



west virginia department of environmental protection

Office of Oil and Gas
601 57th Street SE
Charleston, WV 25304
(304) 926-0450
(304) 926-0452 fax

Earl Ray Tomblin, Governor
Randy C. Huffman, Cabinet Secretary
www.dep.wv.gov

April 01, 2014

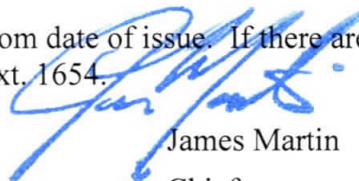
WELL WORK PLUGGING PERMIT

Plugging

This permit, API Well Number: 47-5101190, issued to CHEVRON APPALACHIA, LLC, is evidence of permission granted to perform the specified well work at the location described on the attached pages and located on the attached plat, subject to the provisions of Chapter 22 of the West Virginia Code of 1931, as amended, and all rules and regulations promulgated thereunder, and to all conditions and provisions outlined in the pages attached hereto. Notification shall be given by the operator to the Oil and Gas Inspector at least 24 hours prior to the construction of roads, locations, and/or pits for any permitted work. In addition, the well operator shall notify the same inspector 24 hours before any actual well work is commenced and prior to running and cementing casing. Spills or emergency discharges must be promptly reported by the operator to 1-800-642-3074 and to the Oil and Gas inspector.

Upon completion of the plugging well work, the above named operator will reclaim the site according to the provisions of WV Code 22-6-30. The above named operator will also file, as required in WV Code 22-6-23, an affidavit on form WR-38 by two experienced persons in the operator's employment and the Oil and Gas inspector that the work authorized under this permit was performed and a description given. Failure to abide by all statutory and regulatory provisions governing all duties and operations here under may result in suspensions or revocation of this permit and in addition may result in civil and/or criminal penalties being imposed upon the operator.

This permit will expire in two (2) years from date of issue. If there are any questions, please free to contact me at (304) 926-0499 ext. 1654.



James Martin
Chief

Operator's Well No: FRANCIS 1
Farm Name: FRANCIS, BARBARA
API Well Number: 47-5101190
Permit Type: Plugging
Date Issued: 04/01/2014

Promoting a healthy environment.

PERMIT CONDITIONS

West Virginia Code § 22-6-11 allows the Office of Oil and Gas to place specific conditions upon this permit. Permit conditions have the same effect as law. Failure to adhere to the specified permit conditions may result in enforcement action.

CONDITIONS

1. All pits must be lined with a minimum of 20 mil thickness synthetic liner.
2. In the event of an accident or explosion causing loss of life or serious personal injury in or about the well or while working on the well, the well operator or its contractor shall give notice, stating the particulars of the accident or explosion, to the oil and gas inspector and the Chief within twenty-four (24) hours.
3. Well work activities shall not constitute a hazard to the safety of persons.

5101190P

WW-4B
Rev. 2/01

1) Date 1/28/2014, 20
2) Operator's
Well No. Francis 1
3) API Well No. 47-051 - 01190

STATE OF WEST VIRGINIA
DEPARTMENT OF ENVIRONMENTAL PROTECTION
OFFICE OF OIL AND GAS

APPLICATION FOR A PERMIT TO PLUG AND ABANDON

- 4) Well Type: Oil / Gas X / Liquid injection / Waste disposal /
(If "Gas, Production or Underground storage) Deep / Shallow X
- 5) Location: Elevation 1265 Watershed Bartletts Run
District Clay County Marshall Quadrangle Glen Easton
- 6) Well Operator Chevron Appalachia, LLC 7) Designated Agent
Address 800 Mountain View Drive Address
Smithfield, PA 15478
- 8) Oil and Gas Inspector to be notified 9) Plugging Contractor
Name Jim Nicholson Name Please see attached procedure
Address PO Box 44 Address
Moundsville, WV 26041

10) Work Order: The work order for the manner of plugging this well is as follows:

Please see attached "Plug & Abandon" Procedure

OK [signature]

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Notification must be given to the district oil and gas inspector 24 hours before permitted work can commence.

Work order approved by inspector Date



Chevron Appalachian Michigan Business Unit

Francis 1V

Plug and Abandon Procedure
Expected Start Date: February 2013

1H	
WBS	UWSAP – A4000 - 001
API	47-051-01190

County	Marshall	State	West Virginia
WL / Tools Co.	SLB	Latitude	39° 52' 24.68" North
Cement Co.	SLB Cementing	Longitude	80° 41' 32.14" West

Objective:

Set a cement retainer to cement the perforations. This will be followed by removal of free pipe and setting cement plugs over water and coal zones to surface to complete the P&A.

Completion Design Review:

Listed below are the members of the well team who were in attendance and agreement with the completion procedure as discussed.

Created by:	Sean Wainwright – Completions Engineer	

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Chevron is committed to providing a safe working environment for all personnel through the tenets we live by such as **Do it safely or not at all. Stop Work Authority** means all personnel not only have the right but the responsibility to stop any potentially unsafe job. **Report all injuries, no matter how minor, 24/7 to Axiom Medical at 1-877-502-9466.**

Directions:

From the intersection of SR 88 and SR 250 (near Limestone WV) follow SR 250 South for (8.0 mi.), make a right onto Fork Ridge Rd. (Co. Hwy 17), and follow for 7.2 miles to lease entrance on right.

- The Francis 1V has a shared lease entrance with Williams.
- The Francis Pad is 0.4 miles down the lease entrance on the right.

Site Specific Safety Precautions:

- See Picture below.

Casing Design:

SIZE	WEIGHT	DEPTH
9 5/8"	36.0#	2,491'
5.5"	20.0#	6,727'

Pressure and Dimensional Data:

SIZE	WEIGHT	GRADE	BURST	COLLAPSE
20"		Conductor		
13 3/8"	54.5#	K-55		
9 5/8"	36#	K-55	3,520	2,020
5 1/2"	20.0#	P-110	12,640	11,080
2 3/8"	4.7#	J-55	7,700	8,100

Capacities:

SIZE	WEIGHT	CAPACITY (BBL/FT.)
5 1/2"	20.0#	0.0222
2 3/8"	4.7#	0.0039
2 3/8"-5 1/2" annulus	n/a	0.0167
2 3/8"-9 5/8" annulus	n/a	0.0718
2 3/8"-8 1/2"OH	n/a	0.0689

Tbg Detail:

DESCRIPTION	ID	LENGTH	DEPTH
Tbg. Hanger		0.00'	0.00'
204 Joints	1.995"	6,464	6,464'
X Nipple	1.875"	1.05'	6,465'
1 Joint	1.995"	31.6'	6,496'
Pup	1.995"	8.00'	6,504'
Pup	1.995"	8.00'	
EOT (Pump off Bit Sub)			6,512'

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Cement Specifications:

- TOC between 5.5" and 8.75" open hole is expected to be at ~2,500' by CBL.

Formation Specifics:

Coal Depth		Coal Name	Origin of Info
800'	805'	Pittsburgh	Log
Water Depth		Type	
1,272'	1,303'	Big Dunkard	Log
Productive Zones		Zone	
6,310'	6,398'	Burkette	Mudlog Gas Shows
6,511'	6,560'	Marcellus	Mudlog Gas Shows

Initial Meeting

14 days prior to starting this workover procedure, hold a meeting, on location, with a Chevron Production representative and service rig contractor to discuss timing and needs of upcoming job. At this time the service rig contractor should make their "One Call" and also develop a site plan layout and have it to the correct Chevron personnel in a timely manner for site prep. 7 days prior to starting this workover procedure, ensure anchors are set (pull tested and charted), begin site prep and notify all business partners of start date and ensure all needed tools, equipment, tanks, fluids and tbg are available and on location by time of start date.

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Workover Procedure Details

1) Site Prep:

Francis 1V PA Procedure



1. Hold Tailgate Safety Meeting and review all contractors JSA material for specific job task.
2. Check location and use pump style gas monitor with wand to check cellars for hazardous readings.
 - Any gas detection in work area requires **Stop Work Authority (SWA)**.
3. MIRU containment (per site layout and needs) and surface rental equipment.
4. MIRU 3 500 bbls frac tanks and 2 500 bbls flowback tanks. Fill one (1) frac tank with (500 bbls) of produced water, fill the other 2 frac tanks with 500 bbls of fresh water each.
5. MIRU (2) 500bbl flow back tanks.
6. Obtain and record shut-in pressures on well and annulus.
 - **Last recorded Csg. psi was 2,200 psi. (2/22/14)**
 - **Last recorded Tbg.. psi was 2,100 psi. (2/22/14)**
7. Rig up flow back crew utilizing 15K frac iron and choke manifold from 9 5/8" annulus to certified flow back tank.
8. Verify 9 5/8" x 5 1/2" annulus pressure is 0 psi. If any psi is observed bleed psi down to 0 psi.
 - Monitor surface CSG pressure/flow during circulating & pumping operations.
 - Monitor pressure on the annulus throughout the job and leave open during working hours. Call engineer if it changes.
9. MIRU Key Service Rig and all ancillary equipment.

2) Kill Well:

10. Bullhead, the well, down the back side of the tbg with 120 bbls of produced water at 3.0 – 5.0 bpm to fill annulus.
 - Do not exceed max pressure of 4,000 psi (5k production tree and a 20% safety factor = 4,000 psi).
11. Bullhead, the well, down the tbg with 30 bbls of produced water at at 3.0 – 5.0 bpm to fill tbg.
 - Do not exceed max pressure of 4,000 psi (5k production tree and a 20% safety factor = 4,000 psi).

Bullheading is to displace any condensate back into the formation so as to not retrieve it on surface.

12. Close tubing and casing valves and monitor pressure for 30 minutes to ensure the well is dead.
 - If psi is seen, bleed off psi and pump additional fluid as necessary to kill well.

3) Gyro Survey:

13. Hold Tailgate Safety Meeting and review all contractors JSA material for specific job task.
14. Spot equipment on location and assure spotters are utilized for all movement.
15. Check for psi and remove night cap.
 - If psi is on the well, bleed down and monitor well for 30 minutes to ensure no buildup.
16. RU wire line unit.
17. PU gauge ring and junk basket into lubricator.
18. Stab lubricator onto well head and test to 4,000 psi.
19. Bleed lubricator down to 0 psi.
20. Open production tree master valves and RIH to **6,425'**
21. POOH and examine junk basket.
22. PU gyro data survey tools into lubricator, stab onto well head, and test to 4,000 psi.
23. Bleed lubricator down to 0 psi.
24. Open production tree master valves and RIH to **6,425'**
25. Log up to surface.
26. Get log on hard copy and digital and distribute as needed.
 - **Send 2 Hard Copies of each log to office for Engineer to review.**

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27. RDMO survey unit.

4) **Wellhead Rigdown:**

28. Ensure well is at 0 psi.
 - If psi is seen, bleed off psi and pump additional fluid as necessary to kill well.
29. Lubricate in Weatherford BPV in tubing hanger
30. ND existing production tree.
31. NU 7 1/16" BOP stack with blind rams on the bottom and 2 3/8" pipe rams on the top with annular.
32. Function test BOP.
33. Close BOP blind rams
34. Remove BPV and replace with a two way check.
35. RU pumps to BOP valves.
36. Pressure test BOP 250 low/ 5,000 high psi.
37. Remove two way check.

5) **Pull Tubing:**

38. MU 2 3/8" EUE FOSV (TIW) on tubing sub and close FOSV.
39. Stab into tubing hanger with tubing sub.
40. PU tubing and remove tubing sub FOSV and hanger.
41. Keep 2 3/8" EUE FOSV on standby on the rig floor and in the open position.
42. POOH
 - 204 Joints of 2 3/8" 4.7# J-55 EUE 8 rnd tubing
 - "X" Profile Nipple (1.875" ID)
 - 1 Joint of 2 3/8" J-55 EUE 8 rnd tubing
 - Pump off bit Sub
43. Close BOP's.
44. Check all tbgr. for NORM.
45. If tubing is too corroded, damaged, or does not pass the NORM inspection, lay it down and pick up new tubing for a workstring.

6) **Run Cement Retainer:**

46. P/U and RIH with 4 5/8" tri-cone bit and CO to 5,500' be sure to keep well full of fluid.
47. POOH with bit and scraper.
48. P/U cement retainer.
49. RIH w/tubing and cement retainer to 5,500'.
50. Set cement retainer.
51. Sting out of retainer and pressure test to 1,000psi.
52. Sting back into retainer and stack out to tool hands recommended weight.

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7) **Cement Marcellus:**

53. Begin circulating fresh water down the 2 3/8" tubing increasing rate in increments of 0.5 bpm to establish an injection rate below 5,800 psi.



- Burst pressure of 2 3/8", 4.7#, J-55 tubing is 7,700 psi and a 25% safety factor = 5800 psi
- 54. An injection rate is established once the pressure stabilizes and does not continue to increase, preferably 3.0 bpm or above.
- 55. Once an injection rate has been established, sting into cement retainer and begin squeezing cement into the perforations below the cement retainer.
- 56. Pump a total of 35 bbls or 165 sks (25% excess) of cement at 15.6 ppg (1.18 cu-ft/sk)
- 57. Displace cement with 19.25 bbls of fresh water. Do not exceed max pressure of 5,800 psi
- 58. Sting out of cement retainer and bleed pressure off.
- 59. Disconnect cement iron from tubing and open tubing valve to allow last 100' of cement to fall.

If max pressure is reached prior to displacement sting out of retainer and reverse circulate cement out.

- 60. POOH with 3 stands of tubing ~191'.
- 61. Reverse circulate tubing until returns are clean.
- 62. Circulate 100 bbls of fresh water to ensure well is full of fresh water above TOC/cement retainer.
- 63. Close BOP's, secure the well, and shut down over night to Wait on Cement (WOC), or a minimum of 4 hours if cement is pumped in the morning.

8) Next Day:

- 64. RIH with tbg. to determine top of cement. (Note and Record TOC in WV)
- 65. PU tubing 2-3'
- 66. Pressure test well to 1,000 psi and hold for 5 minutes. Scan copy of psi test to completion engineer.
- 67. Circulate 69 bbl of 6% Bentonite gel. (*Bentonite gel will be from 2,400'-5,400'*)
- 68. POOH
- 69. PU 5.5" RBP and RIH to set at 500'
- 70. POOH
- 71. Test plug to 1,000 psi

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9) Pull Free Casing:

- 72. RD 7 1/16" BOP stack and tubing spool.
- 73. Pick up casing spear, stab casing, and remove casing slips.
- 74. RU 11" 5M BOP stack with blind rams on the bottom and 5.5" pipe rams on the top.
- 75. MIRU Wireline Unit.
- 76. RIH and Retrieve Bridge Plug.
- 77. POOH
- 78. RU wireline and casing spear, and stab into 5.5" casing with casing spear.
- 79. RIH with wireline freepoint tool to determine 5.5" free point.
- 80. POOH with spear and freepoint tool.
- 81. RU chemical cutting tool and RIH - cut casing at ~50' above free point. (Est. ~2,440')
- 82. POOH with Csg. Spear and chemical cutting tool.
- 83. RU 5.5" casing handler and stab onto 5.5 casing
- 84. TOOH with free 5.5" casing keeping the well full of fluid (have FOSV on standby with 5.5" CDC star threads).
- 85. Close BOP's.
- 86. Check all csg. for NORM.

10) Set Remaining Plugs:

- 87. Close BOP blind rams and change out 5.5" pipe rams with 2 3/8" pipe rams.
- 88. Spot RU Wireline Unit.



89. PU, solid composite 10K Cast Iron Bridge Plug (CIBP) and WL tools.
90. RIH with BHA to 3,000'.
91. PU and set solid CIBP at 2,600', or a minimum of 200' below where casing was cut.
92. Ensure CIBP is set and free from wireline, record line tension and weight and POOH.
93. PU & RIH with 2 3/8", 4.7#, J-55 tubing to top of CIBP.
94. Circulate hole full of 6% bentonite gel (~175bbls).
95. Pump a total of 35.4 bbls or 307 sks of cement at 15.6 ppg (1.18 cu-ft/sk)
 - o Estimated TOC to be at 2,000'.
96. POOH with 20 stands of tubing reverse circulate and WOC (minimum of 4 hours)
97. RIH and tag plug (Note and Record TOC in WV).
98. POOH laying down all tbg except 500'
99. PU 9 5/8" CIBP.
100. RIH and set 9 5/8" CIBP at ~500'
101. Circulate hole full, to surface, with 35.9 bbls or 257 sks of cement at 15.6 (1.18 cu-ft/sk).
102. POOH w/2 3/8" tubing, free fall cement in 9 5/8" casing to surface if needed, and shut-in.
103. RDMO all BPs.
104. Verify with DEP, wellhead removal and proceed as instructed.
 - o Upon the completion of plugging and filling of any abandoned well, permanent monument or marker consisting of a length of pipe (min diameter of 6") filled with concrete shall be erected over the well; the marker shall extend no less than 30" above the surface and not less than 10' below the surface, and shall be filled with concrete for the purpose of making the marker permanent. The API well identification number, which consists of the state (47), county (001 through 109), and permit number shall be attached or stamped in a permanent manner to said monument; and such numbering shall be no less than 1/2" in height and shall be detectable by any interested person approaching the marker.

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Current Well Bore Condition before P&A

Well: Francis #1	Clay Dist, Glen Easton 7.5' Quad	Updated: 11/8/10
County: Marshall	State: West Virginia	Status: Producing
Directions: See Prognosis	Location: 600' S of Lat 39° 52' 30"	Survey: Clay Dist, Glen Easton 7.5' Quad
Well Type: Vertical	Lease: 7 150' W of Long 80° 40' 00"	API# 47-051-01190
Elevation: GL: 1265'	Completed Well	Note: All depths MD unless noted
DF: 1282'		Build Location: Begin: 10/24/08 End: 11/4/08
KB: 1283'		Spud: 11/7/08
24" Hole @ 65'		Rig Release: 12/12/08
20" 90# Conductor Csg @ 65'		Completed: 3/29/09
Cemented w 25 sxs - Circ		First Production: 11/5/10
17 1/2" Hole @ 970'		Turned Over to AB Resources
13 3/8" 54.5# Surface Csg @ 966'		Air / Foam Drilling Method - Rotary
Cemented w 950 sxs		Rig: UDI #43 (KB: 18' Ziegenfuss Set Cond Pipe
12 1/4" Hole @ 2495'		
9 5/8" 36# Intermediate Csg @ 2491'		
Cemented w 1040 sxs - Circ		
Sidetrack @ 5161'		
8 1/2" Hole @ 5661'		Tubing: 2 3/8" 4.7#
7 7/8" Hole @ 6744'		204 - 2 3/8" Joints
TOC @ 2490' by CBL		6464' 1 - 1.875" ID X Nipple
		1 - 2 3/8" Joint
		Pump-off Bit Sub
		6512' EOT
Logged & Took Cores		
Penetrate Marcellus: 6511' MD		
Maximum Deviation -		
Displacement -		
3/10/09: BJ Frac w/ 12,116 BFW (Treated)	Burkett: Top @ 6379' 88 Holes	
263,000# 100 Mesh & 221,000# 40/70 sand.	2nd Stg Perfs: 6310' - 6330' 21 Holes	
sand. BD psi NA & BPM NA.	6365' - 6398' 67 Holes	
Avg 65 BPM @ 3862 psi. ISIP 2969 psi.		
LTR: 24,379 bbls	Marcellus: Top @ 6511' 51 Holes	
	1st Stg Perfs: 6510' - 6560' 51 Holes	
3/9/09: BJ Frac w/ 12,263 BFW (Treated)	RECEIVED	
263,000# 100 Mesh & 263,000# 40/70 sand.	Office of Oil and Gas	
BD @ 3836 psi @ 6.9 BPM.		
Avg 50.5 BPM @ 3973 psi. ISIP psi NA.	APR 1 2014	
LTR: 12,263 bbls - Well Screened Out	WV Department of Environmental Protection	
	3/14/09: Ran Memory Tool	
5 1/2" 20# P-110 Csg @ 6727'		
Cemented w 970 sxs		
	PBTD: 6679'	
	TD: 6744'	



Completions AFE

Well Head

Chevron Francis 1V
Well Head.pdf

Schlumberger Cement Proposal

Chevron_Francis 1
_Abandonment_Plugs

Risk Assessment

P&A Risk Assessment

**APPENDIX B – Bottom Hole Assemblies (BHA)
Schlumberger Wireline – Cement Retainer & CIBPs**

4 500 - 8 625
CEMENT RETAINER (

BIG BOY CIBP.pdf

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APPENDIX C – Contacts

Francis 1V PA Procedure

Morning Daily Call at 8:30am

Phone # = (877)-344-4239

Event ID Code = 726999

Company	Contact Name	Title	Mobile	E-mail
Chevron, AMBU	Wimberg, Jim	Completions Superintendent	(412) 559-2893	jwimberg@chevron.com
Chevron, AMBU	Otero, Stephan	Completion Team Lead	(412) 522-8181	sotero@chevron.com
Chevron, AMBU	Wainwright, Sean	Completion Engineer	(412) 865-1479	SWainwright@chevron.com

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STATE OF WEST VIRGINIA
DEPARTMENT OF ENVIRONMENTAL PROTECTION, OFFICE OF OIL AND GAS
WELL WORK PERMIT APPLICATION

1) Well Operator AB Resources PA LLC Operator ID 51 2 370
County Marshall District Clay Quadrangle

2) Operator's Well Number: Francis #1 3) Elevation: 1265.2'

4) Well Type: (a) Oil or Gas
 (b) If Gas: Production / Underground Storage
 Deep / Shallow

5) Proposed Target Formation(s): Marcellus Shale

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6) Proposed Total Depth: 8,000 Feet

7) Approximate fresh water strata depths: 60 - 100 feet

OCT 01 2008

8) Approximate salt water depths: None

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9) Approximate coal seam depths: 810 feet Pittsburgh Coal

10) Does land contain coal seams tributary to active mine? No

11) Describe proposed well work Drill well in order to test and produce from the Marcellus Shale. TD to be approximately 150 feet below the base of the Marcellus Shale formation.

12) CASING AND TUBING PROGRAM

TYPE	SPECIFICATIONS			FOOTAGE INTERVALS		CEMENT
	Size	Grade	Weight per ft	For Drilling	Left in Well	
Conductor	20"	J-55	90	20'	20'	20
Fresh Water	13 3/8"	J-55	54.5	950'	950'	660 to surface
Coal						
Intermediate	9 5/8"	J-55	36	2,500'	2,500'	504
Production	5 1/2"	P-110	20		8,000'	568
Tubing	2 3/8"	J-55	4.7			
Liners						

Trw 29 Sep 2008

Packers: Kind
 Sizes
 Depths Set

AK# 5736

57011909

WR-35

State of West Virginia
Department of Environmental Protection
Office of Oil and Gas
Well Operator's Report of Well Work

DATE: 12/4/2009
API#: 4705101190

Farm Name: Francis Operator Well #: 1
Location Elev. (ft): 1265 Quadrangle: Glen Easton
District: Clay County: Marshall

LAT: 600 Ft South of: 39 Deg. 52 Min. 30 Sec.
LON: 7150 Ft West of: 80 Deg. 40 Min. 00 Sec.

Company: AB RESOURCES
Address: 6802 W Snowville Rd. Suite E
Brecksville, OH 44141
Agent: CT CORPORATION SYSTEMS
Inspector: TRISTAN JENKINS
Date Permit Issued: 10/22/2008
Date Work Commenced: 11/7/2008
Date Well Completed: 3/29/2009
Verbal Plugging: NA
Date Perm. Granted: NA
Drill Type: ROTARY
 CABLE
 RIG
Total Depth (ft): 6744
Fresh Water Depth (ft): NA
Salt Water Depth (ft): NA
Active Coal Mining: YES NO NA
Coal Depths (ft): NA

Csg/Tbg Diam"	Used in Drilling	Left in Well	Cement Fill (ft ³)
<u>13 3/8</u>	<u>966</u>	<u>966</u>	<u>1235 cts</u>
<u>9 5/8</u>	<u>2491</u>	<u>2491</u>	<u>1079 cts</u>
<u>5 1/2</u>	<u>6727</u>	<u>6727</u>	<u>1261 (ct 2490')</u>
<u>2 3/8</u>	<u>6512</u>	<u>6512</u>	

OPEN FLOW DATA

1st PRODUCING FORMATION: MARCELLUS PAY ZONE DEPTH (ft): 6511
GAS: Init. Open Flow: Na MCF/d OIL: Init. Open Flow: Na Bbl/d
Final Open Flow: Na MCF/d Final Open Flow: Na Bbl/d
Time of open flow between initial and final tests: Na Hours
ROCK Static Pressure: Na psig (surface pressure) after Na Hours
2nd PRODUCING FORMATION: BURKETT PAY ZONE DEPTH (ft): 6379
GAS: Init. Open Flow: Na MCF/d OIL: Init. Open Flow: Na Bbl/d
Final Open Flow: Na MCF/d Final Open Flow: Na Bbl/d
Time of open flow between initial and final tests: Na Hours
ROCK Static Pressure: Na psig (surface pressure) after Na Hours

Company Name: AB Resources
Signature: [Handwritten Signature]
Name (PRINT): James K. Wilson
Date: 2/9/10

Submit to:
West Virginia Department of Environmental Protection
Office of Oil and Gas
601 57th Street, SE
Charleston, WV 25304-2345
Phone: (304) 926-0450
Fax: (304) 926-0452

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WW-4A
Revised 6-07

1) Date: 1/28/2014
2) Operator's Well Number
Francis 1

3) API Well No.: 47 - 051 - 01190

STATE OF WEST VIRGINIA
DEPARTMENT OF ENVIRONMENTAL PROTECTION, OFFICE OF OIL AND GAS
NOTICE OF APPLICATION TO PLUG AND ABANDON A WELL

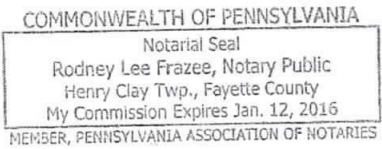
4) Surface Owner(s) to be served:	5) (a) Coal Operator
(a) Name <u>Caiman Eastern Midstream, LLC</u>	Name <u>N/A</u>
Address <u>5949 Sherry Lane, Suite 1300</u>	Address _____
<u>Dallas TX 75225</u>	_____
(b) Name <u>Williams Ohio Valley Midstream, LLC</u>	(b) Coal Owner(s) with Declaration
Address <u>PO Box 645</u>	Name <u>Consolidation Coal Company (Pittsburgh Seam)</u>
<u>Tulsa, OK 74101</u>	Address <u>1000 Consol Energy Drive</u>
(c) Name _____	<u>Canonsburg, PA 15317</u>
Address _____	Name <u>Barbara Pearl Francis (All other seams)</u>
_____	Address <u>413 Filbert Drive</u> ✓
_____	<u>Moundsville, WV 26041</u>
6) Inspector <u>Jim Nicholson</u>	(c) Coal Lessee with Declaration
Address <u>PO Box 44</u>	Name <u>N/A</u>
<u>Moundsville, WV 26041</u>	Address _____
Telephone <u>(304) 552-3874</u>	_____

TO THE PERSONS NAMED ABOVE: You should have received this Form and the following documents:

- (1) The application to Plug and Abandon a Well on Form WW-4B, which sets out the parties involved in the work and describes the well its and the plugging work order; and
- (2) The plat (surveyor's map) showing the well location on Form WW-6.

The reason you received these documents is that you have rights regarding the application which are summarized in the instructions on the reverses side. However, you are not required to take any action at all.

Take notice that under Chapter 22-6 of the West Virginia Code, the undersigned well operator proposes to file or has filed this Notice and Application and accompanying documents for a permit to plug and abandon a well with the Chief of the Office of Oil and Gas, West Virginia Department of Environmental Protection, with respect to the well at the location described on the attached Application and depicted on the attached Form WW-6. Copies of this Notice, the Application, and the plat have been mailed by registered or certified mail or delivered by hand to the person(s) named above (or by publication in certain circumstances) on or before the day of mailing or delivery to the Chief.



Well Operator: Chevron Appalachia, LLC
 By: [Signature]
 Its: Construction Permitting Team Lead
 Address: 800 Mountain View Drive
Smithfield PA 15478
 Telephone: 724-564-3745

Subscribed and sworn before me this 30th day of January, 2014
Rodney Lee Frazee Notary Public
 My Commission Expires January 12, 2016

Received

Oil and Gas Privacy Notice

The Office of Oil and Gas processes your personal information, such as name, address and phone number, as a part of our regulatory duties. Your personal information may be disclosed to other State agencies or third parties in the normal course of business or as needed to comply with statutory or regulatory requirements, including Freedom of Information Act requests. Our office will appropriately secure your personal information. If you have any questions about our use of your personal information, please contact DEP's Chief Privacy Officer at depprivacyofficer@wv.gov.

Office of Oil and Gas
WV Dept. of Environmental Protection

FEB 21 2014

Received

FEB 1 1988

WI Dept. of Environmental Protection
Office of Oil and Gas

5101190P

SENDER: COMPLETE THIS SECTION	COMPLETE THIS SECTION ON DELIVERY	
<ul style="list-style-type: none"> Complete items 1, 2, and 3. Also complete item 4 if Restricted Delivery is desired. Print your name and address on the reverse so that we can return the card to you. Attach this card to the back of the mailpiece, or on the front if space permits. 	A. Signature <input checked="" type="checkbox"/> <i>E Jones</i> <input type="checkbox"/> Agent <input type="checkbox"/> Addressee	
	B. Received by (Printed Name) <i>E Jones</i>	C. Date of Delivery <i>2/4/14</i>
1. Article Addressed to: <div style="border: 1px solid black; padding: 5px; text-align: center;"> Caiman Eastern Midstream LLC 5949 Sherry Lane, Suite 1300 Dallas, TX 75225 ✓ </div>	D. Is delivery address different from item 1? <input type="checkbox"/> Yes If YES, enter delivery address below: <input type="checkbox"/> No	
3. Service Type <input checked="" type="checkbox"/> Certified Mail® <input type="checkbox"/> Priority Mail Express™ <input checked="" type="checkbox"/> Registered <input type="checkbox"/> Return Receipt for Merchandise <input type="checkbox"/> Insured Mail <input type="checkbox"/> Collect on Delivery		
4. Restricted Delivery? (Extra Fee) <input type="checkbox"/> Yes		
2. Article Number (Transfer from service label)	7013 0600 0001 4225 5235	
PS Form 3811, July 2013 Domestic Return Receipt		

SENDER: COMPLETE THIS SECTION	COMPLETE THIS SECTION ON DELIVERY	
<ul style="list-style-type: none"> Complete items 1, 2, and 3. Also complete item 4 if Restricted Delivery is desired. Print your name and address on the reverse so that we can return the card to you. Attach this card to the back of the mailpiece, or on the front if space permits. 	A. Signature <input checked="" type="checkbox"/> <i>A Kelly</i> <input type="checkbox"/> Agent <input type="checkbox"/> Addressee	
	B. Received by (Printed Name) <i>G Bell</i>	C. Date of Delivery <i>2-3-14</i>
1. Article Addressed to: <div style="border: 1px solid black; padding: 5px; text-align: center;"> Consolidation Coal Company 1000 Consol Energy Drive Canonsburg, PA 15317 ✓ Attention: Don Puglio </div>	D. Is delivery address different from item 1? <input type="checkbox"/> Yes If YES, enter delivery address below: <input type="checkbox"/> No	
3. Service Type <input checked="" type="checkbox"/> Certified Mail® <input type="checkbox"/> Priority Mail Express™ <input checked="" type="checkbox"/> Registered <input type="checkbox"/> Return Receipt for Merchandise <input type="checkbox"/> Insured Mail <input type="checkbox"/> Collect on Delivery		
4. Restricted Delivery? (Extra Fee) <input type="checkbox"/> Yes		
2. Article Number (Transfer from service label)	7013 0600 0001 4225 5242	
PS Form 3811, July 2013 Domestic Return Receipt		

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FEB 20 2014
WV Department of
Environmental Protection

5101190P

SENDER: COMPLETE THIS SECTION	COMPLETE THIS SECTION ON DELIVERY
<ul style="list-style-type: none"> ■ Complete items 1, 2, and 3. Also complete item 4 if Restricted Delivery is desired. ■ Print your name and address on the reverse so that we can return the card to you. ■ Attach this card to the back of the mailpiece, or on the front if space permits. 	<p>A. Signature <input type="checkbox"/> Agent <input checked="" type="checkbox"/> Addressee</p>
<p>1. Article Addressed to:</p> <p>Williams Ohio Valley Midstream LLC PO Box 645 Tulsa, OK 74101</p>	<p>B. Received by (Printed Name) <input type="checkbox"/> Date of Delivery</p> <p>K. W. ... FEB 27 20</p>
<p>2. Article Number (Transfer from service label)</p>	<p>D. Is delivery address different from item 1? <input type="checkbox"/> Yes If YES, enter delivery address below: <input type="checkbox"/> No</p> <p>3. Service Type <input type="checkbox"/> Certified Mail® <input type="checkbox"/> Priority Mail Express™ <input type="checkbox"/> Registered <input type="checkbox"/> Return Receipt for Merchandise <input type="checkbox"/> Insured Mail <input type="checkbox"/> Collect on Delivery</p> <p>4. Restricted Delivery? (Extra Fee) <input type="checkbox"/> Yes</p>
<p>7013 2630 0002 1058 2855</p>	

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Have questions? We're here to help.

Tracking Number: 7013060000142255341

Product & Tracking Information

Postal Product: Certified Mail™

Available Actions

Email Updates

DATE & TIME	STATUS OF ITEM	LOCATION
February 14, 2014, 10:47 am	Delivered	MOUNDSVILLE, WV 26041
February 14, 2014, 8:15 am	Out for Delivery	MOUNDSVILLE, WV 26041
February 14, 2014, 8:05 am	Sorting Complete	MOUNDSVILLE, WV 26041
February 14, 2014	Depart USPS Sort Facility	PITTSBURGH, PA 15290
February 14, 2014, 6:52 am	Arrival at Unit	MOUNDSVILLE, WV 26041
February 14, 2014, 12:19 am	Processed through USPS Sort Facility	PITTSBURGH, PA 15290
February 13, 2014, 9:29 pm	Processed through USPS Sort Facility	PITTSBURGH, PA 15290

Track Ar

What's your track

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Sent To
 Barbara Pearl Francis
 Street, Apt. No. or PO Box No. 113 Filbert Drive ✓
 City, State, ZIP+4 Moundsville, WV 26041

PS Form 3800, August 2006

See Reverse for Instructions

OTHER USPS SITES
 Business Customer Gateway >
 Postal Inspectors >
 Inspector General >
 Postal Explorer >

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WV Department of
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5101190P

SURFACE OWNER WAIVER

Operator's Well
Number

Francis 1

INSTRUCTIONS TO SURFACE OWNERS NAMED ON PAGE WW4-A

The well operator named on page WW-4A is applying for a permit from the State to plug and abandon a well. (Note: If the surface tract is owned by more than three persons, then these materials were served on you because your name appeared on the Sheriff's tax ticket on the land or because you actually occupy the surface tract. In either case, you may be the only owner who will actually receive these materials.) See Chapter 22 of the West Virginia Code. Well work permits are valid for 24 months. If you do not own any interest in the surface tract, please forward these materials to the true owner immediately if you know who it is. Also, please notify the well operator and the Office of Oil and Gas.

**NOTE: YOU ARE NOT REQUIRED TO FILE ANY COMMENT.
WHERE TO FILE COMMENTS AND OBTAIN ADDITIONAL INFORMATION:**

Chief, Office of Oil and Gas
Department of Environmental Protection
601 57th St. SE
Charleston, WV 25304
(304) 926-0450

Time Limits and methods for filing comments. The law requires these materials to be served on or before the date the operator files his Application. You have **FIVE (5) DAYS** after the filing date to file your comments. Comments must be filed in person or received in the mail by the Chief's office by the time stated above. You may call the Chief's office to be sure of the date. Check with your postmaster to ensure adequate delivery time or to arrange special expedited handling. If you have been contacted by the well operator and you have signed a "voluntary statement of no objection" to the planned work described in these materials, then the permit may be issued at any time.

Comments must be in writing. Your comments must include your name, address and telephone number, the well operator's name and well number and the approximate location of the proposed well site including district and county from the application. You may add other documents, such as sketches, maps or photographs to support your comments.

The Chief has the power to deny or condition a well work permit based on comments on the following grounds:

- 1) The proposed well work will constitute a hazard to the safety of persons.
- 2) The soil erosion and sediment control plan is not adequate or effective;
- 3) Damage would occur to publicly owned lands or resources;
- 4) The proposed well work fails to protect fresh water sources or supplies;
- 5) The applicant has committed a substantial violation of a previous permit or a substantial violation of one or more of the rules promulgated under Chapter 22, and has failed to abate or seek review of the violation...".

If you want a copy of the permit as it is issued or a copy of the order denying the permit, you should request a copy from the Chief.

VOLUNTARY STATEMENT OF NO OBJECTION

I hereby state that I have read the instructions to surface owners and that I have received copies of a Notice and Application For A Permit To Plug And Abandon on Forms WW-4A and WW-4B, and a survey plat.

I further state that I have no objection to the planned work described in these materials, and I have no objection to a permit being issued on those materials.

FOR EXECUTION BY A NATURAL PERSON
ETC.

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Office of Oil and Gas
FEB 20 2014
WV Department of
Environmental Protection

_____	Date _____	Name _____	_____
Signature		By	_____
		Its	_____
			Date _____
		Signature	Date _____

WW-4B

API No.	47-5101190 P
Farm Name	Francis
Well No.	1

**INSTRUCTIONS TO COAL OPERATORS
OWNERS AND LESSEE**

The well operator named on the obverse side of WW-4 (B) is about to abandon the well described in the enclosed materials and will commence the work of plugging and abandoning said well on the date the inspector is notified. Which date shall not be less then five days after the day on which this notice and application so mailed is received, or in due course should be received by the Department of Environmental Protection Office of Oil & Gas.

This notice and application is given to you in order that your respective representatives may be present at the plugging and filling of said well. You are further notified that whether you are represented or not the operator will proceed to plug and fill said well in the manner required by Section 24, Article 6, Chapter 22 of the Code and given in detail on obverse side of this application.

NOTE: If you wish this well to be plugged according to 22-6-24(d) then as per Regulation 35CSR4-13.9 you must complete and return to this office on form OB-16 "Request by Coal Operator, Owner, or Lessee for plugging" prior to the issuance of this plugging permit.

WAIVER

The undersigned coal operator ____ / owner ____ / lessee ____ / of the coal under this well location has examined this proposed plugging work order. The undersigned has no objection to the work proposed to be done at this location, provided, the well operator has complied with all applicable requirements of the West Virginia Code and the governing regulations.

Date: _____

By: _____

Its _____

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FEB 20 2014
WV Department of
Environmental Protection

5101190P

WW-9
Rev. 5/08

Page 1 of 1
API Number 47 - 051 - 01190
Operator's Well No. Francis I

STATE OF WEST VIRGINIA
DEPARTMENT OF ENVIRONMENTAL PROTECTION
OFFICE OF OIL AND GAS

CONSTRUCTION AND RECLAMATION PLAN AND SITE REGISTRATION APPLICATION FORM
GENERAL PERMIT FOR OIL AND GAS PIT WASTE DISCHARGE

Operator Name Chevron Appalachia, LLC OP Code 99449935

Watershed Bartletts Run Quadrangle Glen Easton 7.5" 370

Elevation 1265 County Marshall 51 District Clay 2

Description of anticipated Pit Waste: Fluids and Solids produced by plugging activities

Will a synthetic liner be used in the pit? No

Proposed Disposal Method For Treated Pit Wastes:

- Land Application
- Underground Injection (UIC Permit Number _____)
- Reuse (at API Number _____)
- Off Site Disposal (Supply form WW-9 for disposal location)
- Other (Explain Removed offsite to AAP Facility in Masontown, PA #PA 0253723)

Proposed Work For Which Pit Will Be Used:

- Drilling
- Workover
- Other (Explain _____)
- Swabbing
- Plugging

I certify that I understand and agree to the terms and conditions of the GENERAL WATER POLLUTION PERMIT issued on August 1, 2005, by the Office of Oil and Gas of the West Virginia Department of Environmental Protection. I understand that the provisions of the permit are enforceable by law. Violations of any term or condition of the general permit and/or other applicable law or regulation can lead to enforcement action.

I certify under penalty of law that I have personally examined and am familiar with the information submitted on this application form and all attachments thereto and that, based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine or imprisonment.

Company Official Signature [Signature]

Company Official (Typed Name) BRANDEN WEIMER

Company Official Title CONSTRUCTION PERMITTING TEAM LEAD

Subscribed and sworn before me this 30th day of January, 20 14

[Signature] Notary Public

My commission expires January 12, 2016

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Office of Oil and Gas

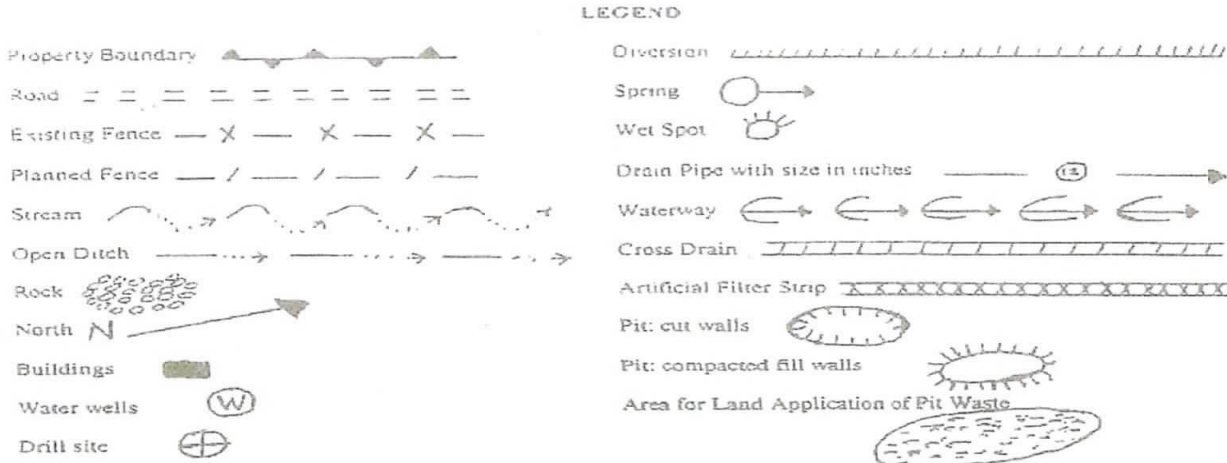
FEB 20 2014

WV Department of
Environmental Protection

COMMONWEALTH OF PENNSYLVANIA
Notarial Seal
Rodney Lee Frazee, Notary Public
Henry Clay Twp., Fayette County
My Commission Expires Jan. 12, 2016
MEMBER, PENNSYLVANIA ASSOCIATION OF NOTARIES

Form WW-9

Operator's Well No. Francis I



Proposed Revegetation Treatment: Acres Disturbed 2.9 Prevegetation pH 6.5
 Lime 2 Tons/acre or to correct to pH 6.5
 Fertilizer (10-20-20 or equivalent) 500 lbs/acre (500 lbs minimum)
 Mulch Hay or Straw @2 Tons/acre

Seed Mixtures

Area I		Area II	
Seed Type	lbs/acre	Seed Type	lbs/acre
Grain Rye	100	Red Clover	5
Annual Rye	20	White Clover	5
Perennial Rye	10	Alta Clover	5
Yellow Clover	5	Birdsfoot Trefoil	10
		Fescue	40

Attach:
 Drawing(s) of road, location, pit and proposed area for land application.

Photocopied section of involved 7.5' topographic sheet. - Attached

Plan Approved by: Jim Truhovec William [Signature]
 Comments: _____

Title: Oil & Gas Inspector Date: 2/7/14
 Field Reviewed? Yes No

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 FEB 20 2014
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2018-2019
2020-2021
2022-2023
2024-2025

- 1. DIESEL TANK
- 2. DRILLING CHEMICALS STORAGE
- 3. FRAC CHEMICALS STORAGE
- 4. OTHER: _____
- 5. OTHER: _____
- 6. OTHER: _____
- 7. OTHER: _____

FACILITY ID# _____

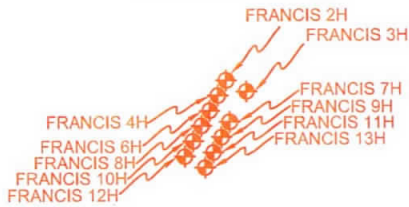
DIRECTIONS: _____

FRANCIS WELL PAD
 LAT: 39°52'23.9202"
 LON: 80°41'32.5616"

BARBARA P. FRANCIS
 TM/PAR: 04-09-04

SEE DETAIL A

DETAIL A



FRANCIS 2H LAT: 39°52'23.5522" LON: 80°41'32.1528"	FRANCIS 7H LAT: 39°52'23.1976" LON: 80°41'32.1076"	FRANCIS 11H LAT: 39°52'22.9361" LON: 80°41'32.2889"
FRANCIS 3H LAT: 39°52'23.4592" LON: 80°41'31.9264"	FRANCIS 8H LAT: 39°52'23.1599" LON: 80°41'32.4246"	FRANCIS 12H LAT: 39°52'22.8983" LON: 80°41'32.6059"
FRANCIS 4H LAT: 39°52'23.4214" LON: 80°41'32.2434"	FRANCIS 9H LAT: 39°52'23.0668" LON: 80°41'32.1983"	FRANCIS 13H LAT: 39°52'22.8053" LON: 80°41'32.3795"
FRANCIS 6H LAT: 39°52'23.2906" LON: 80°41'32.3340"	FRANCIS 10H LAT: 39°52'07.4112" LON: 80°41'39.7251"	

RONALD A. HILL
 TM/PAR: 04-09-05

RONALD A. HILL
 TM/PAR: 04-09-05

ALAN G. BERNAS
 TM/PAR: 04-09-24

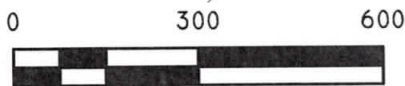
JAMES L. PARKER ET UX
 TM/PAR: 04-09-24.1

NELSON H. FLETCHER ET UX - LIFE
 TM/PAR: 04-09-19

TERRENCE W. & FRANCES A. WOLFE
 TM/PAR: 04-09-24.2

FRANCIS ACCESS ROAD
 LAT: 39°52'07.4112"
 LON: 80°41'39.7251"

FORK RIDGE ROAD



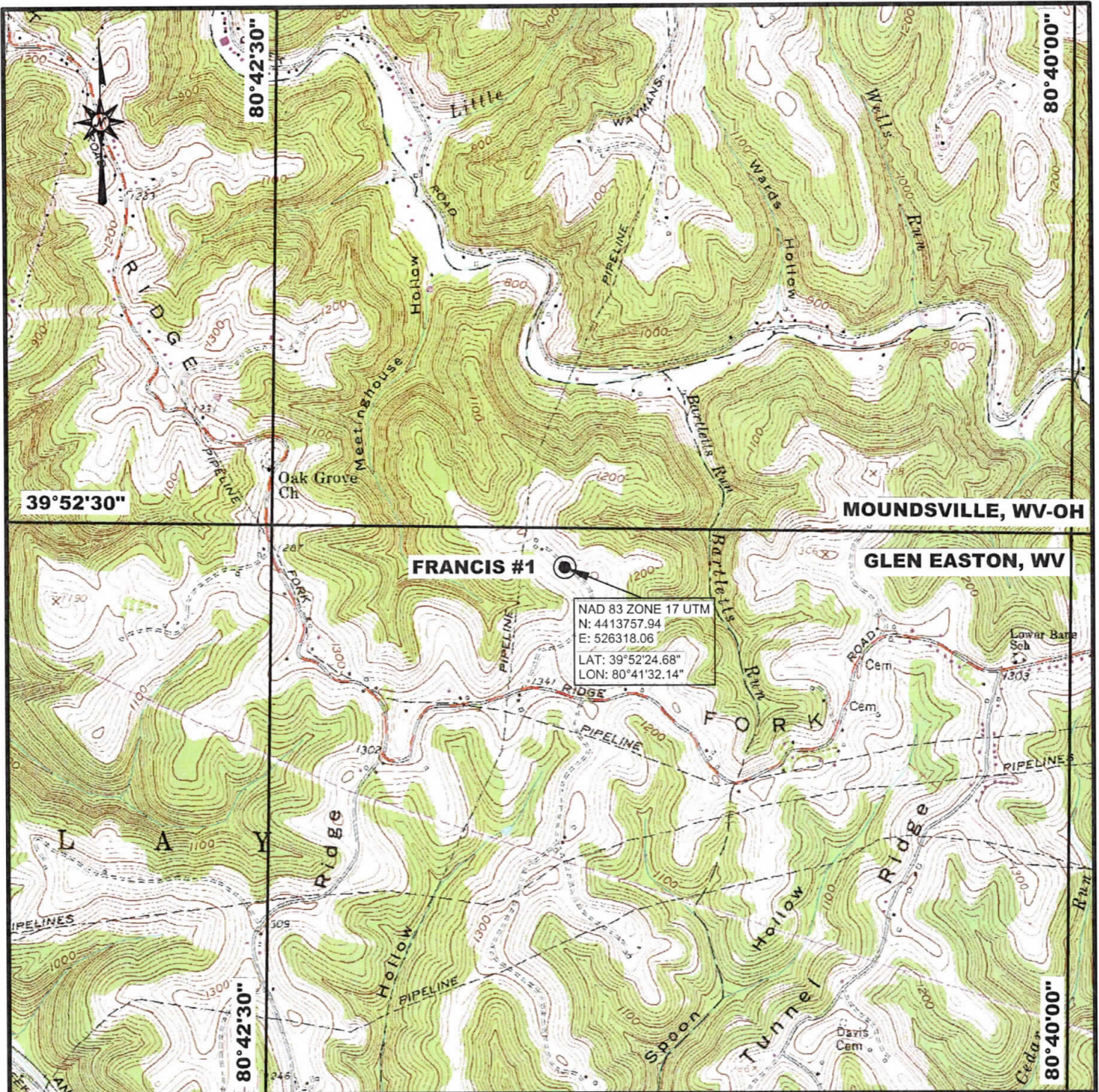
CHEVRON APPALACHIA, INC.
 800 MOUNTAIN VIEW DRIVE
 SMITHFIELD, PA 15478

**FRANCIS WELL SITE
 TIER II DRAWING**

REVISIONS	
DATE	TYPE

DRAWN BY: JMJ
 CHECKED BY:
 DATE: 09/17/13
 SCALE: 1" = 300'
 JOB NO.:
 DRAWING NAME: FRANCIS TIER II

Blue Mountain Inc.
 Engineers and Land Surveyors
 17023 Mason Dixon Hwy
 Burton, WY 26562-5656
 (304) 662-6486



NAD 83 ZONE 17 UTM
 N: 4413757.94
 E: 526318.06
 LAT: 39°52'24.68"
 LON: 80°41'32.14"

PREPARED FOR:
CHEVRON APPALACHIA, LLC
 800 MOUNTAIN VIEW DRIVE
 SMITHFIELD, PA 15478

FRANCIS #1
LOCATION MAP
MARSHALL COUNTY
GLAY DISTRICT
WEST VIRGINIA

LEGEND
 ● - WELLBORE

TOPO QUAD: GLEN EASTON, WV
 SCALE: 1" = 2000'
 DATE: JANUARY 29, 2014



Blue Mountain Inc.
 11023 MASON DIXON HIGHWAY
 BURTON, WV 26562
 PHONE: (304) 662-6486

WV Department of
Environmental Protection

5101190P

WW-7
8-30-06



West Virginia Department of Environmental Protection
Office of Oil and Gas

WELL LOCATION FORM: GPS

API: 47-5101190 WELL NO.: 1

FARM NAME: Francis

RESPONSIBLE PARTY NAME: Chevron Appalachia, LLC

COUNTY: Marshall DISTRICT: Clay

QUADRANGLE: Glen Easton 7.5"

SURFACE OWNER: Caiman Eastern Midstream LLC/Williams Ohio Valley Midstream, LLC

ROYALTY OWNER: Barbara Pearl Francis

UTM GPS NORTHING: 4413757.94

UTM GPS EASTING: 526318.06 GPS ELEVATION: 1265

The Responsible Party named above has chosen to submit GPS coordinates in lieu of preparing a new well location plat for a plugging permit or assigned API number on the above well. The Office of Oil and Gas will not accept GPS coordinates that do not meet the following requirements:

1. Datum: NAD 1983, Zone: 17 North, Coordinate Units: meters, Altitude: height above mean sea level (MSL) – meters.
2. Accuracy to Datum – 3.05 meters
3. Data Collection Method:

Survey grade GPS ____: Post Processed Differential ____
Real-Time Differential ____

Mapping Grade GPS ____: Post Processed Differential ____
Real-Time Differential ____

4. Letter size copy of the topography map showing the well location.

I the undersigned, hereby certify this data is correct to the best of my knowledge and belief and shows all the information required by law and the regulations issued and prescribed by the Office of Oil and Gas.

[Signature]
Signature

CONSTRUCTION PERMITTING TEAM LEAD
Title

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Office of Oil and Gas

FEB 20 2014
1-30-14

Date
WV Department of
Environmental Protection



Kristen Brooks
Permit Coordinator

5101190P

**Appalachian/Michigan
Strategic Business Unit**
Chevron North America
Exploration and Production
A Division of Chevron U.S.A. Inc.
800 Mountain View Drive
Smithfield, PA 15478
Tel 724-564-3781
Fax 724-564-3894
kristenbrooks@chevron.com

February 18, 2014

West Virginia Department of Environmental Protection
Office of Oil & Gas
601 57th Street SE
Charleston, WV 25304-2345

RE: Francis #1H Application to Plug and Abandon a Well

Dear Mr. Smith:

Enclosed is an Application for a Permit to Plug & Abandon the Francis #1H well (API #47-051-01190) in Marshall County.

If you have any questions, please contact me at (724) 564-3781 or kristenbrooks@chevron.com.

Sincerely,

Kristen Brooks

Kristen Brooks
Permit Coordinator
Chevron Appalachia, LLC

RECEIVED
Office of Oil and Gas
FEB 20 2014
WV Department of
Environmental Protection

Chief Oil & Gas LLC

Completion and Workover Report

Well Name:		Field				Status			
Francis #1		Wildcat (Marshall Co, W.V.)				Completion			
Perfs	TD	PBTD	Packers	FO Tool	Casing	Csg Size	Csg Wt	Seat	FC
	6,744'	6,679'			Surface	13-3/8"	54.5#	966'	
					Intermediate String	9-5/8"	36#	2,491'	
					Prod	5-1/2"	20# P110	6,727'	6,624'
AFE - #08080		TOC @ 1,000'				KB - 18'			

12/XX/08 – Weatherford Wellhead install 10K “B” Section and cap. (TB)

01/20/09 - RU J-W Wireline Co. unit and mast. RIH with Gamma Ray, CCL, and CBL tools, **tagged TOF @ 200'** (will test csg on Thursday), **noticed TOC @ 1000' going in hole**, tagged PBTD @ 6,651', ran CBL from 6,906' to 2,490' (bottom of 9-5/8"). Correlated flat to Schlumberger CN/LD/GR Platform Express log dated 12/08/08, CBL indicated cmt bond as follows:

- 6,651' – 6,080' – very good cmt**
- 6,080' – 3,930' – skips from fair to ratty to good cmt**
- 3,930' – 2,490' – little to no cmt**

RD J-W Wireline Co., SI well (TB).

01/21/09 – MIRU Blue Dot slick line unit and Multi-Shot, ran a gyroscopic survey from surface to 6,651', they took a course inclination and directorial survey every 100'. (TB)

01/22/09 – MI Weatherford Wellhead. ND dry hole flange from B section. NU 10K frac valve and mud cross. B&B Oilfield tested casing (took 4 bbls to load csg), frac valve, and mud cross to 8000# - monitor for 10 minutes, psi dropped to 7400#, psi back up to 8500# - monitor for 30 minutes, psi dropped to 6200#, pump was isolated and no surface leaks at all. (TB)

02/04/09 - RU J-W Wireline Co. unit and mast. RIH w/CCL, junk basket and gauge ring to 6651', (**note: TOF was @ surface, on 1/20/09 the fluid level was 200' from surface**), RIH with Blue Dot wireline set 5-1/2", 10K CIBP and set with plug top @ 6644', POH, RD JW. RU B&B psi test truck, had problems w/ psi pump, took back to shop for repairs, B&B called tonight and said it would be a few days before they could get parts for repairs, called BJ. (TB)

02/05/09 – RU BJ pump truck, psi tested csg, frac valve, and mud cross to 8060# - monitor for 15 minutes, psi dropped 600#, psi back up to 8040# - monitor for 15 minutes, psi dropped 600#, no surface leaks, (**Note: fluid level was @ surface before test**). Released psi, wanted to isolate csg, frac valve, and mud cross from pump truck, I only had a 5000# gauge, installed gauge, psi up to 4925#, SI csg valve and rigged down BJ, psi dropped 1825# in 1 hr, down to 3100#, will leave psi on csg and monitor. (**Note: braiding head valve had a small stream of water coming out during test, may have been expansion, but it did not do this on the previous test of 1/22/09**) (TB)

02/10/09 – MIRU Stone Well Service (Mike Vartrim, pusher), unloaded and tallied 220 jts, 2-3/8", EUE tbg, ND frac valve and mud cross, NU BOP, picked up and RIH w/ Blue Dot 5-1/2", Arrow Set 1-X packer, 1 jt of tbg, "X" nipple, and 142 jts of tbg, end of packer @ 4,515', left packer swinging. SI&SDFN (TB)

02/11/09 – Set packer @ 4515', tested csg to 4000# - held, tested down tbg to 4000# - bled off 400# / 15 min, ran and set packer @ 5500', tested down tbg to 4000# - bled off 400# / 15 min, ran and set packer @ 6615' (20' above CIPB), tested down tbg to 4000# - bled off 450# / 15 min, tested csg to 4000# - bled off 300# / 15 min, bled psi and psi back up several times with about 50# less psi each time, the salt water plug

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Completion and Workover Report

Well Name:		Field				Status			
Francis #1		Wildcat (Marshall Co, W.V.)				Completion			
Perfs	TD	PBTD	Packers	FO Tool	Casing	Csg Size	Csg Wt	Seat	FC
	6,744'	6,679'			Surface	13-3/8"	54.5#	966'	
					Intermediate String	9-5/8"	36#	2,491'	
					Prod	5-1/2"	20# P110	6,727'	6,624'
AFE - #08080		TOC @ 1,000'				KB - 18'			

has us out of balance and causing air bubble problems, will circulate brine plug and air out in the morning to get a better test on csg before we lay down the tbq. (TB)

02/12/09 – Circulated 160 bbls fresh water down the csg and up the tbq, (water truck was 3 hr late), set packer @ 6615' (20' above CIPB), tested csg to 4000# - held, tested down tbq to 4000# - bled off 420# / 15 min, released packer, laid down tbq and packer, to windy to rig down, SI&SDFN. (TB)

02/13/09 – MIRU J-W Wireline Co., mixed cmt in buckets and poured in dump bailer, RIH w/dump bailer, dumped 20' of cmt on top of CIPB, RD J-W, ND BOP, NU frac valve and mud cross, RD Stone Well Service. (TB)

03/06/09 – MIRU J-W Wireline, RIH with 3-3/8" tag gun w/Connex charges, 60° phasing, 0.42" EHD. Perforate interval from 6,510' – 6,560' (took 3 runs), POH, LD expended perforating guns, RD J-W Wireline. SI, (TB).

Marcellus Shale Perfs – Stage 1

Perfs	# FT	# Holes
6,510' – 6,560'	50'	(1 shot/ft) 51
Total Ft & Holes:	50'	51

03/09/09 - 1st Stage Frac - BJ Services frac'd the Marcellus Shale perfs from 6,510' to 6,560'down 5-1/2", 20#, P110 csg with 713 bbls of pad and 11,550 bbls treated water carrying 263,000 # of 100 mesh sand, and 263,000 # , 40/70 sand, **we had 5600# of 4#/gal 40/70 sand in formation and just went to flush when well screened out (20,400# left in csg), flowed back 145 bbls of sand and water.** ProTechnics tagged the 100 Mesh sand w/ Sb-124 (isotope), 105 (mCi), and the 40/70 sand w/ Sc-46 (isotope), 92 mCi). (TB)

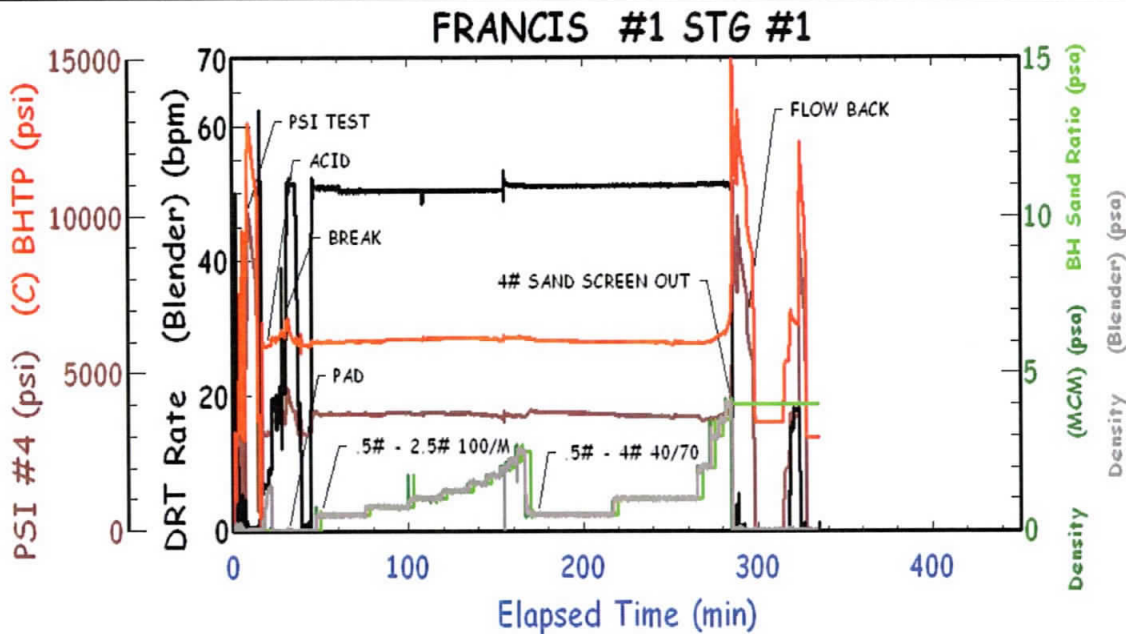
	Pressure (psi)	Rate (bpm)
SICP	0	
Break down Pressure	3836	6.9
Established Rate & Pressure	3781	51.5
Step Down #1	3575	40
Step Down #2	3400	30
Step Down #3	3250	20
Step Down #4	3220	10
Initial ISIP 0.90 FG	3142	n/a
Initial 5 Min	3014	n/a
Maximum Pressure & Rate	9800	Screen out
Average Pressure & Rate	3973	50.5
Final ISIP n/a FG	n/a	
Final 5 Min	n/a	
Final 10 Min	n/a	
Final 15 Min	n/a	
Load to Recover	12,263	

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Completion and Workover Report

Well Name:		Field				Status			
Francis #1		Wildcat (Marshall Co, W.V.)				Completion			
Perfs	TD	PBTD	Packers	FO Tool	Casing	Csg Size	Csg Wt	Seat	FC
	6,744'	6,679'			Surface	13-3/8"	54.5#	966'	
					Intermediate String	9-5/8"	36#	2,491'	
					Prod	5-1/2"	20# P110	6,727'	6,624'
AFE - #08080		TOC @ 1,000'				KB - 18'			

Ran FRW-14 (friction reducer) @ .40 gpt / 206 gals total, Alpha-125 (bactericide) .51 gpt / 263 gal total, Scaletrol (scale inhibitor) @ .55 gpt / 283 gals total, Claytreat @ .49 gpt / 255 gals total, Inflo @ .48 gpt / 252 gals total.(TB)



STAGE 1 PRESSURE / RATE / DENSITY

SECOND STAGE PERFS: - J-W Wireline RIH w/ gauge ring to 6470', COH, RIH w/ Blue Dot 10K, 5-1/2" composite plug, set plug @ 6465', test plug to 8100# - OK, RIH with 3-3/8" tag gun w/Connex charges, 60° phasing, 0.42" EHD. Perforate interval from 6,365' - 6,398' and 6,310' - 6,330', (took 3 runs), POH, LD expended perforating guns, RD J-W Wireline. SI well. (TB)

Burkett Shale Perfs - Stage 2

Perfs	# FT	# Holes
6,310' - 6,330'	20'	(1 shot/ft) 21
6,365' - 6,398'	33'	(2 shots/ft) 67
Total Ft & Holes:	53'	88

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03/10/09 - 2nd Stage Frac - BJ Services frac'd the Burkett Shale perfs from and 6,310' - 6,330', and 6,365' - 6,398' down 5-1/2", 20#, P110 csg with 1,058 bbls of pad and 10920 bbls treated water carrying 263,000# of 100 mesh sand, and 221,000# of 40/70 sand (BJ ran out of 40/70 sand, 42,000# short of

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Completion and Workover Report

Well Name:		Field				Status			
Francis #1		Wildcat (Marshall Co, W.V.)				Completion			
Perfs	TD	PBTD	Packers	FO Tool	Casing	Csg Size	Csg Wt	Seat	FC
	6,744'	6,679'			Surface	13-3/8"	54.5#	966'	
					Intermediate String	9-5/8"	36#	2,491'	
					Prod	5-1/2"	20# P110	6,727'	6,624'
AFE - #08080		TOC @ 1,000'				KB - 18'			

what was schedule), Flushed to top perfs with 138 bbls treated fresh water. Monitored shut in pressure for 15 minutes. ProTechnics tagged the 100 Mesh sand w/ Ir-192 (isotope), 112 (mCi), and the 40/70 sand w/ Ir-192 (isotope), 112 mCi). **Note: when we went to the 1#/gal 40/70 sand we had to decrease rate to 55-60 bbls/min because one bank of the manifold tanks was sucking air and causing Red Oaks pump to lose prime.** (TB)

	Pressure (psi)	Rate (bpm)
SICP	2200	
Break down Pressure	n/a	n/a
Established Rate & Pressure	3769	80.1
Step Down #1	3450	64.3
Step Down #2	3170	48.1
Step Down #3	2930	32.3
Step Down #4	2800	17.2
Initial ISIP 0.84 FG	2615	n/a
Initial 5 Min	2431	n/a
Maximum Pressure & Rate	4126	80.2
Average Pressure & Rate	3862	65
Final ISIP 0.84 FG	2969	
Final 5 Min	2542	
Final 10 Min	2504	
Final 15 Min	2487	
Load to Recover	12,116	

Ran FRW-14 (friction reducer) @ .50 gpt / 257 gals total, Alpha-125 (bactericide) .52 gpt / 263 gal total, Scaletrol (scale inhibitor) @ .53 gpt / 272 gals total, Claytreat @ .48 gpt / 233 gals total, Inflo @ .51 gpt / 259 gals total.(TB)

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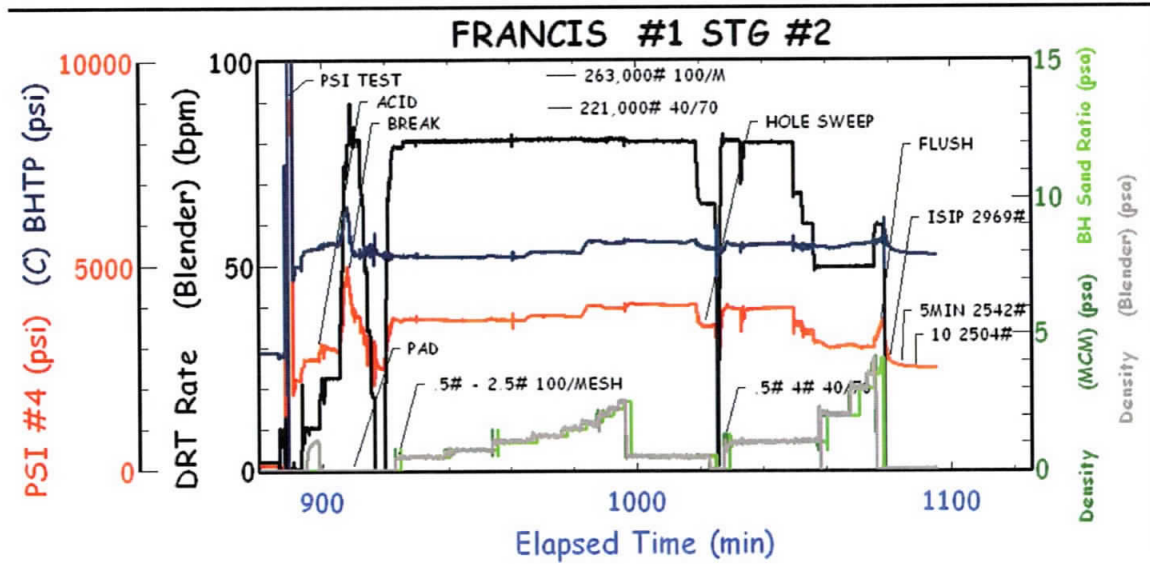
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Completion and Workover Report

Well Name:		Field				Status			
Francis #1		Wildcat (Marshall Co, W.V.)				Completion			
Perfs	TD	PBD	Packers	FO Tool	Casing	Csg Size	Csg Wt	Seat	FC
	6,744'	6,679'			Surface	13-3/8"	54.5#	966'	
					Intermediate String	9-5/8"	36#	2,491'	
					Prod	5-1/2"	20# P110	6,727'	6,624'
AFE - #08080		TOC @ 1,000'				KB - 18'			



STAGE 2 - PSI / RATE / DENSITY

Open well to begin flow back @ 6:00 PM under the supervision of Manek Energy Services. (TB)

Date	Time	Choke	Pressure	Rate	Total	Recovery	Chlorides	MCF/D
03/10/09	9pm	SI	2300	open well		<24,379>		
03/11/09	12am	18	2200	72	200	.82%	n/a	n/a
	6am	17	2200	91	774	3.17%	6000	n/a
	12pm	12	2100	90	1389	5.69%	6500	n/a
	6pm	12	2025	90	1967	8.07%	6500	n/a
03/12/09	12am	12	1925	90	2524	10.35%	6500	n/a
	6am	12	1850	95	3094	12.69%	6500	n/a

03/12/09 – MIRU Stone Well Service (Mike Vartrim, pusher), unloaded and tallied 221 jts, 2-3/8", EUE tbg, ND mud cross, NU BOP, RU Bobcat Snubbing Unit & BOP stack, left well flowing under supervision of Manek Energy flow back crew. (TB)

Date	Time	Choke	Pressure	Rate	Total	Recovery	Chlorides	Gas MCF/D
03/12/09	12pm	15	1800	80	3519	14.43%	21,000	n/a
	6pm	17	1550	100	4189	17.16%	21,000	n/a
03/13/09	12am	15	1425	100	4779	19.60%	21,000	n/a
	6am	15	1325	100	5364	22.00%	23,000	n/a

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Completion and Workover Report

Well Name:		Field				Status			
Francis #1		Wildcat (Marshall Co, W.V.)				Completion			
Perfs	TD	PBTD	Packers	FO Tool	Casing	Csg Size	Csg Wt	Seat	FC
	6,744'	6,679'			Surface	13-3/8"	54.5#	966'	
					Intermediate String	9-5/8"	36#	2,491'	
					Prod	5-1/2"	20# P110	6,727'	6,624'
AFE - #08080		TOC @ 1,000'			KB - 18'				

03/13/09 – Csg – 1325#, Stone / Bobcat snub in hole with 4-1/2" tri-cone bit, Basin pump-off bit sub, 1 jt 2-3/8" tubing, " X "Nipple, and 2-3/8" tubing, tagged top of sand @ 6,342', washed sand to top of composite plug @ 6,465, drilled out composite plug, pulled 5 std's, EOT @ 6,175', SDFN, left well flowing under supervision of Manek Energy flow back crew. (TB)

Date	Time	Choke	Pressure	Rate	Total	Recovery	Chlorides	MCF/D
03/13/09	12pm	17	1100	85	5874	24.09%	25,000	n/a
	6pm	20	1050	120	6355	26.06%	25,000	n/a
03/14/09	12am	18	975	90	6835	28.03%	21,000	n/a
	6am	18	875	90	7385	30.29%	23,000	n/a

03/14/09 – RIH w/ tbg out of derrick, tagged sand @ 6,533' (1/2 of lower perfs are covered), washed sand to PBTD @ 6,679', pumped bottoms up 1-1/2 times, laid down 6 jts of tbg, Install tbg hanger and land in B section (EOT @ 6,512'). Bleed stack. RD Bobcat snubbing unit, NDBOP, ND frac valve, NUWH, drop ball, load and psi tbg to blow off pump-off bit and bit sub, pumped 1-1/2 times capacity of tbg, SI well, MIRU ERS slick line and ProTechnics, RIH with memory tool on slick line to detect radioactive isotopes pumped during frac, POH, left well flowing under supervision of Manek Energy flow back crew. (TB)

K.B.	15'
204 joints 2-3/8" 8R EUE 4.7# J55 tubing	6463.63'
X Profile Nipple	0.83'
1 joint 2-3/8" tubing	31.68'
Pump-Off Bit Sub	1.00'
EOT	6,512.14'

Date	Time	Choke	Pressure	Rate	Total	Recovery	Chlorides	MCF/D
03/14/09	12pm	18	700	104	7889	32.36%	28,000	n/a
	6pm	SI	1000	n/a	8089	33.18%	28,000	logging
03/15/09	12am	18	825/975	50	8254	33.85%	28,000	trace
	6am	18	750/775	35	8539	35.02%	30,000	trace

Date	Time	Choke	Pressure	Rate	Total	Recovery	Chlorides	MCF/D
03/15/09	12pm	18	700/650	63	8854	36.31%	30,000	168
	6pm	18	700/600	40	9117	37.39%	30,000	144
03/16/09	12am	18	675/575	40	9342	38.31%	30,000	192
	6am	18	675/575	50	9587	39.32%	30,000	168

Date	Time	Choke	Pressure	Rate	Total	Recovery	Chlorides	MCF/D
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Completion and Workover Report

Well Name:		Field				Status			
Francis #1		Wildcat (Marshall Co, W.V.)				Completion			
Perfs	TD	PBTD	Packers	FO Tool	Casing	Csg Size	Csg Wt	Seat	FC
	6,744'	6,679'			Surface	13-3/8"	54.5#	966'	
					Intermediate String	9-5/8"	36#	2,491'	
					Prod	5-1/2"	20# P110	6,727'	6,624'
AFE - #08080		TOC @ 1,000'			KB - 18'				

03/16/09	12pm	18	600/600	40	9812	40.24%	46,000	192
	6pm	18	575/700	30	10,002	41.10%	46,000	168
03/17/09	12am	18	550/850	30	10,187	41.78%	46,000	120
	6am	18	550/1000	30	10,397	42.64%	46,000	144

03/14/09 – Well started to load up @ 7pm, but would try to unload itself until midnight when it looked like it was going to die, turned to pit, @ 5am tbg psi was back up and csg was falling, there is a problem w/ Manek's separator and will not be able to flair gas, they will have the separator changed out by mid morning. (TB)

Date	Time	Choke	Pressure	Rate	Total	Recovery	Chlorides	MCF/D
03/17/09	12pm	18	550/1125	30	10,558	43.30%	49,000	216
	6pm	18	550/1250	26	10,725	43.99%	49,000	216
03/18/09	12am	18	50/1475	15	10,851	44.50%	49,000	24
	6am	22	610/1500	35	10,966	44.98%	49,000	n/a
	12:00 PM	24	560/1475	35	11,207	46%	58,000	1,320
	6:00 PM	24	460/1475	28	11,405	46.8%	58,000	408
03/19/09	12:00 AM	20	540/1590	29	11,568	47.5%	58,000	312
	6:00 AM	20	590/1560	32	11,766	48.3%	58,000	528
Date	Time	Choke	Pressure	Rate	Total	Recovery	Chlorides	MCF/D
03/19/09	12:00 PM	20	540/1425	28	11,930	48.9%	58,000	528
	6:00 PM	20	540/1350	30	12,117	49.7%	58,000	600
03/20/09	12:00 AM	20	480/1320	10	12,166	50%	58,000	355
	6:00 AM	20	540/1300	11	12,308	50.5%	58,000	554
	12:00 PM	20	540/1300	29	12,466	51.1%	58,000	528
	6:00 PM	20	480/1260	14	12,603	51.7%	58,000	264
03/21/09	12:00 AM	19	540/1260	10	12,654	51.9%	58,000	168
	6:00 AM	19	540/1260	17	12,737	52.2%	58,000	432

Well loaded up @ 8AM. Began flowing to frac tanks, but died completely. SI to build pressure. Reopened various times, but no flow.

03/23/09 – Equalizing and rocking well – no flow.

03/24/09 – MI Bobcat N2 pump. Tie onto casing. Open well to tanks. Pumped 90,000 scf N2 to kick well off. Well flowed total 3 hrs – unloaded additional 1,076 bbls water before dying. Total recovery now @ 14,110 bbls – 57.9%. (JDS)

03/25/09 – Well dead. Dropped soap sticks and closed well in. Reopened at various points with little to no flow.

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Completion and Workover Report

Well Name:		Field				Status			
Francis #1		Wildcat (Marshall Co, W.V.)				Completion			
Perfs	TD	PBTD	Packers	FO Tool	Casing	Csg Size	Csg Wt	Seat	FC
	6,744'	6,679'			Surface	13-3/8"	54.5#	966'	
					Intermediate String	9-5/8"	36#	2,491'	
					Prod	5-1/2"	20# P110	6,727'	6,624'
AFE - #08080		TOC @ 1,000'				KB - 18'			

03/26/09 – Reopened well @ 6AM. Flow back as detailed:

Date	Time	Choke	Pressure	Rate	Total	Recovery	Chlorides	MCF/D
03/26/09	6:00 AM	Open	0/1450	12	14,122	57.9%	70,000	-
	12:00 PM	Open	0/1460	2	14,149	58%	70,000	-
	6:00 PM	Open	0/1490	0	14,153	58%	-	-
03/27/09	12:00 AM	Open	0/1500	0	14,153	58%	-	-
	6:00 AM	Open	0/1500	0	14,153	58%	-	-

03/27/09 – 0# TP / 1540# CP. Well open to pit on 2" choke – surging water periodically with light vapors of gas. MI BJ N2 pump. Start pmpg N2 down csg. Pumped total 90,000 scf N2 @ 700 scf/min. Well broke over @ 2800# CP. Let well unload N2 and switched back thru separator and flare. Continue flowback as noted in table below: (JDS)

Date	Time	Choke	Pressure	Rate	Total	Recovery	Chlorides	MCF/D
03/27/09	3:00 PM	28	640/1450	28	14,421	59.2%	70,000	2640
	6:00 PM	26	500/1160	15	14,487	59.4%	70,000	1152
	9:00 PM	24	420/1070	10	14,532	59.6%	70,000	816
03/28/09	12:00 AM	22	400/1050	10	14,572	59.8%	70,000	552
	6:00 AM	22	400/1000	10	14,652	60%	73,000	648
Date	Time	Choke	Pressure	Rate	Total	Recovery	Chlorides	MCF/D
03/28/09	12:00 PM	26	345/980	14	14,727	60.4%	73,000	600
	6:00 PM	26	320/910	10	14,787	60.6%	75,000	624
03/29/09	12:00 AM	20	320/880	10	14,834	60.8%	75,000	480
	6:00 AM	36	280/780	10	14,884	61%	75,000	456
	12:00 PM	28	260/760	11	14,942	61.3%	75,000	624
	2:00 PM	28	265/760	11	14,964	61.4%	75,000	528

Closed well in @ 2:05 PM on 03/29/09. Waiting on pipeline. (JDS)

04/17/09 – MIRU Blue Dot slick line unit to run a bottom hole psi survey, see survey information below: (TB)

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Completion and Workover Report

Well Name:		Field				Status			
Francis #1		Wildcat (Marshall Co, W.V.)				Completion			
Perfs	TD	PBTD	Packers	FO Tool	Casing	Csg Size	Csg Wt	Seat	FC
	6,744'	6,679'			Surface	13-3/8"	54.5#	966'	
					Intermediate String	9-5/8"	36#	2,491'	
					Prod	5-1/2"	20# P110	6,727'	6,624'
AFE - #08080		TOC @ 1,000'			KB - 18'				

Survey Information						
WLM (FT)	MD (FT)	TVD (FT)	Pressure (PSIA)	Temp (°F)	Pressure Gradient (PSIA/FT)	Temperature Gradient (°F/FT)
0	18	18	1823	63.5		
982	1000	1000	1876	58.3	0.054	-0.0053
1982	2000	2000	1949	72.5	0.073	0.0141
2982	3000	3000	2019	83.8	0.070	0.0113
3982	4000	4000	2208	98.3	0.189	0.0145
4982	5000	5000	2674	113.9	0.466	0.0157
5982	6000	6000	3140	131.7	0.466	0.0178
6232	6250	6250	3256	133.3	0.464	0.0063
6492	6512	6512	3378	137.8	0.466	0.0170

09/10/09 – MIRU Blue Dot slick line unit to run a bottom hole psi survey, see survey information below: (TB)

WLM (FT)	MD (FT)	TVD (FT)	Pressure (PSIA)
0	18	18	1373
982	1000	1000	1433
1982	2000	2000	1660
2982	3000	3000	2130
3982	4000	4000	2597
4982	5000	5000	3067
5982	6000	6000	3539
6232	6250	6250	3657
6492	6512	6512	3728

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WELLBORE DATA AND SKETCH

Well: Francis #1		Clay Dist, Glen Easton 7.5' Quad		Updated: 11/8/10	
County: Marshall		State: West Virginia		Status: Producing	
Directions: See Prognosis		Location: 600' S of Lat 39° 52' 30"		Survey: Clay Dist, Glen Easton 7.5' Quad	
Well Type: Vertical		Lease: 7150' W of Long 80° 40' 00"		API # 47-051-01190	
Elevation: GL: 1265'		Completed Well		Note: All depths MD unless noted	
DF: 1282'				Build Location: Begin:10/24/08 End: 11/4/08	
KB: 1283'				Spud: 11/7/08	
24" Hole @ 65'				Rig Release: 12/12/08	
20" 90# Conductor Csg @ 65'				Completed: 3/29/09	
Cemented w/ 25 sxs - Circ				First Production: 11/5/10	
17 1/2" Hole @ 970'				Turned Over to AB Resources	
13 3/8" 54.5# Surface Csg @ 966'				Air / Foam Drilling Method - Rotary	
Cemented w/ 950 sxs				Rig:UDI #43 (KB: 18')/Ziegenfuss Set Cond Pipe	
12 1/4" Hole @ 2495'					
9 5/8" 36# Intermediate Csg @ 2491'					
Cemented w/ 1040 sxs - Circ					
Sidetrack @ 5161'					
8 1/2" Hole @ 5661'				Tubing: 2 3/8" 4.7#	
7 7/8" Hole @ 6744'				204 - 2 3/8" Joints	
TOC @ 2490' by CBL				6464' 1 -1.875" ID X Nipple	
				1 - 2 3/8" Joint	
		Pump-off Bit Sub			
		6512' EOT			
Logged & Took Cores					
Penetrate Marcellus: 6511' MD					
Maximum Deviation -					
Displacement -					
3/10/09: BJ Frac w/ 12,116 BFW (Treated)		Burkett: Top @ 6379' 88 Holes			
263,000# 100 Mesh & 221,000# 40/70 sand.		2nd Stg Perfs: 6310' - 6330' 21 Holes			
sand. BD psi NA & BPM NA.		6365' - 6398' 67 Holes			
Avg 65 BPM @ 3862 psi. ISIP 2969 psi.		Marcellus: Top @ 6511' 51 Holes			
LTR:24,379 bbls		1st Stg Perfs: 6510' - 6560' 51 Holes			
3/9/09: BJ Frac w/ 12,263 BFW (Treated)					
263,000# 100 Mesh & 263,000# 40/70 sand.					
BD @ 3836 psi @ 6.9 BPM.					
Avg 50.5 BPM @ 3973 psi. ISIP psi NA.					
LTR:12,263 bbls - Well Screened Out					
		3/14/09: Ran Memory Tool			
5 1/2" 20# P-110 Csg @ 6727'					
Cemented w/ 970 sxs					
		PBTD:6679'			
		TD: 6744'			

5101190P



Chief Oil & Gas

Francis #1

API Number:
47-051-01190

Marshall Co. WV

March 9, 2009

Post Treatment Report

Prepared For:

Jose Almengor
Chief Oil & Gas

Prepared By:

Jeff Triplett
Field Engineer
Clarksburg, WV 26301
Phone: 304-672-3110



Service Point:

Clarksburg, WV 26301
Phone: 304-624-9802
Fax: 304-624-0047

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Environmental Protection

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BJ Services
Clarksburg, WV

Customer:	Chief Oil & Gas	Field Receipt #	225048307	Break PSI	3836
Well Name:	Crawford #1	County	Marshall Co. WV	ISIP	
Company Rep:	Jose Almengor	Field	Marcellus	5min PSI	
Supervisor	Terry Hickman	Top Perf (MD)	6510	10min PSI	
Date:	2/16/2009	Bottom Perf (MD)	6560	15min PSI	
Stage	1	Mid-Perf TVD	6535	20min PSI	
Target Rate:	50 bpm	Engineer	Jeff Triplett	FG (psi/ft)	0.434

STAGE	Prop Conc.	Slurry BBLs		Clean BBLs		Clean Gal.	Slurry Gal.	Slurry Rate	Treating Pressure	HHP	Time Min	Proppant (lbs)	
		STG	CUM	STG	CUM							STG	CUM
15% ACID		37	37	37	37	1,554	1554	9	3144	694	4.1	-	-
Pad, Step Down		510	547	510	547	21,420	21420	51	4459	5574	10.0	-	-
Slick Pad		168	678	168	678	7,056	7056	52	3788	4828	3.2	-	-
0.50 100MESH	0.50	1,418	2,096	1,387	2,065	58,240	59556	50	3727	4567	28.4	29,120	29,120
0.75 100MESH	0.75	1,225	3,321	1,185	3,249	49,763	51450	50	3704	4539	24.5	37,322	66,442
1.00 100MESH	1.00	992	4,313	949	4,199	39,862	41664	50	3738	4581	19.8	39,862	106,304
1.25 100MESH	1.25	754	5,067	714	4,912	29,974	31668	50	3714	4551	15.1	37,468	143,772
1.50 100MESH	1.50	524	5,591	491	5,403	20,611	22008	50	3684	4515	10.5	30,916	174,688
1.75 100MESH	1.75	381	5,972	353	5,756	14,829	16002	50	3632	4451	7.6	25,951	200,639
2.00 100MESH	2.00	258	6,230	237	5,993	9,938	10836	50	3671	4499	5.2	19,875	220,514
2.25 100MESH	2.25	252	6,482	229	6,221	9,607	10584	50	3663	4489	5.0	21,616	242,130
2.50 100MESH	2.50	248	6,730	223	6,444	9,358	10416	51	3604	4505	4.9	23,396	265,526
.50 API 40/70	0.50	2,559	9,289	2,502	8,947	105,103	107478	51	3820	4775	50.2	52,551	318,078
1.00 API 40/70	1.00	2,478	11,767	2,371	11,318	99,575	104076	51	3641	4551	48.6	99,575	417,653
2.00 API 40/70	2.00	376	12,143	345	11,662	14,483	15792	51	3481	4351	7.4	28,966	446,618
3.00 API 40/70	3.00	264	12,407	232	11,895	9,764	11088	51	3529	4411	5.2	29,292	475,910
3.50 API 40/70	3.50	190	12,597	164	12,059	6,890	10416	51	3662	4578	3.7	24,115	500,025
4.00 API 40/70	4.00	201	12,798	170	12,229	7,149	8442	51	4328	5410	3.9	28,598	528,623
FLUSH		92	12,890	92	12,321	3,864	3864	15	3499	1286	6.1	-	528,623
Totals		12,927	12,890	12,358	12,321	517,486	533,400	51	3,712	4,600	4.32	528,623	528,623
		Bbls	Bbls	Bbls	BBLs	Gallons	Gallons	AVG	AVG	AVG	Hours	Pounds	Pounds

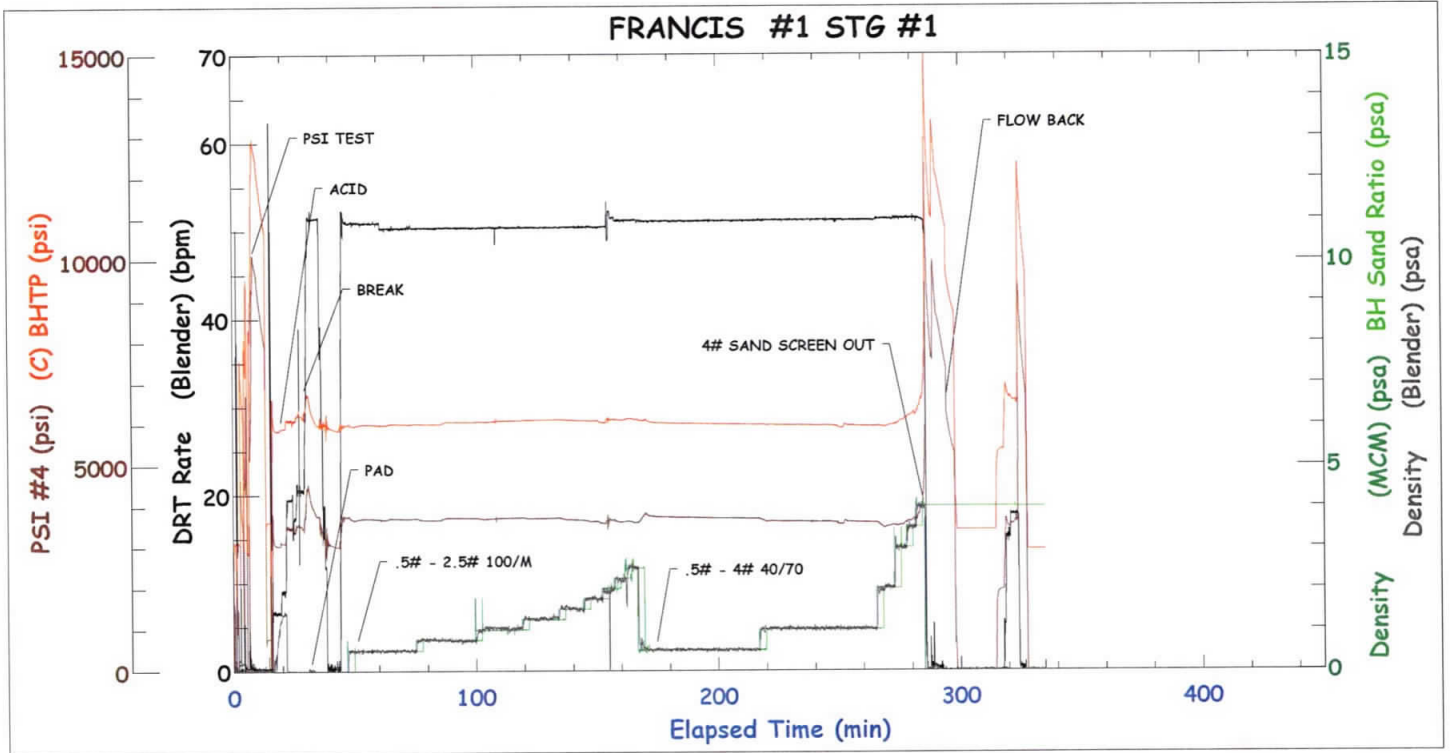
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Environmental Protection



BJ Services JobMaster Program Version 3.20
Job Number: 225048636A
Customer: CHIEF OIL@GAS
Well Name: FRANCIS #1 FRANCIS #1



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Environmental Protection

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BJ Services
Clarksburg, WV

Customer:	Chief Oil & Gas	Field Receipt #	225048307	Break PSI	2541
Well Name:	Crawford #1	County	Marshall Co. WV	ISIP	2969
Company Rep:	Jose Almengor	Field	Marcellus	5min PSI	
Supervisor	Terry Hickman	Top Perf (MD)	6304	10min PSI	
Date:	2/16/2009	Bottom Perf (MD)	6394	15min PSI	
Stage	2	Mid-Perf TVD	6349	20min PSI	
Target Rate:	80 bpm	Engineer	Jeff Triplett	FG (psi/ft)	0.901

STAGE	Prop Conc.	Slurry BBLs		Clean BBLs		Clean Gal.	Slurry Gal.	Slurry Rate	Treating Pressure	HHP	Time Min	Proppant (lbs)	
		STG	CUM	STG	CUM							STG	CUM
15% ACID		46	46	46	46	1,932	1932	10	2711	664	4.6	-	-
Pad, Step Down		809	855	809	855	33,978	33978	80	4631	9080	10.1	-	-
Slick Pad		213	1,022	213	1,022	8,946	8946	79	3699	7162	2.7	-	-
0.50 100MESH	0.50	1,270	2,292	1,242	2,264	52,161	53340	80	3711	7276	15.9	26,081	26,081
0.75 100MESH	0.75	1,230	3,522	1,190	3,454	49,966	51660	80	3669	7194	15.4	37,475	63,555
1.00 100MESH	1.00	1,001	4,523	958	4,411	40,224	42042	81	3687	7320	12.4	40,224	103,779
1.25 100MESH	1.25	778	5,301	736	5,148	30,929	32676	80	3789	7429	9.7	38,661	142,440
1.50 100MESH	1.50	502	5,803	470	5,618	19,745	21084	81	3775	7494	6.2	29,618	172,058
1.75 100MESH	1.75	422	6,225	391	6,009	16,425	17724	80	3786	7424	5.3	28,743	200,801
2.00 100MESH	2.00	287	6,512	263	6,272	11,055	12054	80	3987	7818	3.6	22,109	222,910
2.25 100MESH	2.25	253	6,765	230	6,502	9,645	10626	80	3981	7806	3.2	21,701	244,612
2.50 100MESH	2.50	183	6,948	164	6,666	6,906	7686	80	4025	7892	2.3	17,264	261,876
.50 API 40/70	0.50	2,557	9,505	2,500	9,167	105,021	107394	80	4047	7935	32.0	52,510	314,386
FLUSH		142	9,647	142	9,309	5,964	5964	65	3585	5711	2.2	-	314,386
Pad		136	9,783	136	9,445	5,712	5712	80	4028	7898	1.7	-	314,386
1.00 API 40/70	1.00	2,219	12,002	2,123	11,568	89,168	93198	80	3871	7590	27.7	89,168	403,554
2.00 API 40/70	2.00	500	12,502	459	12,026	19,259	19,259	50	2991	3665	10.0	38,518	442,072
3.00 API 40/70	3.00	262	12,764	231	12,257	9,690	11004	50	3002	3679	5.2	29,070	471,142
3.50 API 40/70	3.50	100	12,864	86	12,343	3,626	4200	50	3202	3924	2.0	12,692	483,834
4.00 API 40/70	4.00	67	12,931	57	12,400	2,383	2814	60	3620	5324	1.1	9,533	493,367
FLUSH		140	13,071	140	12,540	5,880	5880	60		0	2.3	-	493,367
Totals		13,117	13,071	12,586	12,540	526,682	527,982	73	3,692	6,697	2.85	493,367	493,367
		Bbls	Bbls	Bbls	BBLs	Gallons	Gallons	AVG	AVG	AVG	Hours	Pounds	Pounds

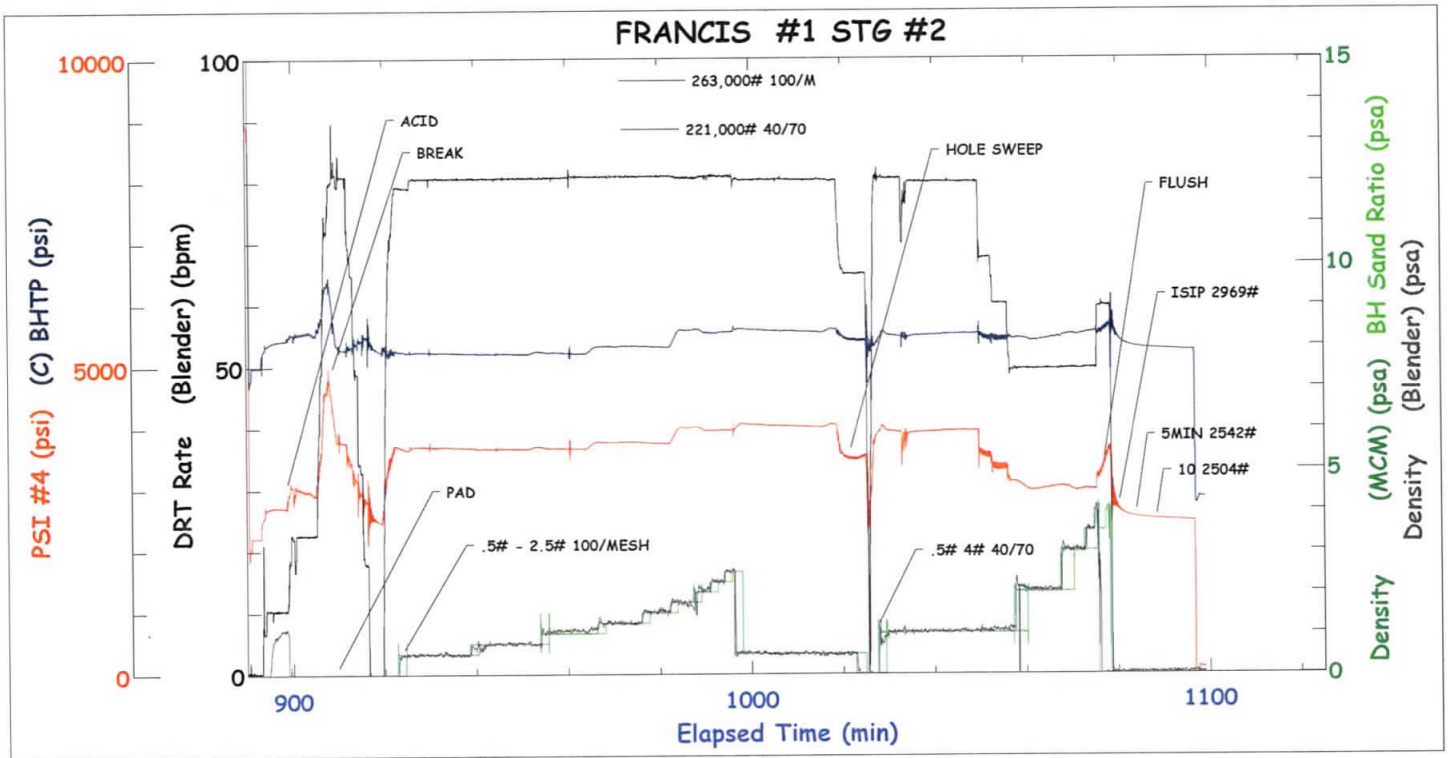
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BJ Services JobMaster Program Version 3.20
Job Number: 225048636A
Customer: CHIEF OIL@GAS
Well Name: FRANCIS #1 FRANCIS #1



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STIMULATION TREATMENT REPORT

Date 09-MAR-09 District Clarksburg F.Receipt 225048636 Customer Chief Oil & Gas, LLC
 Lease Francis #1 Well Name Francis #1
 Field _____ Location _____
 County Marshall State West Virginia Stage No 1 Well API - API 47051011900000

WELL DATA		Well Type: <u>NEW</u>	Well Class: <u>GAS</u>	Depth TD/PB: <u>6744</u>	Formation: <u>Shale</u>						
Geometry Type	Tubular Type	OD	Weight	ID	Grade	Top	Bottom	Perf Intervals			
TUBULAR	CSG	5.5	20	4.778	P-110	0	6744	Top	Bottom	SPF	Diameter
								6510	6560	1	.4

Packer Type _____ Packer Depth _____ FT

TREATMENT DATA						LIQUID PUMPED AND CAPACITIES IN BBLs.			
Fluid Type	Fluid Desc	Pumped Volume(Gals)	Prop. Description	Volume Pumped(Lbs)		Tubing Cap.			
PAD	SLICKWATER	29.946	Sand, White, 100 mesh	263,000		Casing Cap.	145		
TREATMENT FLUID	SLICKWATER	485,100	Sand, White, 40/70	263,000		Annular Cap.	0		
					Total Prop Qty: <u>526,000</u>	Open Hole Cap.	0		
						Fluid to Load	0		
						Pad Volume	713		
						Treating Fluid	11550		
						Flush	0		
						Overflush	0		
						Fluid to Recover	12263		

Previous Treatment _____ Previous Production _____
 Hole Loaded With ACID/TREATED Treat Via: Tubing Casing Anul. Tubing & Anul.
 Ball Sealers: 0 In 0 Stages Type _____
 Auxiliary Materials ACID 1500GAL, FRW 206GAL, CLAYTREAT 255GAL, INFLO 252GAL, SCALETROL 263 GAL, ALPHA125 263GAL, TECHNI604 62GAL.

PROCEDURE SUMMARY

Time AM/PM	Treating Pressure-Psi		Surface Slurry BBLs. Pumped		Slurry Rate BPM	Comments
	STP	Annulus	Stage	Total		
02:20	0	0	0	0	0	ARRIVED ON LOCATION
02:25	0	0	0	0	0	HAD PRE RIGUP MEETING
07:35	0	0	0	0	0	SAFETY MEETING
08:00	10000	0	0	0	0	PSI TEST
08:58	3836	0	36	0	9	ACID
09:02	4414	0	677	36	51	PAD
09:29	3765	0	1417	713	50	START 100 MESH .50#
09:57	3716	0	1225	2130	50	.75#
10:21	3724	0	991	3355	50	1#
10:41	3729	0	754	4346	50	1.25#
10:55	3726	0	524	5100	50	1.50#
11:06	3667	0	381	5624	50	1.75#
11:13	3593	0	258	6005	51	2#
11:18	3668	0	252	6263	51	2.25#
11:23	3627	0	247	6515	51	2.50#
11:28	3613	0	2559	6762	51	START 40/70 .50#
12:18	3704	0	2478	9321	51	1#
13:07	3606	0	376	11799	51	2#
13:14	3533	0	264	12175	50	3#
13:19	3606	0	189	12439	50	3.50#
13:23	3630	0	201	12628	50	4#
13:58	9800	0	0	12829	50	FLUSH (SCREENED OUT)
14:00	0	0	0	0	0	STOP PUMPS

Treating Pressure		Injection Rates		Shut In Pressures		Customer Rep. jose almengor
Minimum	3533	Treating Fluid	50.5	ISDP	1890	BJ Rep. TERRY R HICKMAN
Maximum	4414	Flush	50	5 Min.	0	Job Number 225048636
Average	3973	Average	50.5	10 Min.	0	Rec. ID No.
Operators Max. Pressure				15 Min.	0	Distribution
9500				Final	0 In 0 Min.	
				Flush Dens. lb./gal.	8.34	

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STIMULATION TREATMENT REPORT



Date 09-MAR-09 District Clarksburg F.Receipt 225048636 Customer Chief Oil & Gas, LLC
 Lease Francis #1 Well Name Francis #1
 Field _____ Location _____
 County Marshall State West Virginia Stage No 2 Well API - API 47051011900000

WELL DATA		Well Type:	Well Class:	Depth TD/PB:		Formation:		
Geometry Type	Tubular Type	OD	Weight	ID	Grade	Top	Bottom	
TUBULAR	CSG	5.5	20	4.778	P-110	0	6744	
								Perf Intervals
								Top Bottom SPF Diameter
								6310 6330 1 .4
								6365 6398 2 .4

Packer Type _____ Packer Depth _____ FT

TREATMENT DATA					LIQUID PUMPED AND CAPACITIES IN BBLs.	
Fluid Type	Fluid Desc	Pumped Volume(Gals)	Prop. Description	Volume Pumped(Lbs)		
PAD	SLICKWATER	44,436	Sand, White, 100 mesh	263,000	Tubing Cap.	0
TREATMENT FLUID	SLICKWATER	458,640	Sand, White, 40/70	221,000	Casing Cap.	140
				Total Prop Qty:	Annular Cap.	0
					Open Hole Cap.	0
					Fluid to Load	0
					Pad Volume	1058
					Treating Fluid	10920
					Flush	138
					Overflush	0
					Fluid to Recover	12116

Previous Treatment _____ Previous Production _____
 Hole Loaded With TREATED H2O Treat Via: Tubing Casing Anul. Tubing & Anul.
 Ball Sealers: 0 In 0 Stages Type _____
 Auxiliary Materials ACID 1500GAL, FRW 257GAL, CLAYTREAT 233GAL, INFLO 259GAL, SCALETROL 272GAL, ALPHA125 263GAL, TECHN1604 61GAL.

PROCEDURE SUMMARY

Time AM/PM	Treating Pressure-Psi		Surface Slurry BBLs. Pumped		Slurry Rate BPM	Comments
	STP	Annulus	Stage	Total		
19:45	8000	0	0	0	0	PSI TEST PLUG 8000
10:20	0	0	0	0	0	ARRIVED ON LOCATION
10:25	0	0	0	0	0	SAFETY MEETING
11:25	9000	0	0	0	0	PSI TEST
11:30	2679	0	36	0	10	ACID
11:34	4726	0	1022	36	81	PAD/STEP DOWN
12:04	3700	0	1270	1058	81	START 100 MESH .50#
12:20	3687	0	1229	2328	81	.75#
12:35	3701	0	1001	3557	81	1#
12:48	3778	0	778	4558	81	1.25#
12:57	3772	0	502	5336	81	1.50#
13:04	3760	0	422	5838	81	1.75#
13:10	4016	0	287	6260	81	2#
13:13	3959	0	252	6547	81	2.25#
13:16	3970	0	183	6799	81	2.50#
13:18	4036	0	2081	6982	81	START 40/70 .50#
13:45	2538	0	279	9063	81	SWEEP DUE TO WATER PROBLEMS
16:55	3902	0	2219	9342	60	1#
17:26	3117	0	500	11561	50	2#
17:34	3038	0	262	12061	50	3#
17:40	2997	0	100	12323	50	3.5#
17:42	2998	0	67	12423	60	4#
17:44	3500	0	138	12490	60	FLUSH
17:47	2969	0	0	12628	0	STOP PUMPS

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 Environmental Protection

Treatment Report-Supplement



Date 09-MAR-09 District Clarksburg F.Receipt 225048637 Customer Chief Oil & Gas, LLC
 Lease Francis #1 Well Name Francis #1
 Field _____ Location Clarksburg
 County Marshall State West Virginia Stage No 2 Well API - API 47051011900000

TIME	Treating Pressure-Psi		Surface Slurry BBLs. Pumped		Slurry Rate BPM	Comments
	STP	Annulus	Stage	Total		

Treating Pressure		Injection Rates		Shut In Pressures		Customer Rep.		
Minimum	2997	Treating Fluid	65	ISDP	2969	BJ Rep.		
Maximum	4726	Flush	60	5 Min.	2542	Job Number	225048637	
Average	3862	Average	65	10 Min.	2504	Rec. ID No.		
Operators Max. Pressure	8000			15 Min.	2487	Distribution		
				Final	0	In	Min.	0
				Flush Dens. lb./gal.		8.34		

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Customer Duplicate

BJ Services Company



REMIT TO: P.O. Box 4346-Dept. 393
Houston, TX 77210-4346

INVOICE NO. 1496964 SP 00110	OUR RECEIPT NO. 225048636	DATE 03/09/2009
CUSTOMER NO. 20004112	COST CENTER 1894	YOUR ORDER NO.

Chief Oil & Gas, LLC
5956 Sherry Lane
Suite 1500
Dallas Texas 75225

SERVICES FROM OUR STATION AT Clarksburg Operations	BJ SERVICES SUPERVISOR TERRY R HICKMAN	SIGNED FOR YOU BY Jose almeidor
FOR SERVICE WELL NAME Francis #1	COUNTY/PARISH Marshall	STATE West Virginia

PRODUCT CODE	DESCRIPTION	UNIT OF MEASURE	QUANTITY	LIST PRICE UNIT	GROSS AMOUNT	PERCENT DISC.	NET AMOUNT
100009	Sand, White, 40/70	cwt	4840	35.200	170,368.00	62%	64,739.84
100091	Ferrotrol 300L	gals	18	35.200	633.60	62%	240.77
100122	Sand, White, 100 mesh	cwt	5260	22.030	115,877.80	62%	44,033.56
100472	NE-940	gals	3	87.250	261.75	62%	99.47
398004	HCl, 10.1 - 15%	gals	3000	2.370	7,110.00	62%	2,701.80
488137	Claytreat 3C	gals	476	111.250	52,955.00	62%	20,122.90
488420	FRW-18	gals	572	85.500	48,906.00	62%	18,584.28
488429	InFlo 250W	gl	515	74.000	38,110.00	62%	14,481.80
499684	LT-32	gals	12	119.750	1,437.00	62%	546.06
499779	CL-14	gals	6	98.250	589.50	62%	224.01
A153	Personnel Surcharge - Frac >5000	ea	1	2,180.000	2,180.00	0%	2,180.00
F305C	Comp. Sand Proportioning, 41-50 bpm	2hrs	1	7,675.000	7,675.00	62%	2,916.50
F325C	Comp. Sand Proportioning, 41-50 bpm	hrs	3	1,965.000	5,895.00	62%	2,240.10
F328C	Comp. Sand Proportioning, 71-80 bpm	hrs	6.5	2,800.000	18,200.00	62%	6,916.00
J235	Reserve blender, computerized	hrs	11.5	1,050.000	12,075.00	62%	4,588.50
F201A	Frac HHP, 0-5000 psi	2hrs	5546	12.300	68,215.80	62%	25,922.00
F221A	Frac HHP, 0-5000 psi	hrs	52687	4.110	216,543.57	62%	82,286.56
J055	Chemical Additive Unit	job	1	1,750.000	1,750.00	62%	665.00
J229	Data Acquisition, Frac/Acid-Enhanced	job	1	6,450.000	6,450.00	62%	2,451.00
J309	Sand Conveyor, Dual Feed	job	1	3,625.000	3,625.00	62%	1,377.50
J321	Densimeter	job	1	1,335.000	1,335.00	62%	507.30
J326	Trailer Manifold, Frac. Init hrs	2hrs	1	6,400.000	6,400.00	62%	2,432.00
J328	Trailer Manifold, Frac. After Init Hrs	hrs	9.5	172.500	1,638.75	62%	622.73
J376S	Satellite Data Transmission Charge	hrs	11.5	1,170.000	13,455.00	62%	5,112.90
J390	Mileage, Heavy Vehicle	hrs	2160	7.400	15,984.00	62%	6,073.92
J391	Mileage, Auto, Pick-Up or Treating Van	miles	240	4.200	1,008.00	62%	383.04
J500	Sand King, more than 300,000 lb	day	4	2,800.000			

PHONE: (713) 462-4239 TERMS: NET 30 DAYS

BJ Services

PAY THIS AMOUNT



5101190P

Customer Duplicate

BJ Services Company



REMIT TO: P.O. Box4346-Dept.393
Houston, TX 77210-4346

INVOICE NO. 1496964 SP 00110	OUR RECEIPT NO. 225048636	DATE 03/09/2009
CUSTOMER NO. 20004112	COST CENTER 1894	YOUR ORDER NO.

Chief Oil & Gas, LLC
5956 Sherry Lane
Suite 1500
Dallas Texas 75225

SERVICES FROM OUR STATION AT Clarksburg Operations	BJ SERVICES SUPERVISOR TERRY R HICKMAN	SIGNED FOR YOU BY jose almerindo
FOR SERVICE WELL NAME Francis #1	COUNTY/PARISH Marshall	STATE West Virginia

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Office of Oil and Gas
FEB 10 2014

WV Department of Environmental Protection

PRODUCT CODE	DESCRIPTION	UNIT OF MEASURE	QUANTITY	LIST PRICE UNIT	GROSS AMOUNT	PERCENT DISC.	NET AMOUNT
J500	Sand King, more than 300,000 lb	day	4	2,800.000	11,200.00	62%	4,256.00
J400	Bulk Delivery, Trans., 1500 gals.	trip	1	426.000	426.00	62%	161.88
J401	Bulk Delivery, Dry Products	ton-mi	33569	2.470	82,915.43	62%	31,507.86
SUB TOTAL					913,220.20		348,375.28

PHONE: (713) 462-4239

TERMS: NET 30 DAYS

PAY THIS AMOUNT USD

348,375.28

APR 1 2014



CHIEF OIL & GAS, LLC
DAILY DRILLING REPORT

WV Department of
Environmental Protection

Well name and number: Francis # 1			CSG. 9.625 @ 2490			DATE: 11/26/2008		
Days since spud 19			Status <input checked="" type="checkbox"/> A <input type="checkbox"/> I			Indicators: SD. LOG. ST. F. PROB.		
AFE Number: 8080			Daily Cost			Turnkey		
CSGPT Date 11/21/2008								
Mud Properties		Type Air/Foam	WT.	VIS.	PV	YP	Gels /	APIWL
CHL		Total hardness	O/W ratio /		ES		%Oil	%SD
%LGS		%HGS	#/BBL BEN		#/BBL DS		LCM	M. Cake #/BBL /32
Materials used last 24 hours			Mud Log Data			Solids Control Equipment		
BBSL Water:			Pore Press.			Sys Vol bbls Sys Eff %		
Hammer : Oil sx@\$ 20 gal			BG Gas 83 units			Shakers Screen Size /		
Soap : sx@\$			Conn. Gas			Desander hrs.		
: sx@\$			Trip Gas			Desilter hrs.		
: sx@\$			Max Gas 83 units			Mud Cleaner hrs.		
: sx@\$			Shale Density 100%			Screen size hrs.		
: sx@\$			Lithology Shale			Centrifuge #1 hrs.		
INVENTORY			Lithology Shale			Centrifuge #2 hrs.		
Barite			Fuel 5516 gal. used 1190					
Water 1250								
Hydraulics		#1	#2	Surveys (Mag. corr. _____)				
Pump (Make and Model)		(C.E. F - 1000)	(C.E. F - 800)	Meas. Depth		Angle		Direction
LS x SL x SPM		(6 X 10 X)	(6 X 9 X)	4651		Bullseye		
Slow rate (SPM/PSI)		/	/	5165		1 degree		
GPM 3-IR 1070		Press. 270 @3210cfm	BHHP					
AV: DP GD booster		DC	JV					
ECD @ CS		@ TD	Frac grad. @ cs					
Bit Record						BOP		
Bit No. 5		Depth Out 5661		Test Date: 11/23/2008				
Size 8.5		Depth In 2495		Pressure 200 low - 1000 high				
Make Numa		Ft. Made 3166		Side Track <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No				
Type F.F. Dia.		Hrs. Drlg. 48.5		KOTMD				
Serial No. 174255		WOB 2-3,000		KOTVD				
No. & Size Jets		RPM 30		PB TMD				
IADC code		Condition		PB TVD				
BHA Hours 199.5		Wt. in Mud		Min. ID 2 1/2		Torque 980		
Details (1) Bit, (1) hammer, (1) Bit Sub, (10) 6 3/4" DC., (1) X-O				Str.. Wt. UP 166,000		Down 154,000		Rotating 161,000
Time Breakdown (1/4 hours)								
Drilling 17.25		Reaming		Cementing		Rig move/mobilization		
Tripping 4.25		Hole opening		Nipple up/down		Wait on orders 1.5		
Circ./Cond. 0.25		Service/repair rig		Fishing		Wait on weather		
Short trip		Well logging		Lost circulation		Wait on cement		
Test BOP's		Run casing		Surveys 0.75		Other		
Change/Orient BHA		Lay dwn DP		Rig up/down		Total 24		
Narrative (See back)		Current TMD/TVD 5661		Current formation shale		Current OPS W.O.O.		Hole made 24 hours 971
Drlg. 8.5" air hole from 4690' - 5661', Air pressure increased and penetration decreased, circulated								
T.O.O.H. for hammer and left the bit and retainer in the hole!								
Contractor UDI			Rig Number 43			Drilling foreman Tracy G. Davis		



CHIEF OIL & GAS, LLC

DAILY DRILLING REPORT

Well name and number: Francis # 1		CSG. 9.625 @ 2490		DATE: 11/29/2008
Days since spud: 22	Status: <input checked="" type="checkbox"/> A <input type="checkbox"/> I	Indicators: SD. LOG. ST. F. PROB.		
AFE Number: 8080	Daily Cost	T	I	Mud Turnkey
CSGPT Date 11/21/2008				
Mud Properties	Type: Air/Foam	WT.	VIS.	PV YP Gels APIWL HTHP PH
CHL	Total hardness	O/W ratio	ES	%Oil %SD MBT #/BBL % Total Sld.
%LGS	%HGS	#/BBL BEN	#/BBL DS	LCM #/BBL M. Cake #/32
Materials used last 24 hours		Mud Log Data		Solids Control Equipment
BBLs. Water:	: sx@\$	Pore Press.	Sys Vol	bbls Sys Eff %
Hammer : Oil	sx@\$	BG Gas	Shakers Screen Size /	
Soap : sx@\$	sx@\$	Conn. Gas	Desander hrs.	
:	sx@\$	Trip Gas	Desilter hrs.	
:	sx@\$	Max Gas	Mud Cleaner hrs.	
:	sx@\$	Shale Density 100%	Screen size hrs.	
INVENTORY		Lithology Shale	Centrifuge #1 hrs.	
Barite	Fuel 54"		Centrifuge #2 hrs.	
Water 1060				
Hydraulics		#1	#2	SURVEYS (Mag. corr.)
Pump (Make and Model)	(C.E. F - 1000)	(C.E. F - 800)	Meas. Depth	Angle Direction
LS x SL x SPM	(6 X 10 X)	(6 X 9 X)	4651	Bullseye
Slow rate (SPM/PSI)	/	/	5165	1 degree
GPM	Press.	BHHP		
AV: DP	DC	JV		
ECD @ CS	@ TD	Frac grad. @ cs		
Bit Record			BOP	
Bit No.	Depth Out		Test Date:	11/23/2008
Size	Depth In		Pressure	200 low - 1000 high
Make	Ft. Made		Side Track	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Type	Hrs. Drlg.		KOTMD	
Serial No.	WOB		KOTVD	
No. & Size Jets	RPM		PBTMD	
IADC code	Condition		PBTVD	
BHA	Hours 199.5	Wt. in Mud	Min. ID 2 1/2	Torque
Details				
		Str.. Wt. UP	Down	Rotating
Time Breakdown (1/4 hours)				
Drilling	Reaming	Cementing	Rig move/mobilization	
Tripping	Hole opening	Nipple up/down	Wait on orders	
Circ./Cond.	Service/repair rig	Fishing	Wait on weather	
Short trip	Well logging	Lost circulation	Wait on cement 24	
Test BOP's	Run casing	Surveys	Other	
Change/Orient BHA	Lay dwn DP	Rig up/down	Total 24	
Narrative	Current TMD/TVD 5161	Current formation shale	Current OPS W.O.C.	Hole made 24 hours
(See back)				
Set 500' Kick plug. W.O.C. @ report time.				
Contractor	UDI	Rig Number 43	Drilling foreman	Tracy G. Davis



CHIEF OIL & GAS, LLC

DAILY DRILLING REPORT

Well name and number: Francis # 1				CSG. 9.625 @ 2490		DATE: 11/30/2008	
Days since spud	23	Status	<input checked="" type="checkbox"/> A <input type="checkbox"/> I	Indicators: SD. LOG. ST. F. PROB.			
AFE Number:	8080	Daily Cost		T	I	Mud	Turnkey
CSGPT Date 11/21/2008							
Mud Properties	Type Salt Water	WT.	8.6	VIS.	31	PV	YP
CHL	Total hardness	O/W ratio		ES	%Oil	%SD	APIWL
%LGS	%HGS	#/BBL BEN		#/BBL DS	LCM	#/BBL	M. Cake
							/32

Materials used last 24 hours		Mud Log Data		Solids Control Equipment	
BBLs. Water:	:	bx@\$	Pore Press.	Sys Vol	bbls Sys Eff %
Hammer : Oil	bx@\$	bx@\$	BG Gas	Shakers Screen Size	225 / 225
Soap :	bx@\$	bx@\$	Conn. Gas	Desander	hrs.
:	bx@\$	bx@\$	Trip Gas	Desilter	hrs.
:	bx@\$	bx@\$	Max Gas	Mud Cleaner	hrs.
:	bx@\$	bx@\$	Shale Density 100%	Screen size	hrs.
INVENTORY			Lithology Shale	Centrifuge #1	hrs.
Barite	Fuel	4655 used 900 gals.		Centrifuge #2	hrs.
Water 1060					

Hydraulics		#1		#2		Surveys (Mag. corr.)	
Pump (Make and Model)	(C.E. F - 1000)	(C.E. F - 800)	Meas. Depth	Angle	Direction		
LS x SL x SPM	(6 X 10 X 120)	(6 X 9 X)	5271	0.5	292.1		
Slow rate (SPM/PSI)	/	/					
GPM 397	Press. 1250	BHHP					
AV: DP	DC	JV					
ECD @ CS	@ TD	Frac grad. @ cs					

Bit Record				BOP	
Bit No.	7rr	Depth Out	OB	Test Date:	11/23/2008
Size	7.875	Depth In	5195	Pressure	200 low - 1000 high
Make	HTC	Ft. Made	122	Side Track	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Type	HP6026	Hrs. Drig.	2.5	KOTMD	
Serial No.	AL5844	WOB	19,000	KOTVD	
No. & Size Jets	3-22's	RPM	50	PBTMD	
IADC code		Condition		PBTVD	

BHA	Hours 206.25	Wt. in Mud	Min. ID 2 1/2	Torque
Details Bit, Motor, UBHO, (1) Monel, X-O, (10) 6.5 DC's, XO				
Str.. Wt. UP		Down	Rotating	

Time Breakdown (1/4 hours)				
Drilling	6.75	Reaming		Rig move/mobilization
Tripping	11.25	Hole opening		Wait on orders
Crirc./Cond.	1	Service/repair rig	0.5	Wait on weather
Short trip		Well logging		Wait on cement
Test BOP's		Run casing		Other
Change/Orient BHA	2.5	Lay dwn DP		Total
				24

Narrative (See back)	Current TMD/TVD	Current formation	Current OPS	Hole made 24 hours
	5321	Cement/shale	Time Drig.	

Time drilling with D.D.C. at report time 5321'

Contractor	UDI	Rig Number	43	Drilling foreman	Tracy G. Davis
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CHIEF OIL & GAS, LLC
DAILY DRILLING REPORT

Well name and number: Francis # 1					CSG. 9.625 @ 2490			DATE: 12/1/2008					
Days since spud 24		Status <input checked="" type="checkbox"/> A <input type="checkbox"/> I		Indicators: SD. LOG. ST. F. PROB.									
AFE Number: 8080		Daily Cost		T			Mud		Turkey				
CSGPT Date 11/21/2008													
Mud Properties	Type	WT.	VIS.	PV	YP	Gels	APIWL	HTHP	PH				
	Salt Water	8.6	29			/							
CHL	Total hardness		O/W ratio		ES		%Oil	%SD	MBT	% Total Sid.			
%LGS	%HGS	#/BBL BEN		#/BBL DS			LCM	#/BBL	M. Cake	/32			
Materials used last 24 hours				Mud Log Data				Solids Control Equipment					
BBLs. Water:		:		sx@\$		Pore Press.		Sys Vol		bbls	Sys Eff	%	
Hammer : Oil		:		sx@\$		BG Gas		N/A		Shakers Screen Size			225 / 225
Soap :		:		sx@\$		Conn. Gas		Desander			hrs.		
:		:		sx@\$		Trip Gas		Desilter			hrs.		
:		:		sx@\$		Max Gas		Mud Cleaner			hrs.		
:		:		sx@\$		Shale Density		20%		Screen size		hrs.	
:		:		sx@\$		Lithology		80 % cement		Centrifuge #1		hrs.	
Barite		Fuel		3463 used 1195 gals.				Centrifuge #2		hrs.			
Water 500													
Hydraulics				Surveys (Mag. corr.)									
Pump (Make and Model)		#1		#2		Meas. Depth		Angle		Direction			
(C.E. F - 1000)		(C.E. F - 800)				5271		0.5		292.1			
LS x SL x SPM		(6 X 10 X 124)		(6 X 9 X)									
Slow rate (SPM/PSI)		/		/									
GPM	410	Press.	1300	BHHP									
AV: DP	DC			JV									
ECD @ CS	@ TD			Frac grad. @ cs									
Bit Record						BOP							
Bit No.	7rr		Depth Out		OB	Test Date:		11/23/2008					
Size	7.875		Depth In		5195	Pressure		200 low - 1000 high					
Make	HTC		Ft. Made		176	Side Track		<input checked="" type="checkbox"/> Yes		<input type="checkbox"/> No			
Type	HP6026		Hrs. Drig.		26	KOTMD		5317					
Serial No.	ALS844		WOB		Time Drig.	KOTVD		5317					
No. & Size Jets	3-22's		RPM		M.M.	PBTMD		5661					
IADC code			Condition			PBTVD		5661					
BHA	Hours	230.25		Wt. in Mud		Min. ID		2 1/2		Torque			
Details Bit, Motor, UBHO, (1) Monel, X-O, (10) 6.5 DC's, XO													
						Str.. Wt. UP		Down		Rotating			
Time Breakdown (1/4 hours)													
Drilling	24		Reaming		Cementing	Rig move/mobilization							
Tripping			Hole opening		Nipple up/down	Wait on orders							
Circ./Cond.			Service/repair rig		Fishing	Wait on weather							
Short trip			Well logging		Lost circulation	Wait on cement							
Test BOP's			Run casing		Surveys	Other							
Change/Orient BHA			Lay dwn DP		Rig up/down	Total		24					
Narrative	Current TMD/TVD		Current formation		Current OPS		Hole made 24 hours		50				
(See back)	5371		Cement/shale		Time Drig.								
Time drilling with D.D.C. at report time 5371', 7.875" hole on fluid.													
Contractor UDI				Rig Number 43				Drilling foreman Tracy G. Davis					



CHIEF OIL & GAS, LLC DAILY DRILLING REPORT

Well name and number: Francis # 1		CSG. 9.625 @ 2490	DATE: 12/2/2008
Days since spud 25	Status <input checked="" type="checkbox"/> A <input type="checkbox"/> I	Indicators: SD. LOG. ST. F. PROB.	
AFE Number: 8080	Daily Cost	T	I Mud Turnkey
CSGPT Date 11/21/2008			
Mud Properties	Type Salt Water	WT. 8.7	VIS. 31 PV YP Gels / APIWL HTHP PH 12
CHL 32,000	Total hardness 1000	O/W ratio /	ES %Oil %SD MBT #/BBL % Total Sld. 0.4
%LGS	%HGS	#/BBL BEN	#/BBL DS LCM #/BBL M. Cake /32
Materials used last 24 hours		Mud Log Data	
BMLS. Water:	:	sx@\$	Pore Press.
:	sx@\$	sx@\$	BG Gas N/A
:	sx@\$	sx@\$	Conn. Gas
:	sx@\$	sx@\$	Trip Gas
:	sx@\$	sx@\$	Max Gas
:	sx@\$	sx@\$	Shale Density 20%
INVENTORY		Lithology 80 % cement	
Barite Fuel 5329 used 1183 gals.		Solids Control Equipment	
Water 500			Sys Vol bbls Sys Eff %
Hydraulics		SURVEYS (Mag. corr.)	
Pump (Make and Model)	#1 (C.E. F - 1000)	#2 (C.E. F - 800)	Meas. Depth Angle Direction
LS x SL x SPM	(6 X 10 X 124)	(6 X 9 X)	5271 0.5 292.1
Slow rate (SPM/PSI)	/	/	5336 0.5 317.1
GPM 432	Press. 1300	BHHP	
AV: DP 253	DC 644	JV	
ECD @ CS	@ TD	Frac grad. @ cs	
Bit Record			BOP
Bit No. 7rr	8	Depth Out 5391	Test Date: 11/23/2008
Size 7.875	7.875	Depth In 5195	Pressure 200 low - 1000 high
Make HTC	Reed	Ft. Made 196	Side Track <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Type HP6026	HP62	Hrs. Drlg. 40	KOTMD 5317
Serial No. AL5844	JM5155	WOB Time Drlg.	KOTVD 5317
No. & Size Jets 3-22's	3-22's	RPM M.M.	PBTMD 5661
IADC code		Condition Motor run + New	PBTVD 5661
BHA Hours 241.5	Wt. in Mud	Min. ID 2 1/2	Torque
Details Bit, Motor, UBHO, (1) Monel, X-O, (10) 6.5 DC's, XO			
		Str.. Wt. UP	Down Rotating
Time Breakdown (1/4 hours)			
Drilling 11.25	Reaming	Cementing	Rig move/mobilization
Tripping 11.5	Hole opening	Nipple up/down	Wait on orders
Crirc./Cond. 0.75	Service/repair rig	Fishing	Wait on weather
Short trip	Well logging	Lost circulation	Wait on cement
Test BOP's	Run casing	Surveys	Other
Change/Orient BHA 0.5	Lay dwn DP	Rig up/down	Total 24
Narrative (See back)	Current TMD/TVD 5391	Current formation Cement/shale	Current OPS Time Drlg. Hole made 24 hours 20
Not getting off kick plug, T.O.O.H. and adjust M.M. to a 2.60 setting and put on a new bit, T.I.H.			
Contractor UDI	Rig Number 43	Drilling foreman Tracy G. Davis	

Hankins, Melanie S

From: Brooks, Kristen R <KristenBrooks@chevron.com>
Sent: Friday, February 21, 2014 7:38 AM
To: Hankins, Melanie S
Subject: RE: Plugging application for Francis 1H (API 51-01190)
Attachments: Francis 1H WW-4A.pdf

Good morning Melanie. I apologize that was sent in incorrectly. The address on the WW-4A form is what we had on file for her, and where we initially notified. Mrs. Francis recently moved and we had to re-notify with the Filbert Ave Moundsville address which the green card reflects. I have attached an updated copy of the WW-4A with the correct address on it. Sorry for the inconvenience.

Thanks,

Kristen Brooks

Permitting Coordinator
Appalachian/Michigan SBU
Chevron North America Exploration & Production
800 Mountain View Drive
Smithfield, PA 15478
(O)724.564.3781 (C)724.562.6116

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From: Hankins, Melanie S [<mailto:Melanie.S.Hankins@wv.gov>]
Sent: Thursday, February 20, 2014 3:24 PM
To: Brooks, Kristen R
Subject: Re: Plugging application for Francis 1H (API 51-01190)

Ms. Brooks,

The WVDEP Office of Oil & Gas received the plugging application for Francis 1H (API 51-01190) today. The only issue on initial review is the Notice of Application. The address listed for Barbara Pearl Francis is shown differently on the WW-4A form than on the mail receipt. Is there a reason for this? Please let me know if you have any questions.

Thanks,

Melanie S. Hankins

Environmental Technician
West Virginia Department of Environmental Protection
Office of Oil & Gas
601 57th St. SE
Charleston, WV 25304
(304) 926-0499 ext. 1649
(304) 926-0452 fax
Melanie.S.Hankins@wv.gov

Received

FEB 21 2014

Office of Oil and Gas
WV Dept. of Environmental Protection

NOV 19 83

and has 10 to 100
notations with a...



Jeconda Arnold
Completion Engineer
Appalachian/Michigan BU

47-5101190

**Chevron North America Exploration
and Production Company**
(a Chevron U.S.A. Inc. division)
1550 Coraopolis Heights Road
Moon Township, PA 15108
Tel 412 865-1565
JecondaArnold@chevron.com

Mr. McLaughlin,

As per our discussion on the Francis 1V Abandonment, please see below the list of our HES concerns with pulling the 5-1/2" casing. I have also included our proposed plan forward to mitigate these risks.

Currently we have pressure on the 5-1/2" x 9-5/8" casing annulus. We are unsure of where this pressure is coming from. The CBL indicates that the top of cement +/- 2,500' which is just below the 9-5/8" shoe at 2,491'.

Our HES concerns include:

- Not knowing where the pressure on 5-1/2" x 9-5/8" annulus is coming from, in order to cut and pull the 5-1/2" casing, the BOP would have to be nipped down and the tubing spool B-section removed. This process would expose personnel to an open wellbore with no means of pressure containment
- Upon installation of the BOP, after pulling the casing slips and packoff there would not be any means to effectively pressure test the BOP's.

The proposed plan forward to mitigate these risks includes:

- Set cement retainer at +/- 5,500'
- Place 500' cement plug on top of cmt retainer – Est. TOC at +/- 5,000'
- 11 ppg mud will be left in the hole between plugs instead of water with 6% bentonite
- Run gyro survey
- Set CIBP at +/- 2,500'
- Punch holes in 5-1/2" csg at +/- 2,450' (4-6 spf)
- Set cement retainer at +/- 2,350'
- Circulate cement to surface in 5-1/2" x 9-5/8" annulus – squeeze if needed
- Fill 5-1/2" csg full of cement from top of cement retainer @ +/- 2,350' to surface
- Remove wellhead and cover well with plate as per WV DEP regulations

Chevron believes that the proposed plan forward reduces the associated risk to as low as reasonably possible, while still honoring the regulations set forth by the WV DEP.

Thank you in advance for your support,

Jeconda Arnold – Chevron Completion Engineer
Shawn Davis – Chevron Completion Superintendent
Stephan Otero – Chevron Drilling Superintendent

MODIFICATION APPROVED BY: JEFFREY W. McLAUGHLIN
TECHNICAL ANALYST
WV DEP, OFFICE OF OIL & GAS

Jeffrey W. McLaughlin
6/11/2014

5101190 PLUGGING

DATE	NO.
PJSM, R/U PPS equipment to Key for bullheading of well. Annular: 2,300 psi	
Pressure Test PPS iron. Good Test. Equalize pressure, open valves & stabilize pressures. 2-3/8" Tubing - 5,000 psi 5-1/2" Csg - 2,200 psi 9-5/8" - 950 psi	
Pumped produced fluid down 2-3/8" tbg x 5-1/2" csg annulus @ 20 spm, 1.7 bpm, 2,200 psi 32 spm, 2.4 bpm, 2,200 psi	
Monitor Well Pressures: 11:00 am 2-3/8" Tbg: 700 psi 5-1/2" Csg: 2,000 psi 9-5/8" Csg: 450 psi 60 bbls pumped @ 32 spm 11:02 am 2-3/8" Tbg: 725 psi 5-1/2" Csg: 2,000 psi 9-5/8" Csg: 450 psi	
Monitor Well Pressures: 11:15 am 2-3/8" Tbg: 800 psi 5-1/2" Csg: 1,600 psi 9-5/8" Csg: 450 psi 11:20 am 2-3/8" Tbg: 875 psi 5-1/2" Csg: 1,400 psi 9-5/8" Csg: 950 psi	

13 3/8" @ 966'
9 5/4" @ 2491'
CIRCULATED

5 1/2" @ 6727'
970 SXS

KILL W/ WATER
STILL HAVE PRESS.
@ 400 PSI SINCE
11:00 AM LAST.
P TUBING 400 PSI
P 5 1/2 400 PSI
P 5 1/2 x 9 5/8 150 PSI

SET CEMENT @
5500 SQUEEZE
PERF 500'
CEMENT ON TOP

RUN GYRO SURVEY

CIR @ 2500' PERF 50' ABOVE
@ 2450' 4-6 SLOTS
SET RETAINER ABOUT 100' ABOVE
ATTEMPT TO CEMENT CIRCULATE.

Activity	Com	Ref No.	Time (hr)
BHD	<p>Monitor Well Pressures:</p> <p>11:28 am 2-3/8" Tbg: 1,300 psi 5-1/2" Csg: 1,400 psi 9-5/8" Csg: 600 psi</p> <p>110 bbls pumped @ 32 spm</p> <p>11:30 am 2-3/8" Tbg: 1,700 psi 5-1/2" Csg: 1,700 psi 9-5/8" Csg: 600 psi</p> <p>11:35 am - @ Perfs 2-3/8" Tbg: 2,300 psi 5-1/2" Csg: 2,300 psi 9-5/8" Csg: 600 psi</p> <p>160 bbls pumped @ 32 spm</p>		
BHD	<p>Pumped off, valves closed: Monitor Well Pressures</p> <p>2-3/8" Tbg: 1,150 psi 5-1/2" Csg: 1,000 psi 9-5/8" Csg: 650 psi</p>		
BHD	<p>Pump 60 bbls down 2-3/8" tbg @ 2 bpm. Max. pressures not to exceed.</p> <p>2-3/8" Tbg: 4,000 psi 5-1/2" Csg: 2,500 psi</p> <p>Shut pumps off, valves closed: Monitor Well Pressures.</p>		
BHD	<p>Bleed Pressures w/ air, flared.</p> <p>Monitor Well Pressures:</p> <p>2-3/8" Tbg: 500 psi 5-1/2" Csg: 0 psi 9-5/8" Csg: 0 psi</p>		
WN	<p>Slowly flowed tubing 20 bbls w/ no drop in pressure. Shut in due to gas being at surface.</p>		
WN	<p>Flowed tubing to flare. Shut in, pressure was 1000 on tubing. 500 on annulus. Decision made to get PPS separator and scrubber to circulate well in morning.</p>		
	<p>Rig down all unneeded equipment for morning operations</p>		
CLN	<p>Cleaned radiator in generator, organized and prepared tubs for rig move, housekeeping around location including change house and pusher shack.</p>		

I
NOW

Operator: CHEVRON APPALACHIA, LLC
API: 5101190
WELL No: FRANCIS 1
Reviewed by: gwm Date: 3/31/2014
05 Day End of Comment: 2/25/14

CHECKLIST FOR FILING A PERMIT

Plugging

- WW-4B
- Inspector signature on WW-4B
- Completion / Well Records of Previous Work
 - WW-4A (Notarized)
 - Certified Mail Receipts, Waivers, or Affidavits of Personal Service
 - Surface Owner Waiver
 - Coal Owner / Lessee / Operator Waiver
 - WW-9 (Page 1) (Notarized)
 - Inspector Signature on WW-9 (Optional)
 - Topographic Map of location of well
 - WW-7

OR

- Mylar Plat (Surface owner on plat matches WW-4A)
- Bond
- Company is Registered with the SOS
- Worker's Compensation / Unemployment Insurance account is OK
- ~~\$100.00 check~~ (\$0.00 if no pit)

PLEASE SEND AN
ADDITIONAL COPY
TO SEAN WAINWRIGHT
WITH CHEVRON.

SWAINWRIGHT@chevron.com