

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

API: 47-051-01605 County: MARSHALL District: LIBERTY  
 Quad: CAMERON Pad Name: GOSHORN RIDGE Field/Pool Name: MARCELLUS SHALE  
 Farm name: HUBBS, TIMOTHY JAMES WELL NAME : GOSHORN 4H  
 Operator (as registered with the OOG) TRANS ENERGY, INC.  
 Address: P. O. BOX 393 City: ST. MARYS State: WV Zip: 26170

As Drilled Location NAD 83/UTM \*\*\* SEE ATTACHED AS-DRILLED WELL PLAT \*\*\*

Top hole	Northing	<u>4407387</u>	Easting	<u>532941</u>
Landing Point of curve	Northing	<u>4407848</u>	Easting	<u>532522</u>
Bottom hole	Northing	<u>4405923</u>	Easting	<u>532830</u>

Elevation (ft): 1,320' GL Type of Well: NEW Type of Report: FINAL

Permit Type: HORIZONTAL 6A Depth Type: SHALLOW

Type of Operation: DRILL

Well Type: GAS

Type of Completion: SINGLE Fluids Produced: GAS NGL and OIL

Drilled With: ROTARY

Drilling Media: MUD Intermediate hole: MUD

Production hole: MUD

Mud Type(s) and Additive(s) MUD TYPE - SYNTHETIC BASE DRILLING MUD

ADDITIVES:	Calcium Carbonate	Hydrated Lime	Synvert Synthetic 1-L	Citric Acid	Drispac Low Vis
	Calcium Chloride	Cedar Fiber	Bentonite	Sodium Bicarbonate	L-20C
	Synvert LEM	Rubber Crumb	Soda Ash, dense	Glycerine	Bioclear
	Synvert Synthetic WA-L	Cottonseed Hulls	Lignite	Desco	
	Barite	Synvert Synthetic 11-L	Aluminum Sterate	Caustic Soda Beads	

Date permit issued: 3/5/2013 Date drilling commenced: 5/4/2013 Date drilling ceased: 6/3/2013

Date completion activities began: 6/21/2013 Date completion activities ceased: 6/30/2013

Verbal plugging: N/A Date permission granted: N/A Granted by: N/A

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

Fresh water depth (s) ft: 60', 150'

Open mine(s) (Y/N) depths: N

Salt water depth(s) ft: N

Void(s) encountered (Y/N) depths: N

Coal Depth(s) ft: 862' Top

Cavern(s) encountered (Y/N) depths: N

Is coal being mined in area (Y/N) Y

**RECEIVED**  
**Office of Oil and Gas**  
AUG 20 2014  
WV Department of  
Environmental Protection  
*[Signature]*

05/06/2016

API:	47-051-01605	WELL NAME : <b>GOSHORN 4H</b>
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CASING STINGS	Hole Size	Casing Size	Depth	New or Used	Grade wt/ft	Basket Depth(s)	Did cement circulate (Y/N) Provide details below.
Conductor	<b>26"</b>	<b>20"</b>	<b>100'</b>	<b>NEW</b>	<b>J-55 / 94</b>	<b>160'</b>	<b>Y</b>
Surface	<b>17 1/2"</b>	<b>13 3/8"</b>	<b>1187'</b>	<b>NEW</b>	<b>J-55 / 54.5</b>	<b>200'</b>	<b>Y</b>
Coal	-	-	-	-	-	-	-
Intermediate 1	<b>12 1/2"</b>	<b>9 5/8"</b>	<b>3023'</b>	<b>NEW</b>	<b>J-55 / 36</b>	<b>N/A</b>	<b>Y</b>
Intermediate 2	-	-	-	-	-	-	-
Intermediate 3	-	-	-	-	-	-	-
Production	<b>8 3/4"</b>	<b>5 1/2"</b>	<b>12,624'</b>	<b>NEW</b>	<b>P-110 / 20</b>	<b>N/A</b>	<b>Y</b>
Tubing	-	-	-	-	-	-	-
Packer type and Depth Set							

Comment Details:

CEMENT DATA	Class / type of Cement	Number of Sacks	Slurry wt (ppg)	Yield (ft <sup>3</sup> / sks)	Volume (ft <sup>3</sup> )	Cement Top (MD)	WOC (hrs)
Conductor	<b>TYPE 1</b>	-	-	-	-	<b>Surface</b>	-
Surface	<b>TYPE 1</b>	<b>910</b>	<b>15.6</b>	<b>1.2</b>	<b>1135</b>	<b>Surface</b>	<b>8</b>
Coal	-	-	-	-	-	-	-
Intermediate 1	<b>TYPE 1</b>	<b>1200</b>	<b>15.6</b>	<b>1.2</b>	-	<b>Surface</b>	<b>8</b>
Intermediate 2	-	-	-	-	-	-	-
Intermediate 3	-	-	-	-	-	-	-
Production	<b>POZ H/Class H</b>	<b>1368 /1281</b>	<b>13.5/15.6</b>	<b>1.44 / 1.18</b>	<b>1970 / 1512</b>	<b>Surface</b>	<b>10</b>
Tubing	-	-	-	-	-	-	-

Drillers TD (ft): **12,624'**                      Loggers TD (ft): **12,624'**  
 Deepest formation penetrated: **MARCELLUS SHALE**                      Plug back to (ft): **N/A**  
 Plug back procedure: **N/A**

Kick off depth (ft) **6560'**

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

Well cored? **NO**                      Were cuttings collected? **NO**

DESCRIBE THE CENTRALIZER PLACEMENT USED FOR EACH CASING STRING

**FRESH WATER STRING - 1 CENTRALIZER EVERY 160'**

**INTERMEDIATE STRING - 1 CENTRALIZER EVERY 100' FROM 3,300' TO 900'**

**PRODUCTION STRING - 1 CENTRALIZER EVERY 80' FROM TD TO ABOVE ROP 7000'**

WAS WELL COMPLETED AS SHOT HOLE? **NO**                      DETAILS: \_\_\_\_\_

WAS WELL COMPLETED OPEN HOLE? **NO**                      DETAILS: \_\_\_\_\_

WERE TRACERS USED? **NO**                      TYPE OF TRACER(S) USED: **N/A**

05/06/2016

API:	47-051-01605	WELL NAME : <b>GOSHORN 4H</b>
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**\*\*\* SEE ATTACHED WELL PROFILE AND DEVIATION SURVEY - 7 PAGES \*\*\***

**PERFORATION RECORD**

Stage No.	Perferated from MD ft.	Perferated to MD ft.	Number of Perferations	Formations
1	12,567'	12,415'	41	MARCELLUS SHALE
2	12,355'	12,160'	42	MARCELLUS SHALE
3	12,085'	11,900'	42	MARCELLUS SHALE
4	11,830'	11,657'	42	MARCELLUS SHALE
5	11,585'	11,400'	42	MARCELLUS SHALE
6	11,347'	11,150'	42	MARCELLUS SHALE
7	11,070'	10,900'	42	MARCELLUS SHALE
8	10,825'	10,610'	42	MARCELLUS SHALE
9	10,520'	10,350'	42	MARCELLUS SHALE
10	10,280'	10,095'	42	MARCELLUS SHALE
11	10,025'	9,840'	42	MARCELLUS SHALE
12	9,780'	9,595'	42	MARCELLUS SHALE
13	9,526'	9,340'	42	MARCELLUS SHALE
14	9,276'	9,077'	42	MARCELLUS SHALE
15	8,956'	8,760'	42	MARCELLUS SHALE
16	8,676'	8,385'	56	MARCELLUS SHALE
17	8,331'	8,020'	56	MARCELLUS SHALE
18	7,951'	7,640'	56	MARCELLUS SHALE

Please insert additional pages as applicable.

05/06/2016

<b>API:</b>	<u>47-051-01605</u>	<b>WELL NAME :</b> <u>GOSHORN 4H</u>
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**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)	Other Units
1	6/21/2013	62.2	7,542	N/A	4,855	342,950	7,934	
2	6/22/2013	37.4	9,274	7,078	5,765	3,690	5,477	
3	6/22/2013	65.5	8,356	N/A	5,134	306,120	8,679	
4	6/23/2013	63.1	7,991	7,023	5,134	335,270	8,755	
5	6/23/2013	61.1	7,861	6,285	5,172	311,900	8,558	
6	6/24/2013	59.3	7,905	7,346	5,075	315,780	8,345	
7	6/24/2013	57.5	7,872	7,010	5,301	331,660	8,582	
8	6/24/2013	61.6	8,052	6,674	5,323	304,690	9,241	
9	6/25/2013	55.4	8,502	7,909	5,036	115,720	6,877	
10	6/26/2013	63.1	7,813	5,960	4,967	327,490	8,626	
11	6/26/2013	64.2	7,879	6,474	5,039	328,500	8,505	
12	6/25/2013	65.4	8,069	6,704	5,095	328,100	8,191	
13	6/25/2013	69	7,522	5,183	4,791	326,190	7,719	
14	6/25/2013	63.9	7,721	6,922	5,062	327,520	8,126	
15	6/25/2013	27.6	7,450	6,365	5,341	5,590	1,174	
16	6/25/2013	335.2	7,871	6,734	5,066	20,920	2,082	
17	6/25/2013	61.7	8,272	5,935	4,940	75,780	9,470	
18	6/25/2013	62.8	6,737	6,832	4,971	275,820	6,433	

API: 47-051-01476 WELL NAME : **GOSHORN 4H**

PRODUCING FORMATION(S) MARCELLUS SHALE DEPTHS 7041' TVD 12,653' MD

GAS TEST: N/A OIL TEST: N/A

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: <b>ESTIMATED</b>
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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, H2S, ETC)
GORDON	<u>3052'</u>	<u>3405'</u>			
MIDDLESEX	<u>6784'</u>	<u>6868'</u>			
BURKETT	<u>6869'</u>	<u>6890'</u>			
TULLY	<u>6891'</u>	<u>6917'</u>			
HAMILTON	<u>6918'</u>	<u>6995'</u>			
MARCELLUS	<u>6996'</u>				

Please insert additional pages as applicable.

Drilling Contractor: **HELMERICH & PAYNE INTERNATIONAL DRILLING COMPANY**  
Address: 1437 SOUTH BOULDER AVENUE City: TULSA State: OK Zip: 74119

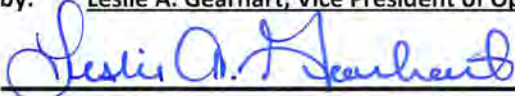
Logging Contractor: **DIVERSIFIED WELL LOGGING**  
Address: 440 Pennsylvania 519 City: EIGHTY FOUR State: PA Zip: 15330

Cementing Company: **BAKER HUGHES**  
Address: 17015 ALDINE WESTFIELD ROAD City: HOUSTON State: TX Zip: 77073-5101

Stimulating Company: **GO FRAC**  
Address: 7000 CALMONT AVENUE, SUITE 310 City: FORT WORTH State: TX Zip: 76116

Completed by: Leslie A. Gearhart, Vice President of Operations

Telephone: 304/684-7053

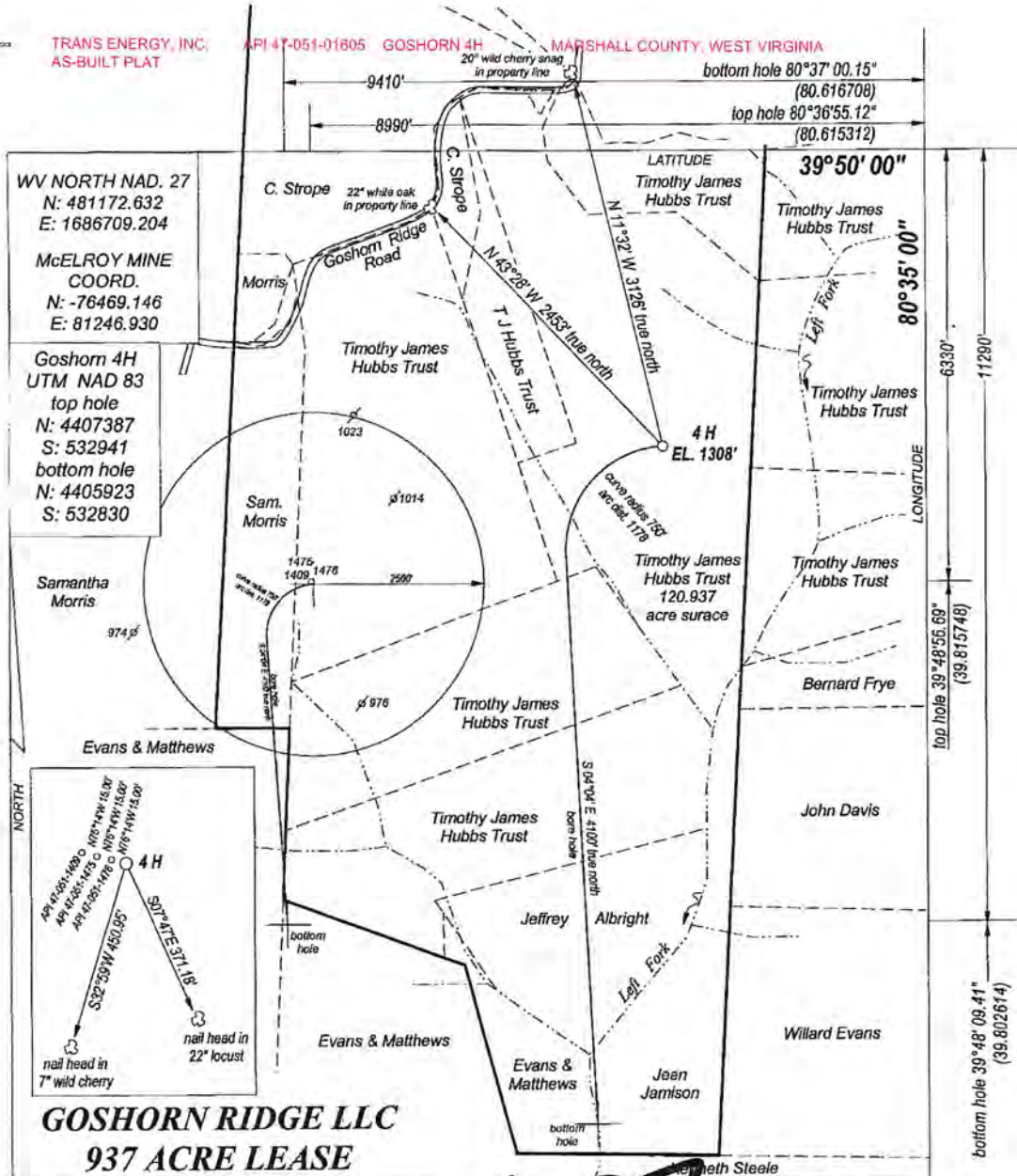
Signature: 

DATE: 8-18-14

**\*\*SEE TWO (2) PAGE ATTACHMENT ENTITLED "HYDRAULIC FRACTURING FLUID PRODUCT COMPONENT INFORMATION DISCLOSURE"\*\*\***

TRANS ENERGY, INC.  
AS-BUILT PLAT

API 47-051-01605 GOSHORN 4H MARSHALL COUNTY, WEST VIRGINIA

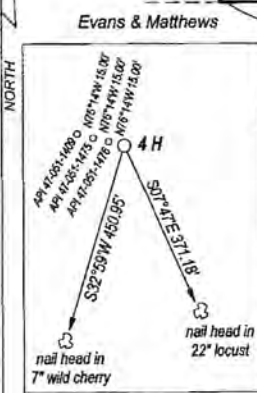


WV NORTH NAD. 27  
N: 481172.632  
E: 1686709.204

McELROY MINE  
COORD.  
N: -76469.146  
E: 81246.930

Goshorn 4H  
UTM NAD 83  
top hole  
N: 4407387  
S: 532941  
bottom hole  
N: 4405923  
S: 532830

Samantha  
Morris



**GOSHORN RIDGE LLC  
937 ACRE LEASE**

FILE NO. GOSHORN RIDGE  
DRAWING NO. \_\_\_\_\_  
SCALE 1" = 1000'  
MINIMUM DEGREE  
OF ACCURACY 1:200  
PROVEN SOURCE  
OF ELEVATION GPS  
OBSERVATION

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 ENERGY.

(SIGNED) \_\_\_\_\_  
PROFESSIONAL SURVEYOR: 551



DATE JULY 27TH, 2012  
OPERATORS WELL NO. GOSHORN 4H

**STATE OF WEST VIRGINIA**  
DEPARTMENT OF ENERGY  
DIVISION OF OIL AND GAS

API 47 - 051 - 01605  
STATE COUNTY PERMIT

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

LOCATION: ELEVATION 1308' WATER SHED LEFT FORK OF MAGGOTY RUN  
DISTRICT LIBERTY COUNTY MARSHALL QUADRANGLE CAMERON

SURFACE OWNER TIMOTHY JAMES HUBBS TRUST ACREAGE 120.937  
OIL & GAS ROYALTY GOSHORN RIDGE LLC LEASE AC. 937

PROPOSED WORK: DRILL  CONVERT  DRILL DEEPER  REDRILL   
FRACTURE OR STIMULATE  PLUG OFF OLD FORMATION   
PERFORATE NEW FORMATION   
OTHER PHYSICAL CHANGE IN WELL   
PLUG AND ABANDON  CLEAN OUT AND REPLUG

TARGET FORMATION MARCELLUS SHALE ESTIMATED DEPTH 7200'

WELL OPERATOR TRANS ENERGY, INC. DESIGNATED AGENT LOREN BAGLEY  
ADDRESS P. O. BOX 393 ADDRESS P. O. BOX 393  
ST. MARYS, WV 26170 ST. MARYS, WV 26170

**AS BUILT**

05/06/2016

A2 BUILT

05/06/2016

**TRANS ENERGY, INC. - HYDRAULIC FRACTURING FLUID PRODUCT COMPONENT INFORMATION DISCLOSURE**

Fracture Start Date:	6/18/2013
Fracture End Date:	6/30/2013
State:	WEST VIRGINIA
County:	MARSHALL
API Number:	47-051-01605
Operator Name:	Trans Energy, Inc.
Well Name:	GOSHORN 4H
Federal Well:	No
Longitude:	80.615312
Latitude:	39.815748
Long/Lat Projection:	NAD27
True Vertical Depth (TVD):	7,041'
Total Clean Fluid Volume* (gal):	5,683,188

**Ingredients Section:**

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
Freshwater	Republic Energy	Frac Base	Water	7732-18-5	100.00%	91.48778%	None
100 Mesh	US Silica	Proppant	Sand	14808-60-7	100.00%	1.91136%	None
40/70 White Sand	US Silica	Proppant	Sand	14808-60-7	100.00%	3.91508%	None
30/50 White Sand	US Silica	Proppant	Sand	14808-60-7	100.00%	2.24057%	None
HCl Acid 10-15%	GoFrac	Acid	Hydrochloric Acid	7647-01-0	15.00%	0.04587%	None
Ferriplex 66	Chemplex	Iron Control	Acetic Acid	64-19-7	50.00%	0.00035%	None
			Citric Acid	77-92-9	30.00%	0.00021%	None
			Water	7732-18-5	35.00%	0.00024%	None
Greenflush	Chemplex	Cleaner	Alcohol Ethoxylate Surfactants	Proprietary	10.00%	0.00054%	None
Plexbreak 145	Chemplex	Non-Emulsifier	Cocamide Diethanolamine Salt	68603-42-9	10.00%	0.00006%	None
			Diethanolamine	111-42-2	5.00%	0.00003%	None
			Ethylene Glycol Monobutyl Ether	111-76-2	15.00%	0.00009%	None
			Methyl Alcohol	67-56-1	15.00%	0.00009%	None
			Water	7732-18-5	66.00%	0.00038%	None
Plexhib 256	Chemplex	Corrosion Inhibitor	Alcohol Ethoxylate Surfactants	Proprietary	30.00%	0.00016%	None
			Methyl Alcohol	67-56-1	70.00%	0.00037%	None
			n-olefins	Proprietary	10.00%	0.00005%	None
			Propargyl Alcohol	107-19-7	8.00%	0.00004%	None



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
			Thiourea-formaldehyde copolymer	68527-49-1	30.00%	0.00016%	None
Sodium Persulfate	Chemplex	Active Breaker	Sodium Persulfate	7775-27-1	100.00%	0.00147%	None
Plexslick 953	Chemplex	Friction Reducer	Alcohol Ethoxylate Surfactants	Proprietary	8.00%	0.00612%	None
			Hydrotreated Petroleum Distillate	64742-47-8	30.00%	0.02293%	None
			Polyacrylamide-co-acrylic acid	Proprietary	32.00%	0.02446%	None
			Water	7732-18-5	35.00%	0.02675%	None
Beta M-4.0	PfP	Guar Gel	Guar Gum	9000-30-0	50.00%	0.02714%	None
			Petroleum Distillate	64742-47-8	55.00%	0.02986%	None
			Clay	Proprietary	5.00%	0.00271%	None