



Well Operator's Report of Well Work a.k.a. – “Completion Report” Update



John Kearney
Environmental Resource Analyst
Office of Oil and Gas

Oil and Gas Workshop
Charleston Civic Center
May 15, 2014

Overview – Completion Report

- Updated Form WR-35
- Redesigned to Capture Horizontal Well Information (22-6A)
- Historical Document
- Important to Capture Well Details
- Must Be Accurate
- Must Be Thorough
- Timely Submission – 90 days after completion

Updated Form

Fillable PDF Format

Captures More Information

Available at WVDEP OOG
Webpage:

<http://www.dep.wv.gov/oil-and-gas/GI/Forms/Pages/default.aspx>

Instructions page is also there for reference.

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

API 47- - County District
Quad Pad Name Field/Pool Name
Farm name Well Number
Operator (as registered with the OOG)
Address City State Zip

As Drilled location NAD 83/UTM Attach an as-drilled plat, profile view, and deviation survey
Top hole Northing Easting
Landing Point of Curve Northing Easting
Bottom Hole Northing Easting

Elevation (ft) GL Type of Well New Existing Type of Report Interim Final

Permit Type Deviated Horizontal Horizontal 6A Vertical Depth Type Deep Shallow

Type of Operation Convert Deepen Drill Plug Back Redrilling Rework Stimulate

Well Type Brine Disposal CBM Gas Oil Secondary Recovery Solution Mining Storage Other

Type of Completion Single Multiple Fluids Produced Brine Gas NGL Oil Other

Drilled with Cable Rotary

Drilling Media Surface hole Air Mud Fresh Water Intermediate hole Air Mud Fresh Water Brine

Production hole Air Mud Fresh Water Brine

Mud Type(s) and Additive(s)

Date permit issued Date drilling commenced Date drilling ceased

Date completion activities began Date completion activities ceased

Verbal plugging (Y/N) Date permission granted Granted by

Please note: Operator is required to submit a plugging application within 5 days of verbal permission to plug

Freshwater depth(s) ft Open mine(s) (Y/N) depths

Saltwater depth(s) ft Void(s) encountered (Y/N) depths

Coal depth(s) ft Cavern(s) encountered (Y/N) depths

Is coal being mined in area (Y/N)

Reviewed by:

Historical Document

- These documents record and preserve important well information.
- They will be referenced for the life of the well.
- Invaluable to know how the well was completed.
- Required to plug correctly.
- How long will your well be in production?
10, 20, 50, 100 years ???
- Will the well be sold? How many times?

EXAMPLE:

- Braxton County Well 47-007-00001
- First Well Permitted in Braxton County, 1929.
- Spudded: July 16, 1929.
- Completed: September 2, 1929
- Refraced: September 9, 1969, Gamma Ray Log
- Plugged: July 11, 2008 - 79 years later.

- 47-007-00001 1929 and 1969 Completion Report (Pages 9 - 22)
- 47-007-00001 2008 Plugging Report (Pages 23-48)

- Recording and Preservation of this information is vital.

New Requirements for Horizontal H6A Wells:

- Stimulation Records – Perforation locations, stages, chemicals used, Frac Focus.
- “Exact Location” of well bore.
- As-drilled plats.
- Plan view and profile view.

Examples

Completed Completion Report, Pages 49-63

Completion Report Blank Form, Pages 64-67

Completion Report Instructions , pages 68-70

WR-35 Completion Report Take-A-Way

- Provide all required information.
- Tell the story of the well. Don't be afraid to use words. Describe what happened, how the well was constructed.
- Add additional sheets for ANY relevant information. If the form doesn't quite have a space for relevant well information, add an additional sheets of paper.
- Everything submitted must be legible. Do not submit information if not legible.
- Provide coordinates in NAD 83, UTM (metric)
- Proofread, Proofread, Proofread.
- Visit WVDEP OOG Webpage often to look for Updates.

- Finally, think of future generations that will need this information.

COPY

WEST VIRGINIA DEPARTMENT OF MINES

OIL AND GAS SECTION

PRELIMINARY DATA SHEET NO. 1

File No. Brax. 1

Well No. 7549

PITTSBURGH AND WEST VIRGINIA GAS Company, of 435 Sixth Avenue,

Pittsburgh, Pennsylvania on the William L. Findley Farm

containing 128 acres. Location _____

Salt Lick District, in Braxton County, West Virginia.

The surface of the above tract is owned in fee by _____

William L. Findley of Gem, Braxton County, West Virginia address,

and the mineral rights are owned by Same of Same.

The oil and gas privileges are held under lease by the above named company, and this well is drilled under permit No. _____ issued by the West Virginia Department of Mines, Oil and Gas Section, Brax. - 1 July 5, 1929.

Elevation of surface at top of well, 808 ~~XXXXXXXXX~~ Spirit

The number of feet of the different sized casings used in the well.

_____ feet _____ size. Wood conductor.

55 feet 10" size, casing 705 feet 8-1/4" sized csg.

1623 feet 6-5/8" size, casing 1824 feet 3" sized csg.

_____ feet _____ size, casing _____ feet _____ sized csg.

Hook ball packer of 6-5/8" x 3" size, set at 1674.

_____ packer of _____ size, set at _____.

3" casing perforated at 1674 feet to 1824 feet.

_____ casing perforated at _____ feet to _____ feet.

Coal was encountered at 100 feet; thickness 24 inches, and at

228 feet; thickness 48 inches; and at 444 feet;

thickness 24 inches. at 640 feet; thickness 36 inches.

Liners were used as follows: (Give details) _____

September 23, 1929.

Date

PITTSBURGH & WEST VIRGINIA GAS COMPANY

APPROVED: (S) M. C. SCHNEIDER Owner

By _____ Operating Manager

Commenced Drilling: July 18, 1929

Completed Drilling: September 2, 1929

PITTSBURGH & WEST VIRGINIA GAS Company

435 Sixth Avenue, Pittsburgh, Pa. Address

COMPLETION DATA SHEET
NO. 2
FORMATION RECORD

Well No. 7549

Name	Color	Character	Oil, Gas or Water	Top	Bottom	Thickness	Total Depth	Remarks
Coal	Black	Soft	Water	100	102	2		
Coal	Black	—		228	232	4		
Lime	White	Hard		232	275	43		
Slate	—	Soft		275	284	9		
Lime	White	Hard		284	390	106		
Slate	—	Soft		390	395	5		
Sand	White	Hard		395	444	49		
Coal				444	446	2		
Lime	White	Hard		446	500	54		
Sand				500	535	35		
Slate	Black	Soft		535	570	35		
Sand	White	Hard		570	640	70		
Coal	Black	Soft						
			Hole full water	640	643	3		
Lime	White	Hard		643	650	7		
Sand	White	Hard		650	865	215		
Slate	Black	Soft		865	1100	235		
Sand	Dark	Hard	Water at 1195	1100	1316	216		
Slate	Black	Soft		1316	1326	10		
Lime	Black	Hard		1326	1350	24		
Sand	White	Hard		1350	1380	30		
Slate	White	Soft		1380	1385	5		
Sand	—	Hard		1385	1452	67		
Slate	Black	Soft		1452	1472	20		
Red Rock	—	—		1472	1492	20		
Slate	White	Soft		1492	1540	48		
Lime	White	Hard		1540	1555	15		
Slate	White	Soft		1555	1574	19		
Sand	White	Hard	Gas 1592	1574	1596	22		
Slate	White	Soft		1596	1613	17		Steel line 1623
Lime	White	Hard		1613	1665	52		
Injun	Dark	Hard	Gas 1778-1783	1665	1658	193		
Slate	Black	Soft	Gas 1824	1858	1935	77		
Lime & Shells	White	Hard		1935	1965	30		
Slate & Shells	White	Soft		1965	2175	210		
Gordon Stray	Dark	Hard		2200	2214	14		
Slate	Black	Soft		2214	2219	5		
Gordon	Dark	Hard		2219	2233	14		
Slate	White	Soft		2233	2257	24		
							2357	Steel line in Slate

Well was ~~not~~ shot at 1838' feet; well was shot at 1786 feet.

Salt Fresh water at Sec A Box C feet; salt fresh water at feet.

Well was producing hole. Gas

PITTSBURGH & WEST VIRGINIA GAS COMPANY

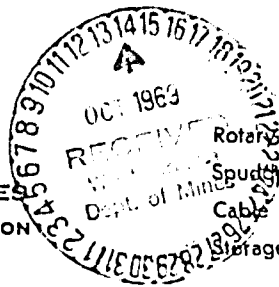
4-12-33 Date

Approved _____ Owner

NOTE: All bottom formations must be noted as indicated above and all key-rocks and oil and gas sands must be recorded under their proper geological names in the district as well as any local names commonly used in the district for such strata.



STATE OF WEST VIRGINIA
DEPARTMENT OF MINES
OIL AND GAS WELLS DIVISION
Hydrafrac
WELL RECORD



- Rotar
- Spuds
- Cable Tools
- Storage

39°00'
7-25
Quadrangle Burnsville SW 2-3
Permit No Brax-1-Frac

Oil or Gas Well Gas
(KIND)

Company	Address	Farm	Location (waters)	Well No.	District	The surface of tract is owned in fee	Mineral rights are owned by	Casing and Tubing	Used in Drilling	Left in Well	Packers
<u>Equitable Gas Company</u>	<u>420 Blvd. of the Allies, Pgh., Pa. 15219</u>	<u>W. L. Findley</u>	<u>Burnsville SW 2-3</u>	<u>7549</u>	<u>Salt Lick</u>	<u>James W. Singleton</u>	<u>M. E. Carpenter, Atty.-in-fact, 709 Maryland Ave, Fairmont, W. Va., 26551</u>	Size			Kind of Packer <u>USD</u>
		<u>Acres 128</u>		<u>Elev. 808</u>	<u>Draxton</u>	<u>Gem, W. Va.</u>		16			
								13			
								10	<u>55</u>	<u>55</u>	Size of <u>6-5/8 x 3</u>
								8 1/4	<u>705</u>	<u>705</u>	Depth set <u>1728</u>
								6 1/2	<u>1619</u>	<u>1619</u>	
								5 3/16			
<u>Repair</u>	<u>Work</u>							3		<u>1760</u>	Perf. top
<u>Repair</u>	<u>Work</u>							2			Perf. bottom
											Perf. top
											Perf. bottom

Date Shot From To
With
Open Flow /10ths Water in Inch
/10ths Merc. in Inch
Volume Cu. Ft.
Rock Pressure lbs. hrs.
Oil bbbls. 1st 24 hrs.
WELL ACIDIZED (DETAILS) FEET INCHES FEET INCHES
WELL FRACTURED (DETAILS) 9-9-69 Big Injun Sand
RESULT AFTER TREATMENT (Initial open Flow or bbls) 9-11-69 293M-230 lbs. Back Pressure
ROCK PRESSURE AFTER TREATMENT HOURS 793.000
Fresh Water Feet Salt Water Feet
Producing Sand Depth

Formation	Color	Hard or Soft	Top	Bottom	Oil, Gas or Water	Depth	Remarks
<u>Drillers Log from: Surface to 1,300'</u>							
Coal			100	102			
Coal			228	232			
B. Dunkard Sand			395	444			
Coal			444	446			
Freeport Sand			500	535			
Gas Sand			570	640			
Coal			640	643			
Gas Sand			650	765			
Salt Sand			765	865			
Salt Sand			1,100	1,300			
<u>Gamma Ray Log from 1,300' to 1,907'</u>							
Salt Sand			1,300	1,374			
Rosedale Gas Sand			1,350	1,370			
Rosedale Salt Sand			1,390	1,452			
Little Lime			1,548	1,594			
Big Lime			1,612	1,656			
Big Injun Sand			1,658	1,754			
Big Injun Sand			1,764	1,776			
Big Injun Sand			1,788	1,807	Gas	1,778-1,798	Temperature
Squaw Sand			1,812	1,832			
Cleaned out to bridge at				1,907			
Filled back with stone to				1,840			
Cement to				1,809			
Completed Total Depth				1,809			

Formation	Color	Hard or Soft	Top	Bottom	Oil, Gas or Water	Depth Found	Remarks

Date October 9, 1969

APPROVED Equitable Gas Company, Owner

By *J. M. Linger*
(Title)

Chief System Geologist



State of West Virginia

Department of Mines
Oil and Gas Division
Charleston 5

October 20, 1969

Equitable Gas Company
420 Blvd. of the Allies
Pittsburgh, Penna. 15219

IN RE: Permit BRAY-1-FRAC
Farm W. I. Findley
Well No. 7540
District Salu Lick
County Braxton

Gentlemen:

The final inspection report for the well which is described above has been received in this office.

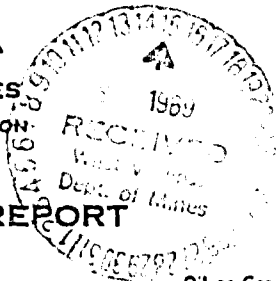
Please be advised that the Well which is covered by the above permit number has been released under your Blanket Bond.

Very truly yours,

Deputy Director
Oil and Gas Wells Division

b

STATE OF WEST VIRGINIA
DEPARTMENT OF MINES
OIL AND GAS WELLS DIVISION



INSPECTOR'S WELL REPORT

Permit No. 10001-1-1969

Oil or Gas Well Gas
(KIND)

Company <u>THE STATE GAS COMPANY 400 OHIO ST. CHARLOTTE</u>	CASING AND TUBING	USED IN DRILLING	LEFT IN WELL	PACKERS
	Size			Kind of Packer
Address <u>HISTORIC RD. 1969</u>	16			
Farm <u>W.L. FIDLEY (CON)</u>	13			
Well No. <u>1 (1969) FE</u>	10	<u>52</u>	<u>42</u>	Size of
District <u>SOUTH</u> County <u>BRUNNEN</u>	8 1/4	<u>125</u>	<u>7 1/2</u>	Depth of
Drilling commenced <u>5-2-69</u>	6 1/2	<u>1025</u>	<u>1513</u>	Perf. top
<u>15000 - 12 1/2 - 2357</u>	5 3/16			Perf. bottom
Drilling completed <u>8-2-69</u> Total depth <u>1846</u>	3			Perf. top
Date shot <u>9-11-69</u> Depth of shot <u>1810</u>	2			Perf. bottom
Initial open flow _____ /10ths Water in _____ Inch	Liners Used			Perf. top
Open flow after tubing _____ /10ths Merc. in _____ Inch				Perf. bottom
Volume <u>591 GALL</u> Cu. Ft.	CASING CEMENTED <u>FE</u> SIZE _____ FT. Date _____			
Block pressure <u>6000 PSI</u> lbs. <u>1</u> hrs.	NAME OF SERVICE COMPANY _____			
Oil _____ bbls., 1st 24 hrs.	COAL WAS ENCOUNTERED AT <u>100</u> FEET <u>70</u> INCHES			
<u>(1969) 12000</u> <u>24000 PSI</u>	<u>240</u> FEET <u>40</u> INCHES <u>50</u> FEET <u>30</u> INCHES			
Fresh water _____ feet _____ feet	_____ FEET _____ INCHES _____ FEET _____ INCHES			
<u>(1969)</u>	_____ FEET _____ INCHES _____ FEET _____ INCHES			
Salt water <u>1100</u> feet _____ feet				

Drillers' Names J.D. McPherson - McPherson

Remarks: CASING SET TO 1770
WELL PASSED WITH FIRST PORT TO 1210
WELL PASSED THROUGH 5' TO 8' CRACKS IN JA DR. IN 5000 FT. SECTION
SHOT HOLE IN SQUAN CEMENTED - 1840-1810

9-11-69
DATE

H. J. Hollister
DISTRICT WELL INSPECTOR

STATE OF WEST VIRGINIA
DEPARTMENT OF MINES
OIL AND GAS WELLS DIVISION



INSPECTOR'S WELL REPORT

Permit No. BRAX-1-1722

Oil or Gas Well GAS
(KIP DI)

Company <u>EQUITABLE GAS COMPANY</u> <u>412 BULLFINCH OF THE ALBERS</u>	CASING AND TUBING	USED IN DRILLING	LEFT IN WELL	PACKERS
	Address <u>PITTSBURGH, PENNA-15212</u>	Size		
Owner <u>W.L. FINDL Y (1928)</u>	16			Kind of Packer
Well No. <u>11 754 57</u>	13			
District <u>SALT LICK</u> County <u>BRANTON</u>	10			Size of
Drilling commenced	8 1/4			
Drilling completed	6 3/8			Depth set
Date shot	5 3/16			
Initial open flow	3			Perf. top
Open flow after tubing	2			Perf. bottom
Volume	Liners Used			Perf. top
Stock pressure				Perf. bottom
Oil	CASING CEMENTED	SIZE	No. Ft.	Date
Fresh water	NAME OF SERVICE COMPANY			
Salt water	COAL WAS ENCOUNTERED AT			
				FEET INCHES
				FEET INCHES
				FEET INCHES

Drillers' Names _____

Remarks: ON FINAL INSPECTION THIS WELL MAY BE RELEASED.

BOND CASHED
RETURNED TO WELL OPERATOR AND/OR PRINCIPAL

10/27/68

12-17-68
DATE

H.A.B. Kelly
DISTRICT WELL INSPECTOR

NOTICE OF PROPOSED LOCATION OF OIL AND GAS WELL
(REQUIRED BY SECTION 2, CHAPTER 86, ACTS 1926)
WEST VIRGINIA DEPARTMENT OF MINES
OIL AND GAS SECTION

To THE DEPARTMENT OF MINES,
Charleston, W. Va.
Outside of Coal Area or State according
to Dr. I. C. White's map.

PITTSBURGH & WEST VIRGINIA GAS COMPANY
NAME OF WELL OPERATOR

COAL OPERATOR

#435 Sixth Avenue, Pittsburgh, Penna.

COMPLETE ADDRESS

ADDRESS

June 7th, 19 29

PROPOSED LOCATION

COAL OPERATOR

Salt Lick District

ADDRESS

Braxton County

COAL OPERATOR

Well No. 7549

ADDRESS

Wm. L. Findley Farm

GENTLEMEN:

The undersigned well operator is entitled to drill upon the above named farm or tract of land for oil and gas, having fee title thereto, (or as the case may be) under ~~lease~~ lease dated February 14th, 1927, made by William L. Findley et al, to Pittsburgh & West Virginia Gas Company, and recorded on the 29th day of April, 1927, in the office of the County Clerk for said County in

Book 138, page 399

The enclosed plat was prepared by a competent engineer and shows the proposed location of a well to be drilled for oil and gas by the undersigned well operator on the farm and in the Magisterial District and County above named, determined by survey and course and distances from two permanent points, or land marks.

The undersigned well operator is informed and believes there are no coal operator operating beds of coal beneath said farm or tract of land on which said well is located, or within 500 feet of the boundaries of the same, who have mapped their workings and filed their maps as required by law, excepting the coal operators (if any) above named as addressees.

The above named coal operators (if any) are notified that any objections they may desire to make to such proposed location, or which they are required to make by Section 3 of said Act, if the drilling of a well at said proposed location will cause a dangerous condition in or about their respective coal mines, must be received by, or filed with the Department of Mines within ten* days from the receipt of a copy of this notice and accompanying plat by said Department. Said coal operators are further notified that forms for use in making such objections will be furnished to them by the Department of Mines promptly on request and that all such objections must set forth as definitely as is reasonably possible the ground or grounds on which such objections are based and indicate the direction and distance the proposed location should be moved to overcome same.

(The next paragraph is to be completed only in Department's copy.)

Copies of this notice and the enclosed plat were mailed by registered mail, or delivered to the above named coal operators at their above shown respective address day before, or on the same day with the mailing or delivery of this copy to the Department of Mines at Charleston, West Virginia.

Very truly yours,

PITTSBURGH & WEST VIRGINIA GAS COMPANY,
WELL OPERATOR

Room 610 - #435 Sixth Avenue,

STREET

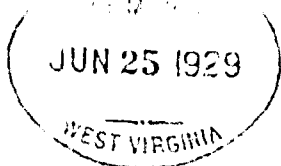
Pittsburgh,

CITY OR TOWN

Pennsylvania,

STATE

Address of Well Operator }



*Section 3 If no such objections be filed, or be found by the department of mines, within said period of ten day from the receipt of said notice and plat by the department of mines, to said proposed location, the department shall forthwith issue to the well operator a drilling permit reciting the filing of such plat, that no objections have been made by the coal operators to the location, or found thereto by the department, and that the same is approved and the well operator authorized to proceed to drill at said location.

Braxton

STATE OF WEST VIRGINIA

Oil and Gas Division
DEPARTMENT OF MINES

NOTICE TO COAL OPERATOR BY WELL OPERATOR OF INTENTION TO FRACTURE
WELL ORIGINALLY DRILLED ON AND/OR AFTER JUNE 5, 1929, AND BEFORE JULY 1, 1963

To Deputy Director for Oil and Gas
of the Department of Mines

Date February 10, 1969

Central Pittsburgh Coal Corporation
Coal Operator
111 South Fifth Street
Street
Clarksburg, West Virginia 26301
City and State

Equitable Gas Company
Well Operator
420 Boulevard of the Allies
Street
Pittsburgh, Pennsylvania 15219
City and State

Permit No. BRAX - 1
Well No. 7519
Farm W. L. Findley
District Salt Lick
County Braxton

In accordance with Section 2-a of the amended Article 4, Chapter 22 of the West Virginia Code effective July 1, 1963, before fracturing any oil and/or gas well originally drilled on and after June 5, 1929, and before July 1, 1963, or the effective date of this Act, provided workable beds of coal are known to underlie the subject tract referred to hereinabove and as also shown on a copy of the well location map attached hereto and made a part of this notice, you are hereby notified that the undersigned intends to fracture said well on the _____ day of _____, 19__.

PROVIDED FURTHER if the above-named tract of land is being actively mined for coal, the well operator shall notify the coal operator and the Oil and Gas Inspector (in that respective District) 24 hours in advance of the time of day and date actual fracturing of said well shall commence.

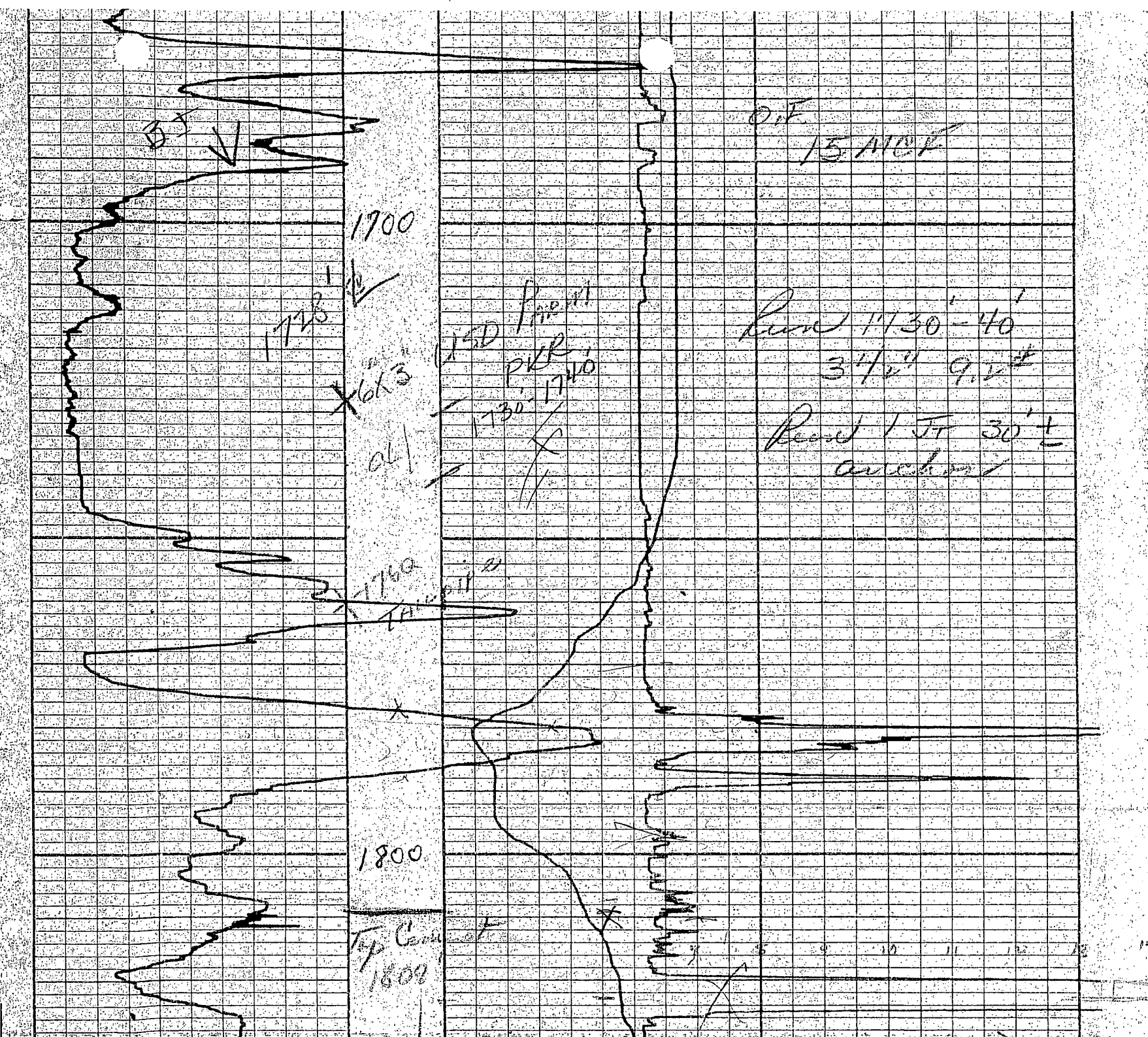
Very truly yours, *J. W. Goodman*
Vice President and Chief System Geologist

Equitable Gas Company
Well Operator
420 Boulevard of the Allies
Street
Pittsburgh
City or Town
Pennsylvania 15219
State

Address
of
Well Operator

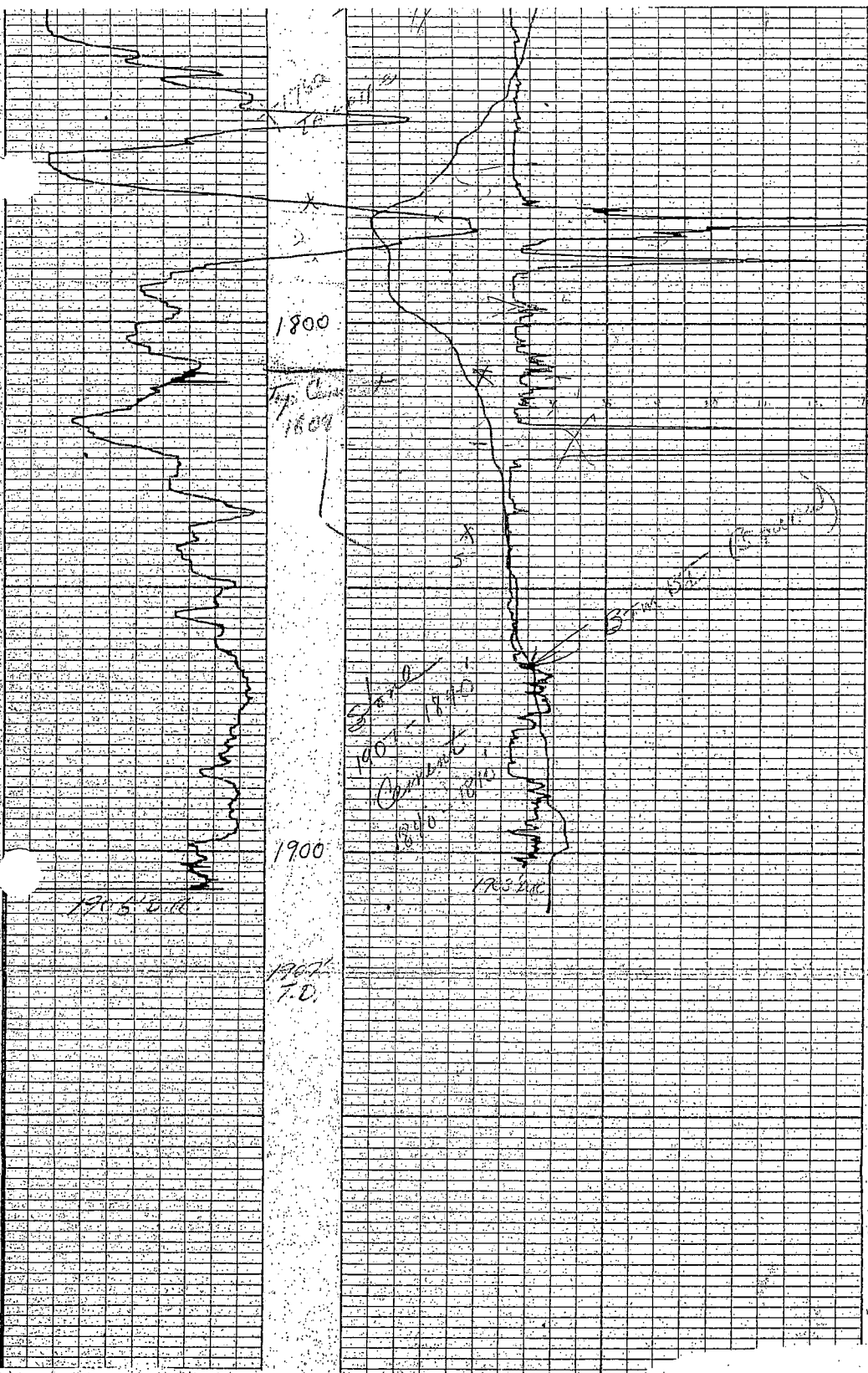
BLANKET BOND





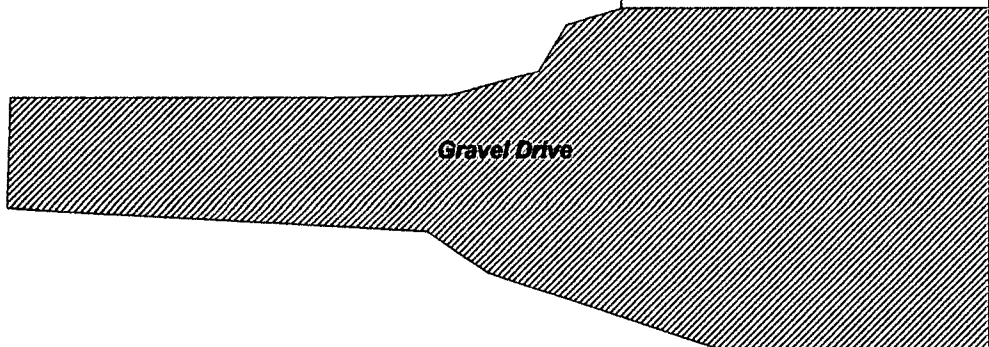
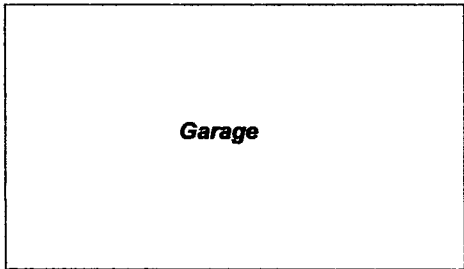
047-00001P

047-000018



Notes:
Well site coordinates are
N: 661589 Latitude: 38.816498
E: 2093442 Longitude: 80.671887
West Virginia
Coordinate System of 1927, South Zone
based upon
Differential GPS Measurements.
Plat orientation and corner and well
references are based upon the grid
north meridian.
Well location references are based upon
the magnetic meridian.

GRID NORTH



WV607549
47-007-0001

Legend

- Gas well existing or proposed
- Found corner, as noted
- Surface boundary (approximate)
- Lease boundary (approximate)

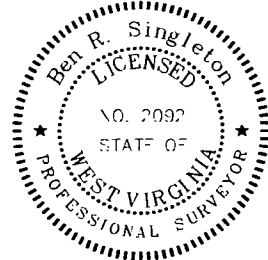
(-♦-) Denotes location of well on United States topographic maps



I, the undersigned, hereby certify that this plat 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 Department of Environmental Protection.

Ben R. Singleton

P.S. 2092



SEAL

FILE NO: 40-02-SL-07 (EQT 3-46)
DRAWING NO: 2921T08_WV607549.dwg
SCALE: not to scale
MINIMUM DEGREE OF ACCURACY:
1:2500

PROVEN SOURCE OF ELEVATION:
NGS HARN DEP Base Station Kanawha City

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



DATE: August 29 2008

OPERATOR'S WELL NO. WV607549

API WELL NO: 47-007-0001

47 - 007 - 00001
STATE COUNTY PERMIT

WELL TYPE: OIL GAS LIQUID INJECTION WASTE DISPOSAL
(IF GAS) PRODUCTION: STORAGE DEEP SHALLOW

LOCATION: ELEVATION: 806' WATERSHED Saltlick Creek

QUADRANGLE: Burnsville DISTRICT: Saltlick COUNTY: Braxton

SURFACE OWNER: Charles and Cathy McCoy ACREAGE: _____

OIL AND GAS ROYALTY OWNER: Betty Squires Keener executrix LEASE NO: _____ ACREAGE: _____

PROPOSED WORK: DRILL CONVERT DRILL DEEPER FRACTURE OR STIMULATE PLUG OFF OLD FORMATION
 PERFORATE NEW FORMATION OTHER PHYSICAL CHANGE IN WELL (SPECIFY) _____

PLUG AND ABANDON CLEAN OUT AND REPLUG TARGET FORMATION: _____ ESTIMATED DEPTH: _____

WELL OPERATOR: Equitable Production Company, Inc.

DESIGNATED AGENT: Rex C. Ray

ADDRESS: 1710 Pennsylvania Ave.
Charleston, WV 25302

ADDRESS: 1710 Pennsylvania Ave.
Charleston, WV 25302



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

Joe Manchin III, Governor
Randy C. Huffman, Cabinet Secretary
www.wvdep.org

June 10, 2009

FINAL INSPECTION REPORT

WELL PLUGGING PERMIT RELEASED

EQT PRODUCTION COMPANY,

The FINAL INSPECTION REPORT for the permit, API Well Number: 47-700001, issued to EQT PRODUCTION COMPANY, and listed below has been received in this office. Your Affidavit of Plugging was received and reclamation requirements approved. The well designated by the permit number below has been released under your bond.

James Martin
Chief

Operator: EQT PRODUCTION COMPANY
Operator's Well No: 7549
Farm Name: FINDLEY, WILLIAMS L.
API Well Number: 47-700001
Date Issued: 06/06/2007
Date Released: 06/10/2009

Promoting a healthy environment.

WELL PLUGGING INSPECTION & RELEASE FORM

PLUGGING COMMENCED 7-2-2008
PLUGGING COMPLETED 7-11-2008
VERBAL PERMISSION ON _____

OPERATOR: Equitable Production Co
FARM: Finley William L
WELL NO: _____

- 1. IS COAL BEING MINED IN THE AREA? YES NO
- 2. WERE CEMENT AND GEL MIXED AND USED IN ACCORDANCE WITH ACCEPTED INDUSTRY STANDARDS?
 - A. BOTTOM HOLE PLUGGED YES NO
 - B. 100' PLUGS YES NO
 - C. LATEX PLUGS USED FOR H₂S GAS YES NO
 - D. PROPER PLUGS THROUGH COAL SEAMS YES NO
 - E. PROPER PLUGS SET TO PROTECT FRESHWATER YES NO
 - F. PROPER AMOUNT OF GEL USED TO DISPLACE PLUGS YES NO

TYPE	FROM	TO	PIPE REMOVED
Cement	1720	1560	
Gel	1560	1360	1" 1700'
Cement	1360	1146	
Gel	1146	760	3 1/2" 1649'
Cement	760	560	
Gel	560	300	7" 1053'
Cement	300	400	
Gel	400	280	8" 84'
Cement	280	Surface	

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Office of Oil & Gas

FEB 24 2009

- 3. WERE ALL CHANGES APPROVED BY INSPECTOR? YES NO
- 4. WAS THE EQUIPMENT USED FOR PULLING CASING PROPERLY SIZED AND RIGGED TO PULL 150% OF THE HEAVIEST WV Department of Environmental Protection PIPE EXPECTED TO BE PULLED? YES NO
- 5. DID THE OPERATOR GIVE THE INSPECTOR PROPER NOTICE? YES NO
- 6. WERE ACCURATE PLUGGING RECORDS KEPT BY THE OPERATOR? YES NO
- 7. WAS A PROPER MONUMENT SET WITH API NUMBER ATTACHED? YES NO
- 8. DID WELL SITE AND ACCESS ROAD MEET THE FOLLOWING RECLAMATION REQUIREMENTS?
 - A. RECLAIMED YES NO
 - B. FENCES REPLACED YES NO
 - C. MULCHED YES NO
 - D. PROPER DRAINAGE YES NO
 - E. SEEDED YES NO
 - F. ALL EQUIPMENT REMOVED YES NO

2-23-09
DATE RELEASED

[Signature]
INSPECTOR'S SIGNATURE

State of West Virginia
Department of Environmental Protection
Office of Oil and Gas
Discharge Monitoring Report
Oil and Gas General Permit

Company Name: Equitable Production Co
API: 47-007-00001 County: Braxton
District: Salt Lick
Farm Name: Findley, William L Well No.: Findley 7549
Discharge Date/s From: (MMDDYY) _____ * To: _____
Discharge Times From: _____ * To: _____
***No Pit Used**

Disposal Option Utilized: UIC (2): _____ Permit No.: _____
Centralized Facility (5): _____ Permit No.: _____
Reuse (4): _____ Alternate Permit No.: _____
Offsite Disposal (3): _____ Site Location: _____
Land Application (1): _____ (Include a topographical map of the area)
Other Method (6): _____ (Include an explanation)

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SEP 04 2008
WV Department of Environmental Protection

Follow instructions below to determine your treatment category.

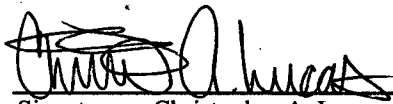
Optional Pretreatment Test: _____ Cl- mg/l _____ DO mg/l

1. Do you have permission to use expedited treatment from the Director or his representative? (Y/N) _____
If yes who? _____, and place a four (4) on line 7. If not, go to line 2.
2. Was Frac Fluid or flowback put into the pit? (Y/N) _____ If yes go to line 5, if not go to line 3.
3. Do you have a chloride value pretreatment? (see above) (Y/N) _____ If yes go to line 4, if not go to line 5.
4. Is that chloride level less than 5000 mg/l? (Y/N) _____ If yes then enter a one (1) on line 7.
5. Do you have a pretreatment value for DO? (see above) (Y/N) _____ If yes then go to line 6, if not enter a three (3) on line 7.
6. Is that DO greater than 2.5 mg/l? (Y/N) _____ If yes then enter a two (2) on line 7, if not enter a three (3) on line 7.
7. _____ is the category of your pit. Use the appropriate section.

Name of Principal Executive Officer Steven G Perdue
Title of Officer _____
Date Completed July 28, 2008

I certify under penalty of law that I have personally examined and am familiar with the information submitted on this document and all the attachments; 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.

Signature of a Principal Executive Officer of Authorized Agent



Signature Christopher A. Lucas, Vice President, Lucas Well Service, Inc.

Rev (5-01)

WR-38

DATE: 07/14/08

API# 47-007-00001

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

AFFIDAVIT OF PLUGGING AND FILLING WELL

AFFIDAVIT SHOULD BE IN TRIPPLICATE, one copy mailed to the Department, one copy to be retained by the Well Operator and the third copy (and extra copies if required) should be mailed to each coal operator at their respective addresses.

Farm name: Findley, William L

Operator Well No.: Findley 7549

LOCATION: Elevation: 806
District: Salt Lick
Latitude: Feet South of
Longitude: Feet West of

Quadrangle: Burnsville
County: Braxton
Deg. Min. Sec.
Deg. Min. Sec.

Well Type: OIL GAS X

Company: Equitable Production Company
1710 Pennsylvania Avenue
Charleston, WV 25302

Coal Operator or Owner
Coal Operator or Owner
RECEIVED
Office of Oil & Gas
SEP 04 2008

Agent: Steven G. Perdue

Permit Issued Date: 6/6/2007

AFFIDAVIT

WV Department of Environmental Protection

STATE OF WEST VIRGINIA,
County of Ritchie ss:

Kyle Perkins and Carl McQuillan being first duly sworn according to law depose and say that they are experienced in the work of plugging and filling oil and gas wells and were employed by the above named well operator, and participated in the work of plugging and filling the above well, and David Gilbert, Oil and Gas Inspector representing the Secretary, say that said work was commenced on the 2nd day of July, 2008, and that the well was plugged and filled in the following manner:

Table with 6 columns: TYPE, FROM, TO, PIPE REMOVED, LEFT. Rows include Cement with various measurements and a note: 6% gel placed between cement plugs.

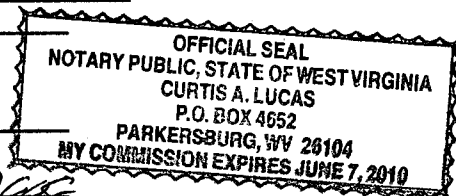
Description of monument: 7" casing extending 30" above surface (offset) and that the work of plugging and filling said well was completed on the 11th day of July, 2008. And further deponents saith not.

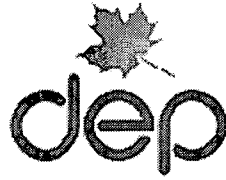
Sworn and subscribed before me this 15th day of July, 2008

My commission expires: June 7, 2010

Notary Public

Oil and Gas Inspector:





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

Joe Manchin III, Governor
Stephanie R. Timmermeyer, Cabinet Secretary
www.wvdep.org

June 06, 2007

WELL WORK PLUGGING PERMIT

Plugging

This permit, API Well Number: 47-700001, issued to **EQUITABLE PRODUCTION COMPANY**, 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 or Mr. Al Blankenship at (304) 926-0499 ext. 1653.

James Martin
Chief

Operator's Well No: 7549

Farm Name: FINDLEY, WILLIAMS L.

API Well Number: 47-700001

Permit Type: Plugging

Date Issued: 06/06/2007

Promoting a healthy environment.

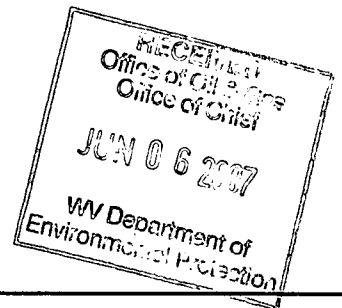
STATE OF WEST VIRGINIA
DIVISION OF ENVIRONMENTAL PROTECTION
OFFICE OF OIL AND GAS

APPLICATION FOR A PERMIT TO PLUG AND ABANDON

- 4) Well Type: Oil ___/ Gas XXXXX/ Liquid injection ___/ Waste disposal ___/
(If "Gas, Production XXXX or Underground storage ___) Deep ___/ Shallow ___
- 5) Location: Elevation 806' Watershed Salt Lick Creek
District Salt Lick County Braxton Quadrangle Burnsville 7.5'
- 6) Well Operator Equitable Production Co. 7) Designated Agent Steve Perdue
Address 1710 Pennsylvania Ave. Address Same As Operator
Charleston, WV 25302
- 8) Oil and Gas Inspector to be notified 9) Plugging Contractor
Name ~~Rick Campbell~~ Craig Duckworth Name Meadows Well
Service 545-2942
Address PO box 22 Duck, WV, 25063 RT 2 Box 22, Ravenswood,
W.V. Address RT. 3, Box 27A
26164

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

See Attached Plugging Prognosis



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

Work order approved by inspector Craig Duckworth Date 6-1-07

Plugging Prognosis – Weston District

Finley 7549 (607549)

API # 47-007-00001

CN 6-1-07

Braxton Co,
Burnsville Quad

Prepared by Doug Fry 4/5/07

Current Status;

10" @ 55'

8 1/4" @ 705'

6 5/8" @ 1619'

3" @ 1760',

T.D. @ 1809', Original TD 2357' **Well Plugged back to 1809' w/ stone and cement**

Packer 3"x 6 5/8" Anchor @ 1728'

FW @ 640', 100' SW @ 1195' Coal @ 100', 444', 228', 640'

Gas Shows @ 1788' - 1807' - Big Injun @ 1385' - 1452', Rose Salt Sand

Oil Shows @ None Reported.

Completion: Fractured Big Injun

- 1) Notify State Inspector Craig Duckworth @ (M) 304-288-4216, 24 hrs prior to commencing operations.
- 2) Attempt to pull 1760' of 3" tubing and check condition, Packer @ 1728', If tubing and packer will not pull, TIH w/ wireline and check TD.
- 3) TIH w/ Wireline @ 1728', Cut 3" at top of packer, TOO H w/ tubing check condition.
- 4) TIH w/ 3" tubing, Set 159' C1A Cement plug @ 1728' to 1569'. (Injun, 6 5/8" csg pt)
- 5) TOO H w/ tubing, Gel hole @ 1569' to 1385'.
- 6) TOO H w/ 3" tubing, Free point 6 5/8" csg @ 1600', Cut 6 5/8" csg @ 1600', TOO H w/ 6 5/8" csg.
- 7) If 6 5/8" csg not free @ 1600', Cut @ Free point; Set 100' C1A cement plug 50' In/Out of cut. Perf all SW, Coal & FW shows below 6 5/8" cut. Do not omit any plugs shown below.
- 8) TIH w/ tubing @ 1385', Set 100' C1A cement plug @ 1385' to 1285'. (Rose Salt show)
- 9) TOO H w/ tubing Gel hole @ 1285' to 755'.
- 10) TOO H w/ 3" tubing, Set 100' C1A Cement plug @ 755' to 655'. (8 1/4" csg pt, Salt Sand)
- 11) TOO H w/ 3" tubing, Free point 8 1/4" csg @ 650', Cut 8 1/4" csg @ 650', TOO H w/ 8 1/4" csg.
- 12) If 8 1/4" csg not free @ 650', Cut @ Free point; Set 100' C1A cement plug 50' In/Out of cut. Perf all SW, Coal & FW shows below 6 5/8" cut. Do not omit any plugs shown below.
- 13) TIH w/ tubing @ 650', Set 100' C1A Cement plug @ 650' to 580'. (Coal, FW)
- 14) TOO H w/ tubing, Gel Hole @ 590' to 494'.
- 15) TOO H w/ tubing, Set 100 C1A Cement plug @ 494' to 394'. (Coal)
- 16) TOO H w/ tubing, Gel hole @ 394' to 278'.
- 17) TOO H w/ tubing @ 278' Set 278' C1A cement plug to surface. (10" csg pt, Coal, Fw shows).
- 18) Do not omit any C1A cement plugs shown and use 6% Gel Between all Cement plugs.
- 19) Make sure 6% gel plugs are filled up to the next cement plug, in casing or open hole.
- 20) Set Monument to WV DEP Specifications
- 21) Reclaim Location & Roads to WV -DEP Specifications

WW4-A
Revised
2/01

1) Date: 5/10/07
2) Operator's Well Number 607549

3) API Well No.: 47 - 007 - 00001P

**STATE OF WEST VIRGINIA - BUREAU OF ENVIRONMENT
DIVISION 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>Charles & Cathy McCoy</u> ✓	Name	<u>N/A</u>
Address	<u>HC Box 10</u> <u>Burnsville, WV 26335</u>	Address	<u></u>
(b) Name	<u></u>	(b) Coal Owner(s) with Declaration	
Address	<u></u>	Name	<u>Greenbier Land Co</u> ✓ <u>Kennecott Energy</u>
		Address	<u>505 S. Gillette Ave. Box 3009</u> <u>Gillette, WY 82717</u>
(c) Name	<u></u>	Name	<u></u>
Address	<u></u>	Address	<u></u>
6) Inspector	<u>Rick Campbell</u>	(c) Coal Lessee with Declaration	
Address	<u>PO box 22</u> <u>Duck, W.V. 25063</u>	Name	<u></u>
Telephone	<u>304-288-4076</u>	Address	<u>N/A</u>

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

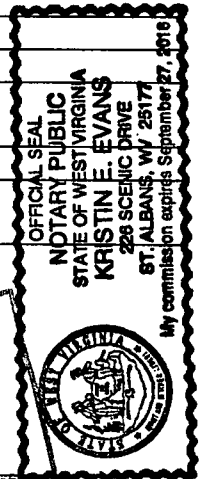
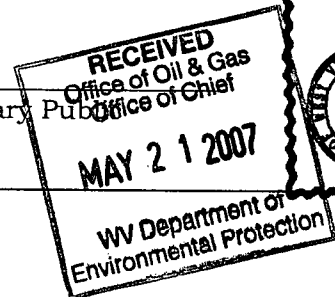
- (1) The application to Plug and Abandon a Well on Form WW-4B, which sets out the parties involved in the work and describes the well its and the plugging work order; and
- (2) The plat (surveyor's map) showing the well location on Form WW-6.

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 Division 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.

Operator	Well	<u>Equitable Production Company</u>
	By:	<u><i>[Signature]</i></u>
	Its:	<u>P&A / Divestiture Specialist</u>
Address		<u>1710 Pennsylvania Ave.</u>
		<u>Charleston, WV 25302</u>
Telephone		<u>304-348-3870</u>

Subscribed and sworn before me this 16th day of May 2007
Kristin E. Evans Notary Public
My Commission Expires Sept. 27, 2016



**STATE OF WEST VIRGINIA
DIVISION 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 Equitable Production Company OPCode _____

Watershed Salt Lick Creek Quadrangle Burnsville 7.5'

Elevation 806' County Braxton District Salt Lick

Description of anticipated Pit Waste Formation Fluids
Will a synthetic liner be used in the pit? Yes

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 _____)

Proposed Work For Which Pit Will Be Used:

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

I certify that I understand and agree to the terms and conditions of the GENERAL WATER POLLUTION PERMIT issued on December 31, 1999, by the Office of Oil and Gas of the West Virginia Division 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 Doug Fry

Company Official (Typed Name) Doug Fry

Company Official Title P&A / Divestiture Specialist

Subscribed and sworn before me this 10th day of May, 2007

Kristin E. Evans Notary Public

My commission expires Sept. 27, 2010



LEGEND

047-00001P

- Property Boundary
- Road
- Existing Fence
- Planned Fence
- Stream
- Open Ditch
- Rock
- North
- Buildings
- Water wells
- Drill site
- Diversion
- Spring
- Wet Spot
- Drain Pipe with size in inches
- Waterway
- Cross Drain
- Artificial Filter Strip
- Pit: cut walls
- Pit: compacted fill walls
- Area for Land Application of Pit Waste

Proposed Revegetation Treatment: Acres Disturbed **.5 acre** Prevegetation pH **6.6**

Lime **3** Tons/acre or to correct to pH **6.5**
Fertilizer (10-20-20 or equivalent) **500** lbs/acre (500 lbs minimum)

Mulch **2** Tons/acre or Hydroseed @ 1000 lbs. Per acre

Seed Mixtures

Seed Type	Area I (Location) lbs/acre	Seed Type	Area II lbs/acre
KY 31	40		
Annual Rye	5		

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

Photocopied section of involved 7.5' topographic sheet.

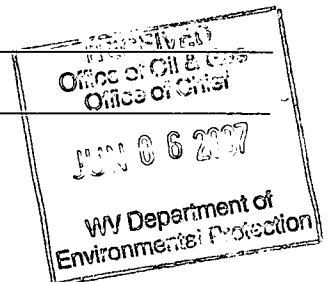
Plan Approved by: Craig Duckworth

Title: _____

Date: 6-1-07

Field Reviewed? Yes

No



047-00001P

Topo Quad: Burnsville 7.5'

Scale: 1" = 2000'

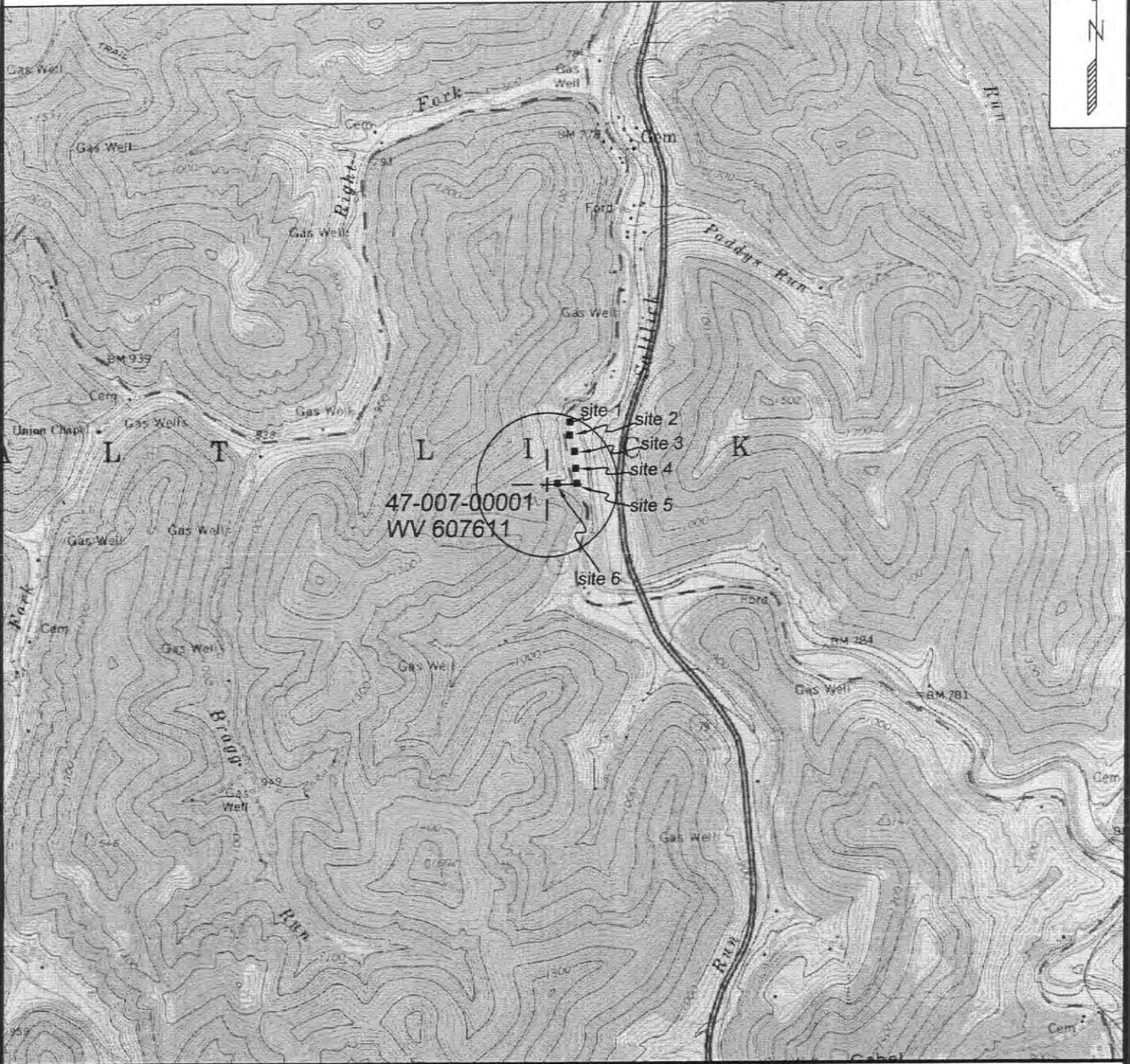
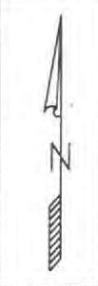
County: Braxton

Date: April 6, 2007

District: Salt Lick

Project No: 40-02-00-07

47-007-00001 (WV 607611)



SURVEYING AND MAPPING SERVICES PERFORMED BY:
ALLEGHENY SURVEYS, INC.
P.O. BOX 438
BIRCH RIVER, WV 26610
PH: (304) 649-8606
FAX: (304) 649-8608
1-800-482-8606
80 US HIGHWAY 33 EAST
WESTON, WV 26452
PH: (304) 269-6200
FAX: (304) 269-6290

PREPARED FOR:
Equitable Production Co.
1710 Pennsylvania avenue
Charleston, WV 25302

047-00001p

Topo Quad: Burnsville 7.5'

Scale: 1" = 2000'

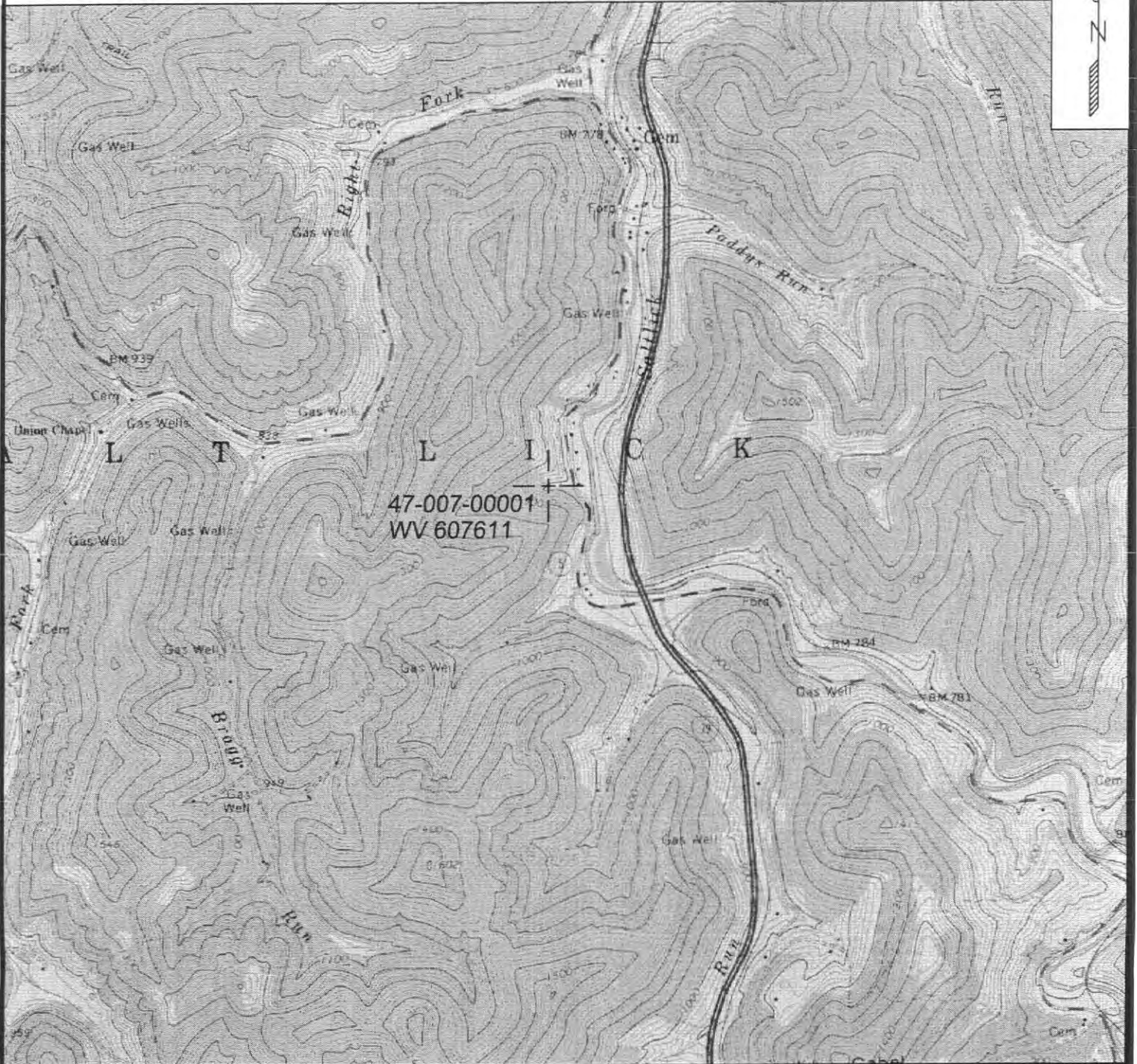
County: Braxton

Date: April 6, 2007

District: Salt Lick

Project No: 40-02-00-07

47-007-00001 (WV 607611)



SURVEYING AND MAPPING SERVICES PERFORMED BY:

ALLEGHENY SURVEYS, INC.

P.O. BOX 438
BIRCH RIVER, WV 26610
PH: (304) 649-8606
FAX: (304) 649-8608

80 US HIGHWAY 33 EAST
WESTON, WV 26452
PH: (304) 269-6200
FAX: (304) 269-6290

PREPARED FOR:

Equitable Production Co.

1710 Pennsylvania Avenue
Charleston, WV 25302



047-00001P

STATE OF WEST VIRGINIA
DEPARTMENT OF MINES
OIL AND GAS WELLS DIVISION
Hydrafrac
WELL RECORD

Rotary
Spudder
Cable Tools
Storage

Quadrangle Burnsville SW 2-3

Permit No. Brax-1-Frac

Oil or Gas Well Gas
(KIND)

Company <u>Equitable Gas Company</u>	Casing and Tubing	Used in Drilling	Left in Well	Packers
Address <u>420 Blvd. of the Allies, Pgh., Pa. 15219</u>				
Farm <u>W. L. Findley</u> Acres <u>128</u>	Size			
Location (waters) <u>Burnsville SW 2-3</u>	16			Kind of Packer <u>USD</u>
Well No. <u>7349</u> Elev. <u>808</u>	13			
District <u>Salt Lick</u> County <u>Braxton</u>	10	<u>55</u>	<u>55</u>	Size of <u>6-5/8 x 3</u>
The surface of tract is owned in fee by <u>James W. Singleton</u>	8 3/4	<u>705</u>	<u>705</u>	Depth set <u>1728</u>
Address <u>Genl. W. Va.</u>	6 5/8	<u>1619</u>	<u>1619</u>	
Mineral rights are owned by <u>H.P. Carpenter, Atty.-in-fact, 709 Maryland Ave., Fairmont, W. Va. 26551</u>	5 3/16			
Address <u>Genl. W. Va.</u>				
Repair commenced <u>8-13-69</u>	3		<u>1760</u>	Perf. top
Drilling completed <u>9-13-69</u>	2			Perf. bottom
Date Shot From To	Liners Used			Perf. top
With				Perf. bottom

Attach copy of cementing record.

Open Flow /10ths Water in _____ Inch
/10ths Merc. in _____ Inch

CASING CEMENTED _____ SIZE _____ No. Ft. _____ Date _____

Volume _____ Cu. Ft. Amount of cement used (bags) _____

Rock Pressure _____ lbs. hrs. Name of Service Co. _____

Oil _____ bbls., 1st 24 hrs. COAL WAS ENCOUNTERED AT _____ FEET _____ INCHES

WELL ACIDIZED (DETAILS) _____ FEET _____ INCHES _____ FEET _____ INCHES

WELL FRACTURED (DETAILS) 9-9-69. Big Injun Sand _____ FEET _____ INCHES _____ FEET _____ INCHES

RESULT AFTER TREATMENT (Initial open Flow or bbls.) 9-11-69 293M-230 lbs. Back Pressure

ROCK PRESSURE AFTER TREATMENT _____ HOURS

Fresh Water _____ Feet Salt Water _____ Feet

Producing Sand _____ Depth _____

Formation	Color	Hard or Soft	Top	Bottom	Oil, Gas or Water	Depth	Remarks
Drillers Log from Surface to 1,300'							
Coal			100	102			
Coal			228	232			
B. Dunkard Sand			395	444			
Coal			444	446			
Freeport Sand			500	535			
Gas Sand			570	640			
Coal			640	643			
Gas Sand			650	765			
Salt Sand			765	863			
Salt Sand			1,100	1,300			
Gannan Ray Log from 1,300' to 1,907'							
Salt Sand			1,300	1,314			
Rosedale Gas Sand			1,350	1,370			
Rosedale Salt Sand			1,390	1,452			
Little Lime			1,548	1,594			
Big Lime			1,612	1,656			
Big Injun Sand			1,658	1,754			
Big Injun Sand			1,764	1,776			
Big Injun Sand			1,738	1,807	Gas	1,778-1,798	Temperatur
Squaw Sand			1,812	1,832			
Cleaned out to bridge at				1,907			
Filled back with stone to				1,840			
Cement to				1,809			
Completed Total Depth				1,809			

(over)

RECEIVED
Office of Oil & Gas
Office of Chief
MAY 21 2007
WV Department of
Environmental Protection

SPECIAL WELL TEST REPORT
FORM G39-27263

Special Test Cleaning Bailing Swabbing Pumping Shooting

047-00001P

Equitable Gas Co. Company

WELL NO. 7549

Lease No. 20828 Farm Wm. L. Findley Acres 128 Map Burns. S.W. 2-4

Twp. or Dist. Salt Lick County Braxton State W. Va. Other wells on lease

Date completed 9-2-29 O.D.O.F. M. Cu. Ft. O.R.P. Producing sand Big Injun

Gas at 1592, 1778-83 & 1824 Volume factor Tubed with 1824 ft. of 3 in. thg

Packed at 1674 ft. With 6 5/8 x 3 inch Hook Wall Pack

CASING RECORD: 10" 55 ft. 8 1/4" 705 ft. 6 5/8" 1623 5 1/16"

Total depth 1809 ft. Top of fluid at 1200 ft. Bridged at ft. Depth after this work 1809 ft

OPEN FLOW AND MINUTE PRESSURE TESTS OF GAS FROM 3 INCH TUBING CASING

	"U" Tube Reading	M or W	Size Opening	Pitot or F.M.	Open Flow	L/P	1/2 Min.	1 Min.	2 Min.	3 Min.	4 Min.	5 Min.	R/P	Hrs.	Date
Before	Against Line Pressure	x	xxx	xx	xxx	23	30	37	50	60	65	70			12-17-69
	From Atmosphere	W	1 1/2"	F.M. 157.0M			NO TEST								
After	Against Line Pressure	x	xxx	xx	xxx	28		NO TEST							
	From Atmosphere	W	1 3/4"	F.M. 200.0M			20	32	40	48	52	55			12-18-69

REMARKS (concerning wells condition, work done, machine used, etc.) Used bailing machine #766.

Line Pressure 28#, Feeding 57' per min., & 40# Back Pressure.

RECOMMENDATION

Amount Royalty \$ 128.00 Amount of free gas allowed per yr. 250 M Cu. ft. Amount used last 12 months 246 M Cu. ft.

EXPENSE:	This Job	Total Previous	TOTAL EXPENSE LAST TWELVE MONTHS
Cleaning.....	\$	\$	
Bailing.....	100.00	NONE	
Swabbing.....			
			\$ 100.00

Commenced work 12-17-69 19

Completed work 12-18-69 19

Date of this report 12-18-69 19

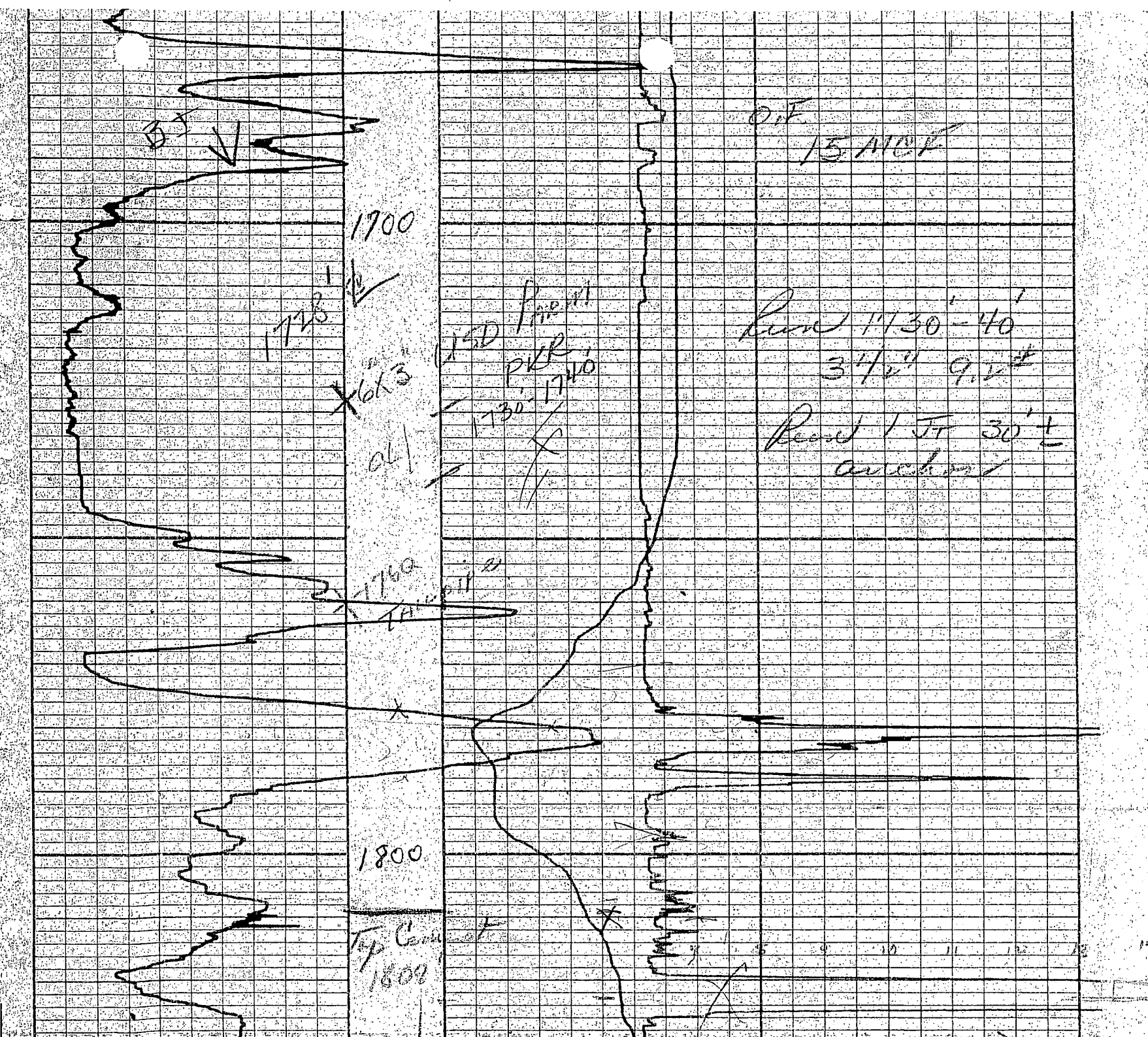
J.M. Coleman
Division Superintendent

Geologist's Recommendation

Date 19 Geologist

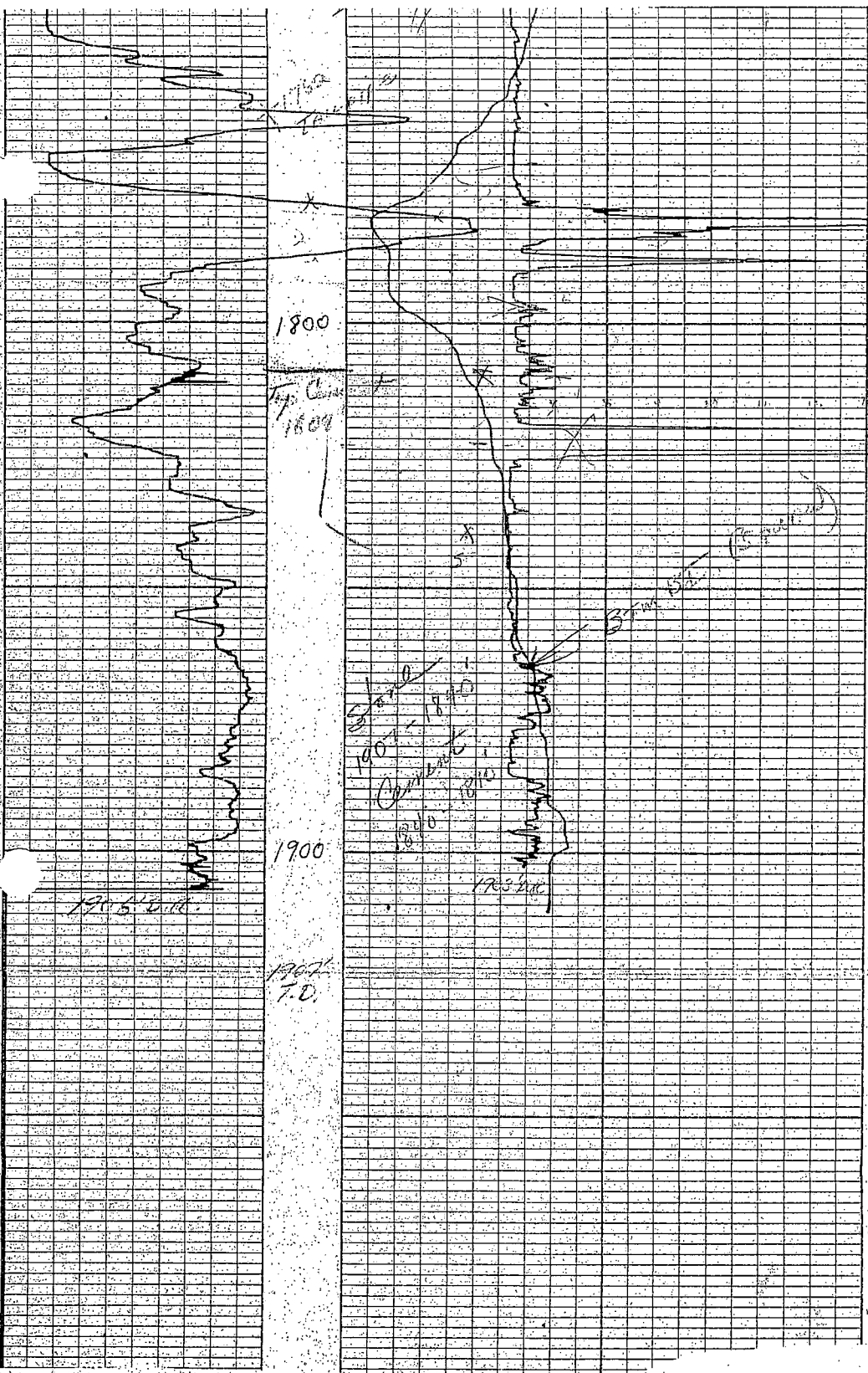
and Agent's Report

Date 19 Land Agent

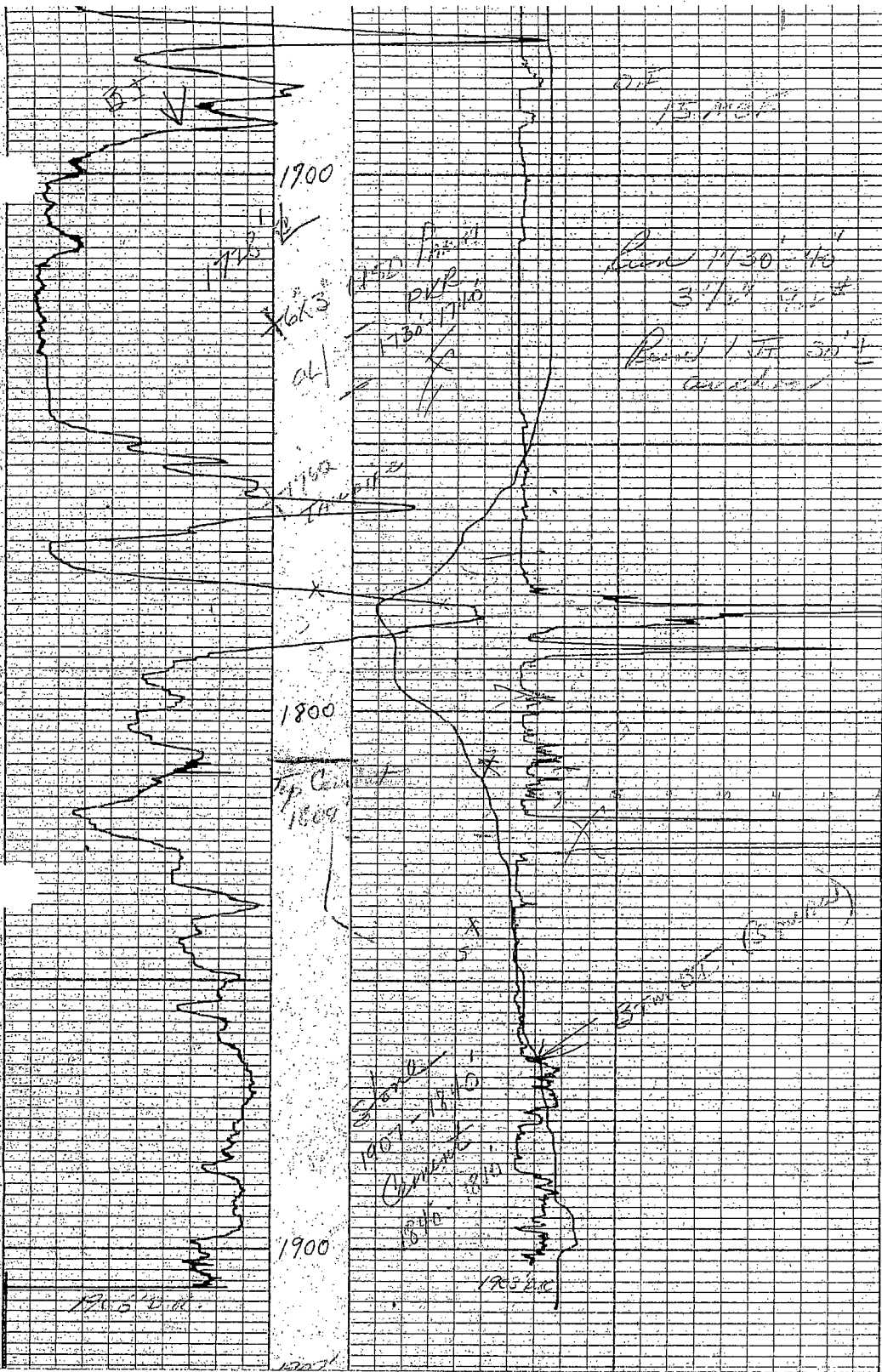


047-00001P

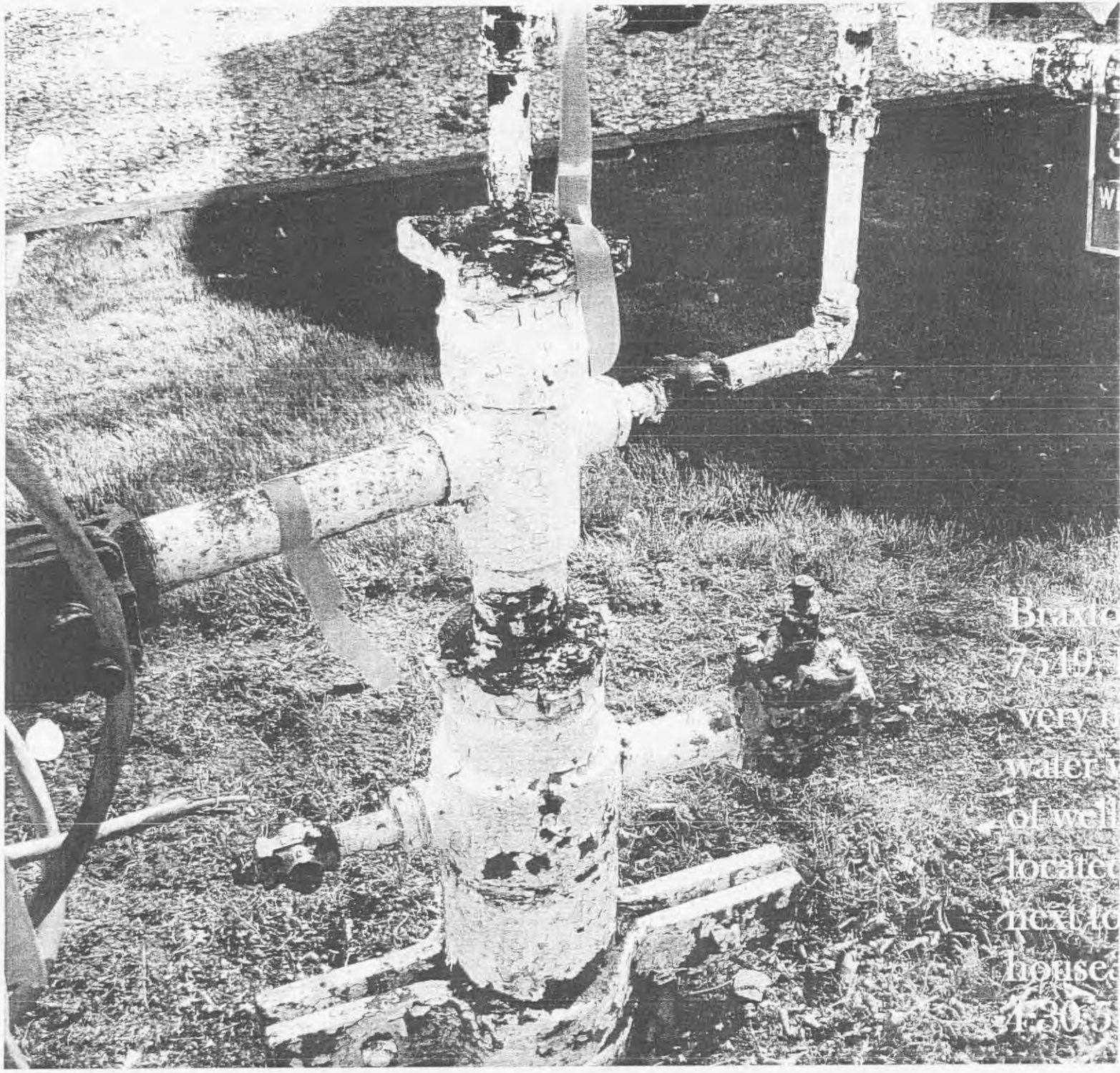
047-000018



047-000018



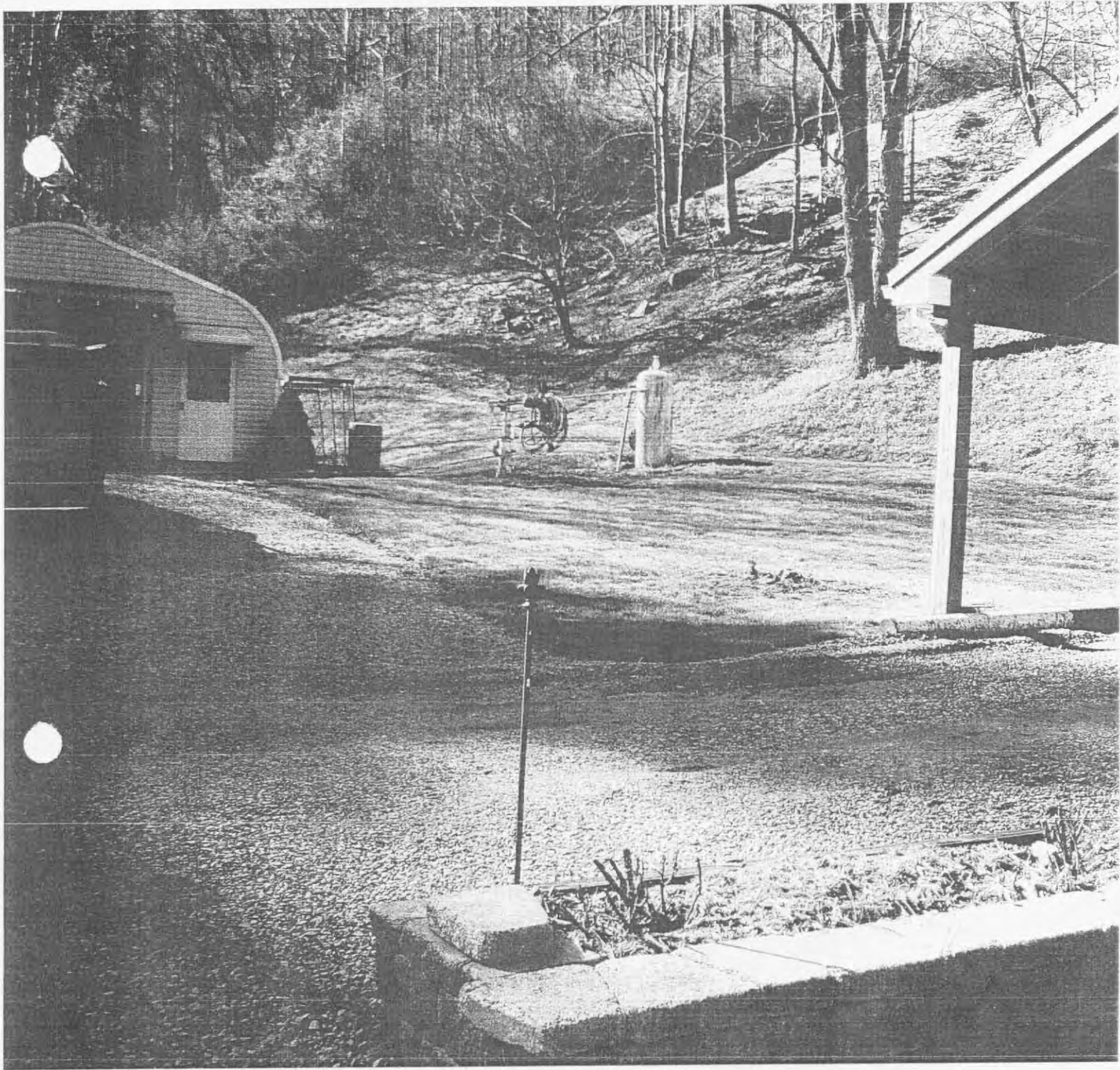
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Brand
7519
very
water
of well
located
next to
house
4305

047-00001f

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West Virginia Department of Environmental Protection
Office of Oil and Gas
WELL LOCATION FORM: GPS

API: 47-007-00001 -P WELL NO.: WV 607549 (7549)

FARM NAME: W. M. L. Finley

RESPONSIBLE PARTY NAME: Equitable Production Company

COUNTY: Braxton DISTRICT: Salt Lick

QUADRANGLE: Burnsville 7.5'

SURFACE OWNER: Charles and Cathy McCoy

ROYALTY OWNER: Betty Squires Keener Executrix Estate of Opal Squire

UTM GPS NORTHING: 4296465

UTM GPS EASTING: 528485 GPS ELEVATION: 246 m (806 ft)

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:

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

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

Mapping Grade GPS X: Post Processed Differential X
Real-Time Differential _____

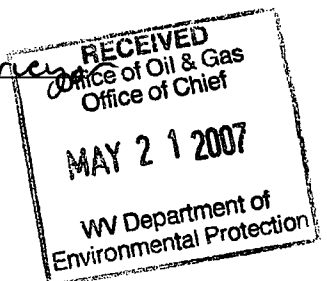
- Letter size copy of the topography map showing the well location.

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 Ben R. Singleton

Title Professional Surveyor

Date 4/30/07



U.S. Postal Service
CERTIFIED MAIL RECEIPT
(Domestic Mail Only; No Insurance Coverage Provided)

7001 0360 0000 0000 0920 0263 8260

OFFICIAL USE

Postage	\$
Certified Fee	
Return Receipt Fee (Endorsement Required)	
Restricted Delivery Fee (Endorsement Required)	
Total Postage & Fees	\$

Postmark
Here

Sent To
Street, Apt. No.
or PO Box No
City, State, Zip

Charles & Cathy McCoy
H.C. Box. 10
Burnsville, WV 26335

PS Form 380

047-00001P

U.S. Postal Service
CERTIFIED MAIL RECEIPT
(Domestic Mail Only - No Insurance Coverage Provided)

7001 09ED 0000 0000 0000 0000 09ED 7001

OFFICIAL USE

Postage	\$	Postmark Here
Certified Fee		
Return Receipt Fee (Endorsement Required)		
Restricted Delivery Fee (Endorsement Required)		
Total Postage & Fees	\$	

Sent To Greenbrier Land Co.
Kennecott Energy
505 So. Gillette Ave. Box 3009
Gillette, WY 82717

PS Form 3800

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Reviewed By: Chris Justice

047-00001P

CHECK LIST FOR FILING A PERMIT

III. Plugging Permit

WW-4B

*OK Inspector Signature on WW-4B

WW-4A (Notarized)

Certified Mail Receipts, waivers, or affidavits of personal service

Surface Owner Waiver

Coal Owner/Operator/Lessee Waiver

WW-9 front (Notarized)

Topography Map of well & pit if pit is used

WW7 Mylar Plat

Well Records/Completion report

Bond

\$100.00 check (if a pit is being used)

Due: 30 Operator Equitable Well #: 667549 API #: 067-00001P

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

API 47-51-01596 County Marshall District Clay
Quad Businessburg 7.5' Pad Name Conner Field/Pool Name Fort Beeler
Farm name Conner Well Number 2H
Operator (as registered with the OOG) Chevron Appalachia, LLC
Address 800 Mountain View Drive City Smithfield State PA Zip 15478

As Drilled location NAD 83/UTM Attach an as-drilled plat, profile view, and deviation survey
Top hole Northing 505327.06 Easting 1617496.30
Landing Point of Curve Northing 504416.11 Easting 1617409.88
Bottom Hole Northing 499056.52 Easting 1622426.65

Elevation (ft) 1,220' GL Type of Well New Existing Type of Report Interim Final
Permit Type Deviated Horizontal Horizontal 6A Vertical Depth Type Deep Shallow
Type of Operation Convert Deepen Drill Plug Back Redrilling Rework Stimulate
Well Type Brine Disposal CBM Gas Oil Secondary Recovery Solution Mining Storage Other _____
Type of Completion Single Multiple Fluids Produced Brine Gas NGL Oil Other _____
Drilled with Cable Rotary

Drilling Media Surface hole Air Mud Fresh Water Intermediate hole Air Mud Fresh Water Brine
Production hole Air Mud Fresh Water Brine
Mud Type(s) and Additive(s)
Oil base mud, base oil, emulsifier, water, barite, lime.

Date permit issued 2-19-2013 Date drilling commenced 4-12-2013 Date drilling ceased 10-23-2013
Date completion activities began 11-7-2013 Date completion activities ceased 2-1-2014
Verbal plugging (Y/N) N Date permission granted _____ Granted by _____

Please note: Operator is required to submit a plugging application within 5 days of verbal permission to plug

Freshwater depth(s) ft 223' Open mine(s) (Y/N) depths _____
Salt water depth(s) ft None noted on Mudlogs Void(s) encountered (Y/N) depths _____
Coal depth(s) ft 758' Cavern(s) encountered (Y/N) depths _____
Is coal being mined in area (Y/N) N

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API 47- 51 - 01596 Farm name Conner Well number 2H

CASING STRINGS	Hole Size	Casing Size	Depth	New or Used	Grade wt/ft	Basket Depth(s)	Did cement circulate (Y/N) * Provide details below*
Conductor	36	30	65	New			
Surface	26	20	336'	New	J-55, 94 lb/ft		Y
Coal	17-1/2"	13-3/8"	878'	New	J-55, 54.5 lb/ft	720'	Y
Intermediate 1	12 -1/4"	9-5/8"	2,542'	New	N-80, 40 lb/ft		Y
Intermediate 2							
Intermediate 3							
Production	8-1/2"	5-1/2"	14,145'	New	P-110, 20 lb/ft		N
Tubing							
Packer type and depth set							

Comment Details _____

CEMENT DATA	Class/Type of Cement	Number of Sacks	Slurry wt (ppg)	Yield (ft ³ /sks)	Volume (ft ³)	Cement Top (MD)	WOC (hrs)
Conductor	Ready Mix					0	
Surface	Class A	705	15.6	1.2	845	0	8
Coal	Class A	711	15.6	1.2	854	0	8
Intermediate 1	Class A	860	15.6	1.2	1033	0	8
Intermediate 2							
Intermediate 3							
Production	Class A	2178	15.2	1.21/1.82	3335	2300	8
Tubing							

Drillers TD (ft) 14,178' Loggers TD (ft) _____
 Deepest formation penetrated Point Pleasant Plug back to (ft) n/a
 Plug back procedure n/a

Kick off depth (ft) 5,001'

Check all wireline logs run caliper density deviated/directional induction
 neutron resistivity gamma ray temperature sonic

Well cored Yes No Conventional Sidewall Were cuttings collected Yes No

DESCRIBE THE CENTRALIZER PLACEMENT USED FOR EACH CASING STRING _____
On the water string, coal string, and intermediate there was a bow spring centralizer installed every two joints. The production string had one centralizer per joint in the lateral and curve and one every two joints from KOP to surface.

WAS WELL COMPLETED AS SHOT HOLE Yes No DETAILS _____

WAS WELL COMPLETED OPEN HOLE? Yes No DETAILS _____

WERE TRACERS USED Yes No TYPE OF TRACER(S) USED _____

API 47- 51 - 01596 Farm name Conner Well number 2H

PERFORATION RECORD

Stage No.	Perforation date	Perforated from MD ft.	Perforated to MD ft.	Number of Perforations	Formation(s)
1	11-29-2013	14008	14010	36	Marcellus Shale
2	11-30-2013	13862	13864	36	Marcellus Shale
3	11-30-2013	13562	13564	36	Marcellus Shale
4	11-30-2013	13562	13265	36	Marcellus Shale
5	11-30-2013	12962	12964	36	Marcellus Shale
6	12-1-2013	12662	12664	36	Marcellus Shale
7	12-1-2013	12362	12364	36	Marcellus Shale
8	12-2-2013	12062	12064	36	Marcellus Shale
9	12-2-2013	11762	11764	36	Marcellus Shale
10	12-2-2013	11462	11464	36	Marcellus Shale
11	12-2-2013	11162	11165	36	Marcellus Shale
12	12-3-2013	10862	10864	36	Marcellus Shale
13	12-3-2013	10562	10564	36	Marcellus Shale
14	12-3-2013	10262	10264	36	Marcellus Shale
15	12-4-2013	9962	9964	36	Marcellus Shale
16	12-4-2013	9662	9664	36	Marcellus Shale

Please insert additional pages as applicable.

STIMULATION INFORMATION PER STAGE

Complete a separate record for each stimulation stage.

Stage No.	Stimulations Date	Ave Pump Rate (BPM)	Ave Treatment Pressure (PSI)	Max Breakdown Pressure (PSI)	ISIP (PSI)	Amount of Proppant (lbs)	Amount of Water (bbls)	Amount of Nitrogen/other (units)
1	11-20-13	79.6	7313	7684	4050	303,462	7848	0
2	11-30-13	90.9	7823	8499	4386	392,404	7268	0
3	11-30-13	91.1	7688	8210	4367	300,894	7581	0
4	11-30-13	90.8	7865	8234	4214	301,018	7396	0
5	11-30-13	90.5	7845	8042	4339	301,952	8046	0
6	12-1-13	90.2	8000	8541	4462	300,450	7505	0
7	12-1-13	90.9	7736	8696	4339	301,952	8046	0
8	12-2-13	91.2	7253	8248	4396	302,376	7462	0
9	12-2-13	90.9	8349	7894	4116	303,085	7555	0
10	12-2-13	91.3	7477	7968	4405	301,452	7595	0
11	12-2-13	90.7	7362	7968	4346	301,659	7416	0
12	12-3-13	91.8	7454	8062	4338	302,226	7529	0
13	12-4-13	89	7687	8930	4377	302,226	7524	0
14	12-4-13	90	8064	9327	4280	301,225	7563	0
15	12-4-13	90.2	7693	8964	4283	301,687	7489	0
16	12-4-13	90.1	7302	8401	4179	303,384	7403	0

Please insert additional pages as applicable.

WV Department of Environmental Protection
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API 47- 51 - 01596 Farm name Conner Well number 2H

PERFORATION RECORD

Stage No.	Perforation date	Perforated from MD ft.	Perforated to MD ft.	Number of Perforations	Formation(s)
17	12-4-2013	9362	9367	36	Marcellus Shale
18	12-4-2013	9062	9064	36	Marcellus Shale
19	12-5-2013	8762	8764	36	Marcellus Shale
20	12-5-2013	8462	8464	36	Marcellus Shale
21	12-5-2013	8162	9164	36	Marcellus Shale
22	12-5-2013	7862	7864	36	Marcellus Shale
23	12-5-2013	7562	7564	36	Marcellus Shale
24	12-5-2013	7262	7264	36	Marcellus Shale
25	12-6-2013	5962	6964	36	Marcellus Shale

Please insert additional pages as applicable.

STIMULATION INFORMATION PER STAGE

Complete a separate record for each stimulation stage.

Stage No.	Stimulations Date	Ave Pump Rate (BPM)	Ave Treatment Pressure (PSI)	Max Breakdown Pressure (PSI)	ISIP (PSI)	Amount of Proppant (lbs)	Amount of Water (bbls)	Amount of Nitrogen/other (units)
17	12-4-13	89.5	7714	8416	4349	300,804	7391	0
18	12-4-13	85.9	7468	8787	4414	302,358	7807	0
19	12-5-13	92.2	7456	8248	4416	302,230	7388	0
20	12-5-13	90.5	6874	7635	4227	301,350	7391	0
21	12-5-13	88.2	7605	8824	4449	301,971	7382	0
22	12-5-13	90.8	6805	8206	4328	301,042	7411	0
23	12-5-13	90.6	6963	7603	4638	302,047	7455	0
24	12-5-13	91.3	6737	7458	4342	300,871	8573	0
25	12-6-13	91.2	6914	7421	4309	338,907	7526	0

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WV Department of Environmental Protection

API 47- 51 - 01596 Farm name Conner Well number 2H

<u>PRODUCING FORMATION(S)</u>	<u>DEPTHS</u>		
Marcellus	6311	TVD	6710 MD

Please insert additional pages as applicable.

GAS TEST Build up Drawdown Open Flow OIL TEST Flow Pump
 SHUT-IN PRESSURE Surface _____ psi Bottom Hole _____ psi DURATION OF TEST _____ hrs
 OPEN FLOW Gas _____ mcfpd Oil _____ bpd NGL _____ bpd Water _____ bpd GAS MEASURED BY
 Estimated Orifice Pilot

LITHOLOGY/ FORMATION	TOP DEPTH IN FT NAME TVD	BOTTOM DEPTH IN FT TVD	TOP DEPTH IN FT MD	BOTTOM DEPTH IN FT MD	DESCRIBE ROCK TYPE AND RECORD QUANTITY AND TYPE OF FLUID (FRESHWATER, BRINE, OIL, GAS, H ₂ S, ETC)
	0		0		
Pittsburgh Coal	758	762	758	762	Coal
Big Lime	1800	1810	1800	1810	Limestone: brn, dkbrn, ltbrn, dns, crpxln
Burgoon (Big Injun)	1850	2107	1850	2107	SS:gy, grngy, hrd, vt-cmt, rnd, sbrnd, ang
Weir Sand	2252	2276	2252	2276	SLTST: gy, mgy, hrd, t-cmt, slty. SS: off wh, gy, hrd, t-cmt, md, sbrnd, ang
Berea Sand	2449	2549	2450	2550	SH: gy, mgy, sbblky, frm, v-slty, non calc, tr pyr. tr SLTST: brn, gy, mgy, hrd, t-cmt, slty
Burket Shale	6194	6222	6415	6468	SH: drkgy, v.drkgy, frm, slty, grty, sbblky-sbfiss, modcalc, embd calc, lse calct
Tully Limestone	6222	6261	6468	6558	SH: drkgy, v.drkgy, frm, slty, grty, sbblky-sbfiss, carb, v.calc, lse xls calct, w/LS: ltgy, gy, mgy, frm- hrd, dns, cln, mic, fxl, v. arg
Hamilton Shale	6261	6311	6558	6710	SH: drkgy, v.drkgy, frm, slty, grty, sbblky-sbfiss, carb, modv. calc, lse calct, w/LS
Marcellus Shale	6311		6710		SH: drkgy, v.drkgy, frm, slty, grty, sbblky-sbfiss, non calc, lse calct, lse pyr, w/LS: gy, ltgy, hrd, mott, mic, fxl, v. arg

Please insert additional pages as applicable.

Drilling Contractor Nabors Drilling, USA
 Address 380 Southpointe Boulevard, Suite 210 City Canonsburg State PA Zip 15317

Logging Company Schlumberger
 Address 4600 JBarry Court, Suite 200 City Canonsburg State PA Zip 15317

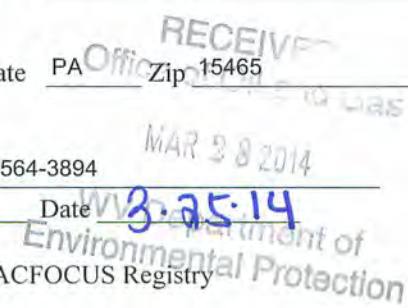
Cementing Company Schlumberger & Halliburton (301 Lucerne Road, Homer City, PA 15748)
 Address 4600 JBarry Court, Suite 200 City Canonsburg State PA Zip 15317

Stimulating Company Universal
 Address 730 Braddock View Drive/P.O. Box 130 City Mt. Braddock State PA Zip 15465

Please insert additional pages as applicable.

Completed by Jenny Butchko Telephone 725-564-3894
 Signature Jenny Butchko Title Regulatory Reporting Team Leader Date 3-25-14

Submittal of Hydraulic Fracturing Chemical Disclosure Information Attach copy of FRACFOCUS Registry





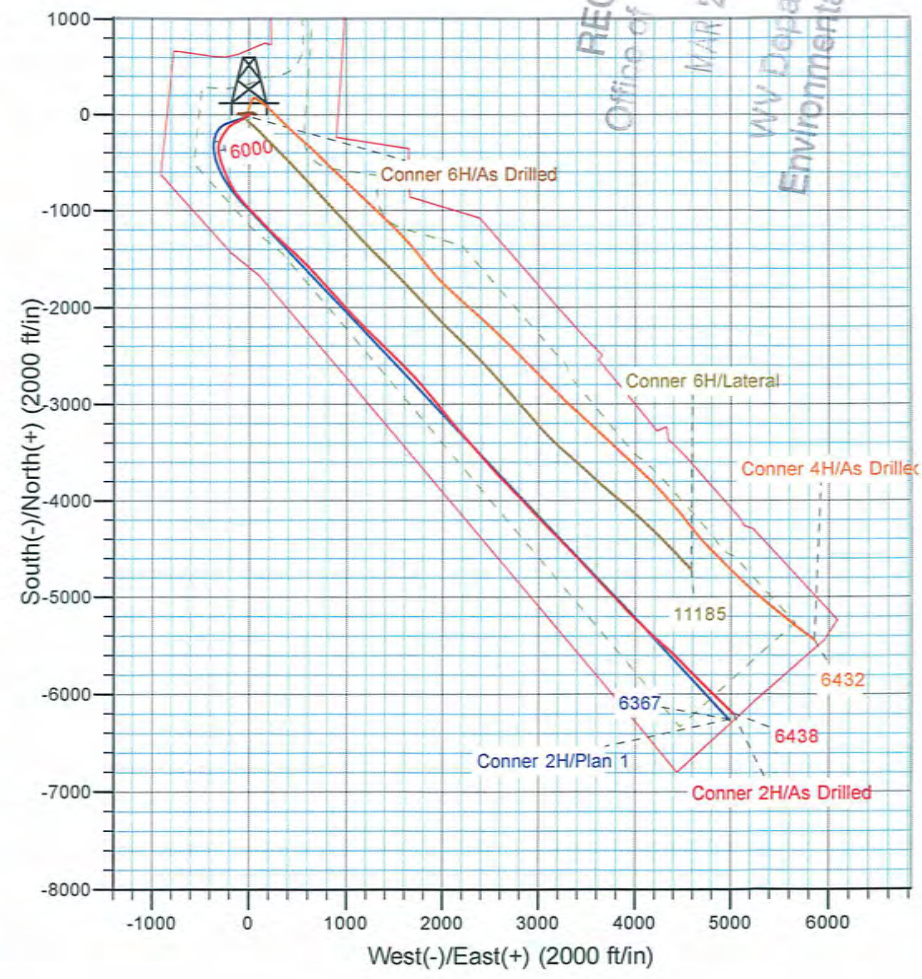
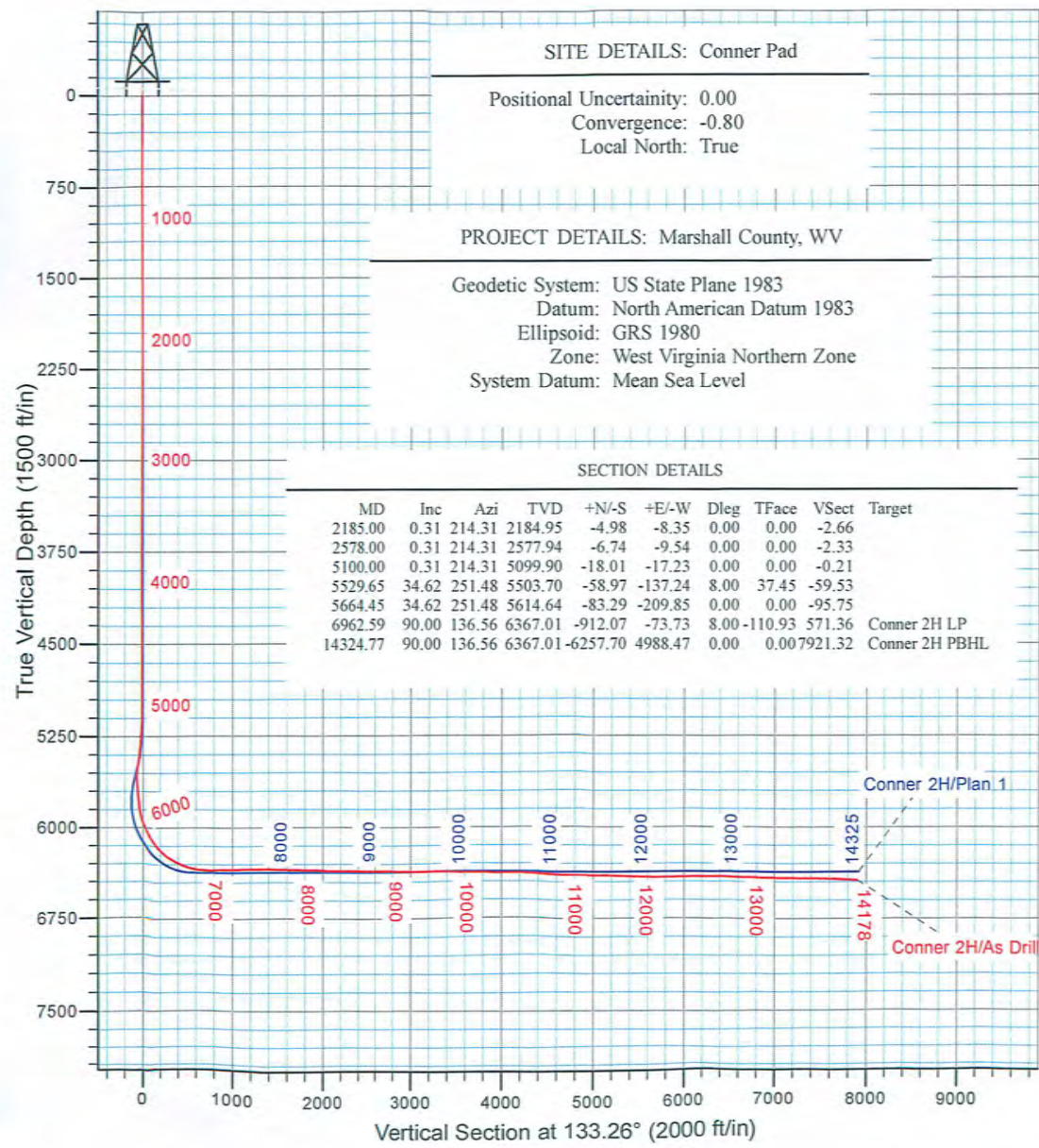
Marshall County, WV
 Conner Pad
 Conner 2H
 GL 1220' & KB 32' @ 1252.00ft (Nabors X7)
 As Drilled



M T
 Office of Oil and Gas
 MAR 28 2014
 WV Department of Environmental Protection
 Azimuths to True North
 Magnetic North: -8.63°
 Magnetic Field
 Strength: 52630.65nT
 Dip Angle: 67.36°
 Date: 10/2/2013
 Model: BGM2013

WELL DETAILS: Conner 2H

+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
0.00	0.00	505327.06	1617496.30	39° 52' 50.394 N	80° 45' 2.819 W



LEGEND

- Conner 2H, OH, Plan 1 V0
- Conner 4H, OH, As Drilled V0
- △ Conner 6H, Lateral, Lateral V0
- ⊕ Conner 6H, Pilot, As Drilled V0
- As Drilled

Robert Ebbecke
 12:57, October 30 2013

Scientific Drilling International
 3475 Washington Ave
 Finleyville, PA 15332

51-01596



Chevron Appalachia, LLC

Marshall County, WV

Conner Pad

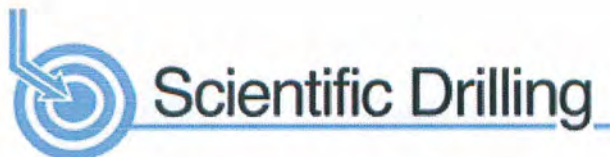
Conner 2H

OH

Design: As Drilled

Standard Survey Report

30 October, 2013





Scientific Drilling International
Survey Report

51-01596

Company:	Chevron Appalachia, LLC	Local Co-ordinate Reference:	Well Conner 2H
Project:	Marshall County, WV	TVD Reference:	GL 1220' & KB 32' @ 1252.00ft (Nabors X7)
Site:	Conner Pad	MD Reference:	GL 1220' & KB 32' @ 1252.00ft (Nabors X7)
Well:	Conner 2H	North Reference:	True
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	As Drilled	Database:	Northeast District

Project	Marshall County, WV		
Map System:	US State Plane 1983	System Datum:	Mean Sea Level
Geo Datum:	North American Datum 1983		
Map Zone:	West Virginia Northern Zone		

Site	Conner Pad				
Site Position:		Northing:	505,327.06 usft	Latitude:	39° 52' 50.394 N
From:	Map	Easting:	1,617,496.30 usft	Longitude:	80° 45' 2.819 W
Position Uncertainty:	0.00 ft	Slot Radius:	13-3/16 "	Grid Convergence:	-0.80 °

Well	Conner 2H					
Well Position	+N/-S	0.00 ft	Northing:	505,327.06 usft	Latitude:	39° 52' 50.394 N
	+E/-W	0.00 ft	Easting:	1,617,496.30 usft	Longitude:	80° 45' 2.819 W
Position Uncertainty		0.00 ft	Wellhead Elevation:	ft	Ground Level:	1,220.00 ft

Wellbore	OH				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	BGGM2013	10/2/2013	-8.63	67.36	52,631

Design	As Drilled				
Audit Notes:					
Version:	1.0	Phase:	ACTUAL	Tie On Depth:	0.00
Vertical Section:	Depth From (TVD) (ft)	+N/-S (ft)	+E/-W (ft)	Direction (°)	
	0.00	0.00	0.00	133.26	

Survey Program	Date	10/30/2013			
From (ft)	To (ft)	Survey (Wellbore)	Tool Name	Description	
100.00	2,481.00	Gyro Data Survey #3 (OH)	GYD_CT	Gyrodata continuous	
2,596.01	14,178.03	SDI MWD Survey #4 (OH)	SDI MWD	SDI MWD - Standard ver 1.0.1	

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
100.00	0.26	213.55	100.00	-0.19	-0.13	0.04	0.26	0.26	0.00	
First Gyro Data Gyro Survey										
200.00	0.41	209.17	200.00	-0.69	-0.43	0.16	0.15	0.15	-4.38	
300.00	0.75	219.53	299.99	-1.51	-1.02	0.29	0.35	0.34	10.36	
400.00	0.61	213.16	399.99	-2.46	-1.72	0.43	0.16	-0.14	-6.37	
500.00	0.24	196.84	499.98	-3.10	-2.08	0.62	0.39	-0.37	-16.32	
600.00	0.29	244.55	599.98	-3.41	-2.36	0.62	0.22	0.05	47.71	
700.00	0.04	313.03	699.98	-3.50	-2.62	0.49	0.28	-0.25	68.48	
800.00	0.16	83.40	799.98	-3.46	-2.51	0.55	0.19	0.12	130.37	



Scientific Drilling International

Survey Report

Company: Chevron Appalachia, LLC	Local Co-ordinate Reference: Well Conner 2H
Project: Marshall County, WV	TVD Reference: GL 1220' & KB 32' @ 1252.00ft (Nabors X7)
Site: Conner Pad	MD Reference: GL 1220' & KB 32' @ 1252.00ft (Nabors X7)
Well: Conner 2H	North Reference: True
Wellbore: OH	Survey Calculation Method: Minimum Curvature
Design: As Drilled	Database: Northeast District

Survey										
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	
900.00	0.26	294.77	899.98	-3.35	-2.57	0.42	0.41	0.10	-148.63	
1,000.00	0.18	254.27	999.98	-3.30	-2.93	0.12	0.17	-0.08	-40.50	
1,100.00	0.31	321.38	1,099.98	-3.13	-3.25	-0.22	0.29	0.13	67.11	
1,200.00	0.26	329.58	1,199.98	-2.72	-3.53	-0.71	0.06	-0.05	8.20	
1,300.00	0.27	322.75	1,299.98	-2.34	-3.79	-1.16	0.03	0.01	-6.83	
1,400.00	0.25	322.37	1,399.98	-1.98	-4.07	-1.61	0.02	-0.02	-0.38	
1,500.00	0.24	316.31	1,499.98	-1.65	-4.35	-2.03	0.03	-0.01	-6.06	
1,600.00	0.08	341.35	1,599.97	-1.43	-4.51	-2.30	0.17	-0.16	25.04	
1,700.00	0.19	264.63	1,699.97	-1.38	-4.70	-2.47	0.19	0.11	-76.72	
1,800.00	0.55	224.32	1,799.97	-1.74	-5.20	-2.59	0.42	0.36	-40.31	
1,900.00	0.42	198.90	1,899.97	-2.43	-5.65	-2.45	0.25	-0.13	-25.42	
2,000.00	0.31	219.82	1,999.97	-2.99	-5.95	-2.28	0.17	-0.11	20.92	
2,100.00	0.22	192.70	2,099.97	-3.38	-6.16	-2.17	0.15	-0.09	-27.12	
2,200.00	0.13	227.22	2,199.97	-3.65	-6.29	-2.08	0.13	-0.09	34.52	
2,300.00	0.23	269.36	2,299.97	-3.73	-6.57	-2.23	0.16	0.10	42.14	
2,400.00	0.29	314.72	2,399.96	-3.55	-6.95	-2.63	0.21	0.06	45.36	
2,481.00	0.26	291.85	2,480.96	-3.34	-7.27	-3.01	0.14	-0.04	-28.23	
Last Gyro Data Gyro Survey										
2,596.01	0.15	273.21	2,595.97	-3.23	-7.66	-3.36	0.11	-0.10	-16.21	
First SDI MWD Survey										
2,691.01	0.50	273.42	2,690.97	-3.20	-8.20	-3.78	0.37	0.37	0.22	
2,786.01	0.59	268.09	2,785.96	-3.19	-9.10	-4.44	0.11	0.09	-5.61	
2,880.01	0.84	285.78	2,879.95	-3.02	-10.25	-5.39	0.35	0.27	18.82	
2,975.01	0.91	281.31	2,974.94	-2.68	-11.66	-6.65	0.10	0.07	-4.71	
3,070.01	0.75	302.41	3,069.93	-2.20	-12.92	-7.90	0.36	-0.17	22.21	
3,165.01	0.98	301.92	3,164.92	-1.44	-14.14	-9.31	0.24	0.24	-0.52	
3,259.01	1.11	290.69	3,258.91	-0.69	-15.67	-10.94	0.26	0.14	-11.95	
3,354.01	0.47	265.22	3,353.90	-0.40	-16.92	-12.05	0.75	-0.67	-26.81	
3,449.01	0.55	246.79	3,448.90	-0.61	-17.73	-12.49	0.19	0.08	-19.40	
3,543.01	0.65	254.70	3,542.89	-0.93	-18.66	-12.95	0.14	0.11	8.41	
3,638.01	0.94	267.84	3,637.88	-1.10	-19.95	-13.78	0.36	0.31	13.83	
3,733.01	0.52	234.28	3,732.87	-1.38	-21.08	-14.41	0.61	-0.44	-35.33	
3,828.01	0.38	226.17	3,827.87	-1.85	-21.66	-14.50	0.16	-0.15	-8.54	
3,922.01	0.56	234.68	3,921.87	-2.33	-22.26	-14.61	0.20	0.19	9.05	
4,017.01	0.32	262.67	4,016.87	-2.64	-22.90	-14.87	0.33	-0.25	29.46	
4,112.01	0.98	169.87	4,111.86	-3.47	-23.02	-14.39	1.10	0.69	-97.68	
4,206.01	0.68	180.75	4,205.85	-4.82	-22.89	-13.37	0.36	-0.32	11.57	
4,301.01	0.38	171.94	4,300.85	-5.69	-22.85	-12.74	0.33	-0.32	-9.27	
4,396.01	1.15	184.22	4,395.84	-6.96	-22.88	-11.89	0.82	0.81	12.93	
4,490.01	0.86	180.32	4,489.82	-8.60	-22.95	-10.82	0.32	-0.31	-4.15	
4,585.01	0.94	187.49	4,584.81	-10.09	-23.06	-9.88	0.15	0.08	7.55	
4,680.01	0.74	225.12	4,679.80	-11.29	-23.59	-9.44	0.60	0.21	39.61	
4,775.01	0.57	251.83	4,774.80	-11.87	-24.48	-9.69	0.36	-0.18	28.12	

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Scientific Drilling International

Survey Report

Company:	Chevron Appalachia, LLC	Local Co-ordinate Reference:	Well Conner 2H
Project:	Marshall County, WV	TVD Reference:	GL 1220' & KB 32' @ 1252.00ft (Nabors X7)
Site:	Conner Pad	MD Reference:	GL 1220' & KB 32' @ 1252.00ft (Nabors X7)
Well:	Conner 2H	North Reference:	True
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	As Drilled	Database:	Northeast District

Survey										
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	
4,869.01	0.65	263.55	4,868.79	-12.08	-25.45	-10.26	0.16	0.09	12.47	
4,964.01	0.59	262.44	4,963.79	-12.21	-26.47	-10.91	0.06	-0.06	-1.17	
5,001.01	0.91	259.16	5,000.78	-12.29	-26.95	-11.21	0.87	0.86	-8.86	
5,095.01	12.56	226.39	5,093.98	-19.50	-35.11	-12.20	12.56	12.39	-34.86	
5,190.01	15.49	232.50	5,186.15	-34.35	-52.66	-14.81	3.45	3.08	6.43	
5,285.01	20.29	240.15	5,276.54	-50.29	-77.03	-21.63	5.62	5.05	8.05	
5,379.01	23.46	242.42	5,363.76	-67.07	-107.76	-32.51	3.49	3.37	2.41	
5,474.01	27.78	245.34	5,449.41	-85.07	-144.66	-47.05	4.74	4.55	3.07	
5,568.01	30.66	236.03	5,531.48	-107.61	-184.47	-60.59	5.72	3.06	-9.90	
5,662.01	33.54	216.34	5,611.32	-142.03	-219.84	-62.77	11.50	3.06	-20.95	
5,756.01	28.79	215.25	5,691.73	-181.45	-248.31	-56.48	5.09	-5.05	-1.16	
5,850.01	28.14	208.90	5,774.39	-219.35	-272.09	-47.83	3.29	-0.69	-6.76	
5,943.01	33.25	205.78	5,854.34	-261.54	-293.79	-34.72	5.75	5.49	-3.35	
6,037.01	40.78	193.42	5,929.44	-314.76	-312.18	-11.64	11.23	8.01	-13.15	
6,131.01	41.80	171.28	6,000.45	-375.91	-314.57	28.53	15.52	1.09	-23.55	
6,225.01	43.35	169.11	6,069.68	-438.57	-303.72	79.37	2.27	1.65	-2.31	
6,320.01	47.65	160.49	6,136.31	-503.77	-285.81	137.10	7.89	4.53	-9.07	
6,415.01	56.99	158.14	6,194.32	-573.99	-259.20	204.60	10.02	9.83	-2.47	
6,509.01	64.35	156.05	6,240.34	-649.40	-227.27	279.53	8.07	7.83	-2.22	
6,603.01	69.21	152.27	6,277.40	-727.08	-189.60	360.20	6.35	5.17	-4.02	
6,698.01	73.82	147.54	6,307.53	-804.96	-144.40	446.49	6.77	4.85	-4.98	
6,792.01	77.06	140.99	6,331.18	-878.74	-91.27	535.74	7.57	3.45	-6.97	
6,887.01	86.30	136.08	6,344.92	-949.05	-29.08	629.21	10.99	9.73	-5.17	
6,982.01	88.59	137.18	6,349.15	-1,018.03	36.08	723.95	2.67	2.41	1.16	
7,077.01	91.61	136.01	6,348.99	-1,087.04	101.36	818.77	3.41	3.18	-1.23	
7,171.01	91.01	136.06	6,346.84	-1,154.68	166.59	912.64	0.64	-0.64	0.05	
7,266.01	90.50	135.68	6,345.59	-1,222.86	232.74	1,007.53	0.67	-0.54	-0.40	
7,360.01	91.37	131.52	6,344.05	-1,287.66	300.78	1,101.50	4.52	0.93	-4.43	
7,455.02	91.24	131.59	6,341.89	-1,350.67	371.86	1,196.43	0.16	-0.14	0.07	
7,550.02	88.83	132.38	6,341.83	-1,414.21	442.47	1,291.40	2.67	-2.54	0.83	
7,645.02	89.40	134.51	6,343.30	-1,479.52	511.43	1,386.38	2.32	0.60	2.24	
7,739.02	89.13	135.37	6,344.50	-1,545.92	577.96	1,480.33	0.96	-0.29	0.91	
7,833.02	89.13	137.03	6,345.93	-1,613.75	643.01	1,574.19	1.77	0.00	1.77	
7,928.02	88.99	137.75	6,347.49	-1,683.66	707.32	1,668.93	0.77	-0.15	0.76	
8,022.02	88.96	138.11	6,349.17	-1,753.43	770.29	1,762.61	0.38	-0.03	0.38	
8,117.02	88.52	138.44	6,351.26	-1,824.31	833.50	1,857.22	0.58	-0.46	0.35	
8,211.02	88.82	137.92	6,353.44	-1,894.35	896.16	1,950.85	0.64	0.32	-0.55	
8,305.02	87.99	138.01	6,356.06	-1,964.14	959.08	2,044.49	0.89	-0.88	0.10	
8,400.02	90.54	137.66	6,357.28	-2,034.54	1,022.84	2,139.18	2.71	2.68	-0.37	
8,495.02	90.17	136.81	6,356.69	-2,104.28	1,087.34	2,233.95	0.98	-0.39	-0.89	
8,589.02	89.16	134.92	6,357.24	-2,171.74	1,152.79	2,327.84	2.28	-1.07	-2.01	
8,682.02	88.29	134.11	6,359.31	-2,236.93	1,219.09	2,420.79	1.28	-0.94	-0.87	
8,776.02	90.67	134.82	6,360.16	-2,302.76	1,286.17	2,514.76	2.64	2.53	0.76	
8,869.02	89.87	134.73	6,359.72	-2,368.27	1,352.19	2,607.73	0.87	-0.86	-0.10	



Scientific Drilling International Survey Report

Company:	Chevron Appalachia, LLC	Local Co-ordinate Reference:	Well Conner 2H
Project:	Marshall County, WV	TVD Reference:	GL 1220' & KB 32' @ 1252.00ft (Nabors X7)
Site:	Conner Pad	MD Reference:	GL 1220' & KB 32' @ 1252.00ft (Nabors X7)
Well:	Conner 2H	North Reference:	True
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	As Drilled	Database:	Northeast District

Survey										
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	
8,961.02	88.69	133.24	6,360.88	-2,432.15	1,418.38	2,699.71	2.07	-1.28	-1.62	
9,054.02	88.32	134.25	6,363.31	-2,496.43	1,485.54	2,792.67	1.16	-0.40	1.09	
9,148.02	89.63	135.49	6,364.99	-2,562.73	1,552.14	2,886.62	1.92	1.39	1.32	
9,241.02	88.89	134.37	6,366.19	-2,628.41	1,617.98	2,979.57	1.44	-0.80	-1.20	
9,335.02	90.00	137.99	6,367.10	-2,696.22	1,683.05	3,073.43	4.03	1.18	3.85	
9,427.02	89.26	136.00	6,367.69	-2,763.49	1,745.79	3,165.22	2.31	-0.80	-2.16	
9,520.02	89.56	139.85	6,368.65	-2,832.50	1,808.10	3,257.89	4.15	0.32	4.14	
9,613.02	88.79	140.19	6,369.99	-2,903.76	1,867.84	3,350.24	0.91	-0.83	0.37	
9,707.02	88.32	141.70	6,372.36	-2,976.73	1,927.05	3,443.36	1.68	-0.50	1.61	
9,800.02	87.88	141.18	6,375.44	-3,049.41	1,984.99	3,535.36	0.73	-0.47	-0.56	
9,893.02	90.50	140.21	6,376.76	-3,121.36	2,043.89	3,627.56	3.00	2.82	-1.04	
9,986.02	90.23	140.09	6,376.17	-3,192.76	2,103.48	3,719.89	0.32	-0.29	-0.13	
10,079.02	89.13	139.09	6,376.69	-3,263.56	2,163.76	3,812.32	1.60	-1.18	-1.08	
10,172.02	88.42	137.96	6,378.67	-3,333.23	2,225.34	3,904.90	1.43	-0.76	-1.22	
10,266.02	90.60	139.20	6,379.48	-3,403.71	2,287.52	3,998.49	2.67	2.32	1.32	
10,359.02	90.10	138.81	6,378.91	-3,473.90	2,348.53	4,091.02	0.68	-0.54	-0.42	
10,452.02	90.00	138.71	6,378.83	-3,543.83	2,409.83	4,183.59	0.15	-0.11	-0.11	
10,546.02	88.96	137.50	6,379.68	-3,613.80	2,472.60	4,277.25	1.70	-1.11	-1.29	
10,641.02	88.39	137.08	6,381.88	-3,683.58	2,537.02	4,371.99	0.75	-0.60	-0.44	
10,736.02	87.78	136.90	6,385.05	-3,753.01	2,601.79	4,466.73	0.67	-0.64	-0.19	
10,830.02	87.32	137.02	6,389.07	-3,821.65	2,665.88	4,560.45	0.51	-0.49	0.13	
10,924.02	88.05	136.65	6,392.87	-3,890.16	2,730.14	4,654.19	0.87	0.78	-0.39	
11,019.02	87.72	137.17	6,396.37	-3,959.49	2,794.99	4,748.93	0.65	-0.35	0.55	
11,113.02	90.44	137.07	6,397.88	-4,028.35	2,858.94	4,842.70	2.90	2.89	-0.11	
11,208.02	90.17	136.87	6,397.38	-4,097.80	2,923.77	4,937.50	0.35	-0.28	-0.21	
11,302.02	90.30	137.15	6,396.99	-4,166.56	2,987.86	5,031.30	0.33	0.14	0.30	
11,397.02	88.42	134.74	6,398.05	-4,234.82	3,053.91	5,126.17	3.22	-1.98	-2.54	
11,491.02	88.32	134.88	6,400.73	-4,301.04	3,120.57	5,220.10	0.18	-0.11	0.15	
11,585.02	87.99	136.03	6,403.75	-4,368.00	3,186.47	5,313.98	1.27	-0.35	1.22	
11,680.02	87.58	135.84	6,407.43	-4,436.21	3,252.49	5,408.81	0.48	-0.43	-0.20	
11,774.02	87.52	136.52	6,411.44	-4,503.97	3,317.52	5,502.60	0.73	-0.06	0.72	
11,869.02	89.60	136.21	6,413.83	-4,572.70	3,383.05	5,597.43	2.21	2.19	-0.33	
11,963.02	89.30	137.14	6,414.73	-4,641.08	3,447.54	5,691.25	1.04	-0.32	0.99	
12,058.02	91.51	137.49	6,414.06	-4,710.90	3,511.94	5,786.01	2.36	2.33	0.37	
12,152.02	91.01	137.22	6,412.00	-4,780.03	3,575.61	5,879.74	0.60	-0.53	-0.29	
12,245.02	91.01	136.86	6,410.36	-4,848.08	3,638.98	5,972.53	0.39	0.00	-0.39	
12,340.02	90.94	136.86	6,408.74	-4,917.39	3,703.93	6,067.33	0.07	-0.07	0.00	
12,435.03	90.17	136.25	6,407.82	-4,986.36	3,769.25	6,162.16	1.03	-0.81	-0.64	
12,530.03	90.17	136.60	6,407.54	-5,055.18	3,834.73	6,257.02	0.37	0.00	0.37	
12,625.03	89.30	135.72	6,407.98	-5,123.70	3,900.53	6,351.90	1.30	-0.92	-0.93	
12,719.03	88.86	135.20	6,409.49	-5,190.69	3,966.46	6,445.81	0.72	-0.47	-0.55	
12,814.03	89.50	134.13	6,410.85	-5,257.47	4,034.02	6,540.77	1.31	0.67	-1.13	
12,909.03	89.23	133.12	6,411.90	-5,323.01	4,102.78	6,635.76	1.10	-0.28	-1.06	



Scientific Drilling International

Survey Report

Company: Chevron Appalachia, LLC	Local Co-ordinate Reference: Well Conner 2H
Project: Marshall County, WV	TVD Reference: GL 1220' & KB 32' @ 1252.00ft (Nabors X7)
Site: Conner Pad	MD Reference: GL 1220' & KB 32' @ 1252.00ft (Nabors X7)
Well: Conner 2H	North Reference: True
Wellbore: OH	Survey Calculation Method: Minimum Curvature
Design: As Drilled	Database: Northeast District

Survey										
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	
13,004.03	89.26	132.63	6,413.15	-5,387.64	4,172.39	6,730.75	0.52	0.03	-0.52	
13,099.03	89.33	131.27	6,414.32	-5,451.14	4,243.04	6,825.72	1.43	0.07	-1.43	
13,193.03	88.49	130.03	6,416.11	-5,512.36	4,314.34	6,919.60	1.59	-0.89	-1.32	
13,288.03	88.46	132.37	6,418.64	-5,574.91	4,385.79	7,014.50	2.46	-0.03	2.46	
13,382.03	89.40	135.68	6,420.39	-5,640.22	4,453.36	7,108.46	3.66	1.00	3.52	
13,476.03	89.70	135.43	6,421.13	-5,707.32	4,519.18	7,202.38	0.42	0.32	-0.27	
13,570.03	89.70	135.55	6,421.62	-5,774.36	4,585.07	7,296.31	0.13	0.00	0.13	
13,664.03	89.40	134.52	6,422.36	-5,840.86	4,651.50	7,390.26	1.14	-0.32	-1.10	
13,757.03	89.30	133.86	6,423.42	-5,905.68	4,718.18	7,483.24	0.72	-0.11	-0.71	
13,851.03	88.42	133.04	6,425.29	-5,970.31	4,786.41	7,577.22	1.28	-0.94	-0.87	
13,945.03	87.89	133.46	6,428.31	-6,034.69	4,854.84	7,671.17	0.72	-0.56	0.45	
14,039.03	87.41	132.96	6,432.17	-6,098.99	4,923.29	7,765.10	0.74	-0.51	-0.53	
14,122.03	87.38	133.23	6,435.94	-6,155.64	4,983.84	7,848.01	0.33	-0.04	0.33	
Last SDI MWD Survey										
14,178.03	87.38	133.23	6,438.50	-6,193.96	5,024.60	7,903.95	0.00	0.00	0.00	
Projection to Bit										

Design Targets										
Target Name	Dip Angle (°)	Dip Dir. (°)	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Northing (usft)	Easting (usft)	Latitude	Longitude	
Coal Target	0.00	0.00	784.00	0.00	0.00	505,327.06	1,617,496.30	39° 52' 50.394 N	80° 45' 2.819 W	
- actual wellpath misses target center by 4.30ft at 784.02ft MD (784.00 TVD, -3.46 N, -2.55 E)										
- Circle (radius 7.66)										
Conner 2H LP	0.00	0.00	6,367.01	-912.07	-73.73	504,416.11	1,617,409.88	39° 52' 41.380 N	80° 45' 3.765 W	
- actual wellpath misses target center by 29.37ft at 6833.46ft MD (6339.04 TVD, -909.86 N, -65.06 E)										
- Point										
Conner 2H PBHL	0.00	0.00	6,367.01	-6,257.70	4,988.47	499,000.53	1,622,397.15	39° 51' 48.544 N	80° 43' 58.843 W	
- actual wellpath misses target center by 102.37ft at 14178.03ft MD (6438.50 TVD, -6193.96 N, 5024.60 E)										
- Point										

Design Annotations					
Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates		Comment	
		+N/-S (ft)	+E/-W (ft)		
100.00	100.00	-0.19	-0.13	First Gyro Data Gyro Survey	
2,481.00	2,480.96	-3.34	-7.27	Last Gyro Data Gyro Survey	
2,596.01	2,595.97	-3.23	-7.66	First SDI MWD Survey	
14,122.03	6,435.94	-6,155.64	4,983.84	Last SDI MWD Survey	
14,178.03	6,438.50	-6,193.96	5,024.60	Projection to Bit	

Checked By: _____	Approved By: _____	Date: _____
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Hydraulic Fracturing Fluid Product Component Information Disclosure

51-015196

Job Start Date:	11/29/2013
Job End Date:	12/6/2013
State:	West Virginia
County:	Marshall
API Number:	47-051-01596-00-00
Operator Name:	Chevron USA Inc.
Well Name and Number:	Conner 2H
Longitude:	-80.75078300
Latitude:	39.88066500
Datum:	NAD83
Federal/Tribal Well:	NO
True Vertical Depth:	6,438
Total Base Water Volume (gal):	7,938,172
Total Base Non Water Volume:	



Hydraulic Fracturing Fluid Composition:

Trade Name	Supplier	Purpose	Ingredients	Chemical Abstract Service Number (CAS #)	Maximum Ingredient Concentration in Additive (% by mass)**	Maximum Ingredient Concentration in HF Fluid (% by mass)**	Comments
Clean Volume	Chevron Appalachia, LLC	Carrier/Base Fluid					
			H2O	7732-18-5	100.00000	90.25791	
Proppant	US Sand Co	Proppant					
			Crystalline Silica	14808-60-7	100.00000	9.74209	
15% Hcl Acid	Reagent/PPG	Used to open perms					
			Hydrochloric Acid	7647-01-0	15.00000	0.09889	
Unislik ST 50	CESI	Friction Reducer					
			Hydrotreated Light Distillite	64742-47-8	30.00000	0.02746	
EC 6116a	Nalco	Biocide					
			Polyethylene Glycol	25322-68-3	60.00000	0.01533	
			1, 1-Dibromo-3-nitrilopropionamide	10222-01-2	30.00000	0.00767	
			Dibromoacetone nitrile	3252-43-5	5.00000	0.00128	
Scale Inhibitor A	Nalco	Scale Inhibitor					
			Ethylene Glycol	107-21-1	30.00000	0.00757	
Iron Control A	Nalco	Iron Control					
			Ethylene Glycol	107-21-1	30.00000	0.00709	
CMHPG	Ashland	Water Viscosifier					
			Carboxymethyl Hydroxypropoyl Guar Blend	68130-15-4	100.00000	0.00202	

6.1.1	Cleanwater	Gel Breaker	Ethylene Glycol	107-21-1	60.00000	0.00003
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Ingredients shown above are subject to 29 CFR 1910.1200(i) and appear on Material Safety Data Sheets (MSDS). Ingredients shown below are Non-MSDS.

* Total Water Volume sources may include fresh water, produced water, and/or recycled water

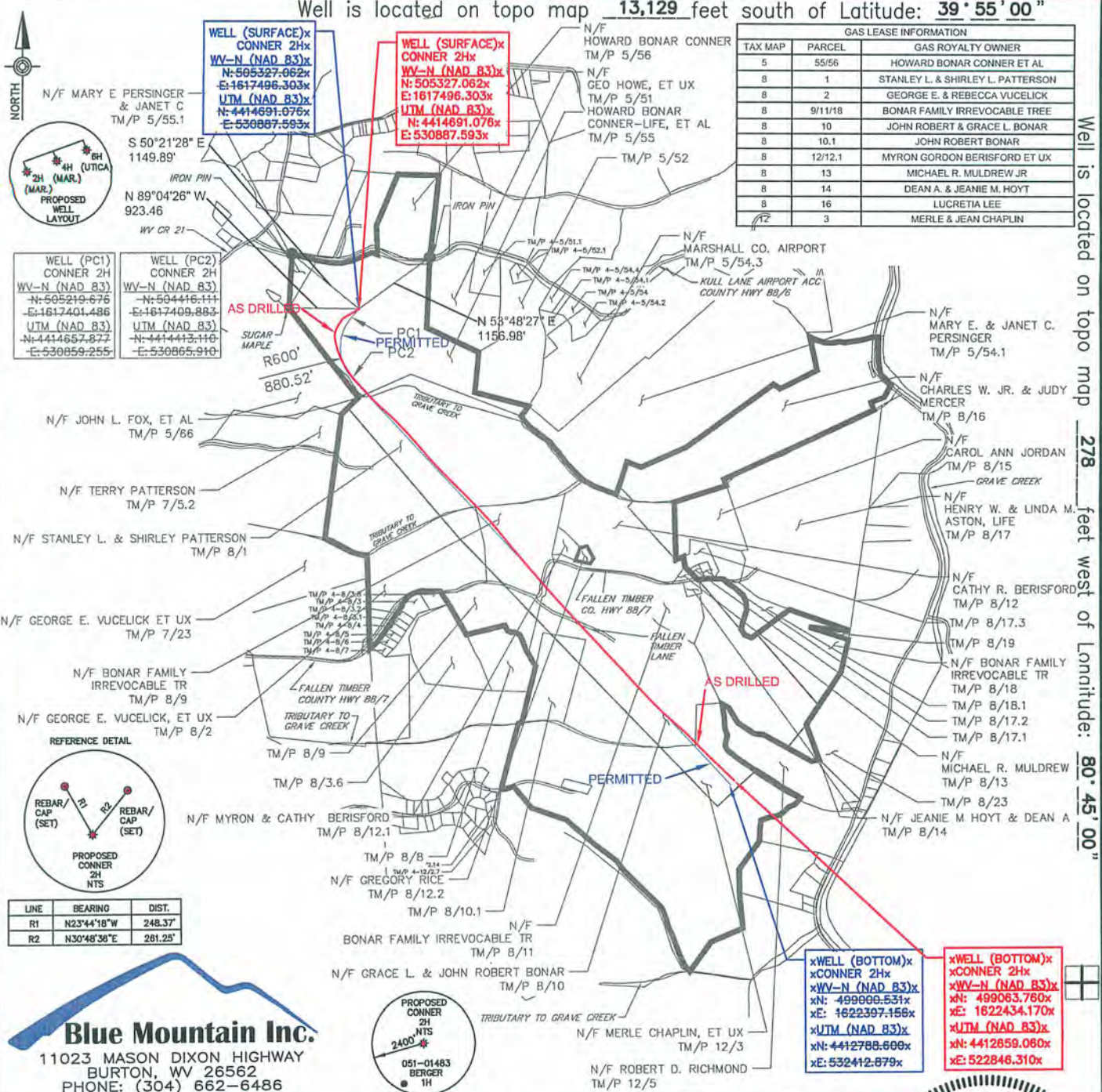
** Information is based on the maximum potential for concentration and thus the total may be over 100%

Note: For Field Development Products (products that begin with FDP), MSDS level only information has been provided. Ingredient information for chemicals subject to 29 CFR 1910.1200(i) and Appendix D are obtained from suppliers Material Safety Data Sheets (MSDS)

76510-15

51-01596

Well is located on topo map **13,129** feet south of Latitude: **39° 55' 00"**



GAS LEASE INFORMATION		
TAX MAP	PARCEL	GAS ROYALTY OWNER
5	55/56	HOWARD BONAR CONNER ET AL
8	1	STANLEY L. & SHIRLEY L. PATTERSON
8	2	GEORGE E. & REBECCA VUCELICK
8	9/11/18	BONAR FAMILY IRREVOCABLE TREE
8	10	JOHN ROBERT & GRACE L. BONAR
8	10.1	JOHN ROBERT BONAR
8	12/12.1	MYRON GORDON BERISFORD ET UX
8	13	MICHAEL R. MULDREW JR
8	14	DEAN A. & JEANIE M. HOYT
8	16	LUCRETIA LEE
17	3	MERLE & JEAN CHAPLIN

Well is located on topo map **278** feet west of Longitude: **80° 45' 00"**

WELL (PC1) CONNER 2H WV-N (NAD 83) N: 505219.676 E: 1617401.486 UTM (NAD 83) N: 4414657.877 E: 530859.255	WELL (PC2) CONNER 2H WV-N (NAD 83) N: 504416.144 E: 1617409.883 UTM (NAD 83) N: 4414413.110 E: 530865.910
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WELL (SURFACE) CONNER 2H WV-N (NAD 83) N: 505327.062 E: 1617496.303 UTM (NAD 83) N: 4414691.076 E: 530887.593
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xWELL (BOTTOM) xCONNER 2H xWV-N (NAD 83) N: 499090.531 E: 1622397.156 xUTM (NAD 83) N: 4412788.600 E: 532412.879

xWELL (BOTTOM) xCONNER 2H xWV-N (NAD 83) N: 499063.760 E: 1622434.170 xUTM (NAD 83) N: 4412859.060 E: 522846.310

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

FILE #: CONNER 2H-AS DRILLED
DRAWING #: CONNER 2H-AS DRILLED
SCALE: 1" = 2000'
MINIMUM DEGREE OF ACCURACY: 1/2500
PROVEN SOURCE OF ELEVATION: U.S.G.S. MONUMENT THOMAS 1498.81'

I, THE UNDERSIGNED, HEREBY CERTIFY THAT THIS PLAT 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 DEPARTMENT OF ENVIRONMENTAL PROTECTION.



Signed: _____
R.P.E.: _____ L.L.S.: P.S. No. 2000

(+) DENOTES LOCATION OF WELL ON UNITED STATES TOPOGRAPHIC MAPS
WVDEP
OFFICE OF OIL & GAS
601 57TH STREET
CHARLESTON, WV 25304



DATE: JANUARY 23, 2014
OPERATOR'S WELL #: CONNER 2H-AS DRILLED
API WELL #: 47 51 01596
STATE COUNTY PERMIT

Well Type: Oil Waste Disposal Production Deep
 Gas Liquid Injection Storage Shallow

WATERSHED: GRAVE CREEK ELEVATION: 1222.00'
COUNTY/DISTRICT: MARSHALL / CLAY QUADRANGLE: BUSINESSBURG, OH-WV 7.5'

SURFACE OWNER: HOWARD BONAR CONNER - LIFE ACREAGE: 81.72±
OIL & GAS ROYALTY OWNER: SEE ABOVE TABLE ACREAGE: 363.51±

DRILL CONVERT DRILL DEEPER REDRILL FRACTURE OR STIMULATE
PLUG OFF OLD FORMATION PERFORATE NEW FORMATION PLUG & ABANDON
CLEAN OUT & REPLUG OTHER CHANGE (SPECIFY): _____

TARGET FORMATION: MARCELLUS ESTIMATED DEPTH: 6,351'
WELL OPERATOR: CHEVRON APPALACHIA, LLC DESIGNATED AGENT: KENNETH E. TAWNEY
Address: 800 MOUNTAIN VIEW DRIVE Address: 500 LEE STREET, EAST SUITE 1600
City: SMITHFIELD State: PA Zip Code: 15478 City: CHARLESTON State: WV Zip Code: 25301-3202

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

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

API 47- _____ - _____ County _____ District _____
Quad _____ Pad Name _____ Field/Pool Name _____
Farm name _____ Well Number _____
Operator (as registered with the OOG) _____
Address _____ City _____ State _____ Zip _____

As Drilled location NAD 83/UTM Attach an as-drilled plat, profile view, and deviation survey
Top hole Northing _____ Easting _____
Landing Point of Curve Northing _____ Easting _____
Bottom Hole Northing _____ Easting _____

Elevation (ft) _____ GL Type of Well New Existing Type of Report Interim Final
Permit Type Deviated Horizontal Horizontal 6A Vertical Depth Type Deep Shallow
Type of Operation Convert Deepen Drill Plug Back Redrilling Rework Stimulate
Well Type Brine Disposal CBM Gas Oil Secondary Recovery Solution Mining Storage Other _____
Type of Completion Single Multiple Fluids Produced Brine Gas NGL Oil Other _____
Drilled with Cable Rotary

Drilling Media Surface hole Air Mud Fresh Water Intermediate hole Air Mud Fresh Water Brine
Production hole Air Mud Fresh Water Brine
Mud Type(s) and Additive(s)

Date permit issued _____ Date drilling commenced _____ Date drilling ceased _____
Date completion activities began _____ Date completion activities ceased _____
Verbal plugging (Y/N) _____ Date permission granted _____ Granted by _____

Please note: Operator is required to submit a plugging application within 5 days of verbal permission to plug

Freshwater depth(s) ft _____ Open mine(s) (Y/N) depths _____
Salt water depth(s) ft _____ Void(s) encountered (Y/N) depths _____
Coal depth(s) ft _____ Cavern(s) encountered (Y/N) depths _____
Is coal being mined in area (Y/N) _____

Reviewed by:

API 47- _____ - _____ Farm name _____ Well number _____

CASING STRINGS	Hole Size	Casing Size	Depth	New or Used	Grade wt/ft	Basket Depth(s)	Did cement circulate (Y/ N) * Provide details below*
Conductor							
Surface							
Coal							
Intermediate 1							
Intermediate 2							
Intermediate 3							
Production							
Tubing							
Packer type and depth set							

Comment Details _____

CEMENT DATA	Class/Type of Cement	Number of Sacks	Slurry wt (ppg)	Yield (ft ³ /sks)	Volume (ft ³)	Cement Top (MD)	WOC (hrs)
Conductor							
Surface							
Coal							
Intermediate 1							
Intermediate 2							
Intermediate 3							
Production							
Tubing							

Drillers TD (ft) _____ Loggers TD (ft) _____
 Deepest formation penetrated _____ Plug back to (ft) _____
 Plug back procedure _____

Kick off depth (ft) _____

Check all wireline logs run
 caliper density deviated/directional induction
 neutron resistivity gamma ray temperature sonic

Well cored Yes No Conventional Sidewall Were cuttings collected Yes No

DESCRIBE THE CENTRALIZER PLACEMENT USED FOR EACH CASING STRING _____

WAS WELL COMPLETED AS SHOT HOLE Yes No DETAILS _____

WAS WELL COMPLETED OPEN HOLE? Yes No DETAILS _____

WERE TRACERS USED Yes No TYPE OF TRACER(S) USED _____

API 47- ___ - ___ Farm name _____ Well number _____

<u>PRODUCING FORMATION(S)</u>	<u>DEPTHS</u>	
	TVD	MD
_____	_____	_____
_____	_____	_____
_____	_____	_____

Please insert additional pages as applicable.

GAS TEST Build up Drawdown Open Flow OIL TEST Flow Pump

SHUT-IN PRESSURE Surface _____ psi Bottom Hole _____ psi DURATION OF TEST _____ hrs

OPEN FLOW Gas _____ mcfpd Oil _____ bpd NGL _____ bpd Water _____ bpd GAS MEASURED BY
 Estimated Orifice Pilot

LITHOLOGY/ FORMATION	TOP	BOTTOM	TOP	BOTTOM	DESCRIBE ROCK TYPE AND RECORD QUANTITY AND TYPE OF FLUID (FRESHWATER, BRINE, OIL, GAS, H ₂ S, ETC)
	DEPTH IN FT NAME TVD	DEPTH IN FT TVD	DEPTH IN FT MD	DEPTH IN FT MD	
	0		0		

Please insert additional pages as applicable.

Drilling Contractor _____
Address _____ City _____ State _____ Zip _____

Logging Company _____
Address _____ City _____ State _____ Zip _____

Cementing Company _____
Address _____ City _____ State _____ Zip _____

Stimulating Company _____
Address _____ City _____ State _____ Zip _____

Please insert additional pages as applicable.

Completed by _____ Telephone _____
Signature _____ Title _____ Date _____

Instructions for completing the Well Record (Form WR-35)

Page 1

- API:** Enter the API number assigned to the well as shown on the permit.
- County:** Enter the County where the well was drilled.
- District:** Enter the District where the well was drilled.
- Quad:** Enter the appropriate 7 ½ minute quadrangle name.
- Pad Name:** Enter pad name assigned by operator (applies to Chapter 22-6A multi-well pads).
- Field/Pool Name:** Enter field/pool name, if applicable. If name not designated, leave blank.
- Farm Name:** Enter the farm name.
- Well Number:** Enter the well number.
- Operator Name:** Name of Operator as registered and bonded with the Office of Oil and Gas.
- Address:** Operator's address of record with the Office of Oil and Gas.
- As Drilled Location:** For Chapter 22-6A wells only: Attach an **as-drilled** plat, profile view and deviation survey. The deviation survey should be provided as a text file, preferably in Log ASCII Standard (LAS) format, containing three dimensional coordinates.
- Elevation:** Enter the elevation of the surface location in feet at ground level.
- Type of Well:** Check the appropriate box for the type of well. Check **NEW** if the well was a new well drilled from surface; or, **EXISTING** if this was a conversion, deepening, re-work, recompletion or stimulating.
- Type of Report:** Check the appropriate box for the type of report. Check **INTERIM**, if well has been drilled but not completed and the permit is still active. Check **FINAL**, if well has been drilled and completed.
- Permit Type:** Check the appropriate box for the permit type.
- Depth Type:** Check the appropriate depth type.
- Type of Operation:** Select **Drill** if a new well was drilled from surface. Select either **CONVERT, DEEPEN, PLUG BACK, REDRILLING, REWORK OR STIMULATE** for the appropriate type of operation conducted in an existing well bore.
- Well Type:** Check the appropriate box for well type.
- Type of Completion:** Check the appropriate box for the type of completion. Select **SINGLE** if well was completed in a single formation or **MULTIPLE** if well was completed in more than one formation.
- Fluids Produced:** Check the appropriate box.
- Drilled with:** Check the appropriate box.
- Drilling Media:** Check the appropriate box for the drilling media for the **Surface Hole, Intermediate Hole** and the **Production Hole**.
- Mud Type and Additives:** Provide details of mud type and associated additives.
- Date Permit Issued:** Date the permit was issued by Office of Oil and Gas.
- Date Drilling Commenced:** Date well was spudded.
- Date Drilling Ceased:** The date on which a drilling rig ceased operation on the drilling site for more than 30 consecutive days.
- Date Drilling Completion Began:** Date **completion** (stimulation, hydraulic fracturing) activities began.
- Date Completion Activities Ceased:** Date **completion** (stimulation, hydraulic fracturing) activities ceased.
- Verbal Plugging:** Was verbal permission to plug granted under continuous operation?
- Date Permission Granted:** Provide date permission was granted.
- Granted by:** Person granting permission to plug.
- Freshwater depth(s) ft. :** Was freshwater encountered? If yes, provide depth(s) in feet.
- Open Mines, depth(s):** Was an open mine encountered? If yes, provide depth(s) in feet.
- Salt Water depth(s):** Was saltwater encountered? If yes, provide depth(s) in feet.
- Void Encountered, depths:** Was a void encountered? If yes, provide depth(s) in feet.
- Coal Depth(s):** Was coal encountered? If yes, provide depth(s) in feet.
- Cavern Encountered:** Was a cavern encountered? If yes, provide depth(s) in feet.
- Coal being mined in area:** Check appropriate box.
- Casing String:** Enter the information for each of the casing strings in the appropriate columns. Enter the hole size and pipe size in inches. Enter the depth in feet each string was set. Enter whether the casing used in the well was new or used, the grade and weight of the pipe and the depths in feet of baskets used.
- Cement Data:** Enter the cement data for each casing string in the appropriate columns. Enter the class/type of cement used, the number of sacks, slurry weight and yield. Enter the volume in cubic feet, the measured depth in feet of the cement top and the Waiting-on-Cement (W.O.C.) time in hours.

Page 2

Driller's TD (ft) Driller's total depth in feet.
Logger's TD (ft): Logger's total depth in feet.
Deepest Formation Penetrated: Formation at total depth in feet.
Plug Back to (ft): Vertical Depth in feet after plug back.
Plug Back Procedure: Provide complete details on the plug back.
Kick off Depth: Enter the depth in feet at kick off point.

Wireline Logs: Check all wireline logs run.
Well Cored: Check appropriate box.
Cuttings Collected: Check appropriate box.

Describe the Centralizer Placement Used for each Casing String

Was Well Completed as Shot Hole: Y/N Provide Details.

Was Well Completed Open Hole: Y/N Provide Details.

Were Tracers Used: Y/N Specify Tracer(s) Used.

Page 3

Perforated Record: Provide stage number, perforation date, top and bottom feet for each perforated interval, number of perforations and Formation.

Stimulation Information Per Stage: Provide stage number, stimulation date, average pump rate, average treatment pressure, max breakdown pressure, isip (instantaneous shut in pressure), amount of proppant in lbs, amount of water in barrels and amount of nitrogen or other frac agent in sfc (standard cubic feet).

Page 4

Producing Formation, Depths (vertical and measured depths): Enter the formation tested. For dual or multiple completions attach additional information, as necessary, for each of the formations tested.

Gas Test: Check the appropriate box for the type of gas test performed **BUILD UP, DRAWDOWN** or **OPEN FLOW**.
Oil Test: Check the appropriate box for the type of oil test performed **FLOW** or **PUMP**.
Shut-In: Enter the initial shut-in surface and bottom hole pressures.
Duration of Test: Enter the duration of the test in hours.

Open Flow: Enter the amount of **GAS** produced in thousand cubic feet per day (mcfpd), **OIL** produced in barrels per day (BPD), **NGL** produced in barrels per day and **WATER** produced in barrels per day (BPD).

Gas Measured by: Check the appropriate box for the type of test performed.

Lithology/Formation name, etc: Enter the lithology for each formation penetrated from bedrock to total depth, along with the true vertical depth (top and bottom) and measured depth (top and bottom). Enter the rock type encountered, the quantity and depths of any freshwater, brine, oil, gas, h₂s, etc. Use additional sheets if necessary.

Drilling Contractor Name and Address: Enter the name(s) and addresses for drilling contractor(s) used.

Logging Company Name and Address: Enter the name and address for logging company used.

Cementing Company Name and Address: Enter the name and address for cementing company used.

Stimulating Company Name and Address Enter the name and address for stimulating/hydraulic fracturing company used.

REV. 8/1/2013

Form completed by: Name and telephone number of person completing the form.

Signature, Title, Date: Signature of authorized representative, title and date.

Hydraulic Fracturing Chemical Disclosure Information: Attach copy of FRACFOCUS Registry

Pursuant to West Virginia's Legislative Rule Title 35, Series 8, Section 10.1.a., certain hydraulic fracturing chemical information is required to be disclosed for wells permitted under West Virginia Code §22-6A. The information is required to be provided to both the Office of Oil and Gas and the FracFocus Chemical Disclosure Registry. A copy of the FracFocus disclosure containing the information required in West Virginia Legislative Rule Title 35, Series 8, Section 10.1.a may be provided to the Office of Oil and Gas to fulfill this reporting requirement.