

RCVD APR 6 '07  
OIL CONS. DIV.UNITED STATES  
DEPARTMENT OF THE INTERIOR  
BUREAU OF LAND MANAGEMENTFORM APPROVED  
OMB No. 1004-0135 **DIST. 3**  
Expires November 30, 2000**SUNDRY NOTICES AND REPORTS ON WELLS**  
*Do not use this form for proposals to drill or to re-enter an  
Abandoned well. Use Form 3160-3 (APD) for such proposals.*

5. Lease Serial No.

SF-078194

6. If Indian, Allottee or tribe Name

7. If Unit or CA/Agreement, Name and/or No.

210 FAPD

**SUBMIT IN TRIPLICATE – Other instructions on reverse side**

1. Type of Well



Oil Well



Gas Well



Other

8. Well Name and No.

LUDWICK LS 20E

2. Name of Operator

BP AMERICA PRODUCTION COMPANY

9. API Well No.

30-045-33992

3a. Address

PO BOX 3092 HOUSTON, TX 77253

3b. Phone No. (include area code)

281-366-3866

10. Field and Pool, or Exploratory Area

BASIN DAKOTA &amp; BLANCO MESAVERDE

4. Location of Well (Footage, Sec., T., R., M., or Survey Description)

765' FNL &amp; 760' FWL; SEC 29 T30N R10W

11. County or Parish, State

SAN JUAN, NM

## 12. CHECK APPROPRIATE BOX(ES) TO INDICATE NATURE OR NOTICE, REPORT, OR OTHER DATA

## TYPE OF SUBMISSION

☒ Notice of Intent☐ Subsequent Report☐ Final Abandonment Notice

## TYPE OF ACTION



Acidize



Alter Casing



Casing Repair



Change Plans



Convert to Injection



Deepen



Fracture Treat



New Construction



Plug and Abandon



Plug Back



Production (Start/Resume)



Reclamation



Recomplete



Water Disposal



Water shut-Off



Well Integrity

Other Spud &  
Sidetrack

13. Describe Proposed or Completed Operation (clearly state all pertinent details, including estimated starting date of any proposed work and approximate duration thereof. If the proposal is to deepen directionally or recomplete horizontally, give subsurface locations and measured and true vertical depths of all pertinent markers and zones. Attach the Bond under which the work will be performed or provide the Bond No. on file with BLM/BIA. Required subsequent reports shall be filed within 30 days following completion of the involved operations. If the operation results in a multiple completion or recompletion in a new interval, a Form 3160-4 shall be filed once testing has been completed. Final Abandonment Notices shall be filed only after all requirements, including reclamation, have been completed, and the operator has determined that the site is ready for final inspection.

After dropping pipe downhole BP respectfully request permission to sidetrack above mentioned well.

Please see attached procedure used for setting the cement plug. There is also well diagrams that show the cement plug placement plan and actual cement plug placement, a directional plan, and a set of calculations for pumping a balance plug. Also attached is a quick time summary.

This sundry notice is follow-up to conversation between Dale Pumphrey & Steve Mason 4/2/07

14. I hereby certify that the foregoing is true and correct  
Name (Printed/typed)

Cherry Hlava

Title Regulatory Analyst

Signature



Date 04/02/2007

## THIS SPACE FOR FEDERAL OR STATE OFFICE USE

Approved by

Original Signed: Stephen Mason

Title

Date

APR 05 2007

Conditions of approval, if any, are attached. Approval of this notice does not warrant or  
Certify that the applicant holds legal or equitable title to those rights in the  
subject lease which would entitle the applicant to conduct operations thereon.

Office

Title 18 U.S.C. Section 1001 and Title 43 U.S.C. Section 1212, make 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.

NMOCD



## Ludwick LS #20 E

Spud Surface Casing w/ M0-TE	2/16/2007	
Spud new Hole w/ H&P 292	3/20/2007	@ 08:30
Reach TD of INT section of 4552'	3/23/2007	@ 21:30
Begin to run 7" Csg	3/24/2007	@ 16:00
Not able to work Csg past bridge at 3031'. Lost total returns. Decide to POOH and lay down Csg complete a wiper trip.	3/25/2007	@11:30
While POOH inadvertently dropped 1381' of 7" Csg.	3/25/2007	@ 20:30
MU fishing tools. RIH w/ grapple and attempt to fish 7" csg.	3/26/2007	@05:00
RIH w/ junk mill and mill top of casing in attempt to prep for 2 <sup>nd</sup> fish with an overshot.	3/27/2007	@03:15
RIH w/ Overshoot (2 <sup>nd</sup> attempt to fish Csg)	3/27/2007	@23:00
2 <sup>nd</sup> attempt to fish csg uncuccessful. POH and lay Down fishing tools. Top of fish at 1645'	3/28/2007	@ 05:00
Pump 1 <sup>st</sup> cement plug	3/29/2007	@03:45



## Cement Plug Procedure

Prepared for: H&P 292

Planned Dates: 3/28/2006 – 3/29/2006

Prepared by: Dale Pumphrey

**Scope:** Three separate plugs will be placed. The two lower plugs will be 13.5 ppg cement and the top plug will be 17 ppg cement. The top plug will be used for kicking off when sidetracking the well. Cement will be pumped through the top drive. **If at any time, any of the mechanisms essential to pulling pipe become inoperable, the current plug being placed will be circulated out as per the wellsite leaders instructions and redone.**

**Rig Up:** 1. Rig up Schlumberger to circulate all cement plugs through the top drive. A JSA should be done w/ SLB and all other personnel on location to address hazards associated with rigging up for and setting of the cement plugs.

**Plug #1:**

Planned Depth = 1600' to 1050'.

Cement = 13.5 ppg GM 50/50

Cement Volume for plug = 45.02 BBLS      Thickening Time = 4.25 hrs

Estimated Washout = 10%.

Gage Volume = 40.9 BBLS

1. RIH w/ 3.5 DP to just above the fish at 1600'
2. Pump a fluid caliper with nut plug at TD to get an estimate of the hole gage. Continue to circulate 8.9 ppg mud.
3. After circulating, pump 10 BBLS water ahead of the cement as per Schlumberger's procedure. Pump cement plug as per Schlumberger procedure with a pump rate of 3.5-4 BBL/MIN. Displace cement with

6 BBLS of fresh water to obtain a balanced plug. ( Less 1 BBL so on a vacuum, see Balanced Plug Calculations)

4. After the first plug has been pumped completely, pull pipe up to 1005', at approximately 45' (1 joint) per minute (13 joints). While pulling out, the pipe should also be rotated with the top drive at 10-15 RPM. Circulate the hole clean. While circulating, if cement is returned back to surface, bypass to the reserve pit. Continue to circulate.
5. After a minimum of 5 hours from the time the cement has been finish pumping, trip back into the hole until tagging cement. Coordinate with the on-site BLM representative to determine if the top of cement has sufficiently been tagged.

**Plug #2:**

Planned Depth = 1050' to 500'

Cement = 13.5 ppg GM 50/50

Estimated Volume for plug = 45.02 BBLS    Thickening Time = 4.3 hrs

Estimate Washout = 10 %

Gage Volume = 40.9 BBLS

1. Pull up to 1050' or just above the previously tagged height.
2. Pump water ahead of the 10 bbl fresh water ahead of the second plug as per Schlumberger's design.
3. Pump the second cement plug as per Schlumberger design at a pump rate of 3.5 – 4 BBL/MIN. Displace cement with 2.7 bbls of fresh water to create a balanced plug. ( Used balanced less 1 BBL so on a vacuum, See Balanced Plug Calculations)
4. After placing the second plug, pull pipe up to 500' at approximately 45' per minute. While pulling out, the pipe should also be rotated with the top drive at 10-15 RPM.
5. Circulate out all cement at 500' with fresh water. While circulating, if cement is returned back to surface, bypass to the reserve pit.

6. There will not be a 4- hour wait time or need to tag the top of this plug.  
Proceed to plug #3.

### **Plug #3**

Planned Depth = 500' to 190'                      Cement = 17.0 ppg G Mountain

Estimated Volume for plug = 25.2 BBLS    Thickening Time = 2.34 hrs

Estimated washout = 10%

Gage Volume = 21.1 BBLS

1. Circulate fresh water before pumping the final plug.
2. Begin pumping the final plug @ 500' or just above.
3. Pump the third cement plug as per Schlumberger design at a pump rate of 1.0 BBL/MIN. Displace cement with 1.0 bbls of fresh water to create a balanced plug. ( Used Balance less 1 BBL so on a vacuum, See Balanced Plug Calculations)
4. After the entire plug has been pumped, and pipe has been pulled to at least 180', circulating with mud to clean all cement out of the pipe.
5. Wait on time will be 12+ hours. Pressure test BOPs while waiting on cement.

**Reminder: The thickening time for the top plug is only 2.3 hrs. If any of the mechanism needed to pull pipe break down, the cement must immediately be displaced out of the DP before thickening and hardening.**

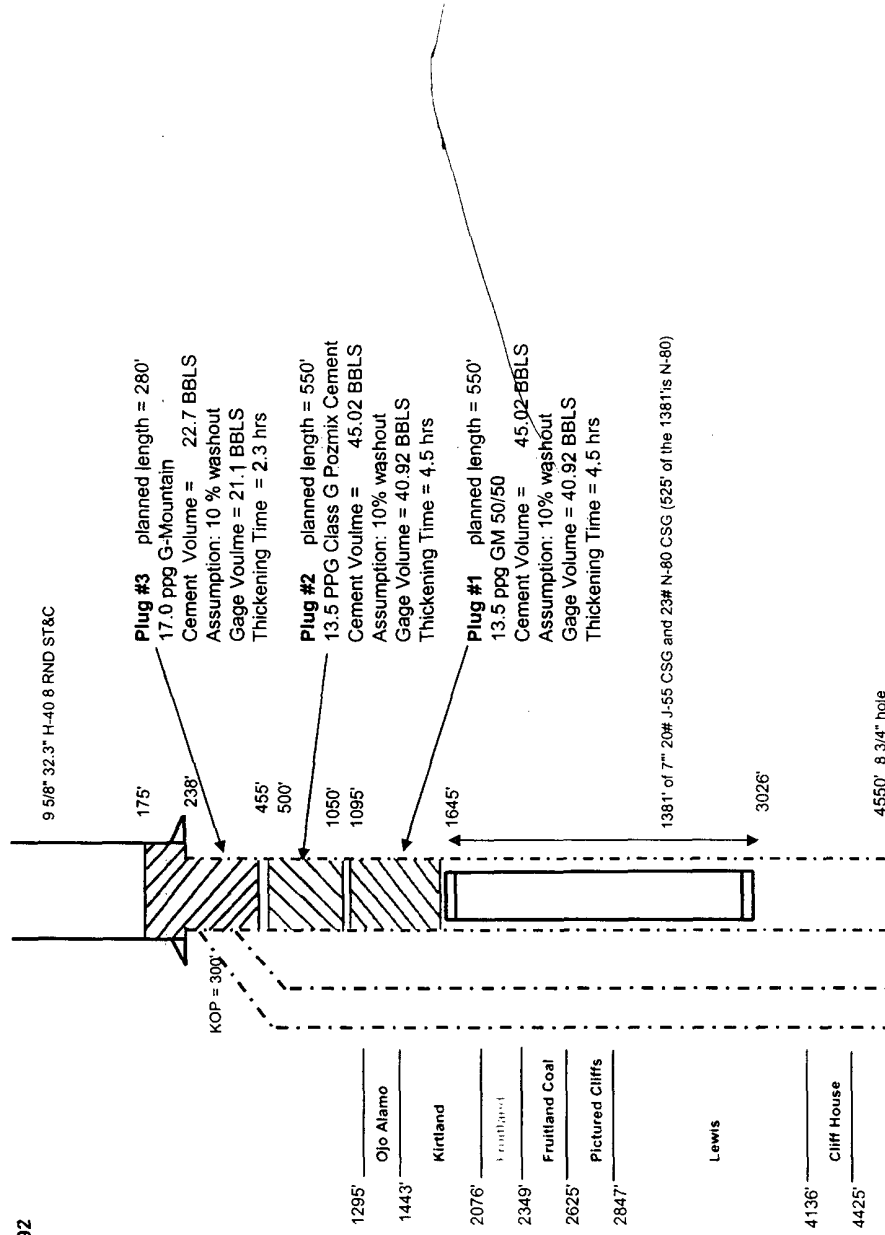


Well Name: **Ludwick LS #20E**  
Formation: **Mesa Verde/ Dakota New Drill**  
Location: **Sec 29 T30N R 10W**  
GL: **6162'**  
KB: **6178'**  
Rig: **H&P 292**  
API No: **30-045-33992**

**3.5" DP Data**  
ID (in): **2.602**  
Disp (bbl/ft): **0.00938**

**8 3/4" Gage Hole**  
Cap (bbl/ft): **0.07440**

**9.625" Surface Casing**  
ID (in): **9.001**  
Cap (bbl/ft): **0.07873**



Plug diagram planned



Well Name: Ludwick LS #20E  
Formation: Mesa Verde/ Dakota New Drill  
Location: Sec 29 T30N R 10W  
GL: 6162'  
KB: 6178'  
Rig: H&P 292  
API No: 30-045-33992

3.5" DP Data

ID (in): 2.602  
Disp (bbl/ft): 0.00938

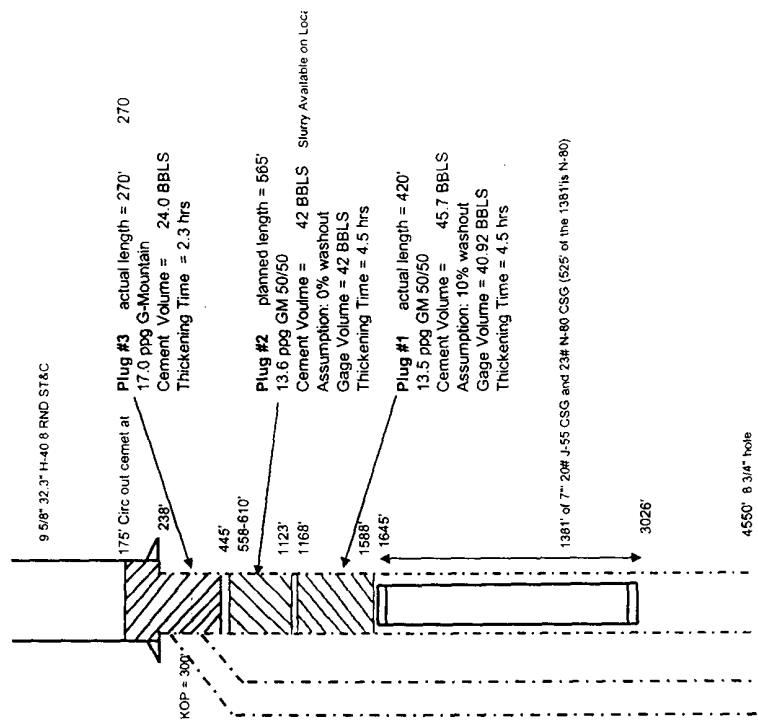
8 3/4" Gage Hole

Cap (bbl/ft): 0.07440

9.625" Surface Casing

ID (in): 9.001  
Cap (bbl/ft): 0.07873

1295'	Ojo Alamo
1443'	Kirtland
2076'	Coalbed
2349'	Fruitland Coal
2625'	Pictured Cliffs
2847'	Lewis
4136'	Cliff House
4425'	Mudstone
4957'	



Plug #3 Possible TOP		TOP	
in open hole gage	15.4017857	8.59821	128.795102
in open hole 10% washout	16.9419643	7.05804	148.356727
in open hole 20% washout	18.4821429	5.51786	167.918352
in open hole 30% washout	20.0223214	3.97768	187.479977
in open hole 40% washout	21.5625	2.4375	207.041602
Plug #4 Possible TOP			
in open hole gage	10% Wash	20% Wash	
558.52	609.8364	652.6	
0.081845	564.48	513.1636	470.4
0.089286			

Plug Diagram Actual

# Ballanced Cement Plug Calculations

### Constants

1ft3 = 7.48 GAL  
1ft3 = .178095 BBL

**Surface Equip Volume**  
3 in hose X 50' long (bbbls)

0.65694849

### Balance Plug Calculation for Cement Plug 1

Cubic Feet of Slurry Used N= 8.018  
Cap DP X OH 10% washout (bbl/ft) C= 0.06994  
Cap DP X OH 10% washout (ft^3/ft) C= 0.01246  
Cap inside DP (bbl/ft) T= 0.00658  
Cap inside DP (ft^3/ft) T= 0.00117  
  
height = N/ (C+T) h= 588.342  
Bottom of plug - height 1011.658  
Displacement Required to balance 6.656  
W/ Surface Equip 7.313  
Less 1 bbl so on a Vacuum **6.313 Pumped 6 bbl displacement**

### Balance Plug Calculation for Cement Plug 2

Cubic Feet of Slurry Used N= 8.370  
Cap DP X OH 0% washout (bbl/ft) C= 0.06994  
Cap DP X OH 0% washout (ft^3/ft) C= 0.01246  
Cap inside DP (bbl/ft) T= 0.00658  
Cap inside DP (ft^3/ft) T= 0.00117  
  
height = N/ (C+T) h= 614.218  
Bottom of plug - height 508.782  
Displacement Required to balance 3.348  
W/ Surface Equip 4.005  
Less 1 bbl so on a Vacuum **3.005**

### Balance Plug Calculation for Cement Plug 3

Cubic Feet of Slurry Used N= **4.274**  
Cap DP X OH 10% washout (bbl/ft) C= 0.06994 approx 10% ( 9.177) washout close to ID of csg (9.001  
Cap DP X OH 0% washout (ft^3/ft) C= 0.01246  
Cap inside DP (bbl/ft) T= 0.00658  
Cap inside DP (ft^3/ft) T= 0.00117  
  
height = N/ (C+T) h= 313.649  
Bottom of plug - height 135.351  
Displacement Required to balance 0.891  
W/ Surface Equip 1.548  
Less 1 bbl so on a Vacuum **0.548**



## Wash % Scenarios

3.5" DP Data

ID (in): 2.602  
Disp (bbl/ft): 0.00938

8 3/4" Gage Hole

Cap (bbl/ft): 0.07440

9.625" Surface Casing

ID (in): 9.001  
Cap (bbl/ft): 0.07873

If hole is pumped w/ 30% washout and the actual hole is one of the below scenarios

### Gage Hole (8.75)

	depth (ft)	Cap	length
Plug #1 Bottom	1600	0.07440	605.0688
Plug #1 Top	995	0.07440	
Plug #2 Bottom	950	0.07440	605.0688
Plug #2 Top	345		
Plug #3 Bottom	300		
Plug #3 Top			

%

### 10% Washout Hole (9.177")

	depth (ft)	Cap	length	
Plug #1 Bottom	1600	0.08185	550.0625	9.177077
Plug #1 Top	1050	0.08185		
Plug #2 Bottom	1005	0.08185	550.0625	
Plug #2 Top	455			
Plug #3 Bottom	410			
Plug #3 Top				

### 20% Washout Hole (9.585")

	depth (ft)	Cap	length	
Plug #1 Bottom	1600	0.08929	504.224	9.585145
Plug #1 Top	1096	0.08929		
Plug #2 Bottom	1051	0.08929	504.224	
Plug #2 Top	547			
Plug #3 Bottom	502			
Plug #3 Top	53			

### 25% Washout Hole (9.783")

	depth (ft)	Cap	length	
Plug #1 Bottom	1600	0.09301	484.055	9.782797
Plug #1 Top	1116	0.09301		
Plug #2 Bottom	1071	0.09301	484.055	52.53183
Plug #2 Top	587			185.4682
Plug #3 Bottom	542			14.60278
Plug #3 Top	128			

OVER

122 11.34722

<b>30% Washout Hole (9.976")</b>	depth (ft)	Cap	length	9.976535
Plug #1 Bottom	1600			
Plug #1 Top	1095			
Plug #2 Bottom	1050			
Plug #2 Top	500			
Plug #3 Bottom	455			
Plug #3 Top	175			

<b>40% Washout Hole (10.353")</b>	depth (ft)	Cap	length	10.35314
Plug #1 Bottom	1600	0.10417	433.92	
Plug #1 Top	1166	0.10417		
Plug #2 Bottom	1121	0.10417	513.6	
Plug #2 Top	607			
Plug #3 Bottom	562			
Plug #3 Top	313			