

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

API 47-051-01594 County MARSHALL District FRANKLIN
Quad NEW MARTINSVILLE 7.5' Pad Name GOUDY Field/Pool Name _____
Farm name PPG INDUSTRIES, INC Well Number GOUDY 10H
Operator (as registered with the OOG) GASTAR EXPLORATION USA, INC.
Address 229 W MAIN STREET - STE 301 City CLARKSBURG State WV Zip 26301

As Drilled location NAD 83/UTM Attach an as-drilled plat, profile view, and deviation survey
Top hole Northing 4,398,561.28 Easting 514,668.22
Landing Point of Curve Northing N/A Easting N/A
Bottom Hole Northing 4,398,561.28 Easting 514,668.22

Elevation (ft) 1239' 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) _____

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Date permit issued 11/29/2012 Date drilling commenced 12/25/2012 Date drilling ceased 11/18/2014
Date completion activities began N/A Date completion activities ceased _____
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 N/A (NONE ENCOUNTERED) Open mine(s) (Y/N) depths N
Salt water depth(s) ft N/A Void(s) encountered (Y/N) depths N
Coal depth(s) ft N/A Cavern(s) encountered (Y/N) depths N
Is coal being mined in area (Y/N) N

Approved by: Jim Huber Reviewed by: _____
9/29/17

API 47-051 - 01594 Farm name PPG INDUSTRIES, INC Well number GOUDY 10H

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	26"	20"	110'	NEW	PE / 54.5#/ft	N/A	Y
Surface							
Coal							
Intermediate 1							
Intermediate 2							
Intermediate 3							
Production							
Tubing							
Packer type and depth set							

Comment Details The Goudy 10H well had 110' of conductor casing set at 110' TVD. The well was then temporarily abandoned. The original intent was to come back and finished drilling the well to the permitted TMD, however, this never occurred under Gastar's ownership. Note on 11/28/2014 OHIO-West Virginia Excavating drilled an additional 10' of open hole making TVD 120'

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	CLASS "A" TYPE 1	297	15.6	1.19	353	SFC	12
Surface							
Coal							
Intermediate 1							
Intermediate 2							
Intermediate 3							
Production							
Tubing							

Drillers TD (ft) 120' Loggers TD (ft) _____
 Deepest formation penetrated SURFACE MATERIAL Plug back to (ft) _____
 Plug back procedure N/A

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Kick off depth (ft) N/A

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 N/A

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 _____

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PERFORATION RECORD

Stage No.	Perforation date	Perforated from MD ft.	Perforated to MD ft.	Number of Perforations	Formation(s)
	N/A				

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)
	N/A							

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Please insert additional pages as applicable.

API 47- 051 - 01594 Farm name PPG INDUSTRIES, INC Well number GOUDY 10H

PRODUCING FORMATION(S)	DEPTHS	
N/A	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	
Surface Material	0	120	0	120	Soil and shallow rock (shale and sandstone), No reported fluids

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Please insert additional pages as applicable.

Drilling Contractor OHIO-WEST VIRGINIA EXCAVATING
 Address 56461 FERRY LANDING RD City SHADYSIDE State OH Zip 43947

Logging Company _____
 Address _____ City _____ State _____ Zip _____

Cementing Company BAKER HUGHES
 Address 837 PHILIPPI PIKE City CLARKSBURG State WV Zip 26301

Stimulating Company _____
 Address _____ City _____ State _____ Zip _____

Please insert additional pages as applicable.

Completed by Jonathan White Telephone 724-749-8388
 Signature *Jonathan White* Title Regulatory Analyst Date 08/14/2017

Goudy 10H Cement Additives

Surface: Class A + 3% CaCl + ¼ #per sack flake

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form ww6

LATITUDE 39° 45' 00"

(TH) 10,510'
(BH) 10,510'

NOTES

OWNERSHIP TAKEN FROM PUBLIC RECORDS OF MARSHALL COUNTY, WV IN MARCH, 2017.
COORDINATES AND WELL TIES BASED UPON DIFFERENTIAL GPS MEASUREMENTS. WELL LOCATION REFERENCES ARE BASED UPON THE MAGNETIC MERIDIAN.

SURFACE HOLE
UTM, NAD83, ZONE 17
IN METERS
N) 4,398,561.28
E) 514,668.22

BOTTOM HOLE
UTM, NAD83, ZONE 17
IN METERS
N) 4,398,561.28
E) 514,668.22

(TH) 4,820'
(BH) 4,820'

GOUDY LEASE
WELL NO. 10H
47-051-01594
644.05± ACRES

20-34
PPG INDUSTRIES, INC.
206.61 ACRES

21-24
PPG INDUSTRIES, INC.
132.5 ACRES

21-22
PEGGY L. BOWEN
18.29 ACRES

21-19
CARL MOORE, ET AL
134.74 ACRES

GASTAR LEASE
WV16-0076-001

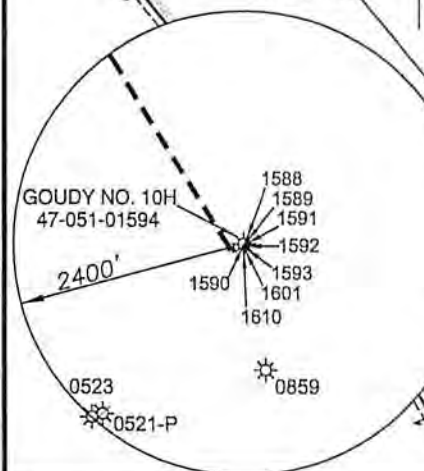
BOTTOM HOLE **TOP HOLE**

21-5
PPG INDUSTRIES, INC.
21.9 ACRES

21-3
PPG INDUSTRIES, INC.
208.76 ACRES

NOTE: BORE PATH BASED ON GRID NORTH.

GRID NORTH



21-7
PPG INDUSTRIES, INC.
69.7 ACRES

21-8
PPG IND., INC.
13.73 ACRES

21-8
PPG INDUSTRIES, INC.
54.0 ACRES

21-17
PPG INDUSTRIES, INC.
34.43 ACRES

21-13
PPG IND., INC.
20.54 ACRES

21-16
PPG INDUSTRIES, INC.
54.83 ACRES

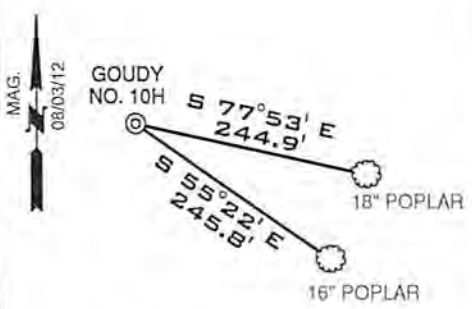
21-15.2
PPG INDUSTRIES, INC.
80.69 ACRES

21-20
JOHN MOORE
31 ACRES

21-18
JOHN MOORE
51.44 ACRES

28-2
BAYER MATERIAL SCIENCES, LLC
99.5 ACRES

REFERENCES



LEGEND

- LEASED TRACTS
- INTERIOR MINERAL TRACTS
- SURFACE TRACTS
- HARD LEASE LINE

SCALE 1"=200'

(+) DENOTES LOCATION ON UNITED STATES TOPOGRAPHIC MAPS

FILE NUMBER W0120315 (WB1-55)
DRAWING NUMBER GOUDY_WP_10H-AD
SCALE 1" = 1000'
MINIMUM DEGREE OF ACCURACY 1/200
PROVEN SOURCE OF ELEVATION SUBMETER MAPPING
GRADE GPS

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

P.S. 2122 *Jonathan N. White*



WVDEP
OFFICE OF OIL & GAS
601 57TH STREET
CHARLESTON, WV 25304



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SEP 26 2017

WV Department of Environmental Protection
DATE: APRIL 5, 2017

WELL TYPE: OIL ___ GAS X LIQUID INJECTION ___ WASTE DISPOSAL ___
(IF "GAS") PRODUCTION X STORAGE ___ DEEP ___ SHALLOW X
OPERATORS WELL NO. GOUDY NO. 10H
API WELL NO. 47-051-01594

LOCATION ELEVATION 1239' WATERSHED _____ TRIBUTARY OF THE OHIO RIVER
DISTRICT FRANKLIN COUNTY MARSHALL
QUADRANGLE NEW MARTINSVILLE 7.5' LEASE NUMBER WV16-0076-001

SURFACE OWNER PPG INDUSTRIES, INC. ACREAGE 81.36
OIL & GAS ROYALTY OWNER PPG INDUSTRIES, INC. LEASE ACREAGE 644.05

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

TARGET FORMATION MARCELLUS PLUG & ABANDON ___ CLEAN OUT & REPLUG ___
ESTIMATED DEPTH 110'

WELL OPERATOR GASTAR EXPLORATION USA, INC. DESIGNATED AGENT MICHAEL McCOWN
ADDRESS 229 W MAIN STREET, SUITE 301 ADDRESS 229 W MAIN STREET, SUITE 301
CLARKSBURG WV, 26301 CLARKSBURG WV, 26301

COUNTY NAME
PERMIT