

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

API 47-103-02932 County WETZEL District CENTER
Quad BIG RUN 7.5' Pad Name MICHAEL KUHN UNIT Field/Pool Name MARCELLUS
Farm name KUHN, MICHAEL G. Well Number MICHAEL KUHN UNIT 2H
Operator (as registered with the OOG) STATOIL USA ONSHORE PROPERTIES, INC.
Address 2103 CITYWEST BLVD City HOUSTON State TX Zip 77042

As Drilled location NAD 83/UTM Attach an as-drilled plat, profile view, and deviation survey
Top hole Northing 4385157 Easting 540260
Landing Point of Curve Northing 4385664 Easting 540425
Bottom Hole Northing 4386763 Easting 539215

Elevation (ft) 1510' 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)
Surface - Drill Water; Intermediate - KCl/Polymer; Production - Cyberdrill

Date permit issued 11/14/13 Date drilling commenced 09/02/14 Date drilling ceased 09/19/14
Date completion activities began 04/13/15 Date completion activities ceased 05/04/15
Verbal plugging (Y/N) N/A 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 763' estimated Open mine(s) (Y/N) depths N
Salt water depth(s) ft 2150' estimated Void(s) encountered (Y/N) depths N
Coal depth(s) ft N Cavern(s) encountered (Y/N) depths N
Is coal being mined in area (Y/N) N

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WV Department of Environmental Protection

10/30/2015

API 47- 103 - 02932 Farm name KUHN, MICHAEL G. Well number MICHAEL KUHN UNIT 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	24"	20"	100'	NEW	94#		
Surface	17 1/2"	13 3/8"	807'	NEW	J-55; 54.5#		Y, 27.9 bbis to surface
Coal							
Intermediate 1	12 1/4"	9 5/8"	2850'	NEW	J-55; 36#		Y, trace to surface
Intermediate 2							
Intermediate 3							
Production	8 1/2"	5 1/2"	13437'	NEW	P-110; 20#		No, TOC est 1277'
Tubing	4 5/8"	2 3/4"	7761'	NEW	L-80		
Packer type and depth set		VersaSet Packer set at 7751'					

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	Class A	320	15.8	2.31	739	Surface	31 hrs
Coal							
Intermediate 1	Class A	450	15.8	2.31	1040	Surface	19.5 hrs
Intermediate 2							
Intermediate 3							
Production	Class A	2300	13.5	1.29	2967	1277'	>8 hrs
Tubing							

Drillers TD (ft) 13,397 Loggers TD (ft) 13,450

Deepest formation penetrated MARCELLUS Plug back to (ft) N/A

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 _____

Surface: 1 Centralizer with stop collar 10 ft above float shoe. One single bow every joint to 100ft below surface.
 Intermediate: 1 centralizer with stop collar 10 ft above float shoe. 1 centralizer with stop collar 10 ft above float collar. 1 centralizer every joint for the first 15 joints. One centralizer every 3 joints to 100 ft below surface.
 Production: 1 centralizer w/ stop collar 10ft above shoe. 1 centralizer 10ft above float collar. 1 centralizer every joint (floating) until KOP. 1 centralizer every 3 joints (floating) until 200ft inside intermediate shoe. 1 centralizer 50ft below mandrel hanger.

WAS WELL COMPLETED AS SHOT HOLE Yes No DETAILS _____

WAS WELL COMPLETED OPEN HOLE? Yes No DETAILS _____
 @ 6 SHOTS PER FOOT.

WERE TRACERS USED Yes No TYPE OF TRACER(S) USED AUG 11 2015

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PERFORATION RECORD

Stage No.	Perforation date	Perforated from MD ft.	Perforated to MD ft.	Number of Perforations	Formation(s)
1	04/13/15	13,129	12949	48	MARCELLUS
2	04/14/15	12889	12709	48	MARCELLUS
3	04/14/15	12649	12469	48	MARCELLUS
4	04/15/15	12409	12229	48	MARCELLUS
5	04/15/15	12169	11989	48	MARCELLUS
6	04/16/15	11929	11749	48	MARCELLUS
7	04/16/15	11629	11479	48	MARCELLUS
8	04/17/15	11449	11269	48	MARCELLUS
9	04/17/15	11209	11029	48	MARCELLUS
10	04/18/15	10969	10789	48	MARCELLUS
11	04/19/15	10729	10549	48	MARCELLUS
12	04/19/15	10489	10309	48	MARCELLUS
13	04/20/15	10249	10309	48	MARCELLUS
14	04/20/15	10009	9829	48	MARCELLUS
15	04/21/15	9769	9589	48	MARCELLUS
16	04/21/15	9529	9349	48	MARCELLUS

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	04/13/15	80	7863	N/A	4529	441,700	7682	
2	04/14/15	84	8214	6269	5235	441,700	7283	
3	04/14/15	83	8238	7413	4975	441,700	7291	
4	04/15/15	84	8227	7203	6585	441,700	7201	
5	04/15/15	84	8312	7807	6312	341,700	6138	
6	04/16/16	85	7817	7218	5394	441,700	7155	
7	04/16/15	85	7902	6610	4582	441,700	7157	
8	04/17/15	85	7838	6886	5486	441,700	7215	
9	04/17/15	85	7981	6503	4795	436,700	6973	
10	04/18/15	85	7675	6905	4914	441,700	7163	
11	04/19/15	85	7431	6984	4664	441,700	7508	
12	04/19/15	85	7472	7456	4857	441,700	6984	
13	04/20/15	84	7621	7408	5569	441,700	6963	
14	04/20/15	85	7920	6921	5360	352,500	6350	
15	04/21/15	85	7682	6848	5195	441,700	6975	
16	04/21/15	85	7553	6554	5930	441,700	6968	

Please insert additional pages as applicable.

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<u>PRODUCING FORMATION(S)</u>	<u>DEPTHS</u>		
<u>MARCELLUS</u>	<u>7077'</u>	<u>TVD</u>	<u>8223'</u> <u>MD</u>
_____	_____	_____	_____
_____	_____	_____	_____

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

<u>LITHOLOGY/ FORMATION</u>	<u>TOP DEPTH IN FT NAME TVD</u>	<u>BOTTOM DEPTH IN FT TVD</u>	<u>TOP DEPTH IN FT MD</u>	<u>BOTTOM DEPTH IN FT MD</u>	<u>DESCRIBE ROCK TYPE AND RECORD QUANTITY AND TYPE OF FLUID (FRESHWATER, BRINE, OIL, GAS, H₂S, ETC)</u>
	<u>0</u>		<u>0</u>		
<u>Big Injun</u>	<u>2621'</u>	<u>2273'</u>	<u>2621'</u>	<u>2273'</u>	<u>SANDSTONE</u>
<u>MIDDLESEX</u>	<u>7725'</u>	<u>7469'</u>	<u>7726'</u>	<u>7779'</u>	<u>SHALE</u>
<u>WEST RIVER</u>	<u>7469'</u>	<u>7559'</u>	<u>7779'</u>	<u>7900'</u>	<u>SHALE</u>
<u>GENESEO</u>	<u>7559'</u>	<u>7583'</u>	<u>7900'</u>	<u>7937'</u>	<u>SHALE, GAS SHOW</u>
<u>TULLY</u>	<u>7583'</u>	<u>7607'</u>	<u>7937'</u>	<u>7979'</u>	<u>CARBONACEOUS SHALE</u>
<u>HAMILTON</u>	<u>7607'</u>	<u>7707'</u>	<u>7979'</u>	<u>8223</u>	<u>SHALE</u>
<u>MARCELLUS</u>	<u>7707'</u>	<u>-</u>	<u>8223'</u>	<u>-</u>	<u>SHALE, GAS THROUGHOUT FORMATION</u>

Please insert additional pages as applicable.

Drilling Contractor ORION DRILLING
Address _____ City _____ State _____ Zip _____

Logging Company HALLIBURTON
Address _____ City _____ State _____ Zip _____

Cementing Company HALLIBURTON
Address _____ City _____ State _____ Zip _____

Stimulating Company PRODUCERS SERVICE CORP
Address 109 S. GRAHAM STREET City ZANESVILLE State OH Zip 43701

Please insert additional pages as applicable.

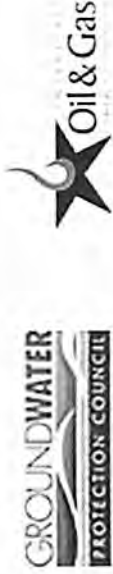
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Completed by BETH DAVIDSON Telephone 713-478-8975
Signature [Signature] Title REGULATORY ADVISOR Date AUG 11 2015

103.02932

Hydraulic Fracturing Fluid Product Component Information Disclosure

Job Start Date:	4/13/2015
Job End Date:	4/23/2015
State:	West Virginia
County:	Wetzel
API Number:	47-103-02932-00-00
Operator Name:	Statoil USA Onshore Properties Inc.
Well Name and Number:	Michael Kuhn Unit 2
Longitude:	-80.53097900
Latitude:	39.61520900
Datum:	NAD83
Federal/Tribal Well:	NO
True Vertical Depth:	7,696
Total Base Water Volume (gal):	5,760,216
Total Base Non Water Volume:	0



Hydraulic Fracturing Fluid Composition:

Trade Name	Supplier	Purpose	Ingredients	Chemical Service Abstract Number (CAS #)	Maximum Ingredient Concentration in Additive (% by mass)**	Maximum Ingredient Concentration in HF Fluid (% by mass)**	Comments
Water	Company 1	Carrier/Base Fluid	Water	7732-18-5	100.00000	83.55886	None
Sand (Proppant)	PSC	Proppant	Silica Substrate	NA	100.00000	15.03482	None
PRO GEL 4.0L	Producers Service Corp	Gelling Agent	Distillates (Petroleum), hydrotreated light Guar Gum	64742-47-8	65.00000	0.08692	None
			Nonylphenol, Ethoxylate	9000-30-0	50.00000	0.06686	None
			Nonionic Surfactant	9016-45-9	5.00000	0.00669	None
			Nonionic Surfactant	60828-78-6	5.00000	0.00669	None
			Nonionic Surfactant	60828-78-6	5.00000	0.00669	None
Hydrochloric Acid (15%)	Producers Service Corp	Acidizing	Hydrochloric Acid	7647-01-0	7.50000	0.09052	None
PRO FR 2000	Producers Service Corp	Friction Reducer	Petroleum Distillate	064742-47-8	24.00000	0.00972	None
MB7530	Producers Service Corp	Biocide	Tetrahydro-3, 5-dimethyl-2H-1,3,5-thiadiazine-2-thione	533-74-4	24.00000	0.00573	None

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PROHIB II	Producers Service Corp	Inhibitor	Sodium Hydroxide	1310-73-2	4.00000	0.00096	None
			Dimethylcoamine, bis (chloroethyl)ether, diquaternary ammonium salt	38607-28-3	60.00000	0.00068	None
			Glycol Ethers	111-76-2	40.00000	0.00045	None
			Ethylene Glycol	107-21-1	40.00000	0.00045	None
			Methanol	67-56-1	30.00000	0.00034	None
			Propargyl Alcohol	107-19-7	30.00000	0.00034	None
			Ethoxylated Nonylphenol	68412-54-4	10.00000	0.00011	None
PRO BREAKER 4	Producers Service Corp	Breaker	Sucrose	57-50-1	40.00000	0.00007	None
			Ethylene Glycol	107-21-1	40.00000	0.00007	None
			Sodium Bicarbonate	144-55-8	1.00000	0.00000	None
			Hexamethylenetetramine	100-97-0	1.00000	0.00000	None
			Polyether Polyol	9003-11-6	1.00000	0.00000	None
			Proprietary Ingredient	Proprietary	1.00000	0.00000	None
			Proprietary Ingredient	Proprietary	1.00000	0.00000	None
			Proprietary Ingredient	Proprietary	1.00000	0.00000	None

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)

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August 3, 2015

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

Reference: Well Operator's Report of Well Work
Michael Kuhn Unit Well No. 2H
Wetzel County

Gentlemen:

Statoil USA Onshore Properties Inc. herein submits the Well Operator's Report of Well Work and other applicable documentation for the Michael Kuhn Unit 2H well. Please note that this well is shut in and has not begun flowing back. An updated WR-35 will be submitted once flow back tests have been run. Enclosed please find the following documents:

- One (1) original and one (1) copy of Well Operator's Report of Well Work (Form WR-35)
- One (1) "As-drilled" plat
- One (1) Profile plat
- One (1) Deviation survey
- One (1) Frac Focus Disclosure

Should you have any questions or require additional information please contact the undersigned at 713-478-8975 or betda@statoil.com.

Sincerely,

A handwritten signature in blue ink, appearing to read "Beth Davidson".

Beth Davidson
Regulatory Advisor – Marcellus Asset

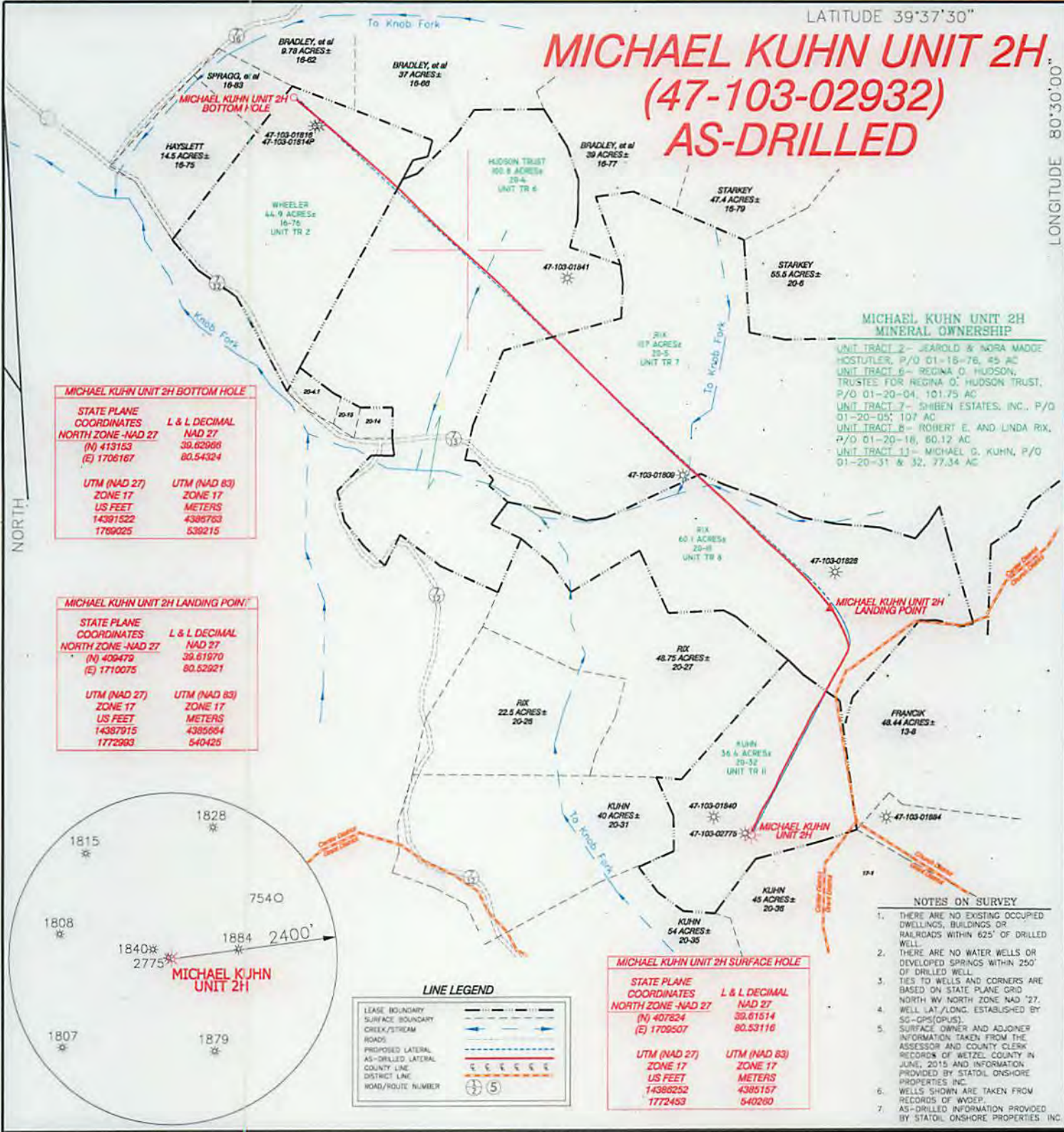
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MICHAEL KUHN UNIT 2H (47-103-02932) AS-DRILLED

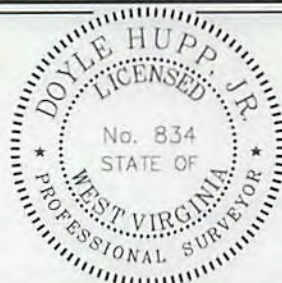


I THE UNDERSIGNED, HEREBY CERTIFY THAT THIS PLAT IS CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF AND SHOWS ALL THE INFORMATION REQUIRED BY LAW AND THE RULES ISSUED AND PRESCRIBED BY THE DEPARTMENT OF ENVIRONMENTAL PROTECTION.

P.S. 834

Doyle Hupp Jr.

HUPP Surveying & Mapping
P.O. Box 647 Grantsville, WV 26147
(304) 354-7035 EMAIL: hupp@frontiernet.net



(+) DENOTES LOCATION OF WELL ON UNITED STATES TOPOGRAPHIC MAPS.

DATE JULY 30, 20 15

OPERATORS WELL NO. MICHAEL KUHN UNIT 2H

API WELL NO. 47-103-02932

STATE 47 COUNTY 103 PERMIT 02932

MINIMUM DEGREE OF ACCURACY 1/2500 FILE NO. W2406 (BK77-44)

PROVEN SOURCE OF ELEVATION SG-GPS (OPUS) SCALE 1" = 1000'

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

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

LOCATION: ELEVATION 1,510' WATERSHED Knob Fork

DISTRICT CENTER COUNTY WETZEL QUADRANGLE BIG RUN

SURFACE OWNER MICHAEL G. KUHN ACREAGE 36.34±

ROYALTY OWNER MICHAEL G. KUHN, et al LEASE ACREAGE 391.21± **10/30/2015**

PROPOSED WORK: LEASE NO. _____

DRILL CONVERT DRILL DEEPER REDRILL FRACTURE OR STIMULATE PLUG OFF OLD FORMATION PERFORATE NEW FORMATION PLUG AND ABANDON CLEAN OUT AND REPLUG OTHER

PHYSICAL CHANGE IN WELL (SPECIFY) _____ TARGET FORMATION MARCELLUS

ESTIMATED DEPTH TVD- 7,727' MD- 13,450'

WELL OPERATOR STATOIL USA ONSHORE PROPERTIES INC. DESIGNATED AGENT RICHARD PYLES

ADDRESS 2103 CITYWEST BLVD., SUITE 800, HOUSTON, TX 77042 ADDRESS 803 NASH ROAD MIDDLEBOURNE, WV 26149