

Route 267, Rush Township, Susquehanna County, PA
Tax ID 138.00-1,015.00,000, 105.0 ac

Geologic Summary

Zaengle Geoscience LLC

Don Zaengle
Geologist

P.O. Box 242
14 Chase St.
Worcester N.Y. 12197

DISCLAIMER

Information on the subject property set forth herein was originally compiled by Zaengle Geoscience LLC ("Zaengle") for Manzek Land Company ("MLC") c/o of Drake D. Nicholas, Esq., Receiver ("Receiver") to Manzek Land Company. The geologic information contained herein is a compilation of certain available geologic data for the subject property Route 267, Tax ID 138.00-1,015.00,000, 105.0 ac Rush Township, Susquehanna County, PA owned by MLC. Any party interested in purchasing the subject property must make their own evaluation of the subject property and is responsible for performing their own due diligence on the subject property.

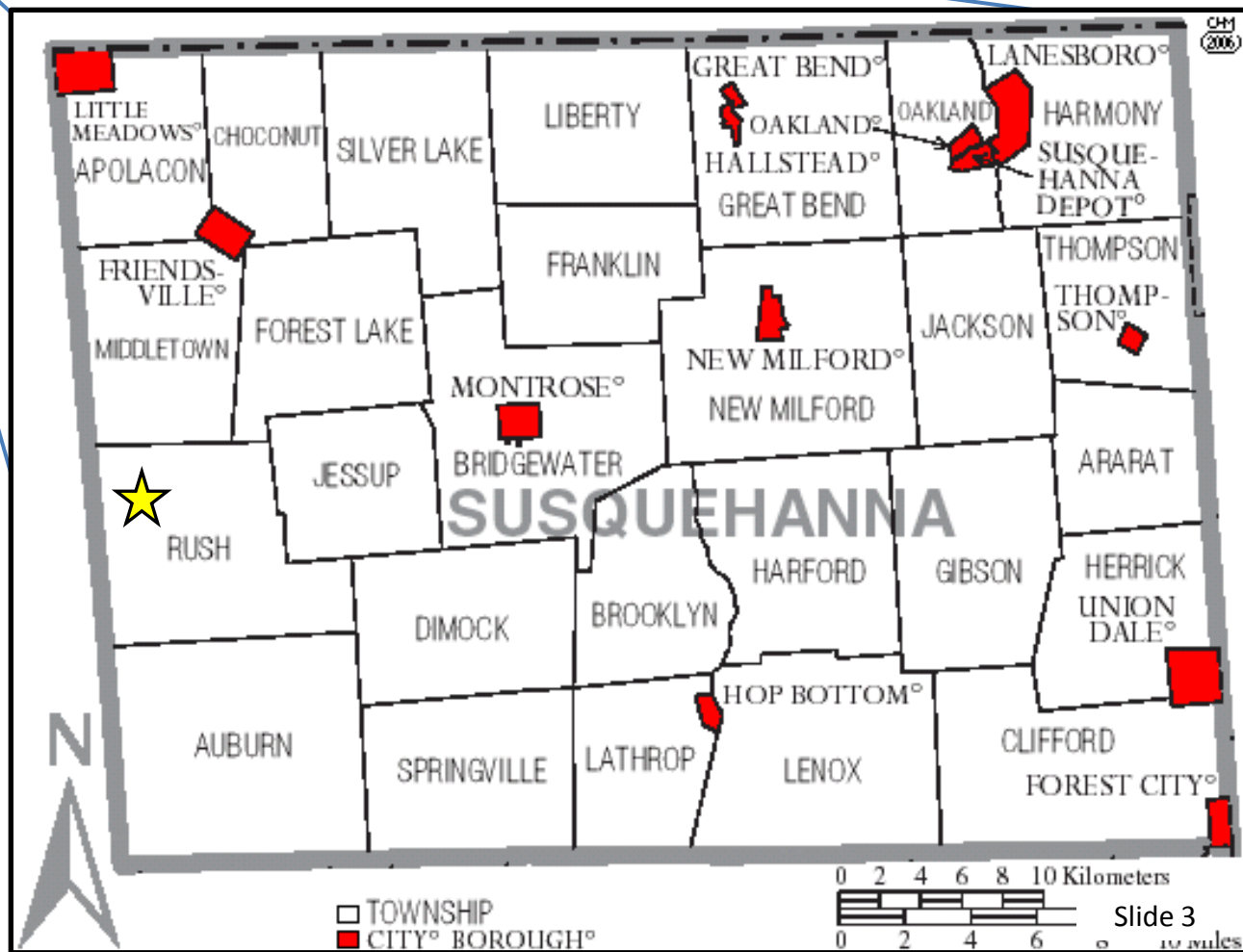
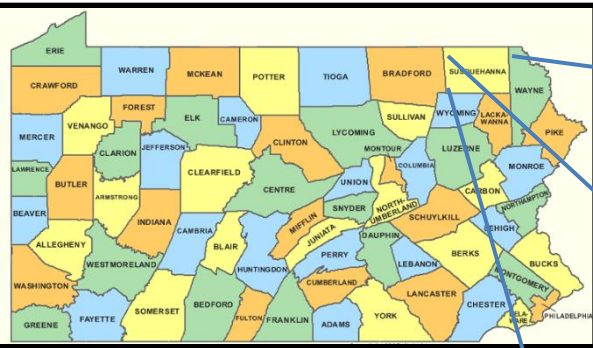
Zaengle, the Receiver and MLC disclaim any and all liability for information and/or statements contained herein and make no representation or warranty as to the completeness or accuracy of the enclosed presentation or the information contained herein, including any representation or warranty of any kind as to the amount of "in place" or recoverable oil and gas reserves (proved, probable or otherwise) attributable to the subject property, as to geological and engineering interpretations related thereto or as to process which will be received for production.

Any party interested in purchasing the subject property should understand that purchases of properties with potential "in place" or recoverable oil and gas reserves is making an investment which is subject to risks and uncertainties and is a highly speculative investment.

Location Map, Susquehanna County, PA

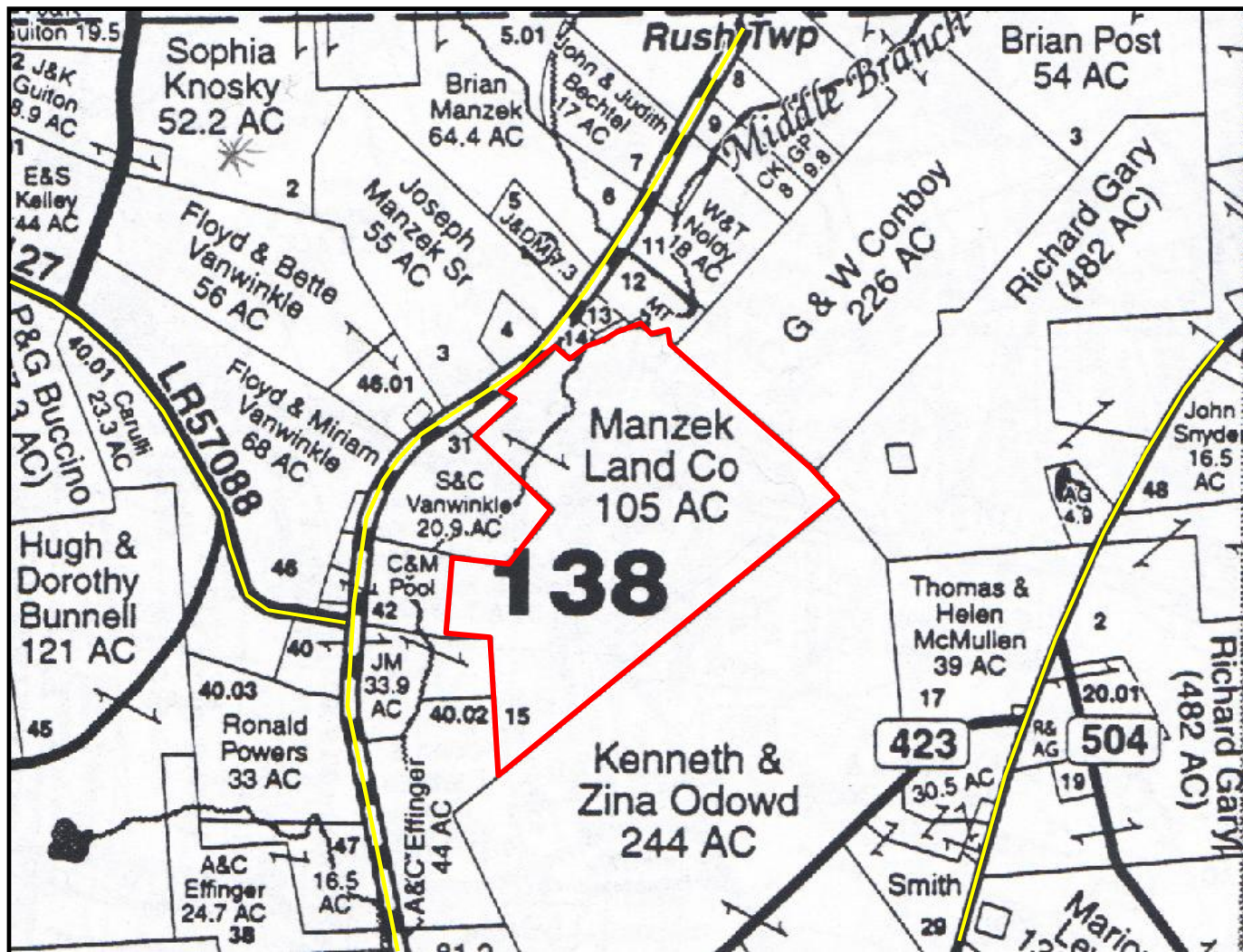


Subject Property, Tax ID 138.00-1,015.00,000, 105.0 ac
Route 267, Rush Township, Susquehanna County, PA



Tax Map

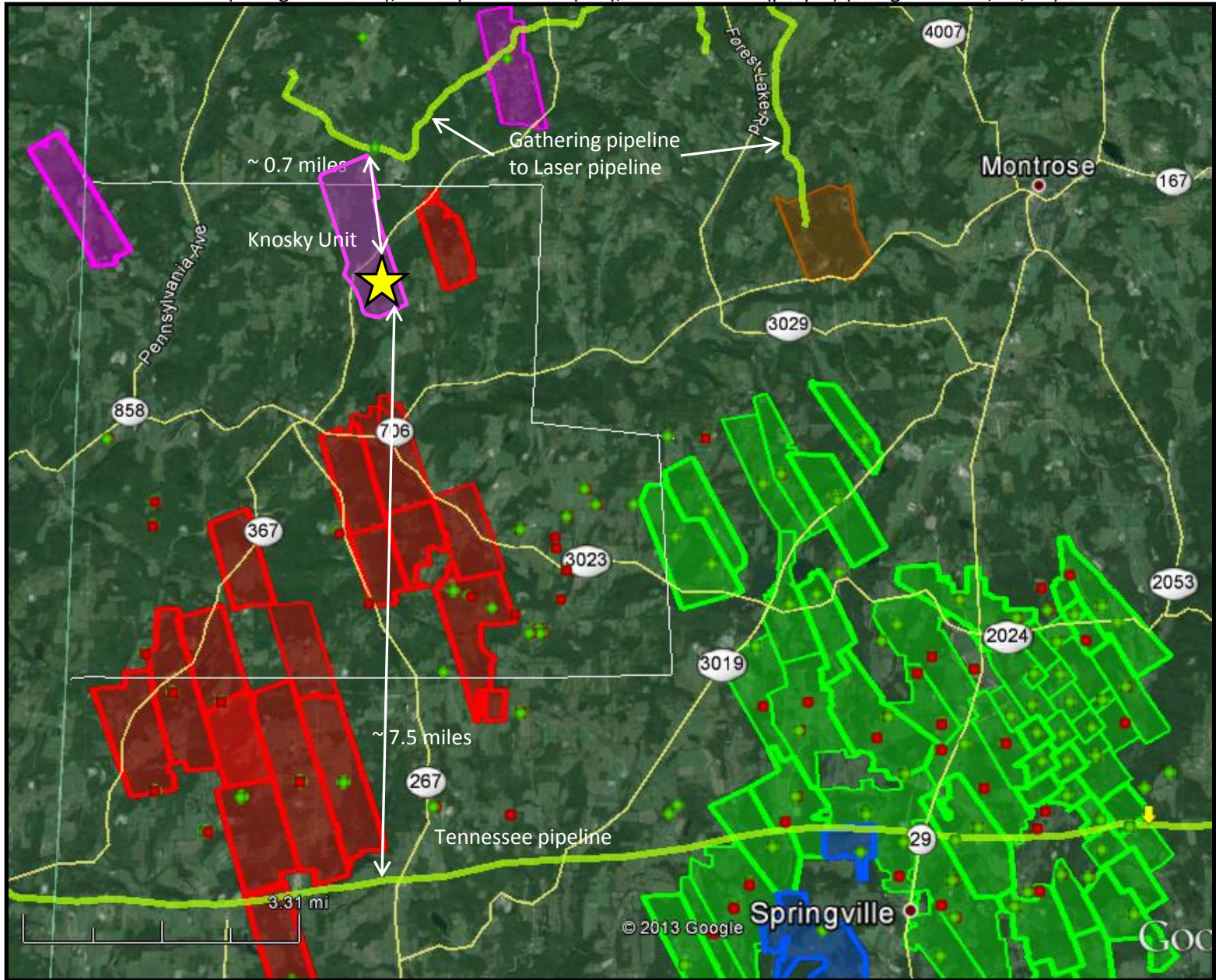
Subject Property, Tax ID 138.00-1,015.00,000, 105.0 ac
Route 267, Rush Township, Susquehanna County, PA





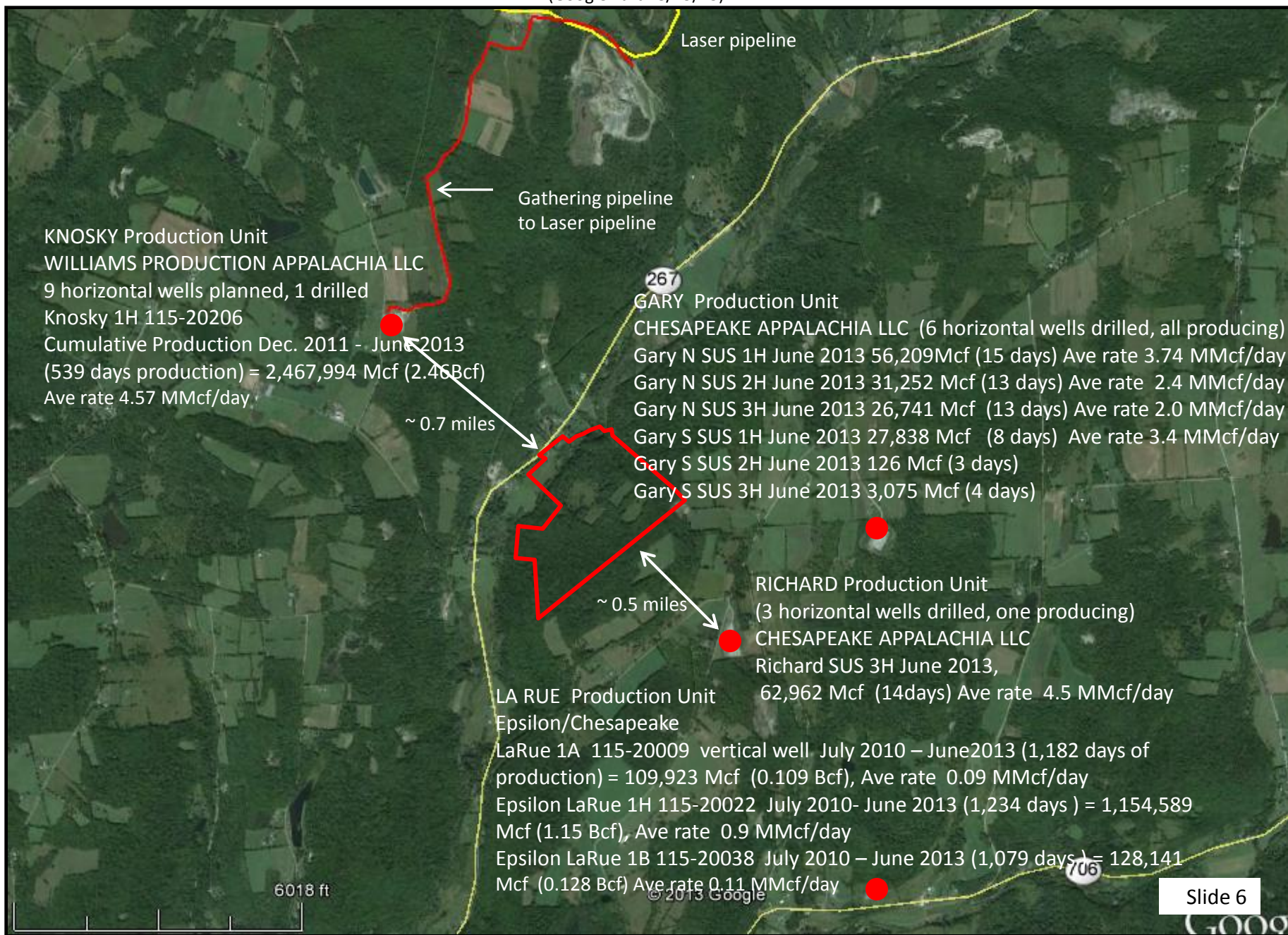
Production Units & Pipeline Location Map

Subject Property, Tax ID 138.00-1,015.00,000, 105.0 ac, Route 267, Rush Township, Susquehanna County, PA
Cabot Units (lime green color), Chesapeake Units (red), Williams Units (purple) (Google Earth 8/15/13)



Marcellus Shale Production Map

Subject Property (red outline), Tax ID 138.00-1,015.00,000, 105.0 ac, Route 267, Rush Township, Susquehanna County, PA
(Google Earth 8/15/13)



KNOSKY Production Unit
WILLIAMS PRODUCTION APPALACHIA LLC
9 horizontal wells planned, 1 drilled
Knosky 1H 115-20206
Cumulative Production Dec. 2011 - June 2013
(539 days production) = 2,467,994 Mcf (2.46Bcf)
Ave rate 4.57 MMcf/day

~ 0.7 miles

Gathering pipeline
to Laser pipeline

Laser pipeline

267

GARY Production Unit
CHESAPEAKE APPALACHIA LLC (6 horizontal wells drilled, all producing)
Gary N SUS 1H June 2013 56,209Mcf (15 days) Ave rate 3.74 MMcf/day
Gary N SUS 2H June 2013 31,252 Mcf (13 days) Ave rate 2.4 MMcf/day
Gary N SUS 3H June 2013 26,741 Mcf (13 days) Ave rate 2.0 MMcf/day
Gary S SUS 1H June 2013 27,838 Mcf (8 days) Ave rate 3.4 MMcf/day
Gary S SUS 2H June 2013 126 Mcf (3 days)
Gary S SUS 3H June 2013 3,075 Mcf (4 days)

~ 0.5 miles

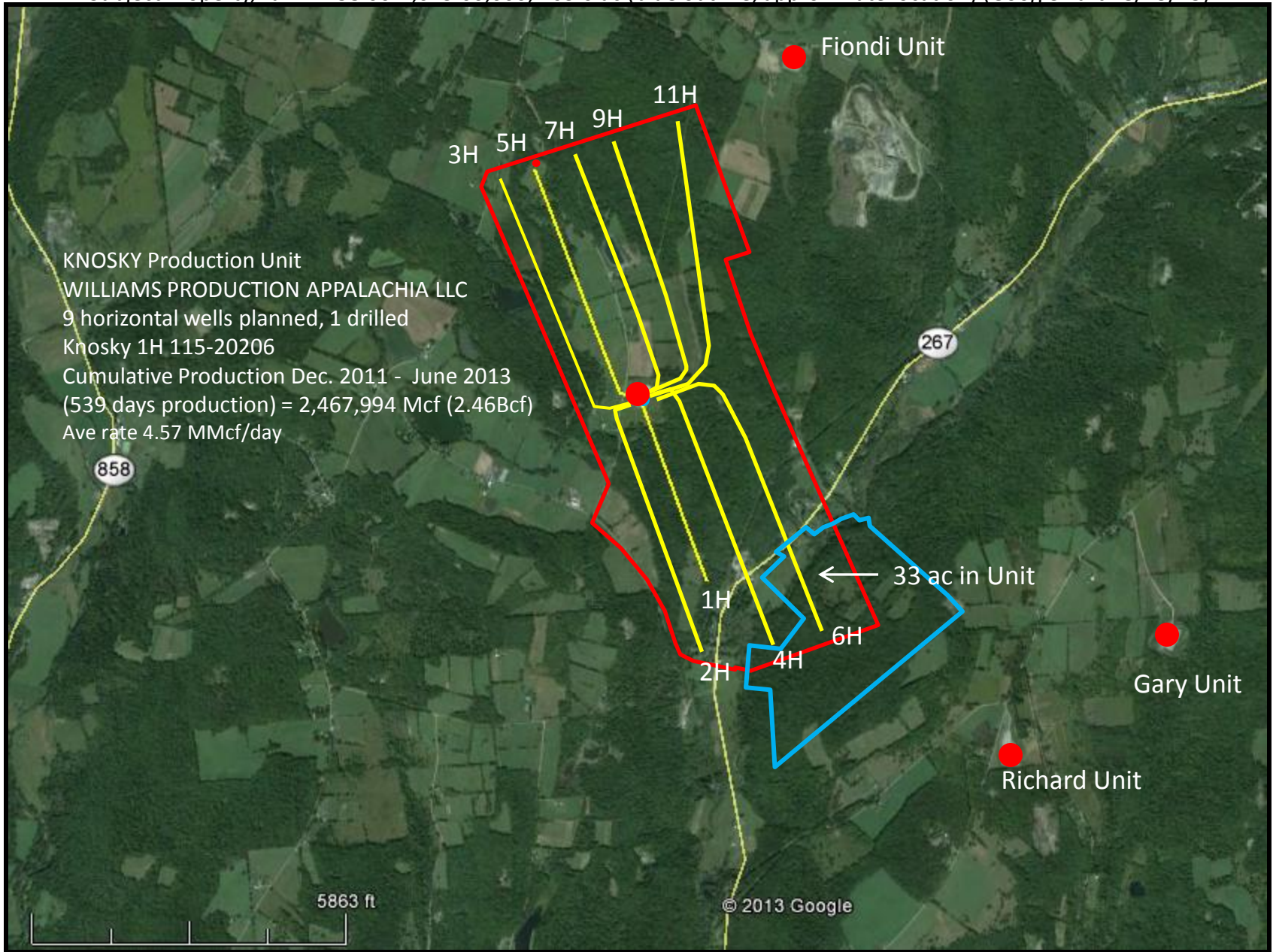
RICHARD Production Unit
(3 horizontal wells drilled, one producing)
CHESAPEAKE APPALACHIA LLC
Richard SUS 3H June 2013,
62,962 Mcf (14days) Ave rate 4.5 MMcf/day

LA RUE Production Unit
Epsilon/Chesapeake
LaRue 1A 115-20009 vertical well July 2010 – June 2013 (1,182 days of
production) = 109,923 Mcf (0.109 Bcf), Ave rate 0.09 MMcf/day
Epsilon LaRue 1H 115-20022 July 2010- June 2013 (1,234 days) = 1,154,589
Mcf (1.15 Bcf), Ave rate 0.9 MMcf/day
Epsilon LaRue 1B 115-20038 July 2010 – June 2013 (1,079 days) = 128,141
Mcf (0.128 Bcf) Ave rate 0.11 MMcf/day

6018 ft

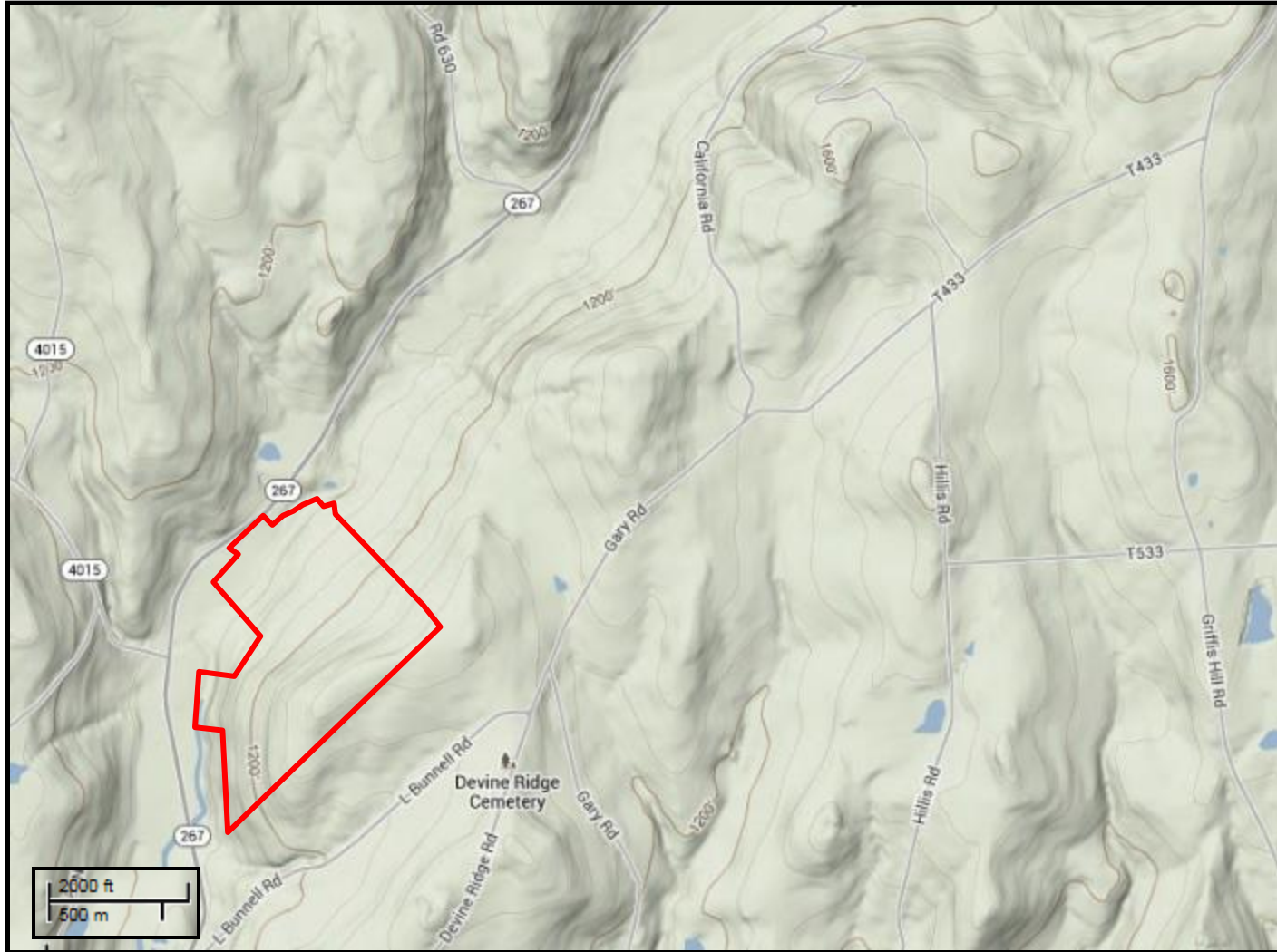
706

Knosky Production Unit Location Map (red outline, approximate location), WILLIAMS PRODUCTION APPALACHIA LLC Subject Property, Tax ID 138.00-1,015.00,000, 105.0 ac (blue outline, approximate location) (Google Earth 8/15/13)

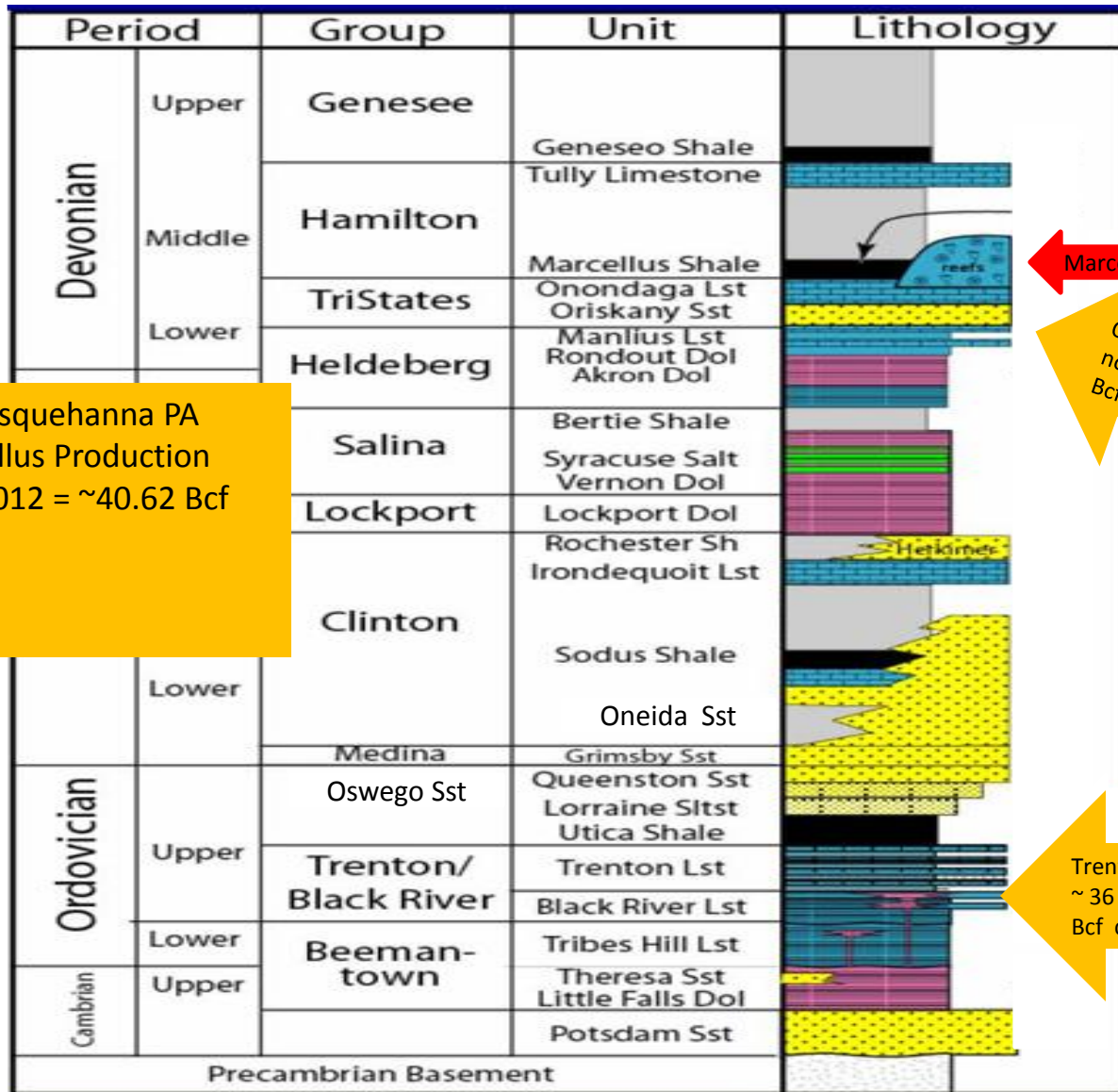


Topographic Map, Subject Property

Tax ID 138.00-1,015.00,000, 105.0 ac, Route 267, Rush Township, Susquehanna County, PA
(Google Earth 8/15/13)



Geologic Section / Historic Production
 Subject Property, Tax ID 138.00-1,015.00,000, 105.0 ac
 Route 267, Rush Township, Susquehanna County, PA



Rush township, Susquehanna PA
 Cumulative Marcellus Production
 July 2009 – Dec. 2012 = ~40.62 Bcf
 105 Permitted
 58 Spud
 44 Producing

Marcellus Shale

Oriskany Production ~19miles
 northwest Stagecoach field 1985 ~14
 Bcf, Currently used as gas storage field

Trenton Black River Langdon Field NY
 ~ 36 miles northwest, produced ~ 15.5
 Bcf currently producing.

(R. Nyahay, J. Leone, L. Smith, J. Martin, D. Jarvie, 2007)
 Modified D. Zaengle 10/2008

Marcellus: 4-6%



Marcellus: ~ 2.4
Dry Gas Window



Marcellus: (High TOC) ~260'



Summary
Key Geologic Factors
Subject Property
Tax ID 138.00-1,015.00,000, 105.0 ac
Route 267, Rush Township,
Susquehanna County, PA
* Public data unavailable

Marcellus: *



Marcellus: ~ 6,100'



Marcellus: ~ 135 Bcf/sq mile



Marcellus: *

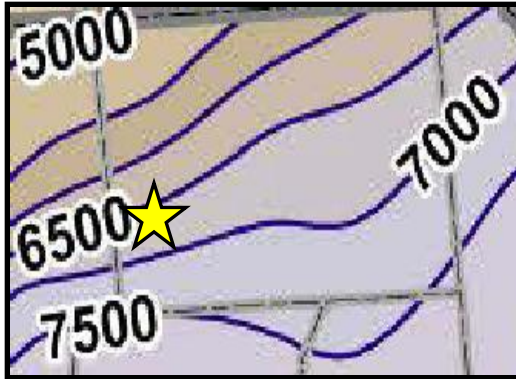


Marcellus: *

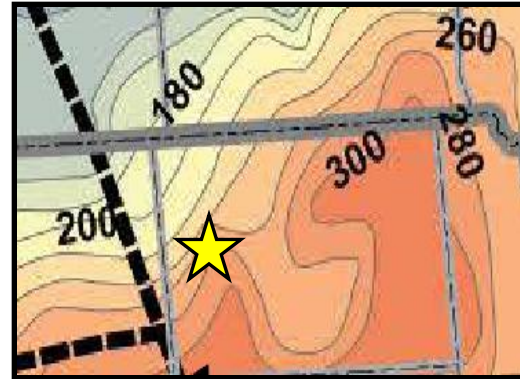


Regional Geologic Maps
Subject Property
Tax ID 138.00-1,015.00,000, 105.0 ac
Route 267, Rush Township, Susquehanna County, PA

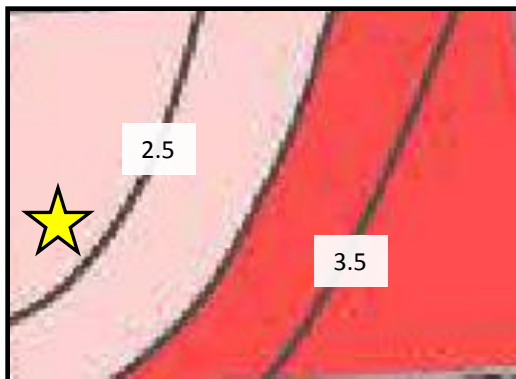
Regional Depth to base of Marcellus Shale
~ 6,500' (top Marcellus @ ~ 6,100')



Gross Thickness
~ 225 – 275'



Thermal Maturation (Ro)
Marcellus: ~ 2.4
Dry Gas Window



Pressure gradient (PSI/ft)
0.52 PSI/ft

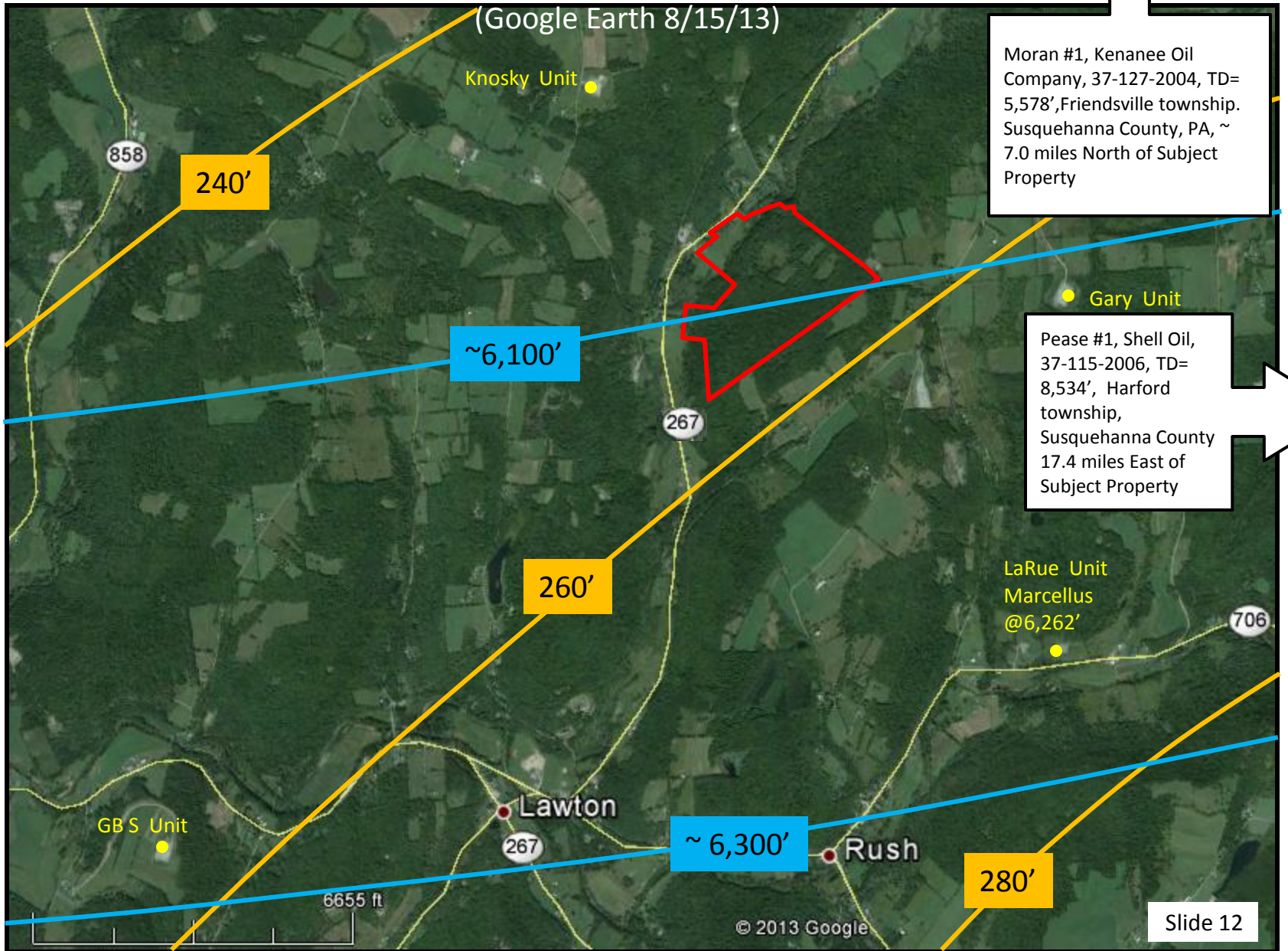


Subject Property (red outline), Tax ID 138.00-1,015.00,000, 105.0 ac

Route 267, Rush Township, Susquehanna County, PA

Marcellus Shale Depth = — Thickness = —

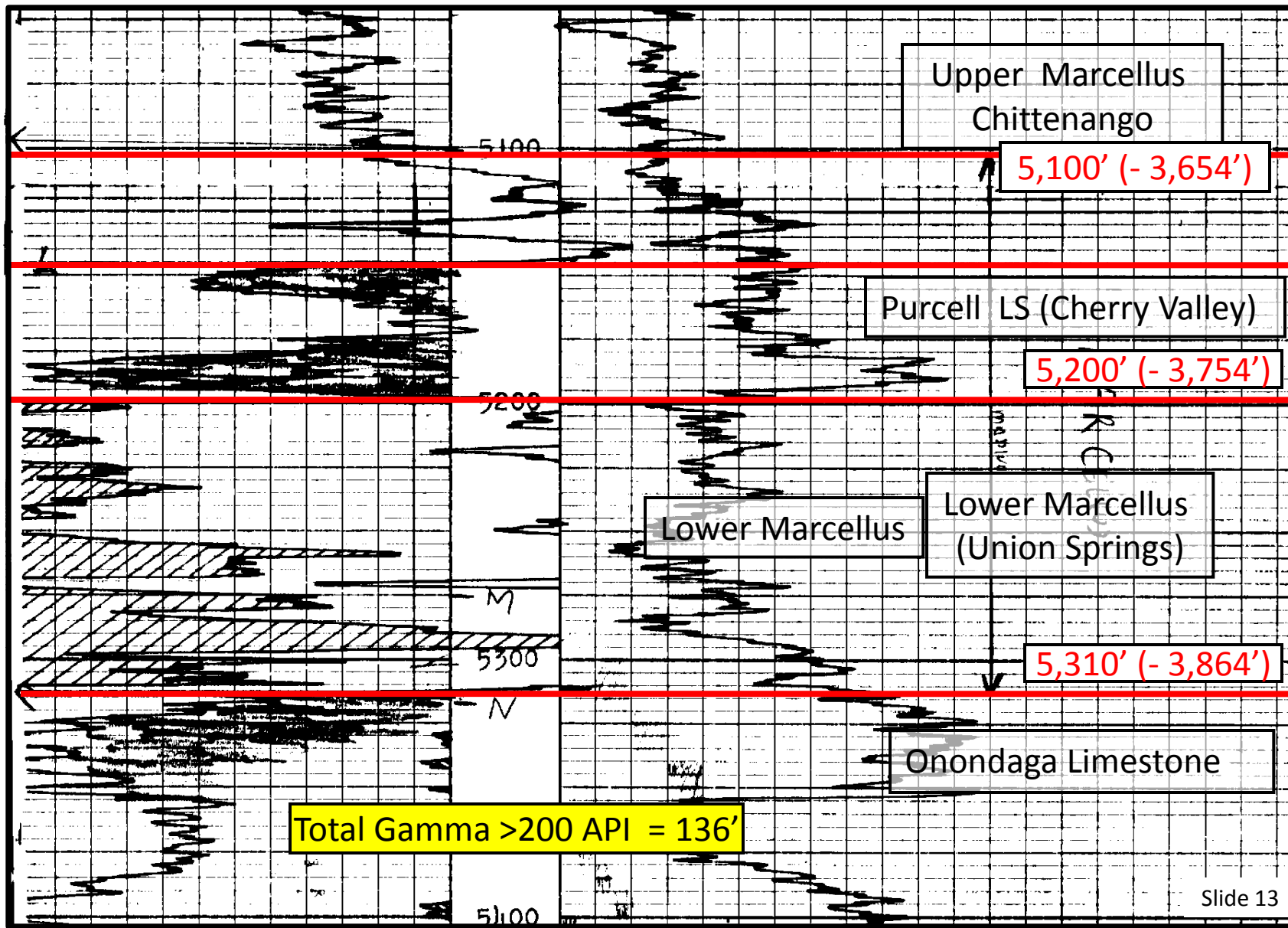
(Google Earth 8/15/13)



Moran #1, Kenanee Oil Company, 37-127-2004, TD= 5,578', Friendsville township. Susquehanna County, PA, ~ 7.0 miles North of Subject Property

Pease #1, Shell Oil, 37-115-2006, TD= 8,534', Harford township, Susquehanna County 17.4 miles East of Subject Property

Type Log, Moran #1, Kenanee Oil Company, 37-127-2004, TD= 5,578', Friendsville township. Susquehanna County, PA
~ 7.0 miles North of Subject Property, Tax ID 138.00-1,015.00,000, 105.0 ac
Route 267, Rush Township, Susquehanna County, PA

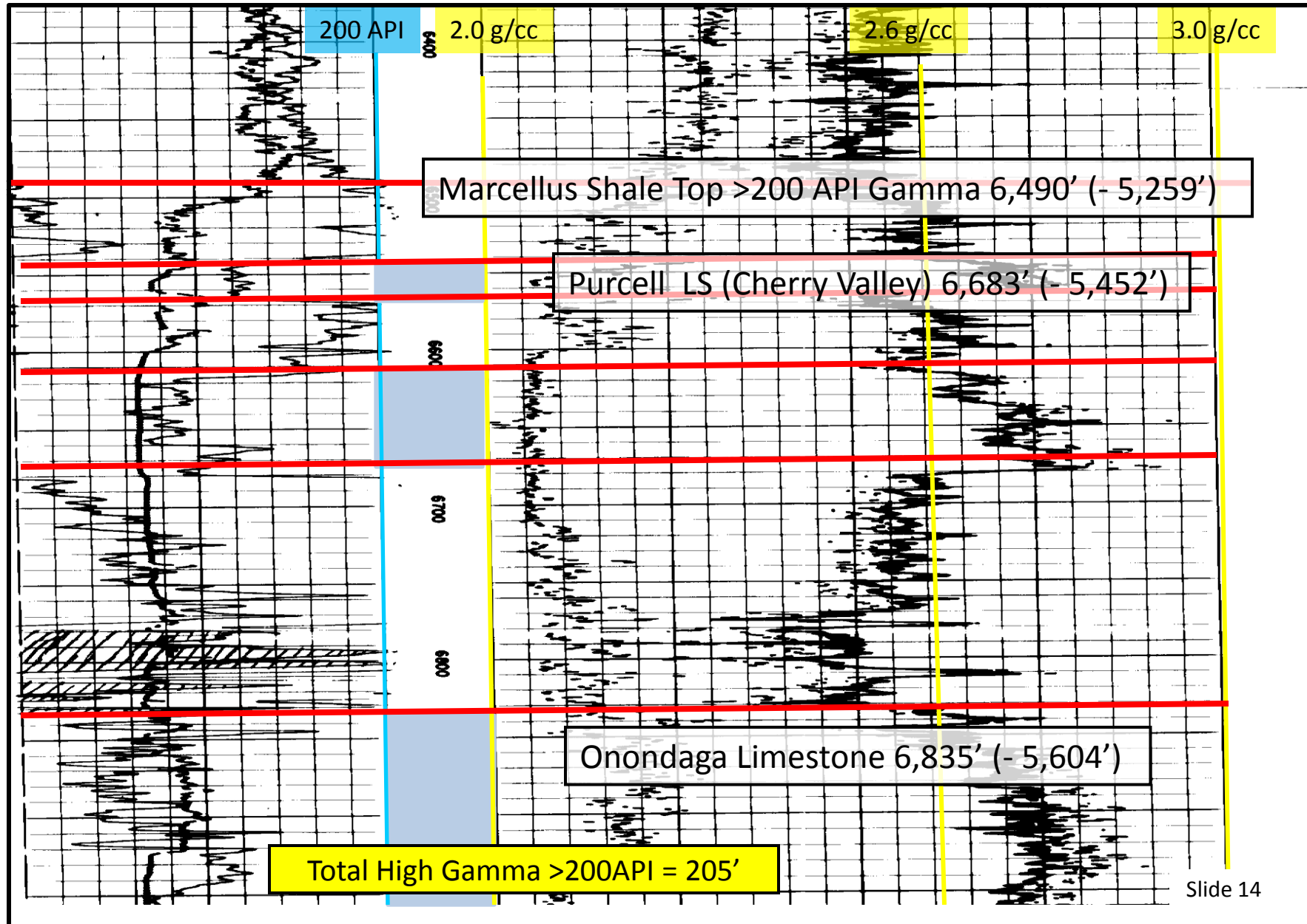


Type Log, Pease #1, Shell Oil, 37-115-2006, TD= 8,534', Elev. = 1,231', 10/07/73

Harford twp., Susquehanna County, PA

17.4 miles East of Subject Property, Tax ID 138.00-1,015.00,000, 105.0 ac

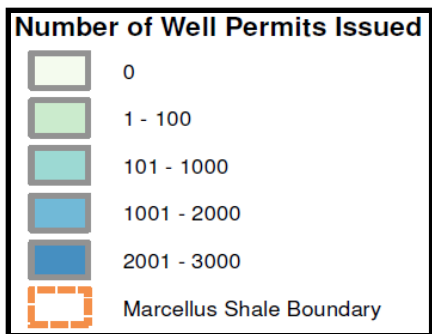
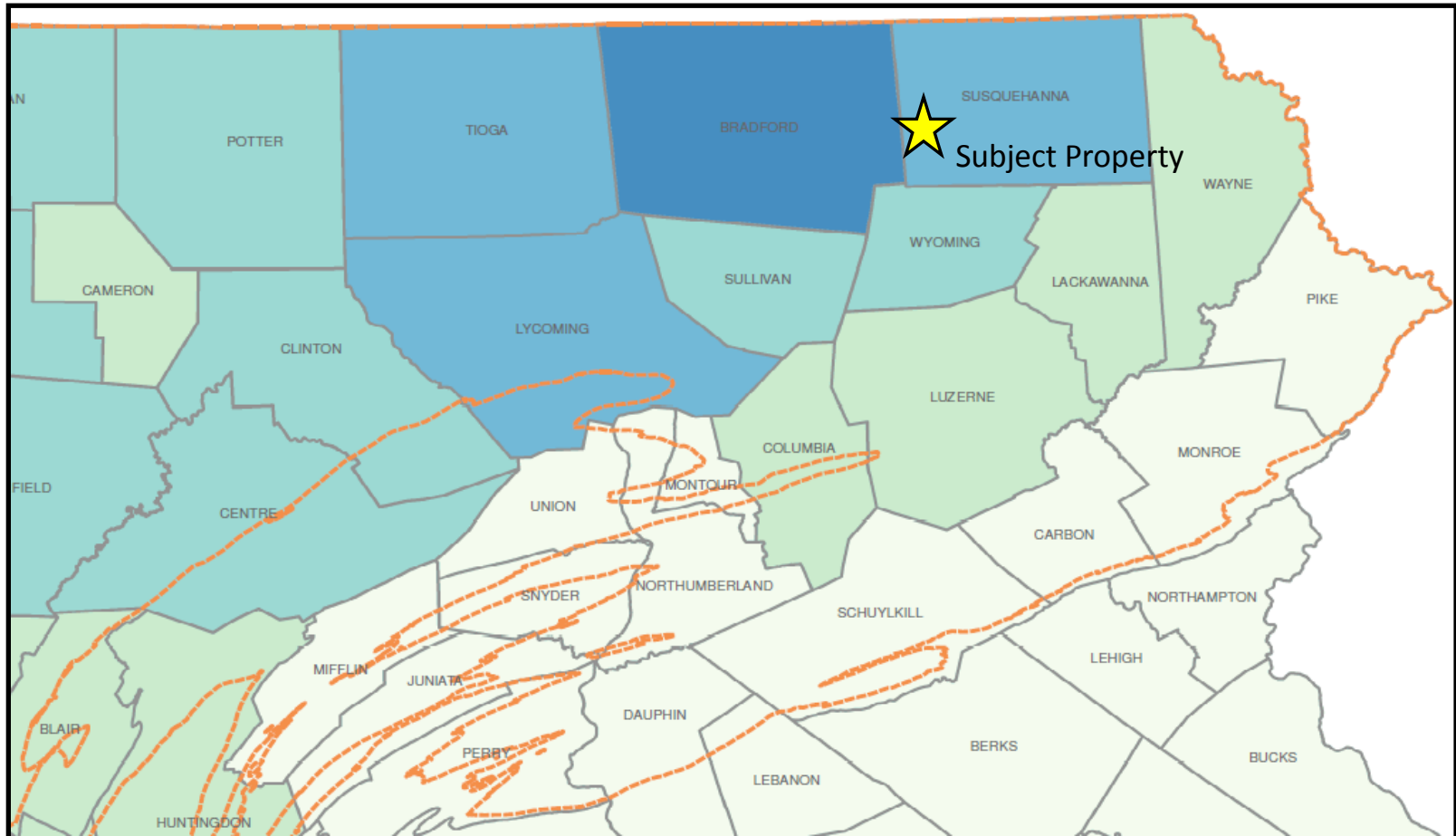
Route 267, Rush Township, Susquehanna County, PA



Northeast PA, Number of Marcellus Shale Well Permits by County

(from Bradford County Office of Planning & Grants, "Primer on Natural gas development in Bradford County, PA", 1/21/13)

(Data from DEP Oil and Gas Reports Website 1/21/13, http://www.portal.state.pa.us/portal/server.pt/community/oil_and_gas_reports/20297)



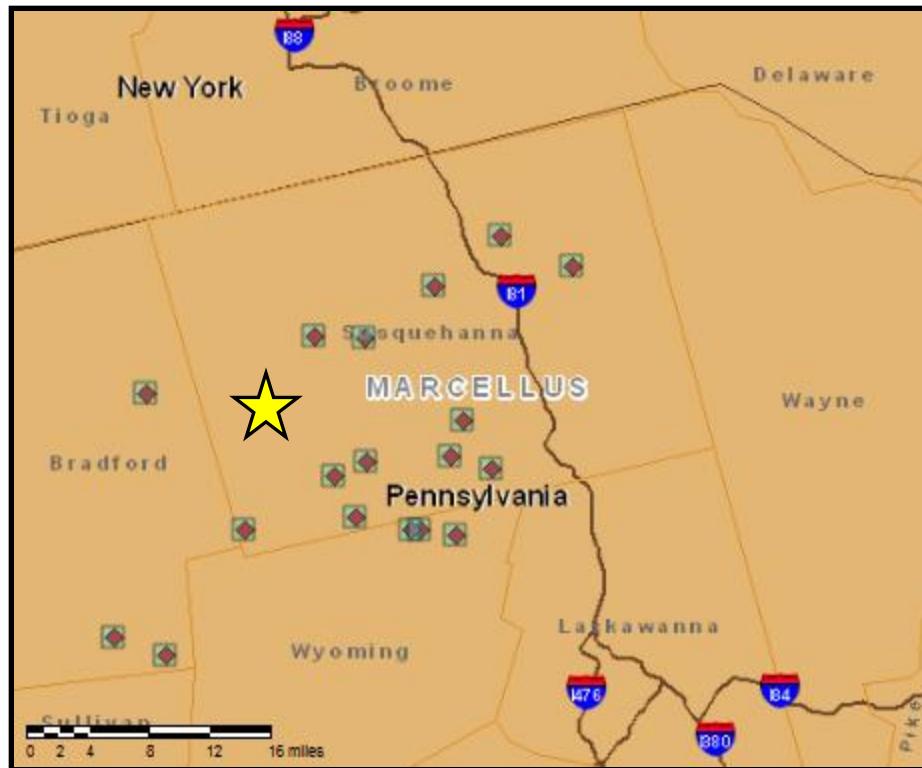
Number of Well Permits by County

2544, BRADFORD	197, SULLIVAN	23, CAMBRIA	0, CARBON	0, MONTGOMERY
1601, TIOGA	189, CENTRE	16, COLUMBIA	0, CHESTER	0, MONTOUR
1248, WASHINGTON	165, CLINTON	15, LUZERNE	0, CUMBERLAND	0, NORTHAMPTON
1171, SUSQUEHANNA	140, MCKEAN	10, VENANGO	0, DELAWARE	0, NORTHUMBERLAND
1160, LYCOMING	105, JEFFERSON	9, BLAIR	0, DAUPHIN	0, PERRY
835, GREENE	85, CLARION	9, MERCER	0, ERIE	0, PHILADELPHIA
435, WESTMORELAND	82, INDIANA	9, WARREN	0, FRANKLIN	0, PIKE
400, BUTLER	80, BEAVER	4, WAYNE	0, FULTON	0, SCHUYLKILL
400, CLEARFIELD	51, SOMERSET	3, CRAWFORD	0, JUNIATA	0, SNYDER
339, FAYETTE	46, ALLEGHENY	2, HUNTINGDON	0, LANCASTER	0, UNION
254, ARMSTRONG	38, CAMERON	2, BEDFORD	0, LEBANON	0, YORK
250, WYOMING	37, LAWRENCE	0, ADAMS	0, LEHIGH	
231, POTTER	33, FOREST	0, BERKS	0, MIFFLIN	
200, ELK	29, LACKAWANNA	0, BUCKS	0, MONROE	

Rush Township & surrounding townships Active Drilling Rig Count, Susquehanna County PA

★ Subject Property, Tax ID 138.00-1,015.00,000, 105.0 ac, Route 267, Rush Township, Susquehanna County, PA
(From Barker Hughes <http://gis.bakerhughesdirect.com/RigCounts>, July 12, 2013)

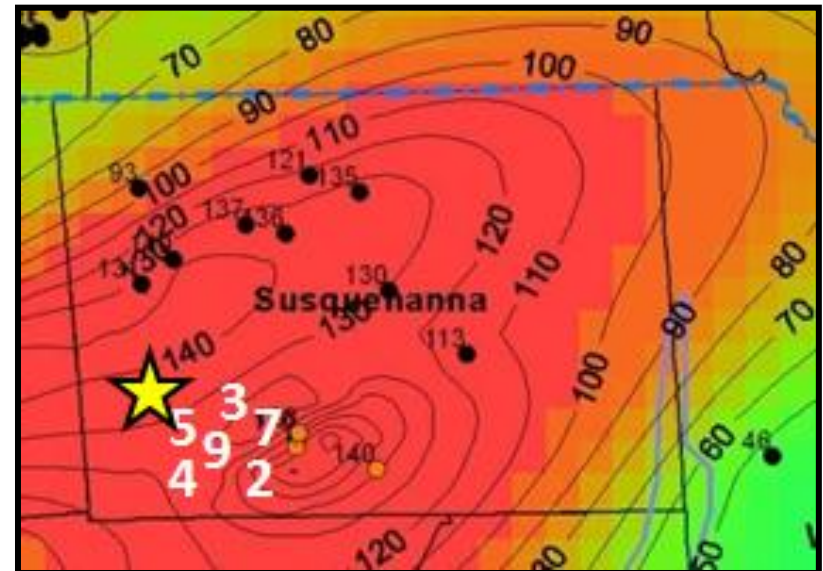
12 Rigs Drilling in Susquehanna County, PA



Regional Marcellus Production

Six of the Top Ten Marcellus Shale Producing Units are located near
 Subject Property, Tax ID 138.00-1,015.00,000 (105.0 ac)
 Route 267, Rush Township, Susquehanna County, PA
 (Data from Marcellus Gas.org 4-20-13)

2	R HINKLEY (4 well permits) Susquehanna County Springville Township Gas company: CABOT	18,864,095 Mcf \$ 63,194,718.25 ATW dollars \$ 7,899,339.78 Est. Royalties
3	J BLAISURE (6 well permits) Susquehanna County Dimock Township Gas company: CABOT	17,797,960 Mcf \$ 59,623,166.00 ATW dollars \$ 7,452,895.75 Est. Royalties
4	B RUSSO (5 well permits) Susquehanna County Springville Township Gas company: CABOT	17,263,401 Mcf \$ 57,832,393.35 ATW dollars \$ 7,229,049.17 Est. Royalties
5	KOROMLAN S SUS (7 well permits) Susquehanna County Auburn Township Gas company: CHESAPEAKE	16,024,862 Mcf \$ 53,683,287.70 ATW dollars \$ 6,710,410.96 Est. Royalties
7	GREENWOOD (5 well permits) Susquehanna County Dimock Township Gas company: CABOT	15,676,678 Mcf \$ 52,516,871.30 ATW dollars \$ 6,564,608.91 Est. Royalties
9	KING (3 well permits) Susquehanna County Dimock Township Gas company: CABOT	14,570,999 Mcf \$ 48,812,846.65 ATW dollars \$ 6,101,605.83 Est. Royalties



Rush Township, Susquehanna County, PA Cumulative Production

Date of Production	# of Producing Wells	Ave. # of days Producing	Cumulative Production (Bcf)
July-Dec 2012	34	156	17.84
Jan-June 2012	31	126	13.61
July-Dec 2011	15	112	3.03
Jan-June 2011	8	141	1.69
July-Dec 2010	7	181	2.44
July '09-June'10	7	189	2.10
July'09-Dec'12			40.62

Summary

Subject Property, Tax ID 138.00-1,015.00,000, 105.0 ac
Route 267, Rush Township, Susquehanna County, PA

- Within Core Marcellus Shale production fairway.
- Marcellus > 200 API gamma ~ 260' thick, depth ~ 6,100'.
- High Marcellus Shale Total Organic Carbon (TOC) content 4.0 – 6.0 %.
- Within dry gas window $R_o = 2.4$, little if any processing required, high BTU value.
- High “gas in place” estimate for area (~135 Bcf/square mile).
- 33 ac located within the KNOSKY production Unit, WILLIAMS PRODUCTION APPALACHIA LLC , Knosky 1H, 115-20206, horizontal well, 0.7 miles NW of Manzek property, Cumulative Production = 2.46 Bcf . Nine wells are proposed for this unit. Currently receiving ~ \$5,000 / month Royalty payments from the 1H well.
- Close proximity to Cabot Susquehanna Field Cumulative Production ~ 1.2 Bcf /day from 145 horizontals wells, Cumulative Production = 354 Bcf. Near six of the top ten producing Marcellus Shale wells in the state of PA.
- Laser pipeline and gathering pipelines in area.
- Susquehanna County, PA second highest gas producing county in PA.
- Cabot, Chesapeake, Talisman, Southwest and Williams Energy aggressively drilling in the region.
- Excellent Economics relative to other dry gas shale plays. New York Pricing Premium. Near high-demand northeastern natural gas markets.
- Excellent Infrastructure (Railways, Roads) and access.
- Rural area, sparsely populated, with pro-drilling landowners.
- Abundant Water Resources near property. Within Susquehanna River Basin.



COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF ENVIRONMENTAL PROTECTION
OFFICE OF OIL AND GAS MANAGEMENT

WELL LOCATION PLAT

PAGE 1 Surface Location

DEP USE ONLY	Auth ID #	APD
	Permit #	15-21180
	Project #	115-21180

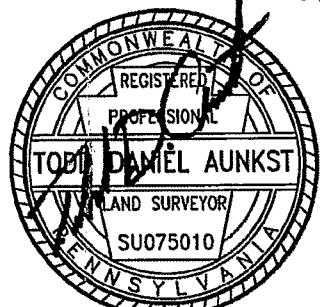
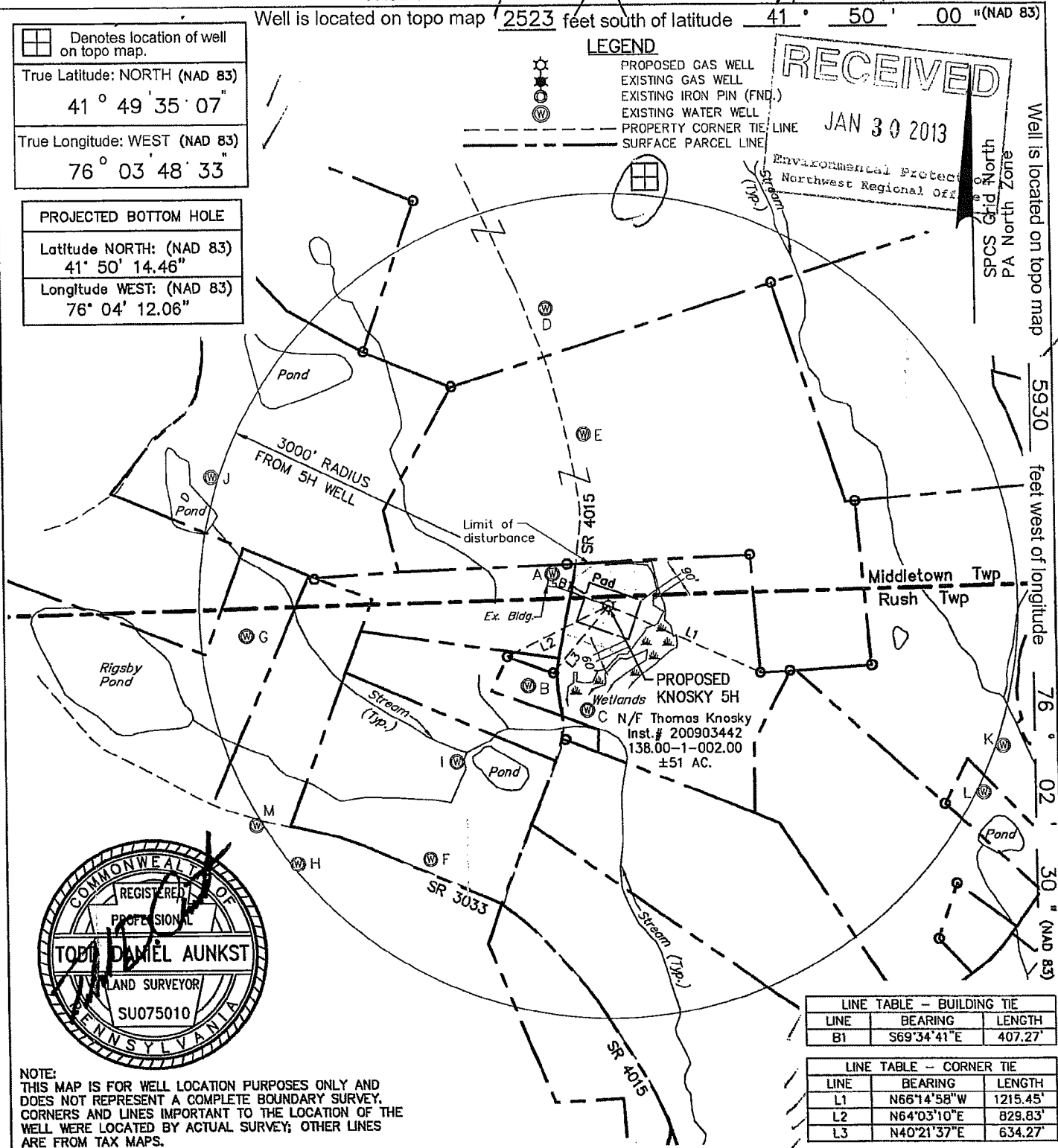
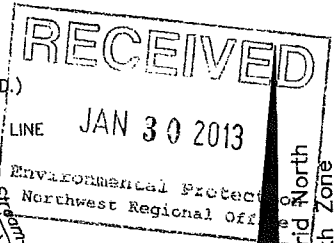
Well is located on topo map 2523 feet south of latitude 41° 50' 00" (NAD 83)

Denotes location of well on topo map.
True Latitude: NORTH (NAD 83) 41° 49' 35.07"
True Longitude: WEST (NAD 83) 76° 03' 48.33"

PROJECTED BOTTOM HOLE
Latitude NORTH: (NAD 83) 41° 50' 14.46"
Longitude WEST: (NAD 83) 76° 04' 12.06"

LEGEND

- ☼ PROPOSED GAS WELL
- ☼ EXISTING GAS WELL
- ⊙ EXISTING IRON PIN (FND.)
- ⊙ EXISTING WATER WELL
- PROPERTY CORNER TIE LINE
- - - SURFACE PARCEL LINE



NOTE:
THIS MAP IS FOR WELL LOCATION PURPOSES ONLY AND DOES NOT REPRESENT A COMPLETE BOUNDARY SURVEY. CORNERS AND LINES IMPORTANT TO THE LOCATION OF THE WELL WERE LOCATED BY ACTUAL SURVEY; OTHER LINES ARE FROM TAX MAPS.

LINE	BEARING	LENGTH
B1	S69°34'41"E	407.27'

LINE	BEARING	LENGTH
L1	N66°14'58"W	1215.45'
L2	N64°03'10"E	829.83'
L3	N40°21'37"E	634.27'

Applicant / Well Operator Name WPX ENERGY APPALACHIA, LLC		DEP ID #: 276507	Well (Farm) Name: KNOSKY		Well #: 5H	Serial #:
Address: 6000 TOWN CENTER BLVD, SUITE 300, CANONSBURG PA 15317		County: SUSQUEHANNA	Municipality: RUSH TOWNSHIP	Well Type: GAS		
911 address of well site: 1130 IRISH HILL ROAD MONTROSE, PA 18801		USGS 7 1/2' Quadrangle Map Name: LAWTON	Map Section: 5	Surface Elevation: 1260 ft.		
Surveyor or Engineer RETTEW ASSOCIATES, INC.	Phone #: (800) 738-8395	Dwg #: 087982006-191_WELL_PLAT	Date: 12/21/2012	Scale: 1"=1000'	Tract Acreage: ±51 ACRES	
Lat. & Long Metadata Method: GPS	Accuracy: ±3 ft.	Datum: NAD 83	Elevation Metadata Method: GPS	Accuracy: ±3 ft.	Datum: NAVD 88	Survey Date: 11/27/2012

WELL LOCATION PLAT

PAGE 2 Notifications

115-21180

DEP Statewide toll-free phone number for reporting cases of water contamination which may be associated with development of oil and gas resources is **1-866-255-5158**.

Applicant / Well Operator Name WPX ENERGY APPALACHIA, LLC	DEP ID#: 276507	Well (Farm) Name: KNOSKY	Well #: 5H	Serial #:
Surface Landowner / Lessor: THOMAS KNOSKY	Angle & Course of Deviation (Drilling): SEE ATTACHED DIRECTIONAL DRILLING PLAN		Anticipated True Vertical Depth Feet (TVD): 6250'	Anticipated Total Measured Depth Feet (TMD): 10,333'
Target Formation(s): MARCELLUS	Deepest Formation to be penetrated: MARCELLUS		Number of Laterals: 1	Total footage to be drilled all laterals: 10,333'

Surface Owner/Water Purveyor w/ Water Supply within 1000' / 3000'	Latitude / Longitude of Water Supply
---	--------------------------------------

✓ A. GUITON, JOHN JR. & KIM S. 471'	N 41°49'37.5" / W 76°03'53.7"
✓ B. WEISS, JAMES F. & MAUREEN 827'	N 41°49'29.5" / W 76°03'56.3"
✓ C. KNOSKY, THOMAS 773'	N 41°49'27.6" / W 76°03'50.7"
✓ D. FIONDI INC. C/O RITA POWERS 2211'	N 41°49'56.6" / W 76°03'53.5"
✓ E. WATSON, ROSINA & LORETTA 1261'	N 41°49'47.4" / W 76°03'50.2"
✓ F. KELLEY, EDWARD L. JR. 2263'	N 41°49'17.2" / W 76°04'06.3"
✓ G. MALYSHKO, JOHN & ANNELIESE 2662'	N 41°49'33.6" / W 76°04'23.4"
✓ H. COOK, SHEYN R. & NICKI R. 2959'	N 41°49'17.1" / W 76°04'19.2"
✓ I. KELLEY, EDWARD L. JR. 1592'	N 41°49'24.2" / W 76°04'03.5"
✓ J. ZENZEL, THERESA ETAL C/O ERIC ZENZEL 3053'	N 41°49'45.1" / W 76°04'26.4"
✓ K. MANZEK, BRIAN M. 3052'	N 41°49'24.4" / W 76°03'10.6"
✓ L. MANZEK, JOSEPH & DOROTHY 3049'	N 41°49'21.1" / W 76°03'12.7"
✓ M. COOK, SHEYN R. & NICKI R. 3045'	N 41°49'20.0" / W 76°04'23.1"

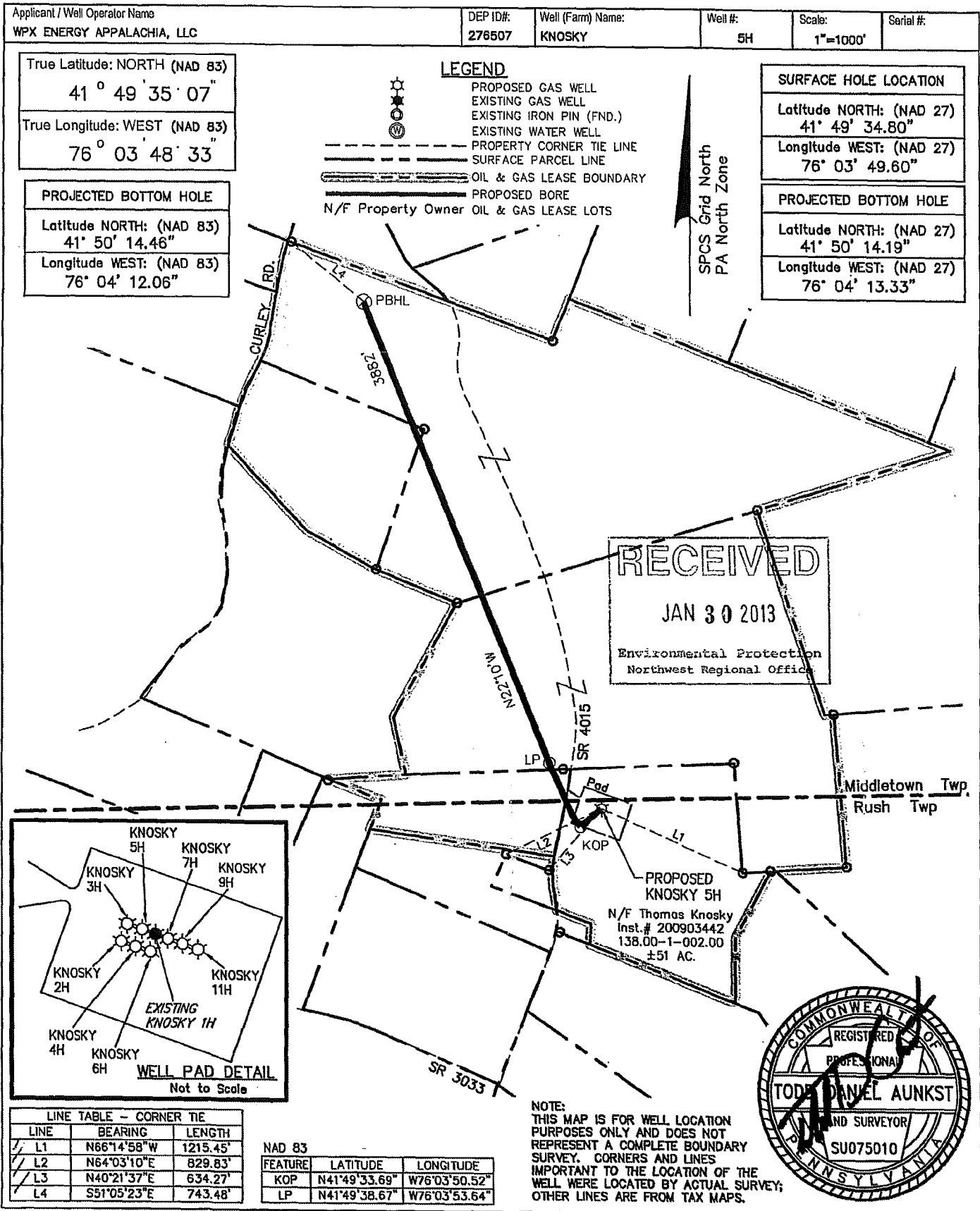
RECEIVED
JAN 30 2013
 Environmental Protection
 Northwest Regional Office

Municipality where the well will be drilled adjacent to the well, or within 3000 feet	Municipality where the well will be drilled adjacent to the well, or within 3000 feet
RUSH TOWNSHIP	STEVENS TOWNSHIP, BRADFORD COUNTY
MIDDLETOWN, FOREST LAKE, & JESSUP TOWNSHIPS	PIKE TOWNSHIP, BRADFORD COUNTY
DIMOCK & AUBURN TOWNSHIPS	Coal-Related Parties
TUSCARORA TOWNSHIP, BRADFORD COUNTY	Non-Coal

WELL LOCATION PLAT
PAGE 3 Plan View of Deviated Well Bore

115-21180

If well has a lateral other than vertical show the bottom hole location on the plat drawing as ⊗ and include the Coordinates in the provided section at the bottom of the drawing area. The top hole and bottom hole locations are to be connected by a bolded line this is to depict the proposed courses of the actual wellbore to be drilled.



Well Location Plat
Page 4 Cross Section

Applicant / Well Operator Name WPX Energy Appalachia, LLC	DEP ID# 276507	Well (Farm) Name Knosky	Well # 5H
--	-------------------	----------------------------	--------------

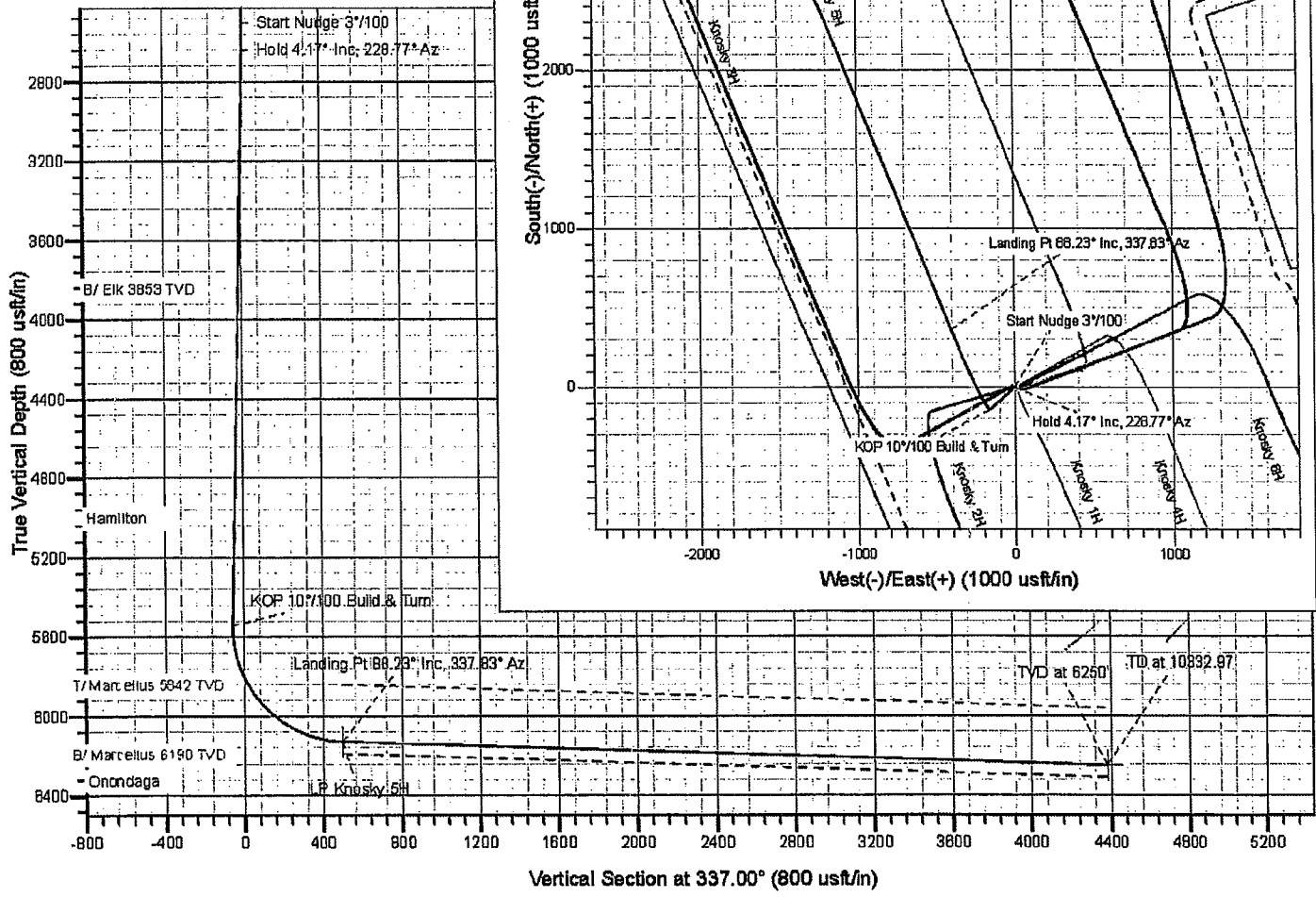
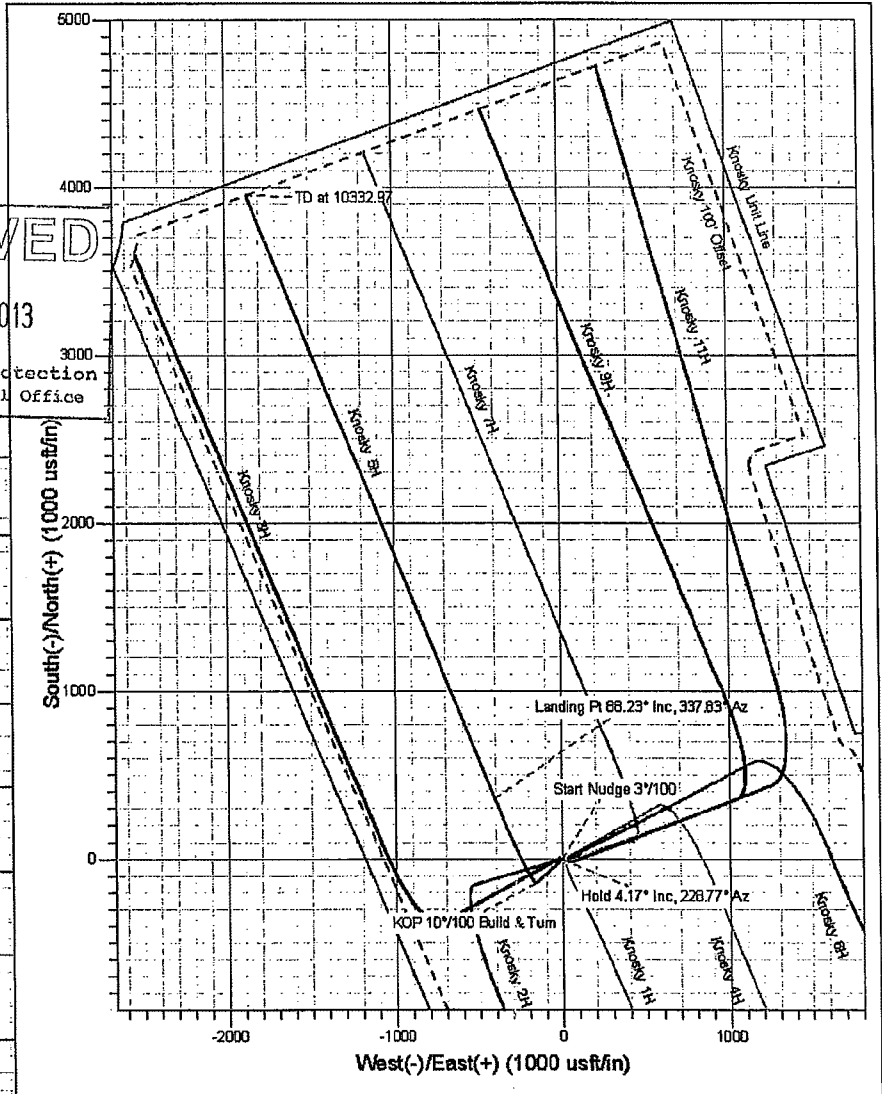
Operator Name: WPX Energy Appalachia, LLC
Well/Farm Name: Knosky

			Latitude	Longitude
KOP:	TVD: 5545.00	TMD: 5552.85	41 49 33.68734 N	76 03 50.52405 W
Landing Point:	TVD: 6130.00	TMD: 6448.81	41 49 38.66613 N	76 03 53.63815 W

M T G
Azimuths to Grid North
True North: -1.12°
Magnetic North: -13.31°
Magnetic Field
Strength: 53087.2snT
Dip Angle: 68.19°
Date: 12/6/2012
Model: IGRF2010

Project: Susquehanna County, PA
Site: Knosky
Well: Knosky 5H
Design #1 07Dec12 kja

RECEIVED
JAN 30 2013
Environmental Protection
Northwest Regional Office



Vertical Section at 337.00° (800 usft/in)



COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF ENVIRONMENTAL PROTECTION
Oil and Gas Management Program
WELL LOCATION PLAT

DEP USE ONLY	DEP Application Tracking #	11/22/11
	Permit #	
	Project #	

	Denotes location of well on topo map.
True Latitude: NORTH (NAD 83)	
41° 49' 35.03"	
True Longitude: WEST (NAD 83)	
76° 03' 48.56"	

Well is located on topo map 2527 feet south of latitude 41° 50' 00" (NAD 83)

PROJECTED BOTTOM HOLE	
Latitude NORTH: (NAD 83)	
41° 48' 51.09"	
Longitude WEST: (NAD 83)	
76° 03' 35.91"	

LINE TABLE		
LINE	BEARING	LENGTH
L1	S42°15'58"E	419.25'
L2	N63°47'17"E	812.12'
L3	N39°23'03"E	619.65'
L4	N69°00'42"E	948.58'

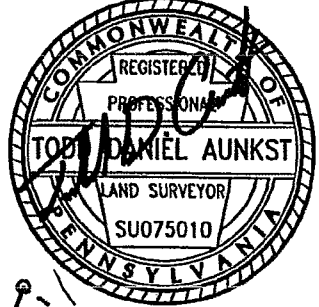
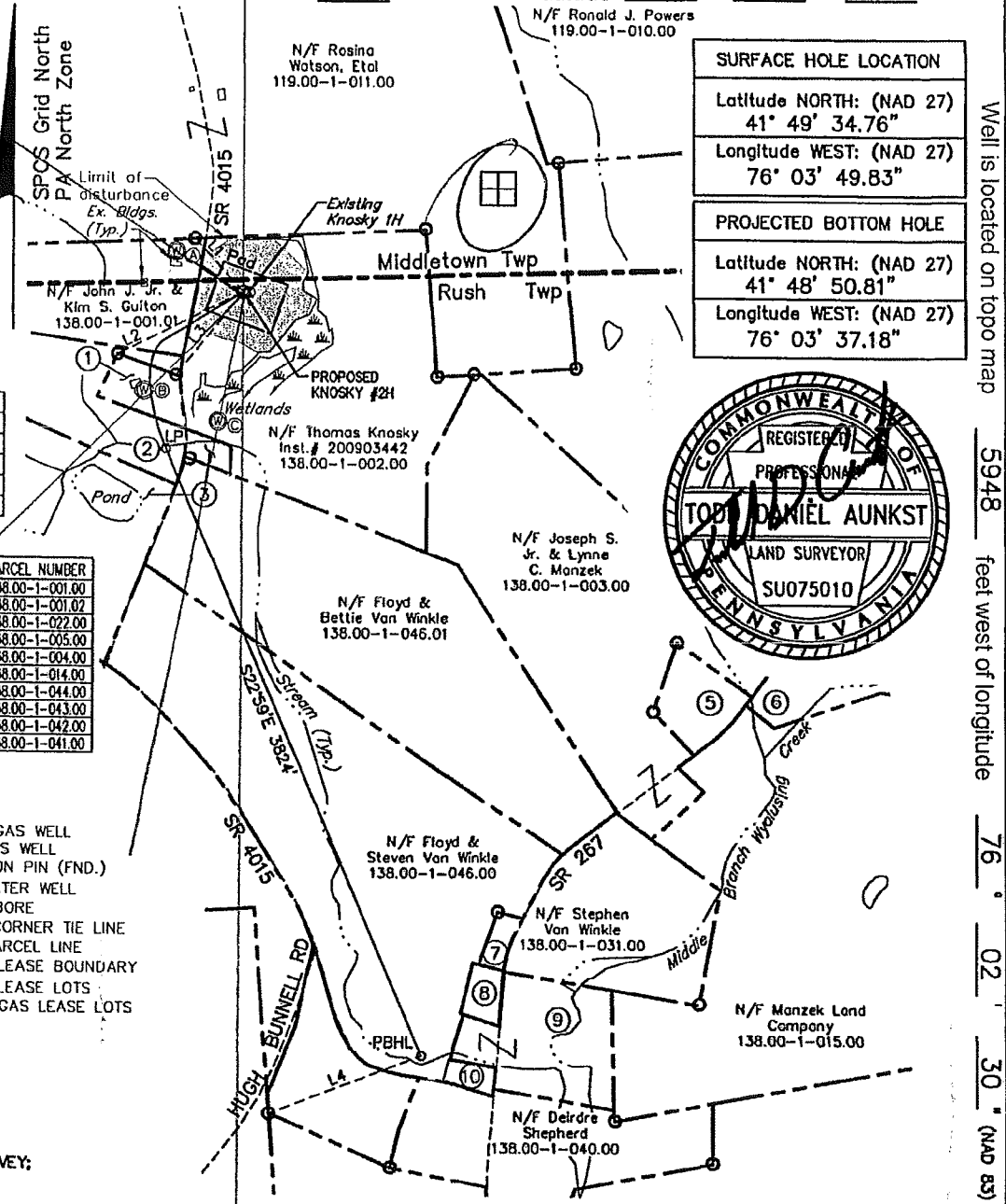
TRACT	N/F PROPERTY OWNER/LESSOR	PARCEL NUMBER
1	James F. & Maureen Weiss	138.00-1-001.00
2	Ryan P. Guiton	138.00-1-001.02
3	Kelley L. Edward, Etal	138.00-1-022.00
4	Joseph & Dorothy Monzek	138.00-1-005.00
5	Walter & Ruth E. Murphy	138.00-1-004.00
6	Sharon A. Shears	138.00-1-014.00
7	Stephen & Floyd Jr. Von Winkle	138.00-1-044.00
8	Francis & Patricia Flynn	138.00-1-043.00
9	Charles H. & Mary E. Pool	138.00-1-042.00
10	David P. Sr. George	138.00-1-041.00

LEGEND

- PROPOSED GAS WELL
- EXISTING GAS WELL
- EXISTING IRON PIN (FND.)
- EXISTING WATER WELL
- PROPOSED BORE
- PROPERTY CORNER TIE LINE
- SURFACE PARCEL LINE
- OIL & GAS LEASE BOUNDARY
- OIL & GAS LEASE LOTS
- NON OIL & GAS LEASE LOTS

N/F Property Owner
N/F Property Owner

NOTE:
THIS MAP IS FOR WELL LOCATION PURPOSES ONLY AND DOES NOT REPRESENT A COMPLETE BOUNDARY SURVEY. CORNERS AND LINES IMPORTANT TO THE LOCATION OF THE WELL WERE LOCATED BY ACTUAL SURVEY; OTHER LINES ARE FROM TAX MAPS.



Well is located on topo map 5948 feet west of longitude 76° 02' 30" (NAD 83)

Surveyor or Engineer RETTEW ASSOCIATES, INC. Lat. & Long Metadata Method GPS Accuracy ±3 ft Datum NAD 83	Phone # (800) 738-8395	Dwg. # 10-08798-010_WELL_PLAT	Date 9/19/2011	Scale 1"=1000'	Tract Acreage ±51 ACRES
Applicant / Well Operator Name WILLIAMS PRODUCTION APPALACHIA LLC		DEP ID# 276507	Well (Farm) Name KNOSKY	Well # 2H	Serial #
Address 1000 TOWN CENTER, SUITE 130, CANONSBURG PA 15317		County - Code SUSQUEHANNA - 58	Municipality MIDDLETOWN & RUSH TOWNSHIPS	Well Type GAS	
Surface Landowner / Lessor THOMAS KNOSKY		USGS 71/2 Quadrangle Map Name LAWTON		Map Section 5	Surface Elevation 1280 ft.
Target Formation(s) MARCELLUS		Angle & Course of Deviation (Drilling) SEE ATTACHED DIRECTIONAL DRILLING PLAN		Anticipated Total Depth TVD 6130' TMD 10,455'	
Surface Owner or Water Purveyor with a Water Supply within 1,000 ft.	Approximate Course and Distance to Water Supply	Owner, Lessee, or Operator of Workable Coal Seam		Name of Coal Seam Owned, Leased, or Operated	
Ⓐ JOHN J., JR. & KIM S. GUITON	S58°33'E 459'	N/A		Non-Coal RECEIVED	
Ⓑ JAMES F. & MAUREEN WEISS	N45°20'E 811'				
Ⓒ THOMAS KNOSKY	N11°09'E 765'				

OCT 24 2011

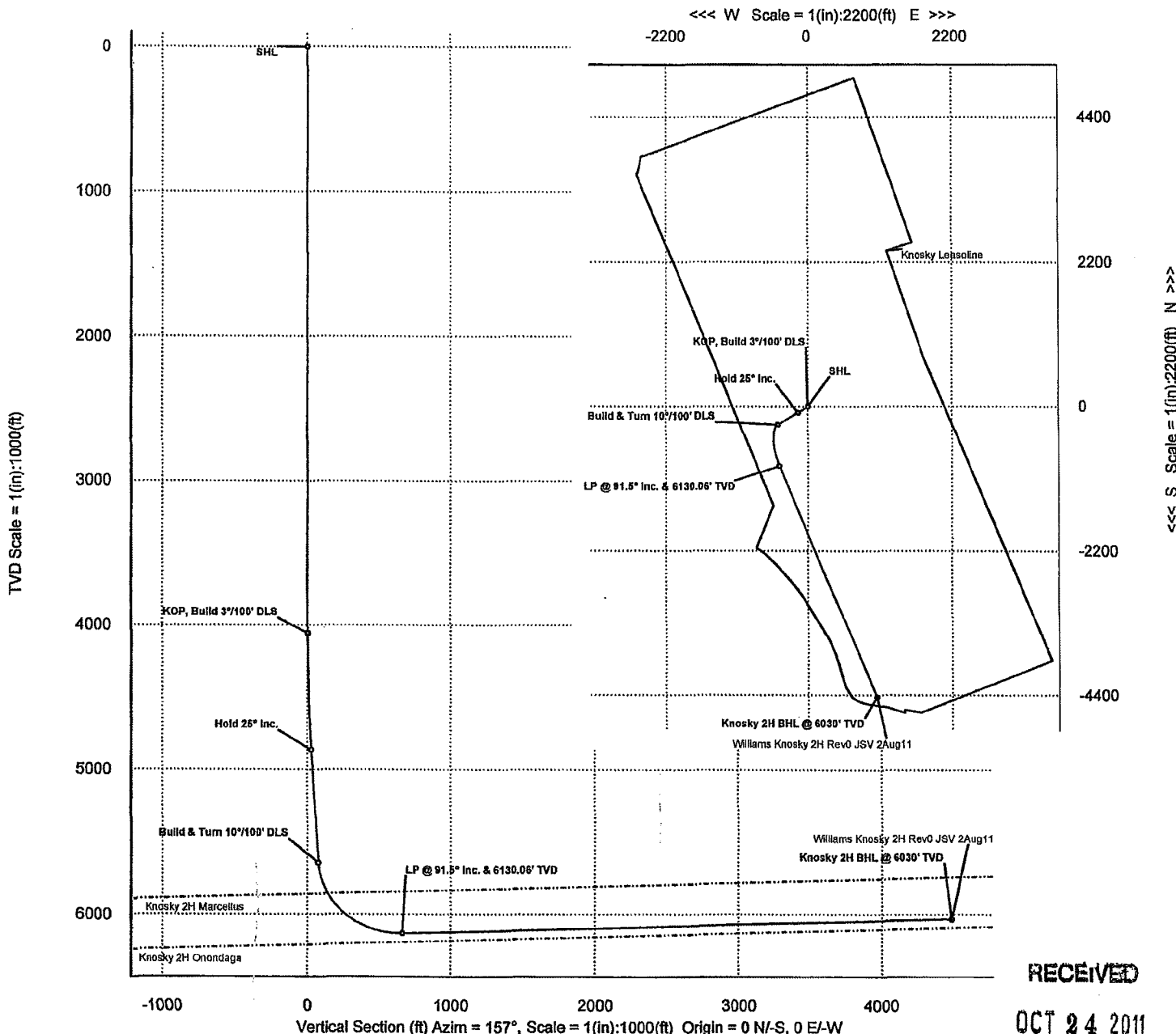


Williams

115-20751 PATHFINDER
A Schlumberger Company

WELL Knosky 2H	FIELD PA Susquehanna County	STRUCTURE TBD
--------------------------	---------------------------------------	-------------------------

Magnetic Parameters Model: ROOM 2011 Dip: 88.336° Mag Dec: -12.168°	Date: August 02, 2011 FS: 53267.SHT	Surface Location Lat: N 41 49 34.759 Lon: W 79 2 48.831	NAD27 Pennsylvania State Plane, Northern Zone, US Feet 609199.03 NUS 2459530.33 EUS Grid Conv: 1.11546055° Scale Fact: 0.86998237	Miscellaneous Sht: Williams Knosky 2H Plan: Rev 0 JSV 2Aug11	TVD Ref: KB(1200' above Unknown) Srvy Date: August 02, 2011
--	--	---	---	--	--



RECEIVED

OCT 24 2011

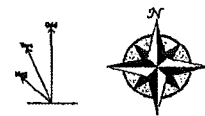
ENVIRONMENTAL PROTECTION
NORTHWEST REGIONAL OFFICE

Legend

Knosky Lease Line
Knosky 2H Onondaga
Knosky 2H Marcellus
Williams Knosky 2H Rev 0 JSV 2Aug11

Target Name	Shape	Major Axis	N(°)E(S)	X(±)Y(±)	TVL	Y(Src)	N(±)E(S)	E(±)N(W)
Knosky Lease Line	Polyline	0.00	609153.36	2459624.50	1280.00	43.40	-15.67	74.17
Knosky 2H Onondaga	Plane	0.00	608260.23	2459101.10	6190.00	661.04	-908.82	-449.24
Knosky 2H BHL	Point	0.00	41.81	-76.06	6030.00	4484.58	-4428.66	1044.13
Knosky 2H Marcellus	Plane	0.00	608260.23	2459101.10	5642.00	461.04	-908.82	-449.24

Column/Point	MR	INCL	AZIM	TVL	Y(SRC)	N(±)E(S)	E(±)N(W)	DLS
SHL	0.00	0.00	239.00	0.00	0.00	0.00	0.00	
KOP, Build 3°/100' DLS	4016.60	0.00	239.00	4016.60	0.00	0.00	0.00	0.00
Hold 25° Inc	4819.30	25.00	239.00	4863.74	24.90	-92.16	-153.38	3.00
Build & Turn 10°/100' DLS	5749.93	25.00	239.00	5643.17	75.49	-279.35	-464.92	0.00
LP @ 91.5° Inc. & 6130.06' TVD	6629.43	91.50	157.00	6130.06	661.04	-908.82	-449.24	10.00
Knosky 2H BHL @ 6030' TVD	10454.60	91.50	157.00	6030.00	4484.58	-4428.66	1044.13	0.00



Grid North
Tot Corr (M-G) -13.2834°
Mag Dec (-12.168°)
Grid Conv (1.11546055°)

Quality Control
Date/Drawn: August 31, 2011 12:00:13 PM
Drawn by: J Verrano
Checked by:
C/S: OK



COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF ENVIRONMENTAL PROTECTION
Oil and Gas Management Program
WELL LOCATION PLAT

DEP USE ONLY	DEP Application Tracking #	6:00 11/22/11
	Permit #	C:
	Project #	15-20752

<input type="checkbox"/>	Denotes location of well on topo map.
True Latitude: NORTH (NAD 83) 41° 49' 35.12"	
True Longitude: WEST (NAD 83) 76° 03' 48.52"	
PROJECTED BOTTOM HOLE	
Latitude NORTH: (NAD 83) 41° 50' 11.11"	
Longitude WEST: (NAD 83) 76° 04' 20.95"	

Well is located on topo map 2518 feet south of latitude 41° 50' 00" (NAD 83)

SURFACE HOLE LOCATION	
Latitude NORTH: (NAD 27) 41° 49' 34.85"	
Longitude WEST: (NAD 27) 76° 03' 49.78"	
PROJECTED BOTTOM HOLE	
Latitude NORTH: (NAD 27) 41° 50' 10.83"	
Longitude WEST: (NAD 27) 76° 04' 22.22"	

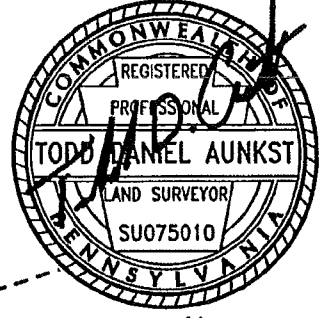
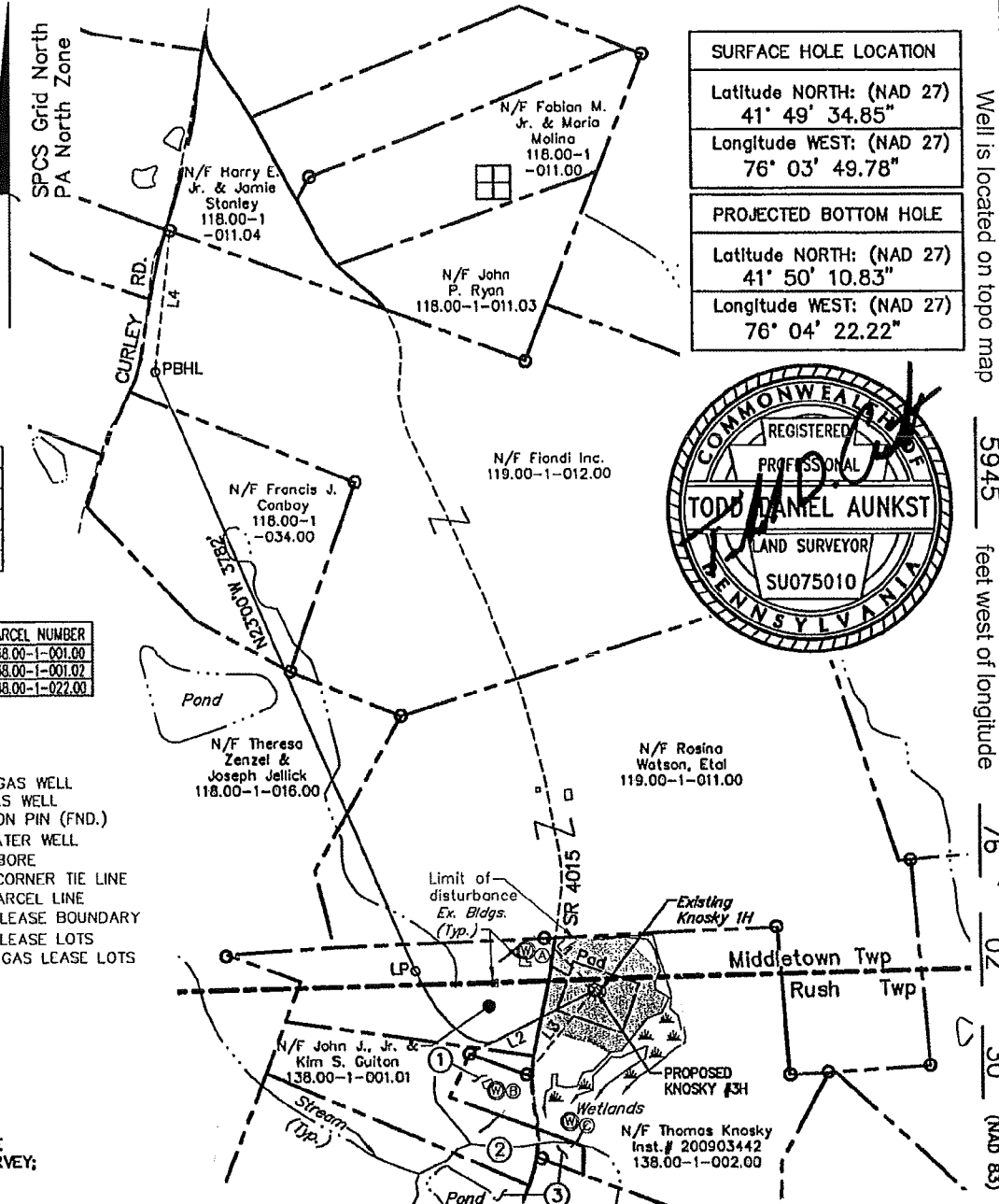
LINE	BEARING	LENGTH
L1	S43°29'47"E	414.55'
L2	N63°17'36"E	819.37'
L3	N39°04'09"E	629.16'
L4	S06°05'35"W	824.34'

TRACT	N/F PROPERTY OWNER/LESSOR	PARCEL NUMBER
1	James F. & Maureen Weiss	138.00-1-001.00
2	Ryan P. Guiton	138.00-1-001.02
3	Kelley L. Edward, Etal	138.00-1-022.00

LEGEND

- PROPOSED GAS WELL
 - EXISTING GAS WELL
 - EXISTING IRON PIN (FND.)
 - EXISTING WATER WELL
 - PROPOSED BORE
 - PROPERTY CORNER TIE LINE
 - SURFACE PARCEL LINE
 - OIL & GAS LEASE BOUNDARY
 - OIL & GAS LEASE LOTS
 - NON OIL & GAS LEASE LOTS
- N/F Property Owner
N/F Property Owner

NOTE:
THIS MAP IS FOR WELL LOCATION PURPOSES ONLY AND DOES NOT REPRESENT A COMPLETE BOUNDARY SURVEY. CORNERS AND LINES IMPORTANT TO THE LOCATION OF THE WELL WERE LOCATED BY ACTUAL SURVEY; OTHER LINES ARE FROM TAX MAPS.



Well is located on topo map 5945 feet west of longitude 76° 02' 30" (NAD 83)

Surveyor or Engineer RETTEW ASSOCIATES, INC.	Phone # (800) 738-8395	Dwg. # 10-08798-010_WELL_PLAT	Date 9/19/2011	Scale 1"=1000'	Tract Acreage ±51 ACRES
Lat. & Long Metadata Method GPS	Accuracy ±3	ft. Datum NAD 83	Elevation Metadata Method GPS	Accuracy ±3	ft. Datum NAVD88

Applicant / Well Operator Name WILLIAMS PRODUCTION APPALACHIA LLC		DEP ID# 276507	Well(Farm) Name KNOSKY	Well # 3H	Serial #
Address 1000 TOWN CENTER, SUITE 130, CANONSBURG PA 15317		County - Code SUSQUEHANNA - 58	Municipality MIDDLETOWN & RUSH TOWNSHIPS	Well Type GAS	
Surface Landowner / Lessor THOMAS KNOSKY		USGS 71/2 Quadrangle Map Name LAWTON		Map Section 5	Surface Elevation 1260 ft.
Target Formation(s) MARCELLUS		Angle & Course of Deviation (Drilling) SEE ATTACHED DIRECTIONAL DRILLING PLAN		Anticipated Total Depth TVD 6250' TMD 10,447'	
Surface Owner or Water Purveyor with a Water Supply within 1,000 ft.		Approximate Course and Distance to Water Supply		Owner, Lessee, or Operator of Workable Coal Seam	
① JOHN J., JR. & KIM S. GUITON		S59°47'E 457'		N/A	
② JAMES F. & MAUREEN WEISS		N45°01'E 821'		Non-Cool	
③ THOMAS KNOSKY		N11°15'E 775'		OCT 24 2011	
ENVIRONMENTAL PROTECTION NORTHWEST REGIONAL OFFICE					

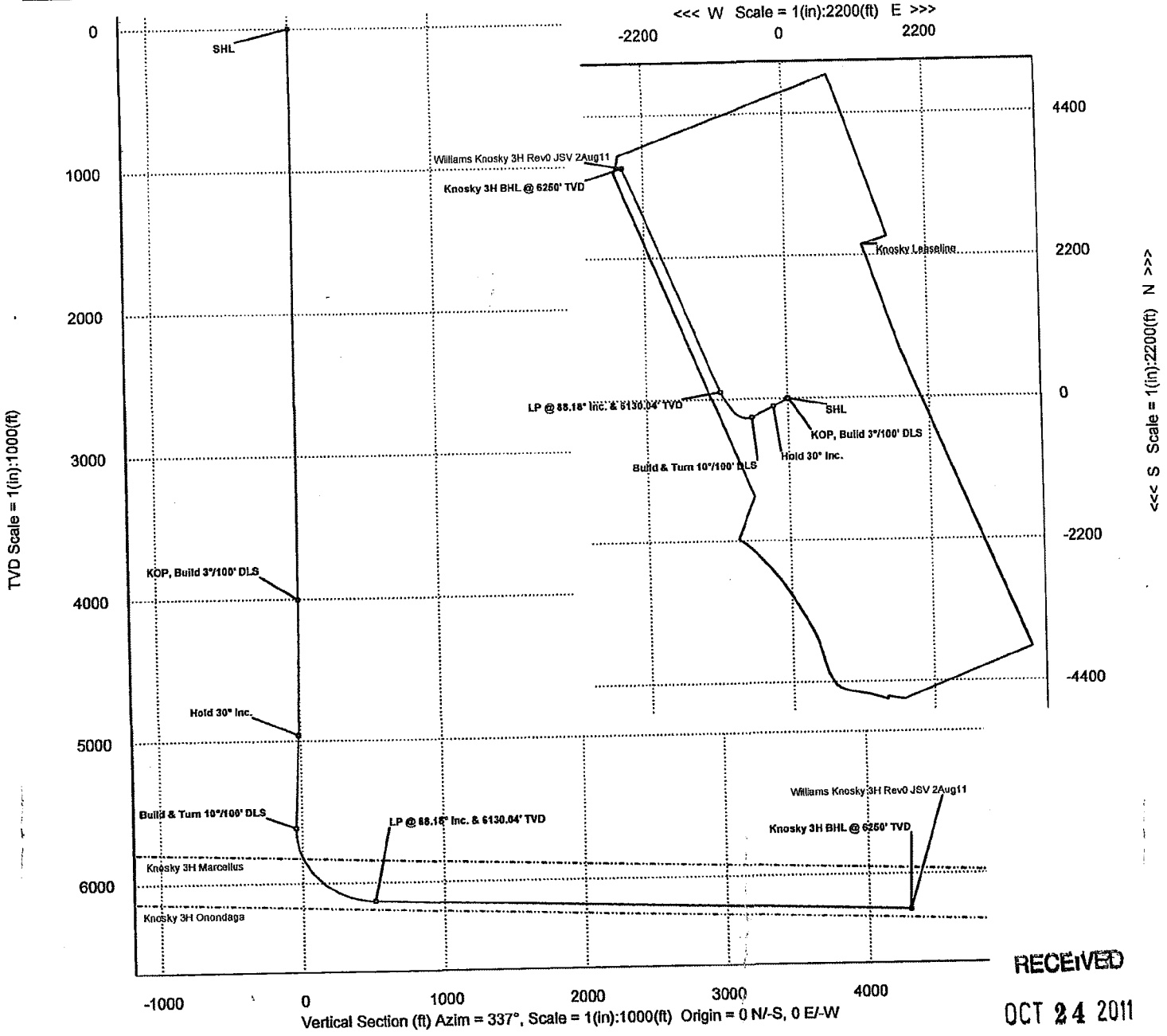


Williams

115-2013

PATHFINDER
A Schlumberger Company

WELL Knosky 3H	FIELD PA Susquehanna County	STRUCTURE TBD
Magnetic Parameters Model: DGGM 2011 Dip: 68.336° Mag Dec: -12.168°	Date: August 02, 2011 FS: 53207.SMT	Surface Location Lat: N 41 49 34.853 Lon: W 78 3 49.784
NAD27 Pennsylvania State Plane, Northern Zone, US Feet Grid Cover: 1,115,469.19° Scale Fact: 0.99990227	Microannuous Plot: Williams Knosky 3H Plan: Rev'd JSV 2Aug11	TVD Ref: KB(120ft above Unknown) Srvy Date: August 02, 2011



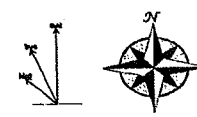
RECEIVED

OCT 24 2011

ENVIRONMENTAL PROTECTION
NORTHWEST REGIONAL OFFICE
Legend

Target Description		Grid Coord		Level Coord				
Shape	Major Axis	N(E)S(W)	E(W)N(S)	TXN	YSR			
Knosky Leaseline	Polyline	0.00	609123.36	2459624.50	1280.89	-59.90	-25.25	70.40
Knosky 3H BHL	Point	0.00	41.84	-7607	6250.00	4294.96	3593.80	-2325.65
Knosky 3H Marcellus	Plane	0.00	609290.86	2458396.39	3142.00	512.55	112.25	-1047.33
Knosky 3H Onondaga	Plane	0.00	609290.86	2458396.39	6190.00	512.55	112.25	-1047.33

Critical Points		Grid Coord		Level Coord	
Critical Point	MR	INCL	AZIM	TXN	YSR
SHL	0.00	0.00	243.00	0.00	0.00
KOP, Build 3°/100' DLS	4602.20	0.00	243.00	4602.20	0.00
Hold 30° Inc.	5002.20	30.00	243.00	4937.33	-17.85
Build & Turn 10°/100' DLS	5718.20	30.00	243.00	5611.84	-44.22
LP @ 88.18° Inc. & 6130.04' TVD	6662.41	88.18	337.00	6130.04	512.55
Knosky 3H BHL @ 6250' TVD	10446.73	88.19	336.99	6250.00	4294.96



Grid North
Tot Cor (M-G -13.2834°)
Mag Dec (-12.168°)
Grid Conv (1.11546919°)

- Knosky Leaseline
- Knosky 3H Marcellus
- Knosky 3H Onondaga
- Williams Knosky 3H Rev'd JSV 2Aug11

Quality Control
Date Drawn: August 31, 2011 12:23:31 PM
Drawn by: J Venere
Checked by:
Client OK:



COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF ENVIRONMENTAL PROTECTION
Oil and Gas Management Program
WELL LOCATION PLAT

DEP USE ONLY	DEP Application Tracking #	81188
	Permit #	15-20753
	Project #	C:

	Denotes location of well on topo map.
True Latitude: NORTH (NAD 83) 41° 49' 34.98"	
True Longitude: WEST (NAD 83) 76° 03' 48.37"	
PROJECTED BOTTOM HOLE	
Latitude NORTH: (NAD 83) 41° 48' 52.87"	
Longitude WEST: (NAD 83) 76° 03' 15.61"	

LINE TABLE		
LINE	BEARING	LENGTH
L1	S43°12'10"E	432.75'
L2	N64°33'06"E	822.71'
L3	N40°41'53"E	624.86'
L4	S43°46'28"W	131.01'

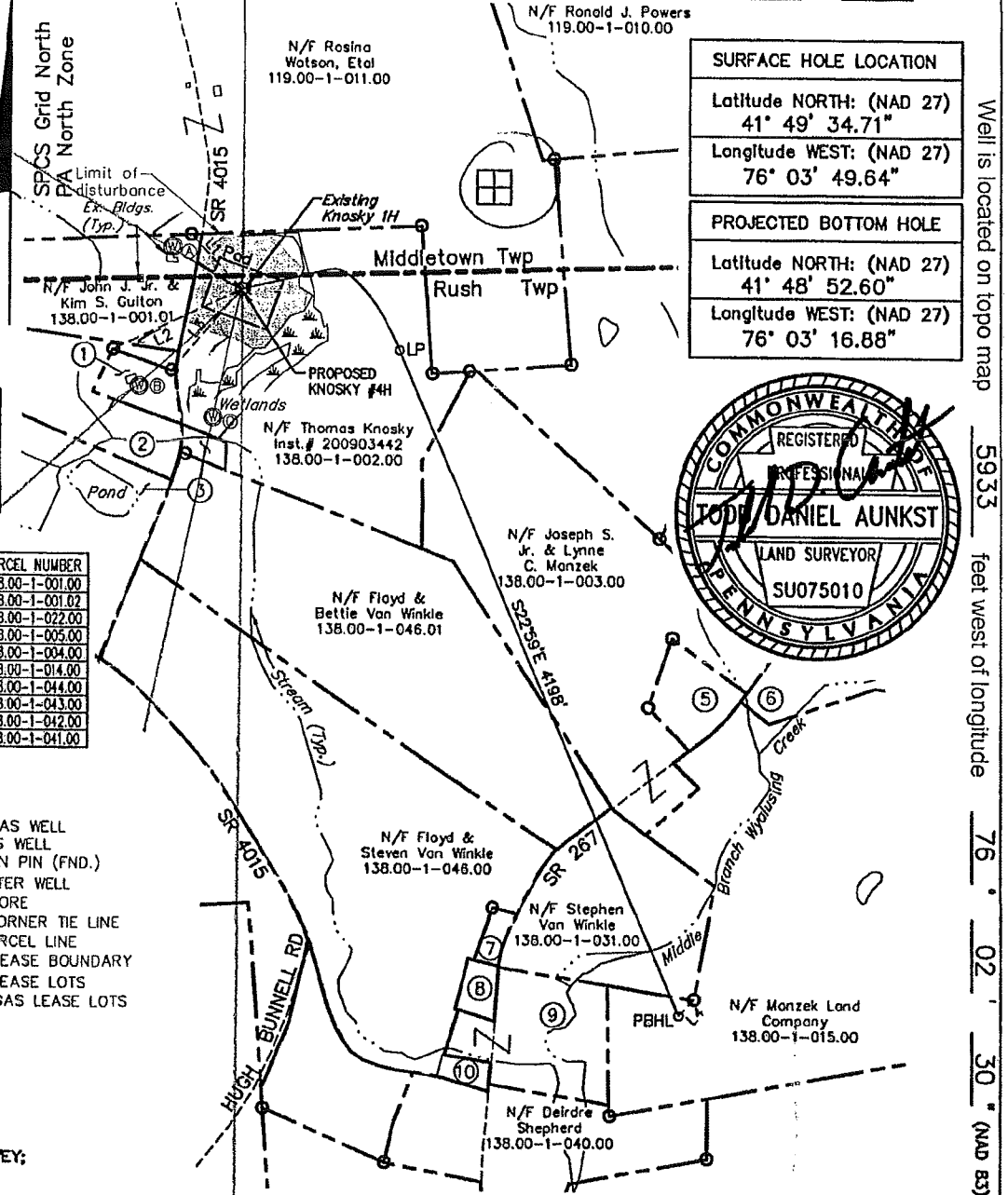
TRACT	N/F PROPERTY OWNER/LESSOR	PARCEL NUMBER
1	James F. & Maureen Weiss	138.00-1-001.00
2	Ryan P. Gulton	138.00-1-001.02
3	Kelley L. Edward, Etal	138.00-1-022.00
4	Joseph & Dorothy Manzek	138.00-1-005.00
5	Walter & Ruth E. Murphy	138.00-1-004.00
6	Sharon A. Shears	138.00-1-014.00
7	Stephen & Floyd Jr. Van Winkle	138.00-1-044.00
8	Francis & Patricia Flynn	138.00-1-043.00
9	Charles H. & Mary E. Pool	138.00-1-042.00
10	David P. Sr. George	138.00-1-041.00

LEGEND

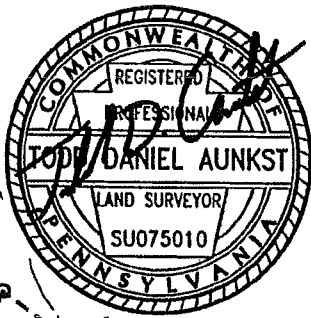
- PROPOSED GAS WELL
- EXISTING GAS WELL
- EXISTING IRON PIN (FND.)
- EXISTING WATER WELL
- PROPOSED BORE
- PROPERTY CORNER TIE LINE
- SURFACE PARCEL LINE
- OIL & GAS LEASE BOUNDARY
- N/F Property Owner OIL & GAS LEASE LOTS
- N/F Property Owner NON OIL & GAS LEASE LOTS

NOTE:
THIS MAP IS FOR WELL LOCATION PURPOSES ONLY AND DOES NOT REPRESENT A COMPLETE BOUNDARY SURVEY. CORNERS AND LINES IMPORTANT TO THE LOCATION OF THE WELL WERE LOCATED BY ACTUAL SURVEY; OTHER LINES ARE FROM TAX MAPS.

Well is located on topo map 2532 feet south of latitude 41° 50' 00" (NAD 83)



SURFACE HOLE LOCATION	
Latitude NORTH: (NAD 27)	41° 49' 34.71"
Longitude WEST: (NAD 27)	76° 03' 49.64"
PROJECTED BOTTOM HOLE	
Latitude NORTH: (NAD 27)	41° 48' 52.60"
Longitude WEST: (NAD 27)	76° 03' 16.88"



Well is located on topo map 5933 feet west of longitude 76° 02' 30" (NAD 83)

Surveyor or Engineer RETTEW ASSOCIATES, INC.	Phone # (800) 738-8395	Dwg. # 10-08798-010_WELL_PLAT	Date 9/19/2011	Scale 1"=1000'	Tract Acreage ±51 ACRES
Method GPS Accuracy ±3 ft. Datum NAD 83		Elevation Metadata Method GPS Accuracy ±3 ft. Datum NAVD88		Survey Date 12/28/2010	

Applicant / Well Operator Name WILLIAMS PRODUCTION APPALACHIA LLC		DEP ID# 276507	Well(Farm) Name KNOSKY	Well # 4H	Serial #
Address 1000 TOWN CENTER, SUITE 130, CANONSBURG PA 15317		County - Code SUSQUEHANNA - 58	Municipality MIDDLETOWN & RUSH TOWNSHIPS	Well Type GAS	
Surface Landowner / Lessor THOMAS KNOSKY		USGS 712 Quadrangle Map Name LAYTON		Map Section 5	Surface Elevation 1260 ft.
Target Formation(s) MARCELLUS		Angle & Course of Deviation (Drilling) SEE ATTACHED DIRECTIONAL DRILLING PLAN		Anticipated Total Depth TVD 6140'	
Surface Owner or Water Purveyor with a Water Supply within 1,000 ft.		Approximate Course and Distance to Water Supply		Owner, Lessee, or Operator of Workable Coal Seam	
A JOHN J., JR. & KIM S. GULTON	S58°55'E 473'	N/A		RECEIVED	
B JAMES F. & MAUREEN WEISS	N46°17'E 818'			OCT 24 2011	
C THOMAS KNOSKY	N12°17'E 763'			ENVIRONMENTAL PROTECTION NORTHWEST REGIONAL OFFICE	



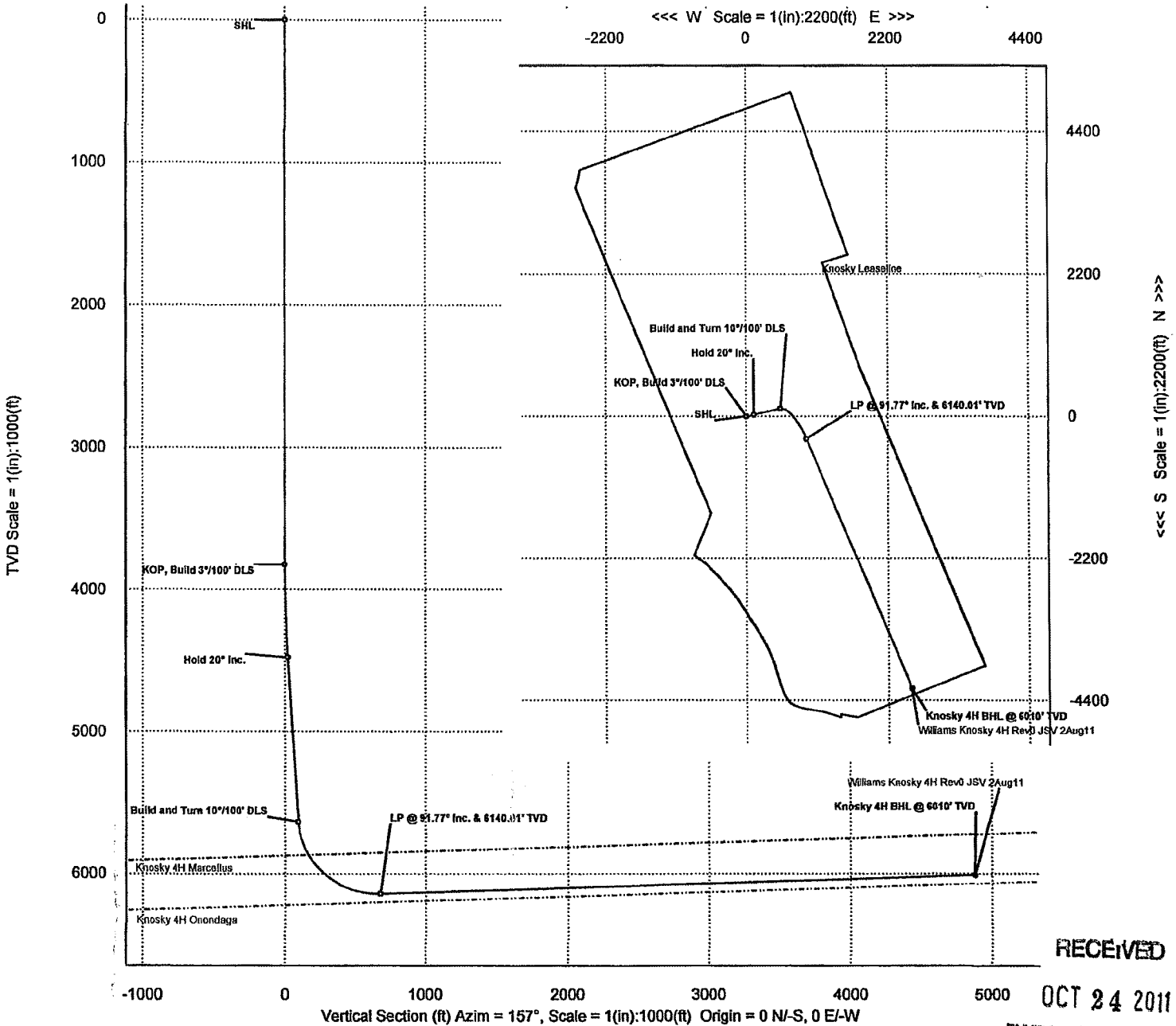
Williams

115-2050



WELL Knosky 4H	FIELD PA Susquehanna County	STRUCTURE TBD
--------------------------	---------------------------------------	-------------------------

Magnetic Parameters Model: BKGM 2011 Dip: 68.336° Mag Dec: -12.168°	Date: August 02, 2011 FS: 53267.3mT	Surface Location Lat: N 41 49 34.705 Lon: W 78 3 49.844	NAAD27 Pennsylvania State Plane, Northern Zone, US Feet Northing: 609183.94 NUS Easting: 2459564.59 EUS Grid Conr: 1.11549492° Scale Fact: 0.99996226	Miscellaneous Sht: Williams Knosky 4H Plan: Rev0.JSV 2Aug11 TVD Ref: KB(1280ft above Unknown) Svy Date: August 02, 2011
--	--	---	---	---



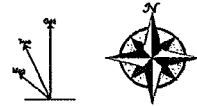
RECEIVED

OCT 24 2011

ENVIRONMENTAL PROTECTIC NORTHWEST REGIONAL OFFK

Target Description		Grid Coord		Easting		Northing	
Target Name	Shape	Major Axis	N(±)S(±)	E(±)W(±)	Y(±)	X(±)	N(±)S(±)
Knosky 4H Onondaga	Point	0.00	608013.83	2460489.25	6100.00	681.69	-3480.2
Knosky Lease Line	Point	0.00	609153.36	2459624.50	1280.00	33.85	-10.48
Knosky 4H Marcellus	Point	0.00	608013.83	2460489.25	5852.00	681.69	-3480.2
Knosky 4H BHL	Point	615.00	41.81	-76.5	6010.00	4879.85	-4213.09

Critical Point		INCL.		AZIM.		TVR		VSR		N(±)S(±)		E(±)W(±)		DLS			
Point	MD	INCL.	AZIM.	TVR	VSR	N(±)S(±)	E(±)W(±)	DLS	Point	MD	INCL.	AZIM.	TVR	VSR	N(±)S(±)	E(±)W(±)	
SHL	0.00	0.00	77.00	0.00	0.00	0.00	0.00	0.00	KOP, Build 37100' DLS	3824.90	0.00	77.00	3824.90	0.00	0.00	0.00	
									Hold 20° Inc.	4491.37	20.00	77.00	4478.11	20.00	33.81	112.23	3.00
									Build and Turn 10°/100' DLS	5722.57	20.00	77.00	5634.27	93.11	120.62	522.46	0.00
									LP @ 91.77° Inc. & 6140.01' TVD	6605.18	91.77	137.00	6140.01	681.69	-3480.2	924.77	10.00
									Knosky 4H BHL @ 6010' TVD	10005.35	91.78	137.03	6010.00	4879.85	-4213.09	2163.60	0.00



Grid North
Tot Con (M-G -13.2834°)
Mag Dec (-12.168°)
Grid Conv (1.11549492°)

Legend

- Knosky 4H Onondaga
- Knosky Lease Line
- Knosky 4H Marcellus
- Williams Knosky 4H Rev0.JSV 2Aug11

Quality Control
Date Drawn: August 31, 2011 12:23:27 PM
Drawn by: J Venner
Checked by:
Client OK:



COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF ENVIRONMENTAL PROTECTION
Oil and Gas Management Program
WELL LOCATION PLAT

DEP USE ONLY	DEP Application Tracking #	11/22/11
	Permit #	15-20755
	Project #	C:

	Denotes location of well on topo map.
True Latitude: NORTH (NAD 83)	
41° 49' 34.93"	
True Longitude: WEST (NAD 83)	
76° 03' 48.19"	

Well is located on topo map 2537 feet south of latitude 41° 50' 00" (NAD 83)

PROJECTED BOTTOM HOLE	
Latitude NORTH: (NAD 83)	
41° 48' 55.47"	
Longitude WEST: (NAD 83)	
76° 03' 06.33"	

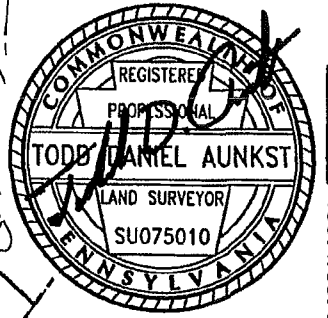
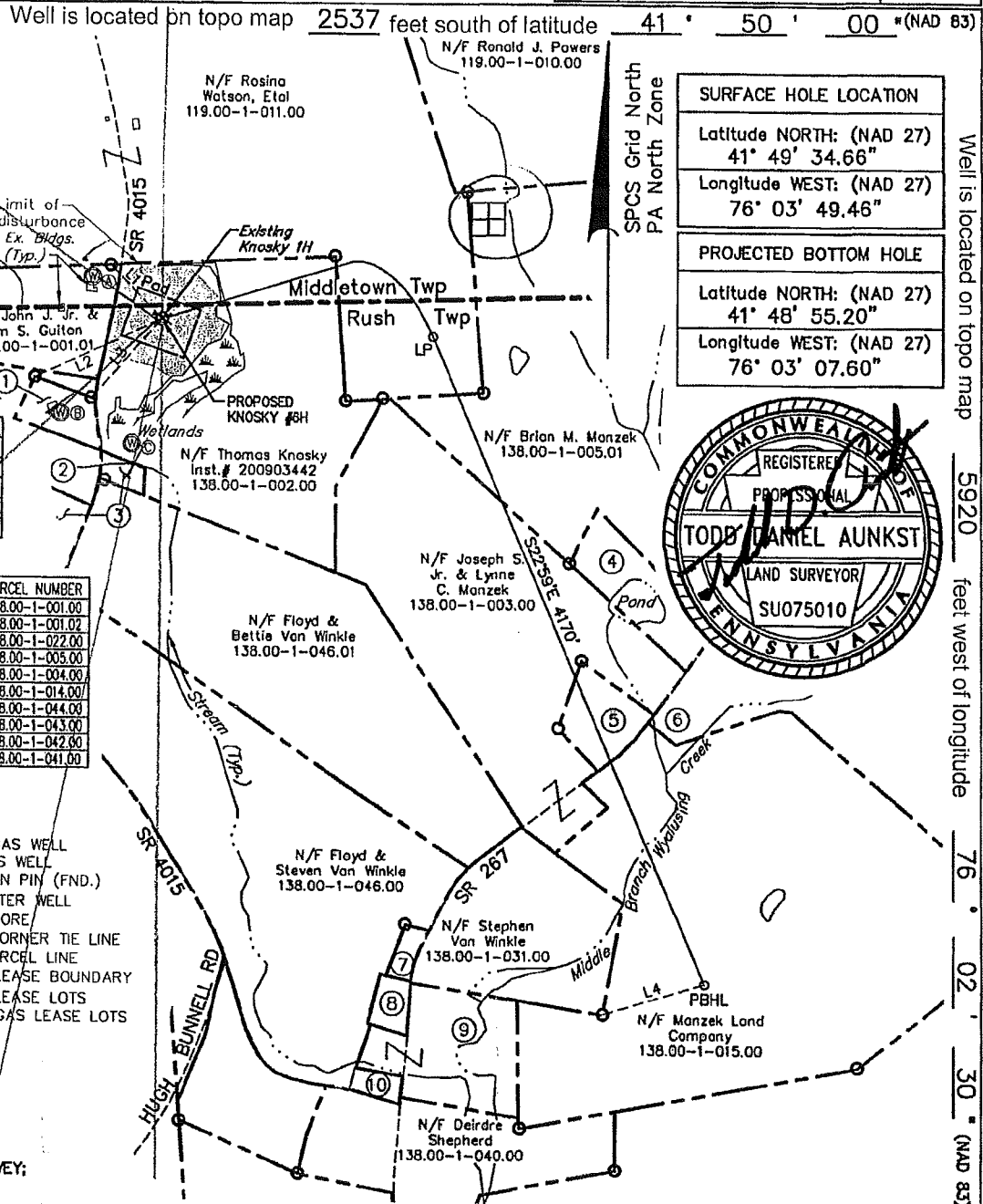
LINE	BEARING	LENGTH
L1	S44°05'21"E	445.91'
L2	N65°15'54"E	833.34'
L3	N41°56'56"E	630.47'
L4	N73°16'52"E	633.37'

TRACT	N/F PROPERTY OWNER/LESSOR	PARCEL NUMBER
1	James F. & Maureen Weiss	138.00-1-001.00
2	Ryan P. Guiton	138.00-1-001.02
3	Kelley L. Edward, Etal	138.00-1-022.00
4	Joseph & Dorothy Manzek	138.00-1-005.00
5	Walker & Ruth E. Murphy	138.00-1-004.00
6	Sharon A. Shears	138.00-1-014.00
7	Stephen & Floyd Jr. Von Winkle	138.00-1-044.00
8	Francis & Patricia Flynn	138.00-1-043.00
9	Charles H. & Mary E. Pool	138.00-1-042.00
10	David P. Sr. George	138.00-1-041.00

LEGEND

- PROPOSED GAS WELL
- EXISTING GAS WELL
- EXISTING IRON PIN (FND.)
- EXISTING WATER WELL
- PROPOSED BORE
- PROPERTY CORNER TIE LINE
- SURFACE PARCEL LINE
- OIL & GAS LEASE BOUNDARY
- OIL & GAS LEASE LOTS
- NON OIL & GAS LEASE LOTS

NOTE:
THIS MAP IS FOR WELL LOCATION PURPOSES ONLY AND DOES NOT REPRESENT A COMPLETE BOUNDARY SURVEY. CORNERS AND LINES IMPORTANT TO THE LOCATION OF THE WELL WERE LOCATED BY ACTUAL SURVEY; OTHER LINES ARE FROM TAX MAPS.



Surveyor or Engineer RETTEW ASSOCIATES, INC.	Phone # (800) 738-8395	Dwg. # 10-08798-010_WELL_PLAT	Date 9/19/2011	Scale 1"=1000'	Tract Acreage ±51 ACRES
Applicant / Well Operator Name WILLIAMS PRODUCTION APPALACHIA LLC	DEP ID# 276507	Well(Farm) Name KNOSKY	Well # 6H	Serial #	
Address 1000 TOWN CENTER, SUITE 130, CANONSBURG PA 15317	County - Code SUSQUEHANNA - 58	Municipality MIDDLETOWN & RUSH TOWNSHIPS	Well Type GAS		
Surface Landowner / Lessor THOMAS KNOSKY	USGS 7 1/2 Quadrangle Map Name LAWTON	Map Section 5	Surface Elevation 1260 ft.		
Target Formation(s) MARCELLUS	Angle & Course of Deviation (Drilling) SEE ATTACHED DIRECTIONAL DRILLING PLAN	Anticipated Total Depth TVD 6150'	TMD 11,033'		
Surface Owner or Water Purveyor with a Water Supply within 1,000 ft.	Approximate Course and Distance to Water Supply	Owner, Lessee, or Operator of Workable Coal Seam	Name of Coal Seam Owned, Leased, or Pooled		
Ⓐ JOHN J., JR. & KIM S. GUITON	S59°17'E 488'	N/A	Non-Coal		
Ⓑ JAMES F. & MAUREEN WEISS	N47°12'E 825'				
Ⓒ THOMAS KNOSKY	N13°23'E 762'				
OCT 24 2011					
ENVIRONMENTAL PROTECTION NORTHWEST REGIONAL OFFICE					

Well is located on topo map 5920 feet west of longitude 76° 02' 30" (NAD 83)



Williams

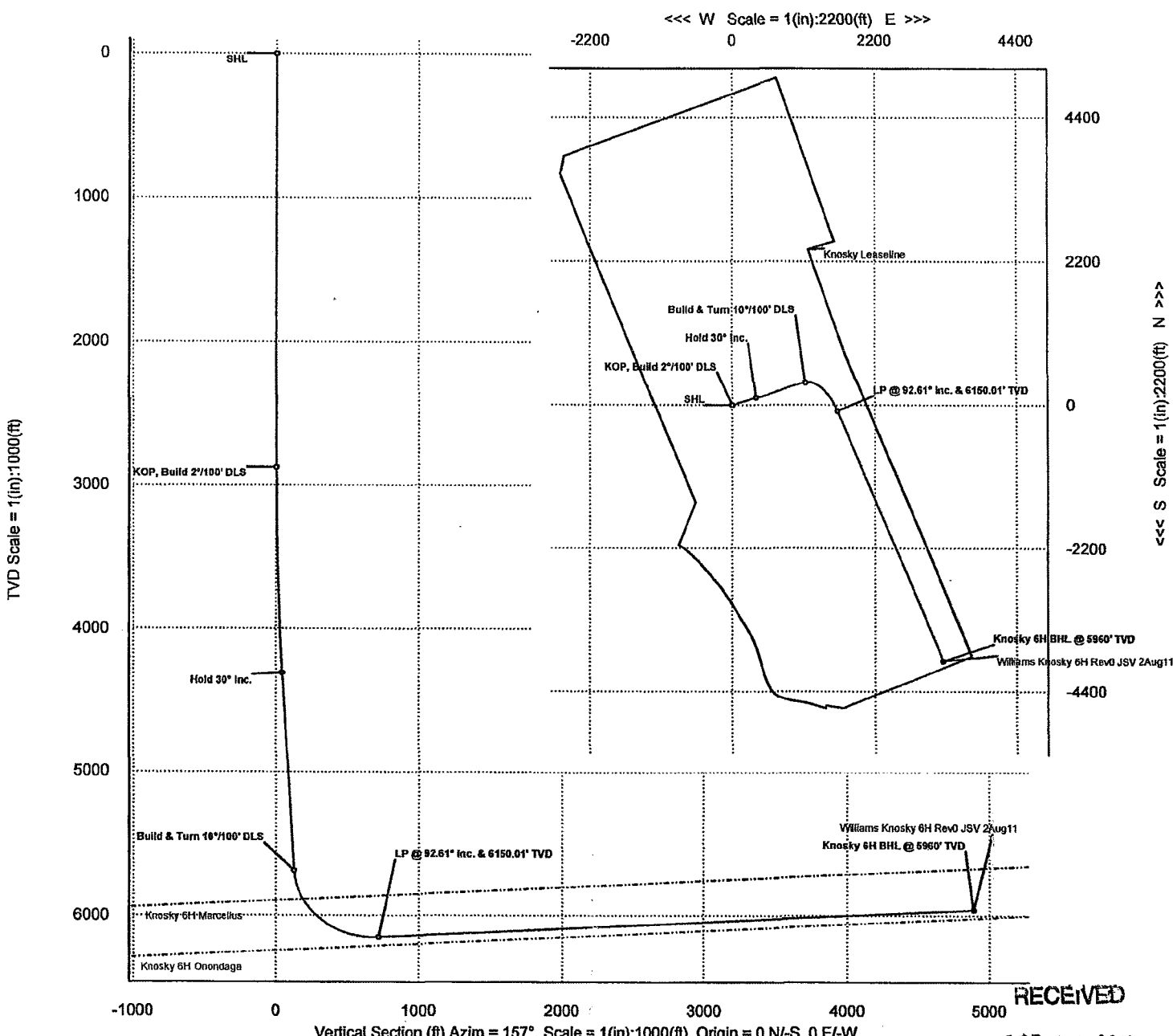
115-20755

PATHFINDER

A Schlumberger Company

WELL Knosky 6H	FIELD PA Susquehanna County	STRUCTURE TBD
--------------------------	---------------------------------------	-------------------------

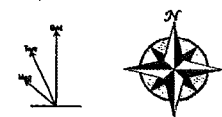
Magnetic Parameters Model: BGM 2011 Dip: 68.530° Mag Dec: -12.168°	Date: August 02, 2011 FS: 0207.9hT	Surface Location Lat: N 41 49 34.855 Lon: W 70 3 49.400	NAD27 Pennsylvania State Plane, Northern Zone, US Feet Northing: 691199.05 NUS Easting: 245970.02 NUS Grid Conv: 1.11552873° Scale Fact: 0.99996226	Miscellaneous Slot: Williams Knosky 6H Plan: Rev'd JSV 2Aug11	TVD Ref: KB(200ft above Unknown) Svy Date: August 02, 2011
---	---------------------------------------	---	---	---	---



RECEIVED
OCT 24 2011

Target Description		Grid Coord		Leas Coord				
Target Name	Shape	Major Axis	N(e)M(-)	E(s)M(-)	TVR	YSec	N(e)M(-)	E(s)M(-)
Knosky Leaseline	Polyline	0.00	609153.36	2459624.50	1210.00	23.16	-1.69	41.81
Knosky 6H Onondaga	Point	0.00	699066.22	2461197.17	6210.00	717.89	-92.83	1618.58
Knosky 6H Marcellus	Point	0.00	41.32	-76.03	5960.00	4887.60	-3931.32	3246.80
Knosky 6H Marcellus	Point	0.00	699066.22	2461197.17	5962.00	717.89	-92.83	1618.58

Cribbed Point		INCL		AZIM		XSEC		N(e)M(-)		E(s)M(-)		MLL
Cribbed Point	MR	INCL	AZIM	TVR	YSEC	N(e)M(-)	E(s)M(-)	MLL	N(e)M(-)	E(s)M(-)	MLL	
SHL	0.00	0.00	73.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
KOP, Build 2'/100' DLS	2876.30	0.00	73.00	2876.30	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
Hold 30° Inc.	4376.30	30.00	73.00	4308.89	44.12	112.21	347.04	2.00	1127.39	0.00	0.00	
Build & Turn 10'/100' DLS	5966.30	30.00	73.00	5681.87	123.22	244.63	1127.39	0.00	1127.39	0.00	0.00	
LP @ 92.61° Inc. & 6150.01' TVD	6639.18	92.61	157.00	6150.01	717.88	-92.83	1618.59	10.00	1618.59	10.00	0.00	
Knosky 6H BHL @ 5960' TVD	11032.2	92.61	157.00	5960.00	4887.60	-3931.32	3246.80	0.00	3246.80	0.00	0.00	



Grid North
Tot Cor (M-G -13.2835°)
Mag Dec (-12.168°)
Grid Conv (1.11552873°)

ENVIRONMENTAL PROTECTION
NORTHWEST REGIONAL OFFICE

Knosky Leaseline
Knosky 6H Onondaga
Knosky 6H Marcellus
Williams Knosky 6H Rev'd JSV 2Aug11

Quality Control
Date Drawn: August 31, 2011 01:03:46 PM
Drawn by: Vanessa
Checked by:
Client:



COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF ENVIRONMENTAL PROTECTION
Oil and Gas Management Program
WELL LOCATION PLAT

DEP USE ONLY	DEP Application Tracking #	11/22/11
	Permit #	15-20756
	Project #	C:

	Denotes location of well on topo map.
True Latitude: NORTH (NAD 83)	
41° 49' 34.97"	
True Longitude: WEST (NAD 83)	
76° 03' 47.96"	
PROJECTED BOTTOM HOLE	
Latitude NORTH: (NAD 83)	
41° 50' 17.11"	
Longitude WEST: (NAD 83)	
76° 04' 02.80"	

Well is located on topo map 2533 feet south of latitude 41° 50' 00" (NAD 83)

LINE	BEARING	LENGTH
L1	S46°03'52"E	455.32'
L2	N65°29'44"E	851.18'
L3	N42°51'17"E	645.58'
L4	S43°07'43"E	676.75'

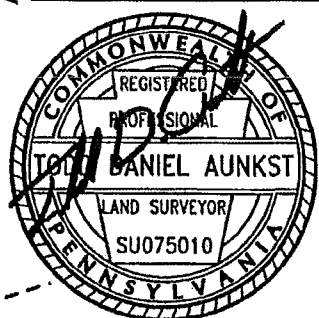
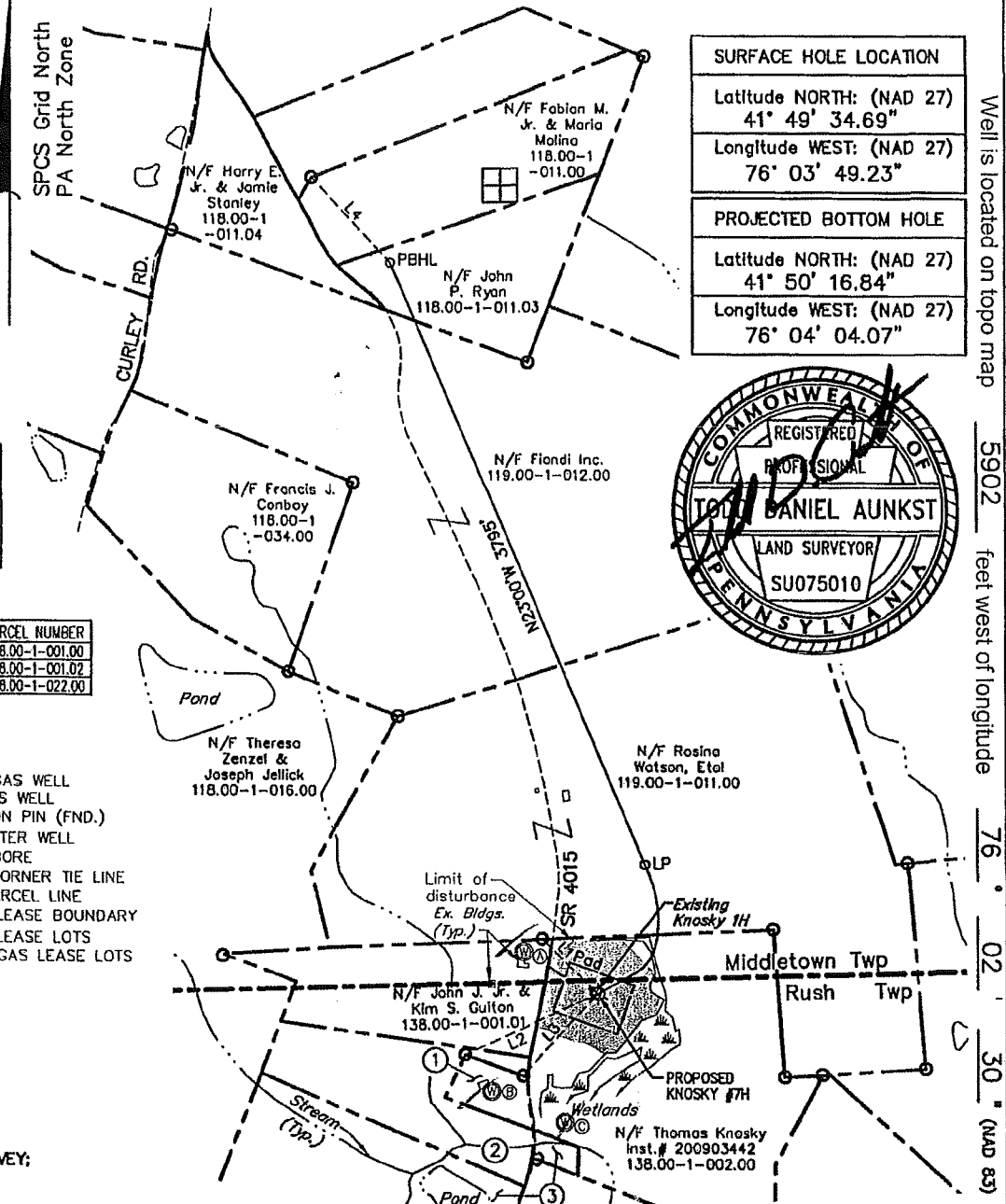
TRACT	N/F PROPERTY OWNER/LESSOR	PARCEL NUMBER
1	James F. & Maureen Weiss	138.00-1-001.00
2	Ryan P. Guiton	138.00-1-001.02
3	Kelley L. Edward, Etal	138.00-1-022.00

LEGEND

- PROPOSED GAS WELL
- EXISTING GAS WELL
- EXISTING IRON PIN (FND.)
- EXISTING WATER WELL
- PROPOSED BORE
- PROPERTY CORNER TIE LINE
- SURFACE PARCEL LINE
- OIL & GAS LEASE BOUNDARY
- OIL & GAS LEASE LOTS
- NON OIL & GAS LEASE LOTS

N/F Property Owner OIL & GAS LEASE LOTS
N/F Property Owner NON OIL & GAS LEASE LOTS

NOTE:
THIS MAP IS FOR WELL LOCATION PURPOSES ONLY AND DOES NOT REPRESENT A COMPLETE BOUNDARY SURVEY. CORNERS AND LINES IMPORTANT TO THE LOCATION OF THE WELL WERE LOCATED BY ACTUAL SURVEY; OTHER LINES ARE FROM TAX MAPS.



Surveyor or Engineer RETTEW ASSOCIATES, INC. Lat. & Long Metadata Method GPS	Phone # (800) 738-8395	Dwg. # 10-08798-010_WELL_PLAT	Date 9/19/2011	Scale 1"=1000'	Tract Acreage ±51 ACRES
Applicant / Well Operator Name WILLIAMS PRODUCTION APPALACHIA LLC	DEP ID# 276507	Well (Farm) Name KNOSKY	Well # 7H	Serial #	
Address 1000 TOWN CENTER, SUITE 130, CANONSBURG PA 15317	County - Code SUSQUEHANNA - 58	Municipality MIDDLETOWN & RUSH TOWNSHIPS	Well Type GAS	Map Section 5	Surface Elevation 1260 ft.
Surface Lendowner / Lessor THOMAS KNOSKY	USGS 7 1/2 Quadrangle Map Name LAWTON	Anticipated Total Depth TVD 6260'	Name of Coal Seam Owned, Leased, or Operated Non-Coal		
Target Formation(s) MARCELLUS	Angle & Course of Deviation (Drilling) SEE ATTACHED DIRECTIONAL DRILLING PLAN	Owner, Lessee, or Operator of Workable Coal Seam N/A	Name of Coal Seam Owned, Leased, or Operated Non-Coal		
Surface Owner or Water Purveyor with a Water Supply within 1,000 ft.	Approximate Course and Distance to Water Supply		Name of Coal Seam Owned, Leased, or Operated Non-Coal		
(A) JOHN J., JR. & KIM S. GUITON	S60°44'E 501'		Name of Coal Seam Owned, Leased, or Operated Non-Coal		
(B) JAMES F. & MAUREEN WEISS	N47°48'E 841'		Name of Coal Seam Owned, Leased, or Operated Non-Coal		
(C) THOMAS KNOSKY	N14°35'E 770'		Name of Coal Seam Owned, Leased, or Operated Non-Coal		

Well is located on topo map 5902 feet west of longitude 76° 02' 30" (NAD 83)

OCT 24 2011

ENVIRONMENTAL PROTECTION
NORTHWEST REGIONAL OFFICE



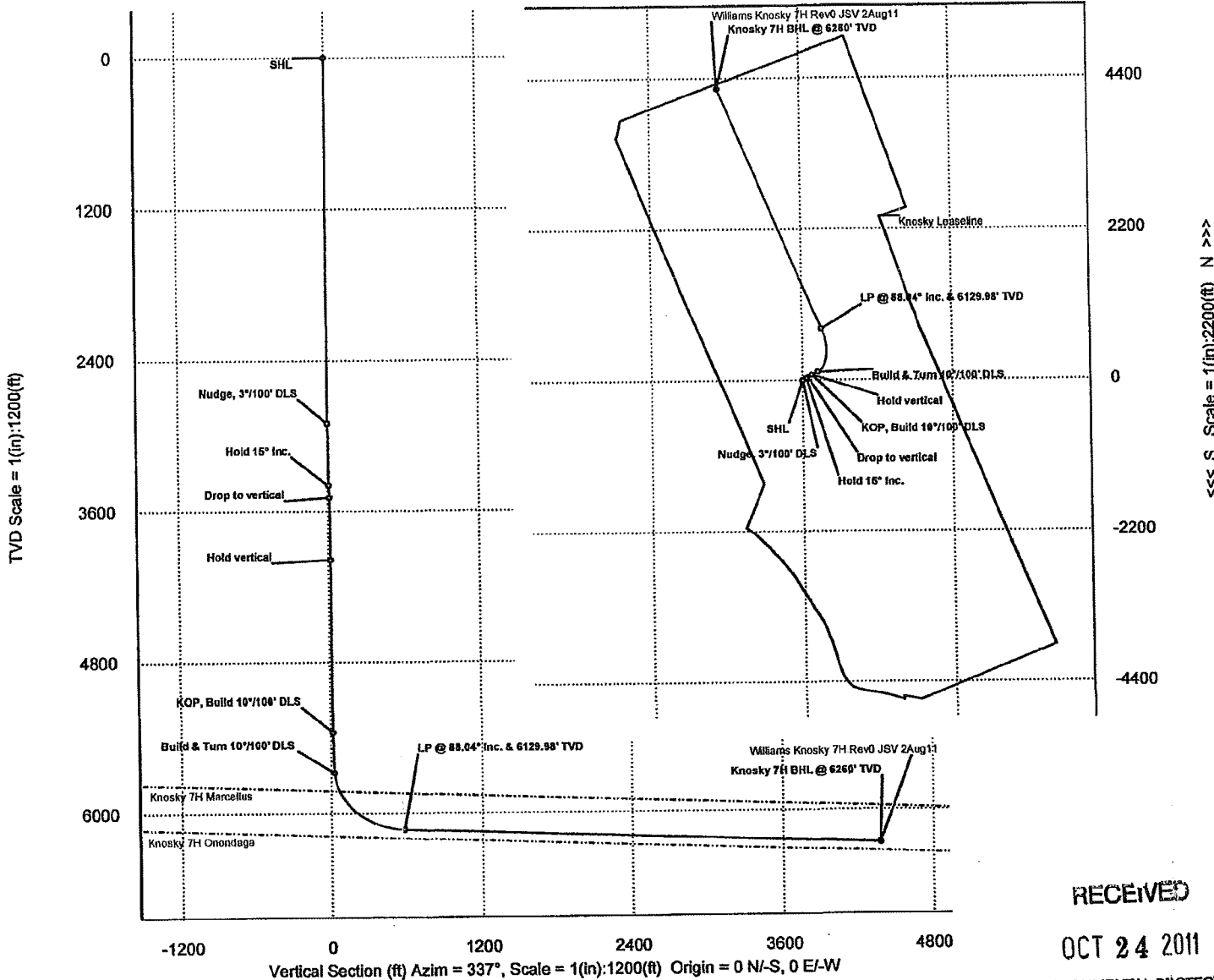
Williams

115-20756 **PATHFINDER**
A Schlumberger Company

WELL Knosky 7H	FIELD PA Susquehanna County	STRUCTURE TBD
--------------------------	---------------------------------------	-------------------------

Magnetic Parameters Model: BOGEM 2011 Dip: 86.33° Mag Dec: -12.168° Date: August 02, 2011 FB: 53207.60T	Surface Location Lat: N 41 49 34.694 Lon: W 76 3 49.226	NAD27 Pennsylvania State Plane, Northern Zone, US Feet Northing: 609163.34 NJS Easting: 249596.25 NJS Grid Conv: 1.11557173 Scale Fact: 0.99998228	Miscellaneous Slot: Williams Knosky 7H Plate: Rev0 JSV 2Aug11 TVD Ref: KH(1200ft above Unknown) Srvy Date: August 02, 2011
--	---	--	--

<<< W Scale = 1(in):2200(ft) E >>>
-2200 0 2200



RECEIVED

OCT 24 2011

ENVIRONMENTAL PROTECTION
NORTHWEST REGIONAL OFFICE

Target Description		Major Axis		Grid Coord		Elev Coord	
Target Name	Shape	Major Axis	N(+)E(-)	E(+)W(-)	TVD	Y(E)	X(+)W(-)
Knosky Leaseline	Point	0.00	609153.36	249596.24	1280.00	-20.22	2824
Knosky 7H Onondaga	Point	0.00	609913.17	249987.46	6260.00	582.31	749.84
Knosky 7H Marcellus	Point	0.00	609913.17	249987.46	5842.00	582.31	749.84
Knosky 7H BHL	Point	1.00	41.84	-76.07	6260.00	4377.23	4243.02

Critical Point		INCL		AZIM		TVDR		S/N/C		N(+)E(-)		E(+)W(-)		DLS	
Target Name	Shape	Major Axis	Minor Axis	Angle	Depth	Y(E)	X(+)W(-)	Y(E)	X(+)W(-)	Y(E)	X(+)W(-)	Y(E)	X(+)W(-)	Y(E)	X(+)W(-)
SHL	Point	0.00	0.00	61.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Nudge, 3"/100' DLS	Point	2900.00	0.00	61.00	2900.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hold 15" Inc.	Point	3400.00	1500	61.00	3394.31	6.80	31.55	36.92	3.00	44.10	19.55	0.80	0.00	0.00	0.00
Drop to vertical	Point	3500.00	1500	61.00	3490.90	9.31	44.10	19.55	0.80	75.65	136.67	3.80	0.00	0.00	0.00
Hold vertical	Point	4000.00	0.00	61.00	3985.21	16.31	75.65	136.67	3.80	75.65	136.67	0.00	0.00	0.00	0.00
KOP, Build 10"/100' DLS	Point	5370.46	0.00	61.00	5355.67	16.31	75.65	136.67	0.00	75.65	136.67	0.00	0.00	0.00	0.00
Build & Turn 10"/100' DLS	Point	5712.46	3420	61.00	5675.72	26.67	123.68	223.13	10.00	75.65	136.67	0.00	0.00	0.00	0.00
LP @ 88.04" Inc. & 6129.98' TVD	Point	6162.55	8804	88.04	6129.98	582.31	749.84	276.22	10.00	75.65	136.67	0.00	0.00	0.00	0.00
Knosky 7H BHL @ 6260' TVD	Point	10359.36	8824	88.04	10359.36	4377.23	4243.02	-1206.74	0.00	75.65	136.67	0.00	0.00	0.00	0.00

Legend

- Knosky Leaseline
- Knosky 7H Onondaga
- Knosky 7H Marcellus

Williams Knosky 7H Rev0 JSV 2Aug11

Grid North
Tot Cor (M-G-13.2836°)
Mag Dec (-12.168°)
Grid Conv (1.11557173°)

Quality Control
Date Drawn: August 31, 2011 013312
94
Drawn by: J Vanover
Checked by:
Client: OTC



COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF ENVIRONMENTAL PROTECTION
Oil and Gas Management Program
WELL LOCATION PLAT

DEP USE ONLY	DEP Application Tracking #	6/880
	Permit #	11/22/11
	Project #	115-20754
		C:

	Denotes location of well on topo map.
True Latitude: NORTH (NAD 83) 41° 49' 35.07"	
True Longitude: WEST (NAD 83) 76° 03' 48.33"	
PROJECTED BOTTOM HOLE	
Latitude NORTH: (NAD 83) 41° 50' 14.67"	
Longitude WEST: (NAD 83) 76° 04' 12.17"	

Well is located on topo map 2523 feet south of latitude 41° 50' 00" (NAD 83)

SURFACE HOLE LOCATION	
Latitude NORTH: (NAD 27)	41° 49' 34.80"
Longitude WEST: (NAD 27)	76° 03' 49.60"
PROJECTED BOTTOM HOLE	
Latitude NORTH: (NAD 27)	41° 50' 14.40"
Longitude WEST: (NAD 27)	76° 04' 13.44"

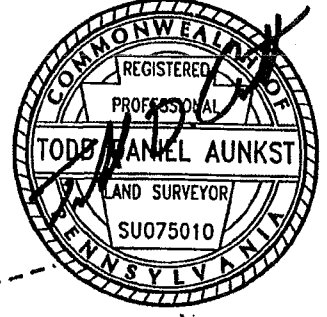
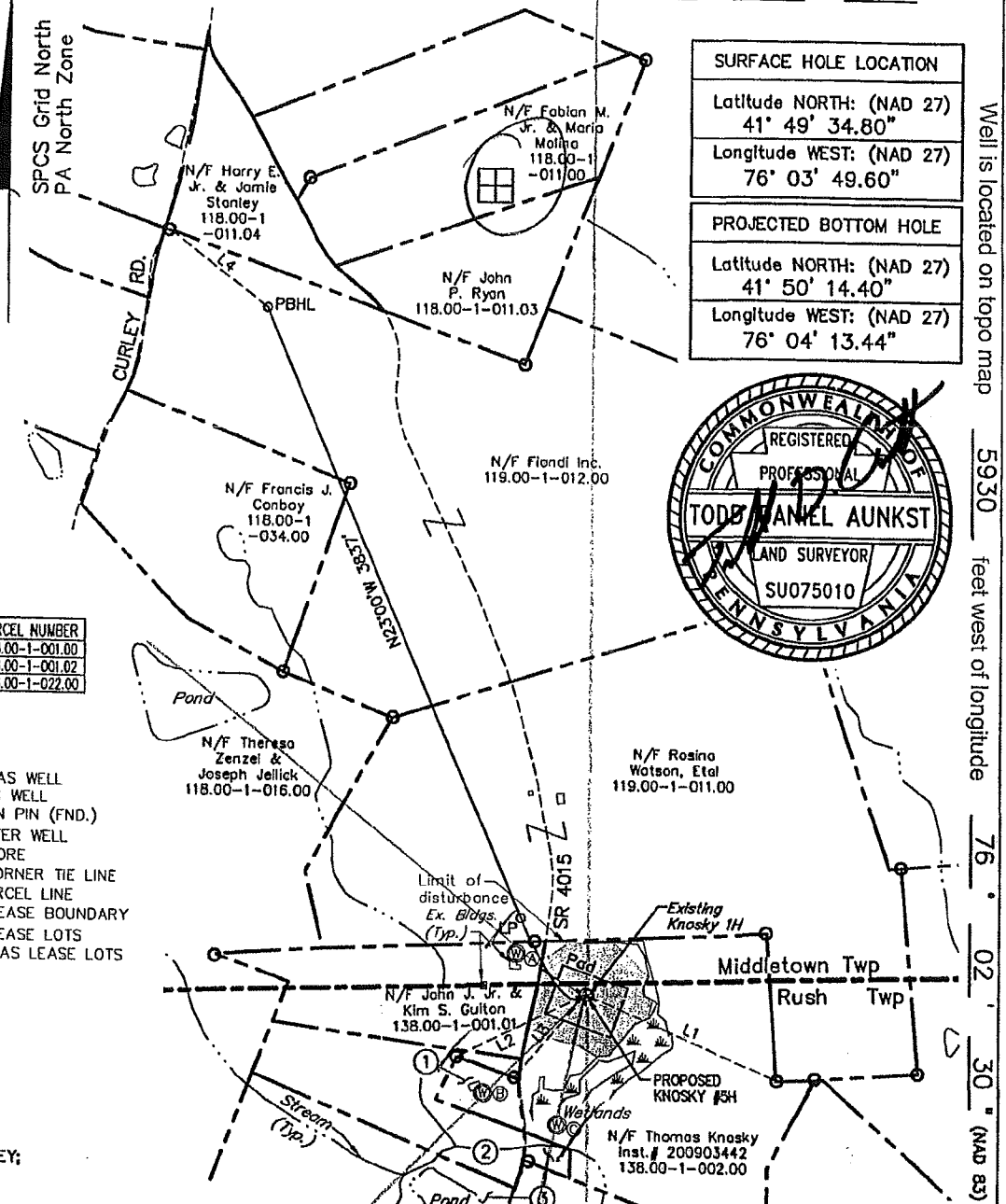
LINE TABLE		
LINE	BEARING	LENGTH
L1	N66°14'58"W	1215.38'
L2	N64°03'23"E	829.87'
L3	N40°21'58"E	634.29'
L4	S51°57'14"E	723.88'

TRACT	N/F PROPERTY OWNER/LESSOR	PARCEL NUMBER
1	James F. & Maureen Weiss	138.00-1-001.00
2	Ryan P. Gulton	138.00-1-001.02
3	Kelley L. Edward, Etal	138.00-1-022.00

LEGEND

- PROPOSED GAS WELL
- EXISTING GAS WELL
- EXISTING IRON PIN (FND.)
- EXISTING WATER WELL
- PROPOSED BORE
- PROPERTY CORNER TIE LINE
- SURFACE PARCEL LINE
- OIL & GAS LEASE BOUNDARY
- N/F Property Owner OIL & GAS LEASE LOTS
- N/F Property Owner NON OIL & GAS LEASE LOTS

NOTE:
THIS MAP IS FOR WELL LOCATION PURPOSES ONLY AND DOES NOT REPRESENT A COMPLETE BOUNDARY SURVEY. CORNERS AND LINES IMPORTANT TO THE LOCATION OF THE WELL WERE LOCATED BY ACTUAL SURVEY; OTHER LINES ARE FROM TAX MAPS.



Surveyor or Engineer RETIEW ASSOCIATES, INC.	Phone # (800) 738-8395	Dwg. # 10-08798-010_WELL_PLAT	Date 9/19/2011	Scale 1"=1000'	Tract Acreage ±51 ACRES
Applicant / Well Operator Name WILLIAMS PRODUCTION APPALACHIA LLC	DEP ID# 276507	Well (Farm) Name KNOSKY	Well # 5H	Serial #	
Address 1000 TOWN CENTER, SUITE 130, CANONSBURG PA 15317	County - Code SUSQUEHANNA - 58	Municipality MIDDLETOWN & RUSH TOWNSHIPS	Well Type GAS	Map Section 5	Surface Elevation ft.
Surface Landowner / Lessor THOMAS KNOSKY	USGS 71/2 Quadrangle Map Name LAWTON	Anticipated Total Depth TVD 6250'	TMD 10,295'		
Target Formation(s) MARCELLUS	Angle & Course of Deviation (Drilling) SEE ATTACHED DIRECTIONAL DRILLING PLAN	Owner, Lessee, or Operator of Workable Coal Seam N/A	Name of Coal Seam Owned, Leased, or Operated Non-Cool		
Surface-Owner or Water Purveyor with a Water Supply within 1,000 ft.	Approximate Course and Distance to Water Supply				
A JOHN J., JR. & KIM S. GULTON	S60°07'E 472'				
B JAMES F. & MAUREEN WEISS	N45°58'E 827'				
C THOMAS KNOSKY	N12°22'E 773'				

Well is located on topo map 5930 feet west of longitude 76° 02' 30" (NAD 83)



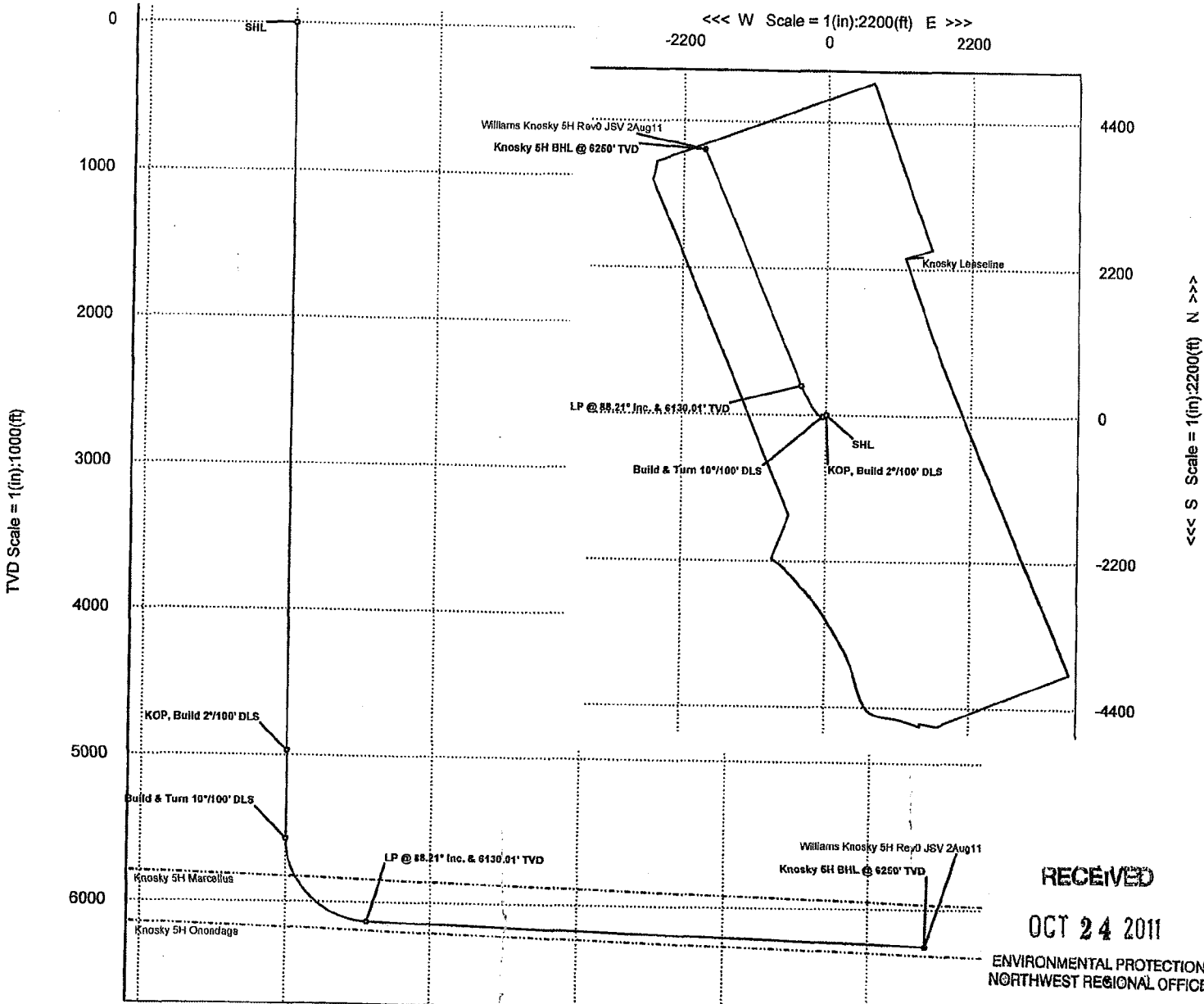
Williams

11520754

PATHFINDER
A Schlumberger Company

WELL Knosky 5H	FIELD PA Susquehanna County	STRUCTURE TBD
--------------------------	---------------------------------------	-------------------------

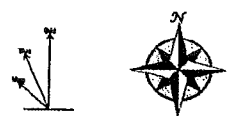
Magnetic Parameters Model: BGGM 2011 Dip: 68.33° Mag Dec: -12.168°	Date: August 02, 2011 FB: 53267.9mT	Surface Location Lat: N 41 43 54.730 Lon: W 78 3 49.597	NAD27 Pennsylvania State Plane, Northern Zone, US Feet 609173.42 RUS 245967.09 RUS Grid Conv: 1.11550355° Scale Fact: 0.99998227	Miscellaneous Slot: Williams Knosky 5H Plan: Rev0 JSV 2Aug11 TVD Ref: KB(1200' above Unknown) Svy Date: August 02, 2011
---	--	---	--	---



RECEIVED
OCT 24 2011
ENVIRONMENTAL PROTECTION
NORTHWEST REGIONAL OFFICE

Target Name	Shape	Mag Azimuth	Mag Dec	Grid Coord	TVD	YSec	N(+)/S(-)	E(+)/W(-)
Knosky LeaseLine	Polyline	0.00	609153.36	2459624.50	1280.00	-40.55	-28.06	56.53
Knosky 5H BHL	Point	0.00	41.84	-76.07	6210.00	4392.23	3972.56	-1882.30
Knosky 5H Marcolius	Plane	1.00	609614.32	2459185.13	5842.00	555.44	440.91	-382.84
Knosky 5H Onondaga	Plane	1.00	609614.32	2459185.13	6190.00	555.44	440.91	-382.84

Cellular Point	MD	INCL	AZIM	TVR	YSEC	N(+)/S(-)	E(+)/W(-)	DLS
SHL	0.00	0.00	247.00	0.00	0.00	0.00	0.00	0.00
KOP, Build 2"/100' DLS	4968.77	0.00	247.00	4968.77	0.00	0.00	0.00	0.00
Build & Turn 10"/100' DLS	5373.27	12.10	347.00	5569.28	0.00	-24.87	-58.59	2.00
LP @ 88.21° Inc. & 6130.01' TVD	6456.27	88.21	337.00	6130.01	555.45	440.91	-382.85	10.00
Knosky 5H BHL @ 6260' TVD	10294.93	88.21	336.99	6259.00	4392.23	3972.56	-1882.30	0.00



Grid North
Tnt Corr (M>G -13.2834°)
Mag Dec (-12.168°)
Grid Conv (1.11550355°)

Legend

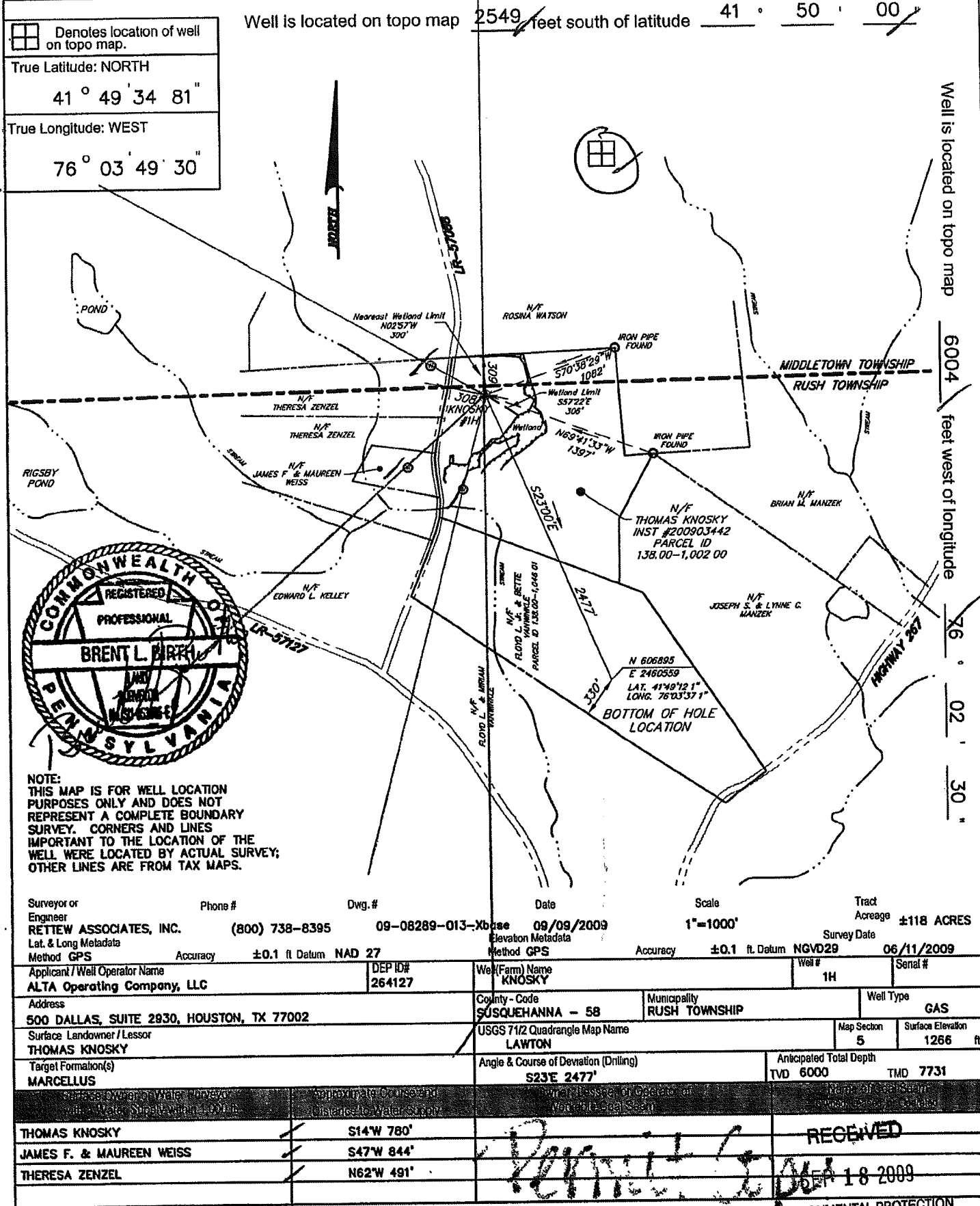
- Knosky LeaseLine
- Knosky 5H Marcolius
- Knosky 5H Onondaga
- Williams Knosky 5H Rev0 JSV 2Aug11

Quality Control
Date/Drawn: August 31, 2011 13:30:39 PM
Drawn by: J Vansore
Checked by:
Client OK:



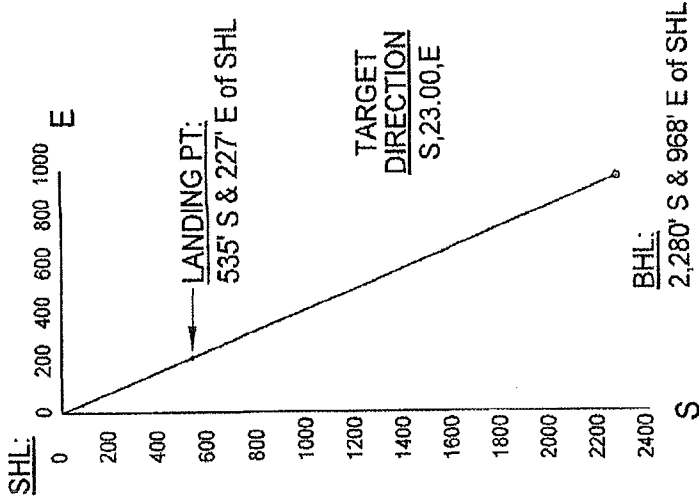
COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF ENVIRONMENTAL PROTECTION
Oil and Gas Management Program
WELL LOCATION PLAT

DEP USE ONLY	DEP Application Tracking #	8-22-09
	Permit #	115-20206
	Project #	C:



RECEIVED
ENVIRONMENTAL PROTECTION
NORTHWEST REGIONAL OFFICE

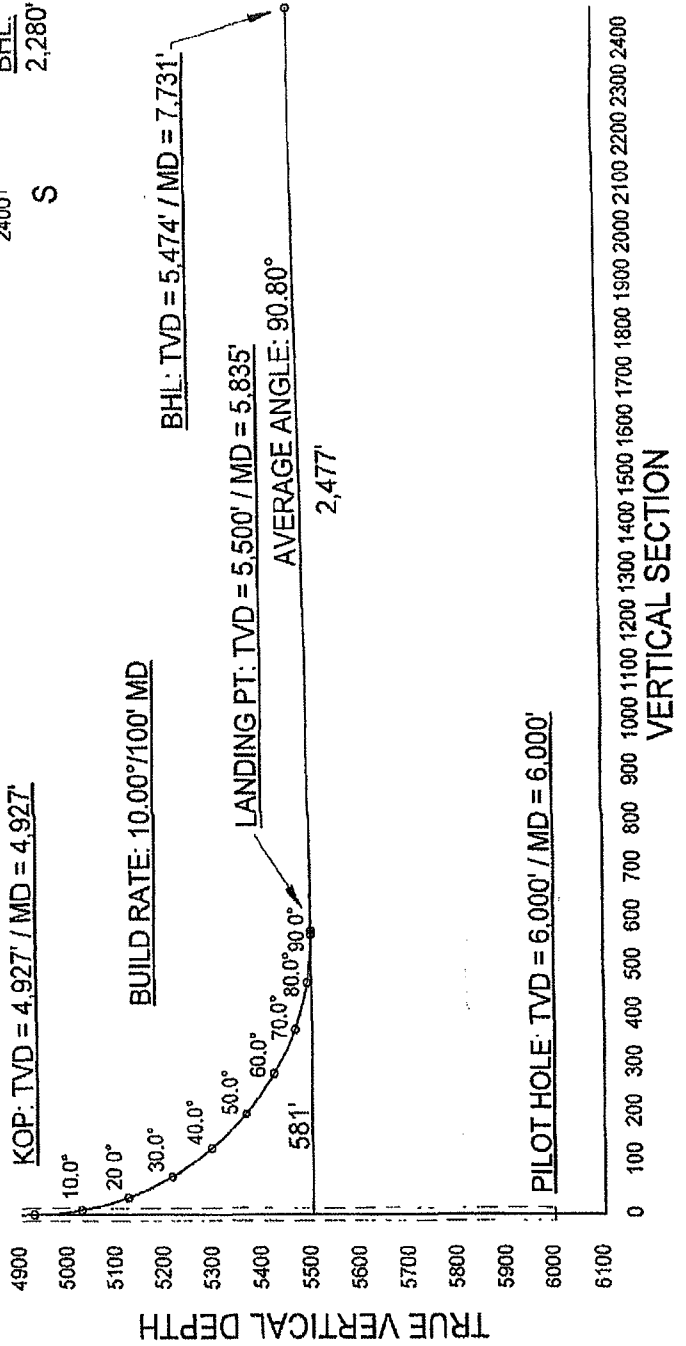
HORIZONTAL PROJECTION



ALTA OPERATING COMPANY, L.L.C.

KNOSKY WELL #1H
 RUSH TOWNSHIP
 SUSQUEHANNA COUNTY, PENNSYLVANIA
 (07/09/09)

VERTICAL PROJECTION



115-20206

REVISED

5500-PM-OG0002-DWG Rev 09/2008



COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF ENVIRONMENTAL PROTECTION
Oil and Gas Management Program
WELL LOCATION PLAT

DEP ONLY	DEP Application Tracking #	G
	Permit # 115-20206	C
	Project #	

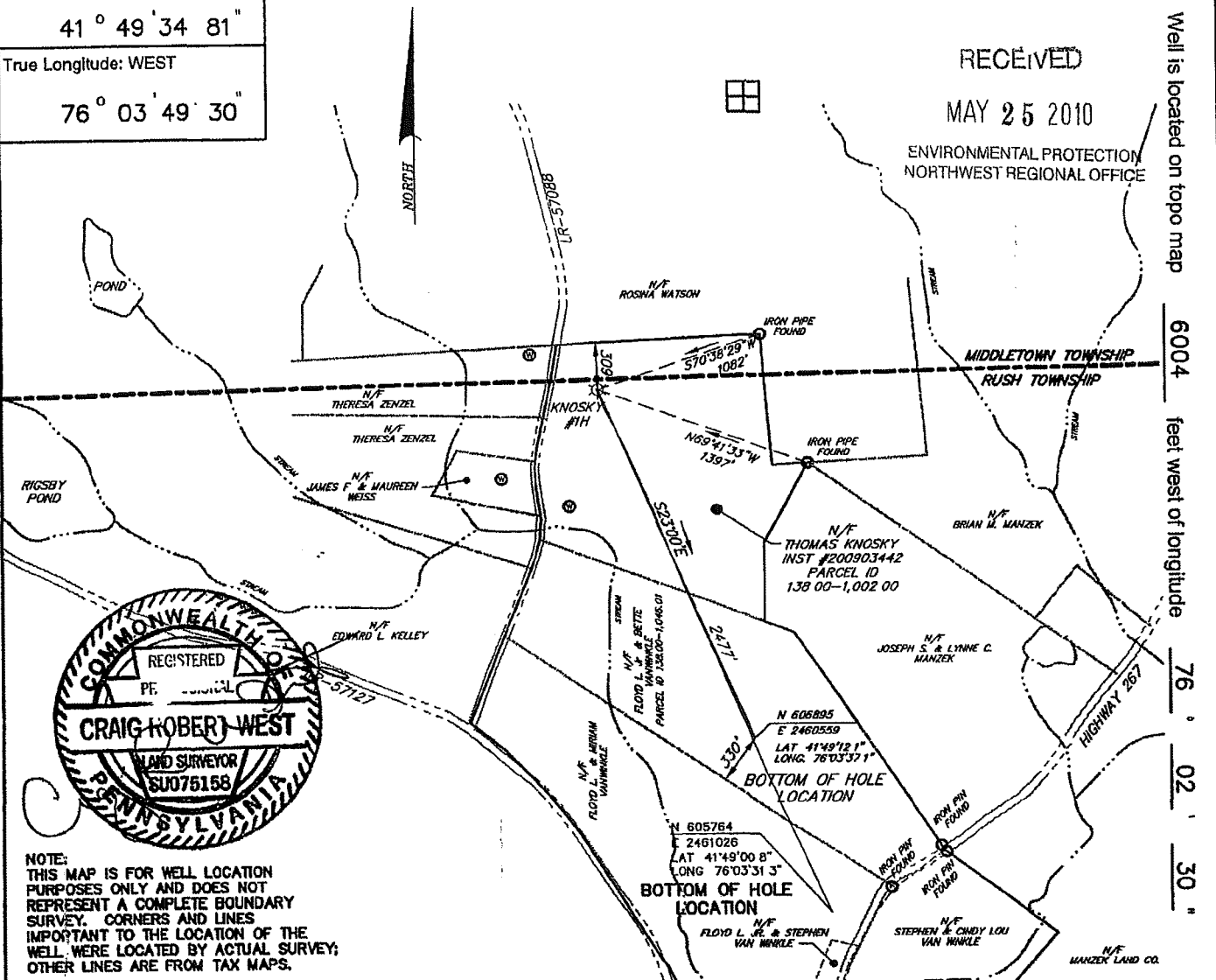
	Denotes location of well on topo map
True Latitude: NORTH	
41° 49' 34.81"	
True Longitude: WEST	
76° 03' 49.30"	

Well is located on topo map 2549 feet south of latitude 41 ° 50 ' 00 "

Well is located on topo map 6004 feet west of longitude 76 ° 02 ' 30 "

RECEIVED
MAY 25 2010

ENVIRONMENTAL PROTECTION
NORTHWEST REGIONAL OFFICE



NOTE:
THIS MAP IS FOR WELL LOCATION PURPOSES ONLY AND DOES NOT REPRESENT A COMPLETE BOUNDARY SURVEY. CORNERS AND LINES IMPORTANT TO THE LOCATION OF THE WELL WERE LOCATED BY ACTUAL SURVEY; OTHER LINES ARE FROM TAX MAPS.

Surveyor or Engineer RETWE ASSOCIATES, INC.	Phone # (800) 738-8395	Dwg # 09-08289-013-Xbase	Date 09/09/2009	Scale 1"=1000'	Tract Acreage ±118 ACRES
Lat. & Long Metadata Method GPS	Accuracy ±0.1 ft. Datum NAD 27	Elevation Metadata Method GPS	Accuracy ±0.1 ft Datum NGVD29	Survey Date 06/11/2009	

Applicant / Well Operator Name ALTA Operating Company, LLC	DEP ID# 264127	Well (Farm) Name KNOSKY	Well # 1H	Serial #
Address 500 DALLAS, SUITE 2830, HOUSTON, TX 77002	County - Code SUSQUEHANNA - 58	Municipality RUSH TOWNSHIP	Well Type GAS	
Surface Landowner / Lessor THOMAS KNOSKY	USGS 7 1/2 Quadrangle Map Name LAWTON	Map Section 5	Surface Elevation 1266 ft.	
Target Formation(s) MARCELLUS	Angle & Course of Deviation (Drilling) R=41° L=8° S23E 3700'	Actual Total Depth TVD 6154 TMD 8590		
THOMAS KNOSKY	S14°W 780'			
JAMES F. & MAUREEN WEISS	S47°W 844'			
THERESA ZENZEL	N62°W 491'			