west virginia department of environmental protection

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

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

PERMIT MODIFICATION APPROVAL

March 21, 2014

CHESAPEAKE APPALACHIA, L.L.C.
POST OFFICE BOX 6070
CHARLESTON, WV 25362

Re: Permit Modification Approval for API Number 6900155 , Well #: TIMMY MINCH OHI 3H
Modified 13 3/8" casing

Oil and Gas Operator:
The Office of Oil and Gas has reviewed the attached permit modification for the above referenced permit. The attached modification has been approved and well work may begin. Please be reminded that the oil and gas inspector is to be notified twenty-four (24) hours before permitted well work is commenced.

Please call James Martin at 304-926-0499, extension 1654 if you have any questions.

Sincerely,

for

Gene Smith
Regulatory/Compliance Manager
Office of Oil and Gas

69-00155 MOD

Chesapeake ENERGY

Danielle Southall
Regulatory Analyst II

March 21, 2014

VIA CERTIFIED MAIL

Ms. Laura Cooper
Office of Oil & Gas
601 57th Street
Charleston, WV 25304

Re: Modification to Timmy Minch OHI 3H API# 47-069-00155

Dear Ms. Cooper:

Enclosed please find a revised WW-6B and wbs for the above captioned well. We would like to modify the 13 3/8" casing because we have found out that we should hit coal around 450' vs. 530'. This well is situated on the Timmy Minch property, in Tridelphia District, Ohio County, West Virginia.

If you have any questions or require additional information, please contact me at 304-517-1416 ext 86024.

Sincerely,

Chesapeake Appalachia, LLC

Danielle Southall

Enclosure(s)

Received
MAR 21 2014
Office of Oil and Gas
WV Dept. of Environmental Protection

Chesapeake Energy Corporation
P.O. Box 1300 • 179 Chesapeake Drive • Jane Lew, WV 26378
304-517-1416 x86024 • fax 304-471-2497 • danielle.southall@chk.com

69-00155 MOD

WW - 6B
(3/13)

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

1) Well Operator:	Chesapeake Appalachia, LLC	494477557	69- Ohio	7- Triadelphia	674- Wheeling
		Operator ID	County	District	Quadrangle

API #47-069-00155

2) Operator's Well Number: Timmy Minch OHI 3H Well Pad Name: Timmy Minch OHI Pad

3 Elevation, current ground: 1208' Elevation, proposed post-construction: 1208'

4) Well Type: (a) Gas ■ Oil _____ Underground Storage _____

Other _____

(b) If Gas: Shallow ■ Deep _____

Horizontal ■

GJK 3/21/14

5) Existing Pad? Yes or No: Yes

6) Proposed Target Formation(s), Depth(s), Anticipated Thicknesses and Associated Pressure(s):

Target Formation- Marcellus, Target Top TVD- 6,062', Target Base TVD-6,137', Anticipated Thickness- 75', Associated Pressure- 3819

7) Proposed Total Vertical Depth: 5,972'

8) Formation at Total Vertical Depth: Marcellus

9) Proposed Total Measured Depth: 16,600'

10) Approximate Fresh Water Strata Depths: 390'

11) Method to Determine Fresh Water Depth: From WVDEP Contour Map

12) Approximate Saltwater Depths: 1250'

13) Approximate Coal Seam Depths: 450'

14) Approximate Depth to Possible Void (coal mine, karst, other): 450' Abandoned Mine.

15) Does proposed well location contain coal seams directly overlying or adjacent to an active mine? If so, indicate name and depth of mine: No.

16) Describe proposed well work: Drill and stimulate any potential zones between and including the Benson to Marcellus. ** If we should encounter a void, place basket above and below void area- balance cement to bottom of void and grout from basket to surface. Run casing not less than 20' below void nor more than 50' below void. (If freshwater is encountered deeper than anticipated it must be protected, set casing 50' below and cts.)

17) Describe fracturing/stimulating methods in detail:

Well will be perforated within the target formation and stimulated with a slurry of water, sand, and chemical additives at a high rate. This well be performed in stages with the plug and per method along the wellbore until the entire lateral has been stimulated within the target formation. All stage plugs are then drilled out and the well is flowed back to surface. The well is produced through surface facilities consisting of high pressure production units, vertical separation units, water and oil storage tanks.

18) Total area to be disturbed, including roads, stockpile area, pits, etc, (acres): 15.93

19) Area to be disturbed for well pad only, less access road (acres): 5.55

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69-00155 MOD

WW - 6B
(3/13)

20) **CASING AND TUBING PROGRAM**

TYPE	Size	New or Used	Grade	Weight per ft.	FOOTAGE: For Drilling	INTERVALS: Left in Well	CEMENT: Fill -up (Cu. Ft.)
Conductor	20"	New	J-55	94#	100'	100'	CTS
Fresh Water	13 3/8"	New	J-55	54.5#	500'	500'	470 SX/CTS
Coal	9 5/8"	New	J-55	40#	2000'	2000'	800 SX/CTS
Intermediate	7"	New	P-110	20#	If Needed	If Needed	If Needed/As Needed
Production	5 1/2"	New	P-110	20#	16,600'	16,600'	Lead: 838 sx Tail 2475 sx/1007 inside intermediate
Tubing	2 3/8"	New	N-80	4.7#	Approx. 6,427'	Approx. 6,427'	
Liners							

GJK 3/21/14

TYPE	Size	Wellbore Diameter	Wall Thickness	Burst Pressure	Cement Type	Cement Yield
Conductor	20"	30"	0.25	2120	15.6 ppg	1.19/50% Excess
Fresh Water	13 3/8"	17.5"	0.380	2740	15.6 ppg	1.19/50% Excess
Coal	9 5/8"	12 1/4"	0.395	3950	15.6 ppg	1.19/50% Excess
Intermediate	7"	8 3/4"	.0317	4360	15.6 ppg	1.20/15% Excess
Production	5 1/2"	8 3/4"	0.361	12360	15.6 ppg	1.20/15% Excess
Tubing	2 3/8"	4.778"	0.190			
Liners						

PACKERS

Kind:	10K Arrowset AS1-X			
Sizes:	5 1/2"			
Depths Set:	Approx. 6,197'			

3/21/14

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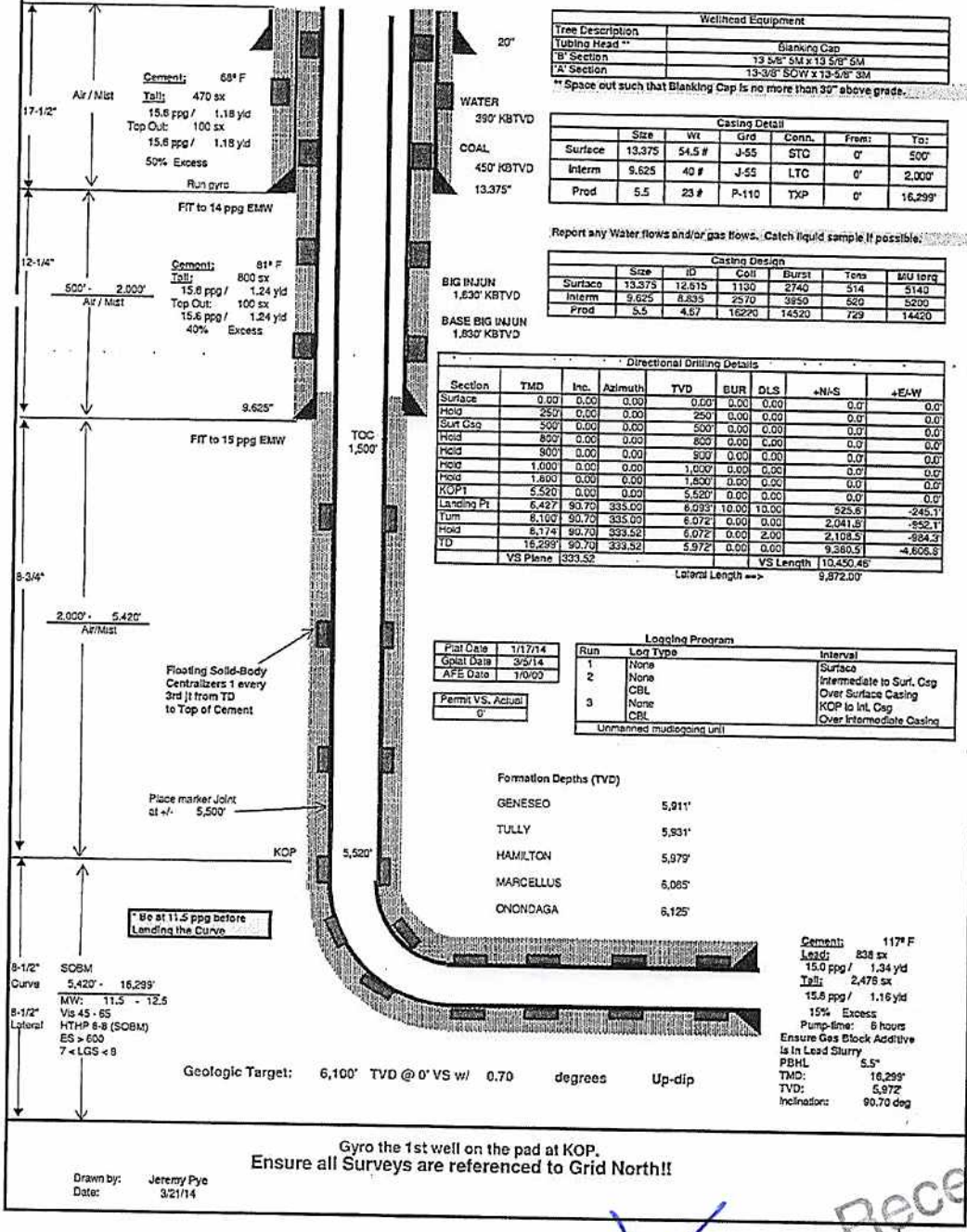
Chesapeake Energy

Well Name:	Timmy Minch OHI 3H			Drilling Rig:	Nomac 337
				Directional Drilling:	Weatherford
Drilling Engineer:	Jeremy Pye	Formation:	Marcellus		
Superintendent:	R. Harless / J. Melville	County, State:	Ohio, WV	Drilling Mud:	MI Swaco
Asset Manager:	Alex Johnson	Surface Latitude:	40.085409	Surface Longitude: -80.646543	Cement Surface: Schlumberger
Geologist:	Nick Downs	BH Latitude:	40.110995	BH Longitude: -80.66344	Cement Longstrings: Schlumberger
Land:	Monty Mayfield	KB Elevation:	1230'	Ground Elevation: 1208'	Wellhead: Sweco
					AFE #: 172749 Well #: 836500



Wellhead Equipment	
Tree Description	
Tubing Head **	Blanking Cap
'B' Section	13 5/8" 5M x 13 5/8" 5M
'A' Section	13-3/8" SOW x 13-5/8" 3M

** Space out such that Blanking Cap is no more than 30" above grade.

Casing Detail	Size	Wt	Grd	Conn.	From:	To:
Surface	13.375	54.5 #	J-55	STC	0'	500'
Interm	9.625	40 #	J-55	LTC	0'	2,000'
Prod	5.5	23 #	P-110	TXP	0'	16,299'

Report any Water flows and/or gas flows. Catch liquid sample if possible.

Casing Design	Size	ID	Coll	Burst	Tens	MU torq
Surface	13.375	12.615	1130	2740	514	5140
Interm	9.625	8.835	2570	3950	520	5200
Prod	5.5	4.67	16220	14520	729	14420

Directional Drilling Details

Section	TMD	Inc.	Azimuth	TVD	BUR	DLS	+N/-S	+E/-W
Surface	0.00'	0.00	0.00	0.00'	0.00	0.00	0.0'	0.0'
Hold	250'	0.00	0.00	250'	0.00	0.00	0.0'	0.0'
Surf Csg	500'	0.00	0.00	500'	0.00	0.00	0.0'	0.0'
Hold	800'	0.00	0.00	800'	0.00	0.00	0.0'	0.0'
Hold	900'	0.00	0.00	900'	0.00	0.00	0.0'	0.0'
Hold	1,000'	0.00	0.00	1,000'	0.00	0.00	0.0'	0.0'
Hold	1,800'	0.00	0.00	1,800'	0.00	0.00	0.0'	0.0'
KOP1	5,520'	0.00	0.00	5,520'	0.00	0.00	0.0'	0.0'
Landing Pt	6,427'	90.70	335.00	6,093'	10.00	10.00	525.6'	-245.1'
Turn	6,100'	90.70	335.00	6,072'	0.00	0.00	2,041.8'	-952.1'
Hold	6,174'	90.70	333.52	6,072'	0.00	2.00	2,108.5'	-984.3'
TD	16,299'	90.70	333.52	5,972'	0.00	0.00	9,360.5'	-4,606.8'
	VS Plane	333.52					VS Length	10,450.46'
							Lateral Length ==>	9,872.00'

Plat Date	1/17/14
Gplat Date	3/5/14
AFE Date	1/0/00

Permit VS. Actual
0'

Logging Program

Run	Log Type	Interval
1	None	Surface
2	None	Intermediate to Surf. Csg
	CBL	Over Surface Casing
3	None	KOP to Int. Csg
	CBL	Over Intermediate Casing

Unmanned mudlogging unit

Formation Depths (TVD)

GENESEO	5,911'
TULLY	5,931'
HAMILTON	5,979'
MARCELLUS	6,085'
ONONDAGA	6,125'

Cement: 117° F
Lead: 838 sx
15.0 ppg / 1.34 y/d
Tail: 2,476 sx
15.6 ppg / 1.16 y/d
15% Excess
Pump-time: 6 hours
Ensure Gas Block Additive is in Lead Slurry
PBHL 5.5"
TMD: 16,299'
TVD: 5,972'
Inclination: 90.70 deg

Geologic Target: 6,100' TVD @ 0' VS w/ 0.70 degrees Up-dip

Gyro the 1st well on the pad at KOP.
Ensure all Surveys are referenced to Grid North!!

Drawn by: Jeremy Pye
Date: 3/21/14

3/21/14

Received
MAR 21 2014
Office of Oil and Gas
WV Dept. of Environmental Protection

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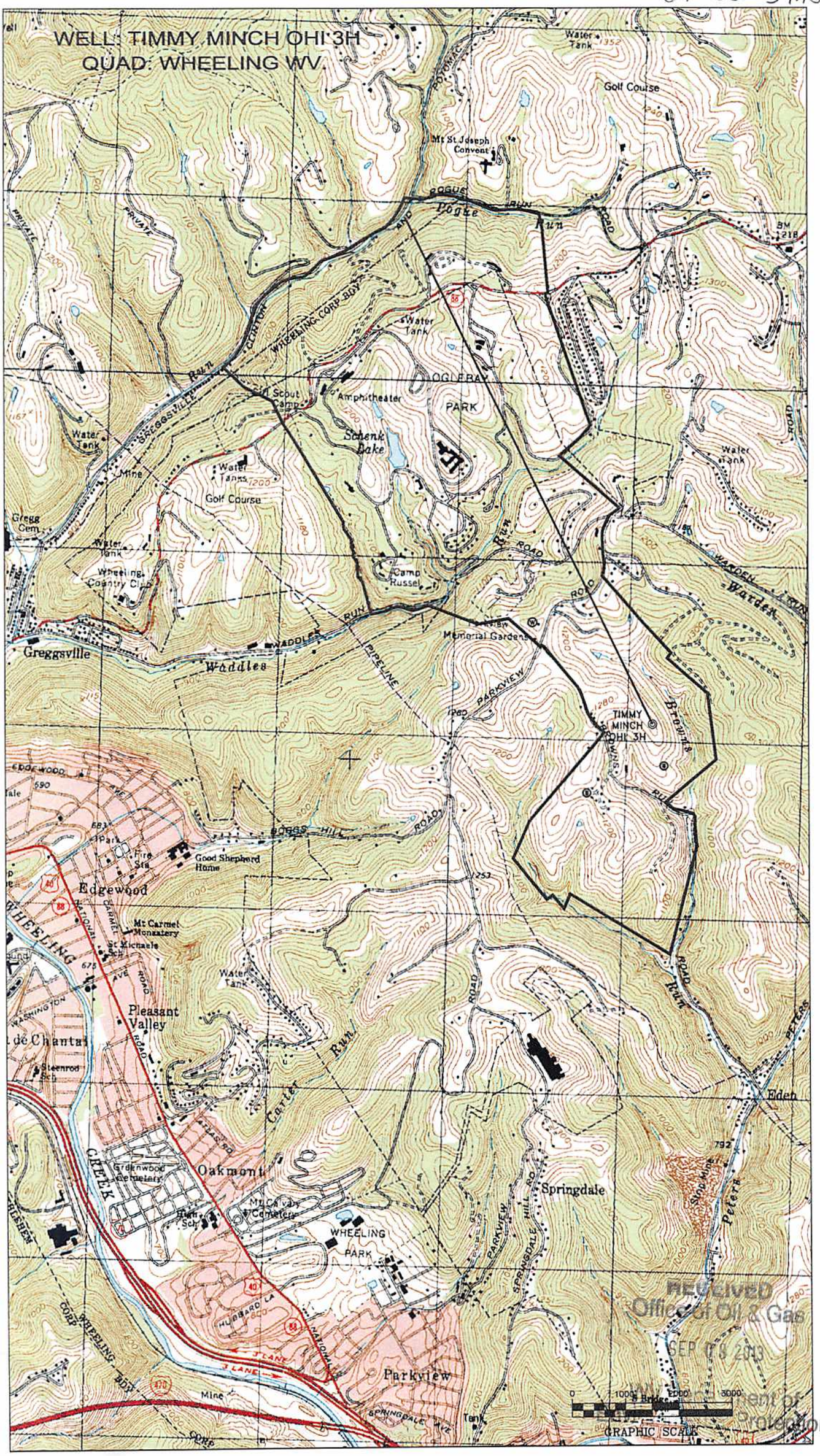


RECEIVED
Office of Oil & Gas
SEP 08 2023
WV Department of Environmental Protection

SURFACE HOLE DEC. LONG: 80.646543
SURVEYED LONG: 80° 38' 47.6"

6,030'

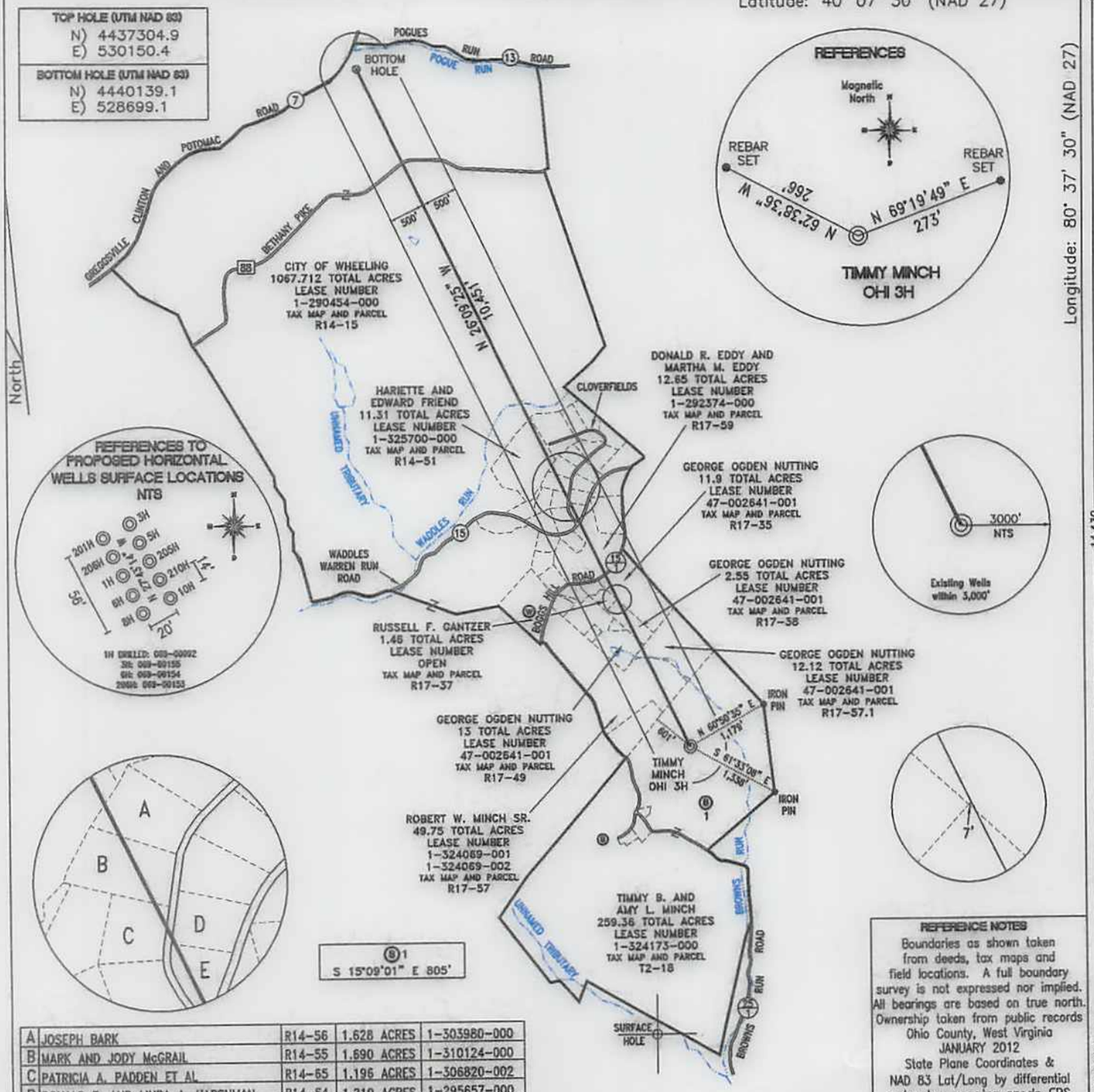
Latitude: 40° 07' 30" (NAD 27)

Longitude: 80° 37' 30" (NAD 27)

14,430'

SURFACE HOLE DEC. LAT: 40.085409
SURVEYED LAT: 40° 05' 07.5"

TOP HOLE (UTM NAD 83)
N) 4437304.9
E) 530150.4
BOTTOM HOLE (UTM NAD 83)
N) 4440139.1
E) 528699.1



A	JOSEPH BARK	R14-56	1.628 ACRES	1-303980-000
B	MARK AND JODY McGRAIL	R14-55	1.690 ACRES	1-310124-000
C	PATRICIA A. PADDEN ET AL	R14-65	1.196 ACRES	1-306820-002
D	DONALD E. AND LINDA A. HARSHMAN	R14-64	1.210 ACRES	1-295657-000
E	MICHAEL D. AND MICHELLE F. MATTHEWS	R14-89	1.610 ACRES	1-313205-000

REFERENCE NOTES

Boundaries as shown taken from deeds, tax maps and field locations. A full boundary survey is not expressed nor implied. All bearings are based on true north. Ownership taken from public records Ohio County, West Virginia JANUARY 2012 State Plane Coordinates & NAD 83 Lat/Long by differential submeter mapping grade GPS Drafted by: E.A.M.

FILE #: CHE 055
DRAWING #: 1999
SCALE: PLAT: 1"=2000' TICK: 1"=2000'
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.

Signed:

L.L.S. #2124 : Ernest J. Benchek III

ERNEST J. BENCHEK III
LICENSED
No. 2124
STATE OF WEST VIRGINIA
PROFESSIONAL SURVEYOR

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

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

DATE: AUGUST 23, 2013

OPERATOR'S WELL #: TIMMY MINCH OHI 3H

API WELL #: 47 (STATE) 69 (COUNTY) MOD 00155 H6A (PERMIT)

Well Type: ☐ Oil ☐ Waste Diposal ☐ Production ☐ Deep
☒ Gas ☐ Liquid Injection ☐ Storage ☒ Shallow

WATERSHED: WHEELING CREEK
ELEVATION : 1,208' (AS-BUILT)
COUNTY/DISTRICT: OHIO/TRIADELPHIA
QUADRANGLE: WHEELING, WV
SURFACE OWNER: TIMMY B. AND AMY L. MINCH
ACREAGE: 259.36 +/-
OIL & GAS ROYALTY OWNER: TIMMY B. AND AMY L. MINCH
ACREAGE: 1,447.686 +/-
LEASE NUMBERS:

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

TARGET FORMATION: MARCELLUS
ESTIMATED DEPTH: TVD: 6,075' TMD: 16,321'
WELL OPERATOR : CHESAPEAKE APPALACHIA, LLC.
DESIGNATED AGENT : ERIC B. GILLESPIE
ADDRESS: PO BOX 18496
ADDRESS: Po Box 6070
CITY: OKLAHOMA CITY STATE: OK ZIP CODE: 73154-0496
CITY: CHARLESTON STATE: WV ZIP CODE: 25301