD Baker Atlas, LD sub and top jt of tbg, installed valve on tbg, closed pipe rams and secured well. SDON. Kent Whitmire called NMOCD District Supervisor Randy Dade and updated on operations and BP's proposed plan forward. Mr. Dade gave verbal approval of plan forward, which was to pump final plug from 358' to surface, POH & LD tbg, ND BOP and fill 8 5/8" csg with cement before installing flange & valve and pressuring cement plug to 150 psi.
11/21/10	8 5/8" = static, no pressure or vacuum. 2 3/8" = static, no pressure or vacuum. POH w/ tbg to cut. Ran mule-shoed jt on 2 3/8" tbg and tagged @ 356' (bottom of sectioned interval of 4 1/2" csg was at 358'). Spaced end of tbg to 348' and RU Halliburton. Pumped 15 bbls freshwater ahead of cement and spotted final plug from 348' to surface with 141 sx Class "C" containing 5 pps Microbond & 1% $CaCl_2$ (14.7 ppg & 1.42 yield). Mixed and pumped cement until returns also weighed 14.7 ppg and then shut down. POH & LD all tbg, filled casing with 23 sx of slurry and installed flange & valve. Halliburton pressured plug to 300 psi, closed wellbore and RD Halliburton. SDON.
11/22/10	8 5/8" = static, no pressure or vacuum. Removed bull plug and gauge - TOC remained at top of WH. Reported to Daryl Gray with NMOCD and re-installed bull plug. Unable to rig down due to high winds. Will cut off WH on 1/23/10.
11/23/10	Excavated wellhead, cut off wellheads and casings to 3' below GL & installed regulation dry hole marker. Excavated and cut guy wire anchors to 3' below GL. Cleaned location of equipment and turned over to the Production Department to complete the location reclamation and prepare the well for the NMOCD final inpsection. Downhole P&A operations completed 11/23/10.

Notes:
No water was observed outside of 8 5/8" surface casing during operations conducted after 11/11/10.

Apache Corporation acquired the BP interest in the Empire Abo Unit and will assume its operatorship on 12/1/10.