



pennsylvania
DEPARTMENT OF ENVIRONMENTAL PROTECTION

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF ENVIRONMENTAL PROTECTION
Oil and Gas Management Program
WELL LOCATION PLAT
Page 1 Surface Location

DEP USE ONLY	Auth ID #:	G: <i>ACW</i>
	Permit #: <i>019-21967</i>	C: <i>9/11/12</i>
	Project #:	TH

Top Hole Well is located on topo map 93 feet south of latitude 41° 05' 00" parcel lines taken from
Bottom Hole Well is located on topo map 4013 feet south of latitude 41° 05' 00" tax map information

Surface Hole Coordinates

True Latitude: NORTH
41° 04' 59.08"

True Longitude: WEST
79° 55' 12.53"

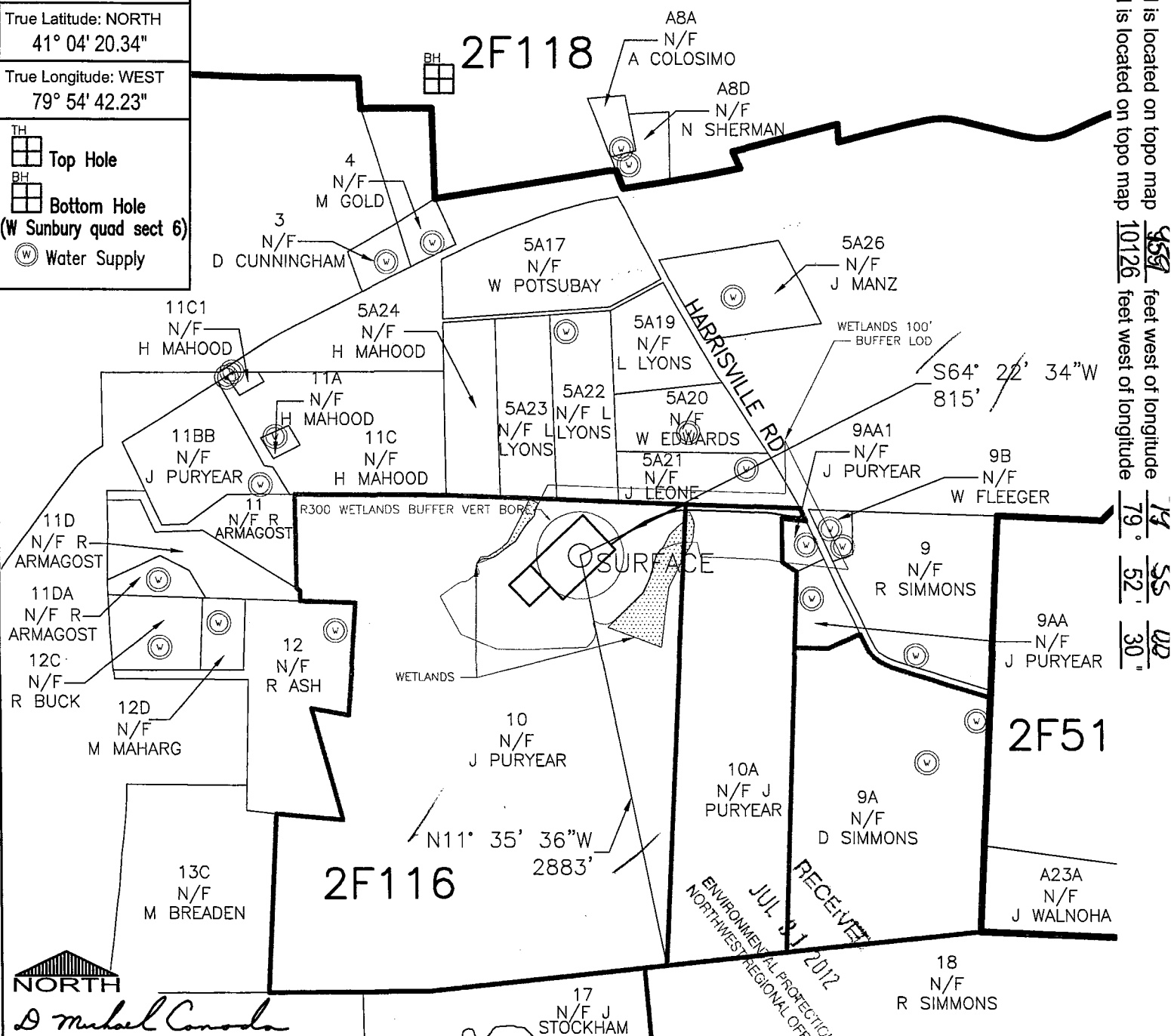
Bottom Hole Coordinates

True Latitude: NORTH
41° 04' 20.34"

True Longitude: WEST
79° 54' 42.23"

TH Top Hole

BH Bottom Hole
(W Sunbury quad sect 6)
 Water Supply



Applicant / Well Operator Name: SWEPI LP		DEP ID#: 284309	Well (Farm) Name: PURYEAR J		Well #: 2069-5HD
Address: 190 Thorn Hill Road, Warrendale, PA 15086			County: BUTLER	Municipality: CHERRY	Well Type: Gas
911 Address of well site: 260 HARRISVILLE RD			USGS 7 1/2 Quadrangle Map Name: WEST SUNBURY		Map Section: 5 Surface Elevation: 1295 ft.
Surveyor: Pa. Lic. # SU029272 E D. Michael Canada	Phone #: 716-379-7918	Dwg #: 2069 PURYEAR	Date: JUNE 19, 2012	Scale: 1" = 1000'	Tract Acreage: 439.31
Lat. & Long Metadata Method: RTK GPS	Accuracy: ± 5 ft.	Datum: NAD 83	Elevation Metadata Method: GPS	Accuracy: ± 5 ft.	Datum: NAD 83
Survey Date: AUGUST 31, 2011					

Top Hole Well is located on topo map 93 feet west of longitude 79° 52' 30"
Bottom Hole Well is located on topo map 10126 feet west of longitude 79° 52' 30"

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NORTHWEST REGIONAL OFFICE

WELL LOCATION PLAT

Page 2 Notifications

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: SWEPI LP	DEP ID#: 284309	Well (Farm) Name: PURYEAR J	Well #: 2069-5HD
Surface Landowner: PURYEAR JOSEPH C	Angle & Course of Deviation (Drilling): S29° 11' 14"E 4556'	Anticipated True Vertical Depth Feet (TVD): 9378	Anticipated Total Measured Depth Feet (TMD): 13628.45
Target Formation(s): Utica Shale	Deepest Formation to be penetrated: Utica Shale	Number of Laterals: 1	Total footage to be drilled - all laterals: 13628.45

Surface Owner or Water Purveyor
with a Water Supply within 3,000 ft.

Latitude/Longitude of Water Supply

PIN	OWNER	LAT	LONG
070-2F116-00000003-0000	CUNNINGHAM DONALD A & DEBRA J	41D 05' 18.64"	79D 55' 30.54"
070-2F116-00000004-0000	GOLD MARILYN A	41D 05' 20.01"	79D 55' 26.39"
070-2F116-00000009-0000	SIMMONS ROBERT F JR	41D 04' 52.88"	79D 54' 42.09"
070-2F116-00000012-0000	ASH RICHARD H REVOCABL TR	41D 04' 53.55"	79D 55' 34.46"
070-2F116-0000009A-0000	SIMMONS DAVID R	41D 04' 45.62"	79D 54' 40.97"
070-2F116-0000009A-0000	SIMMONS DAVID R	41D 04' 48.54"	79D 54' 36.63"
070-2F116-0000009B-0000	FLEEGER WALTER E & JEANETTE D	41D 05' 00.13"	79D 54' 48.81"
070-2F116-0000009B-0000	FLEEGER WALTER E & JEANETTE D	41D 05' 01.31"	79D 54' 49.98"
070-2F116-0000011A-0000	MAHOOD HAROLD M & MARGARET A	41D 05' 06.60"	79D 55' 40.28"
070-2F116-0000011C-0000	MAHOOD HAROLD M & MARGARET A	41D 05' 10.54"	79D 55' 44.77"
070-2F116-0000012C-0000	BUCK ROBERT J & MELISSA M	41D 04' 52.09"	79D 55' 50.33"
070-2F116-0000012D-0000	MAHARG MERLE C	41D 04' 53.86"	79D 55' 45.03"
070-2F116-000009AA-0000	PURYEAR JOSEPH C	41D 04' 56.53"	79D 54' 51.53"
070-2F116-000011BB-0000	PURYEAR JOSEPH C & PRICE CHRISTINE	41D 05' 03.32"	79D 55' 41.52"
070-2F116-000011C1-0000	MAHOOD HAROLD M & MARGARET A	41D 05' 10.13"	79D 55' 43.56"
070-2F116-000011DA-0000	ARMAGOST RANDYS & STACEY L	41D 04' 56.67"	79D 55' 50.56"
070-2F116-00005A20-0000	EDWARDS WILLIAM T & BEATRICE E	41D 05' 07.61"	79D 55' 02.93"
070-2F116-00005A21-0000	LEONE JOSEPH E	41D 05' 05.24"	79D 54' 57.70"
070-2F116-00005A22-0000	LYONS LEWIS O & KAREN M	41D 05' 14.24"	79D 55' 14.21"
070-2F116-00005A26-0000	MANZ JON V & TANYA L	41D 05' 16.90"	79D 54' 59.21"
070-2F116-00009AA1-0000	PURYEAR JOSEPH C	41D 05' 00.17"	79D 54' 52.13"
070-2F118-00000A8A-0000	COLOSIMO ANTHONY J SR	41D 05' 26.75"	79D 55' 09.58"
070-2F118-00000A8D-0000	SHERMAN NANCY	41D 05' 25.68"	79D 55' 08.85"

Municipality: where the well will be drilled,
adjacent to the well, or within 3000 feet

DRILLED IN -	CHERRY TWP-BUTLER CO
ADJACENT TO -	MARION TWP-BUTLER CO
	VENANGO TWP-BUTLER CO
	WASHINGTON TWP-BUTLER CO
	CONCORD TWP-BUTLER CO
	CLAY TWP-BUTLER CO
	BRADY TWP-BUTLER CO
	SLIPPERY ROCK TWP-BUTLER CO
	MERCER TWP-BUTLER CO

Coal related parties

NONE

Surface Hole Coordinates
 True Latitude: NORTH
 41° 04' 59.08"
 True Longitude: WEST
 79° 55' 12.53"
 Kick-off Point (KOP)
 True Latitude: NORTH
 41° 04' 59.08"
 True Longitude: WEST
 79° 55' 12.53"
 Landing Point
 True Latitude: NORTH
 41° 04' 52.74"
 True Longitude: WEST
 79° 55' 08.36"
Bottom Hole Coordinates
 True Latitude: NORTH
 41° 04' 20.34"
 True Longitude: WEST
 79° 54' 42.23"

2F118
 ABA N/F A COLOSIMO
 ABD N/F N SHERMAN
 4 N/F M GOLD
 3 N/F D CUNNINGHAM
 5A17 N/F W POTSUBAY
 5A26 N/F J MANZ
 5A19 N/F L LYONS
 5A22 N/F L LYONS
 5A20 N/F W EDWARDS
 5A21 N/F J LEONE
 9A1 N/F J PURYEAR
 9B N/F W FLEETTER
 9 N/F R SIMMONS
 9A N/F J PURYEAR
 9A N/F D SIMMONS
 10 N/F J PURYEAR
 10A N/F J PURYEAR
 11C1 N/F H MAHOOD
 11A N/F H MAHOOD
 11BB N/F J PURYEAR
 11 N/F R ARMAGOST
 11D N/F R ARMAGOST
 11DA N/F R ARMAGOST
 12C N/F R BUCK
 12D N/F M MAHARG
 12 N/F R ASH
 13C N/F M BREADEN
 16 N/F J STOCKHAM
 17 N/F J STOCKHAM
 18 N/F R SIMMONS
 19H N/F D LAYTON
 19G N/F D LAYTON
 19F N/F J BELSCHNER
 19C N/F R JOYCE
 19D N/F G RADER
 19A N/F K SAUTER
 19AA N/F D SAUTER
 A23A N/F J WALNOHA
 A26 N/F D RAIDIA
 A27 N/F J WALLACE
 A28 N/F R GEBHART
 A28BA N/F R EVERARD
 A42D N/F S SEWCHOK
 S64° 22' 34" W 815'
 N11° 35' 36" W 2883'
 N37° 48' 48" W 871'
 N83° 01' 51" W 547'

2F51

WELL PAD W/ TOP HOLE LOCATIONS
 260 HARRISVILLE RD
 2069-5HD TOP
 2069-6HM TOP
 2069-6HS TOP
 2069-5HM TOP
 2069-4HD TOP
 2069-4HM TOP

NOTE: ALL PARCELS WITHIN THE DRILL UNIT HAVE OIL AND GAS RIGHTS OWNED BY SWEPI LP AND THE PROPOSED WELLBORE IS GREATER THAN 330 FEET FROM ANY UNOWNED DRILLING RIGHTS.

NOTE: ALL PARCELS WITHIN THE DRILL UNIT HAVE OIL AND GAS RIGHTS OWNED BY SWEPI LP AND THE PROPOSED WELLBORE IS GREATER THAN 330 FEET FROM ANY UNOWNED DRILLING RIGHTS.

WELL LOCATION PLAT
Page 4 Cross Section

Applicant / Well Operator Name:

SWEPI LP

DEP ID#:

284309

Well (Farm) Name:

PURYEAR J

Well #:

2069-5HD

DEP
Use
Only

Permit #

WELL PLAN

Operator Name: SWEPI LPWell / Farm Name: PURYEAR J

			Latitude:	Longitude:
KOP:	TVD: <u>8661.8</u>	TMD: <u>8661.8</u>	<u>41° 04' 59.08"</u>	<u>79° 55' 12.53"</u>
Landing Point:	TVD: <u>9378</u>	TMD: <u>9786.8</u>	<u>41° 04' 52.74"</u>	<u>79° 55' 08.36"</u>

*FOR CLARITY PURPOSES, SEE THE
FOLLOWING ATTACHED WELL PLAN AND
SECTION VIEWS

UA_APPALACHIA



Project: SLIPPERY ROCK
Site: PURYEAR J #2069
Well: PURYEAR #2069-5HD
Wellbore: PURYEAR #2069-5HD
Design: Design #2
Rig: TBD

Surface Location:

EPW NAD83
 NAD83 / Pennsylvania North [1188_2271]
 Elevation: DFE @ 1317.00ft (TBD)
 Easting 1370297.46 41° 4' 59.073 N
 Longitude 79° 55' 12.533 W

Northing 341387.00

Eik - 1935

SECTION DETAILS

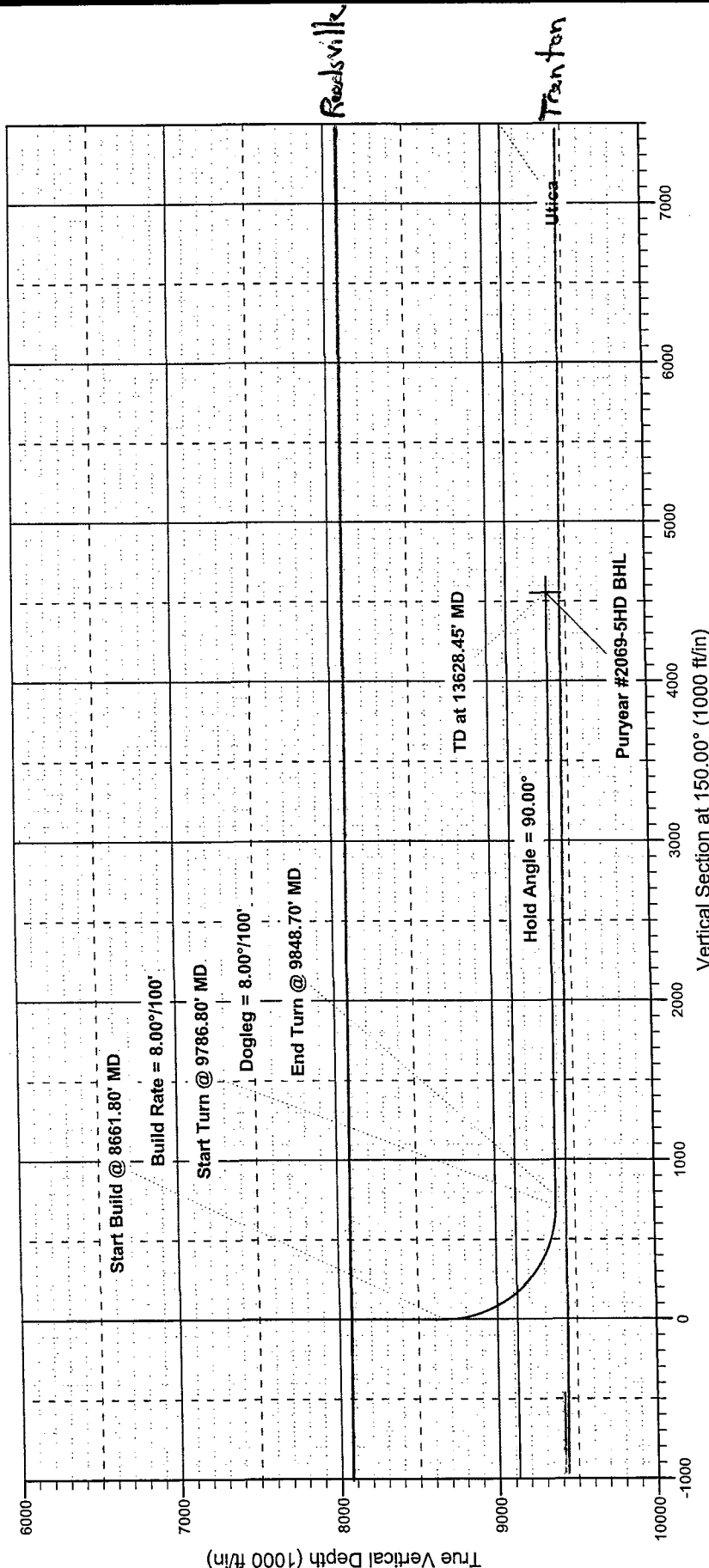
MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	VSeet	Annotation
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	Start Build
8661.80	0.00	0.00	8661.80	0.00	0.00	0.00	0.00	0.00	Start Turn
9786.80	90.00	154.95	9378.00	-648.83	303.24	8.00	154.95	713.53	End Turn
9848.70	90.00	150.00	9378.00	-703.70	331.84	8.00	-90.00	775.35	TD
13628.45	90.00	150.00	9378.00	-3977.01	2221.82	0.00	0.00	4555.10	

WELBORE TARGET DETAILS (MAP CO-ORDINATES)

Name	TVD	+N/-S	+E/-W	Northing	Easting	Shape
Puryear #2069-5HD BHL	9378.00	-3977.01	2221.82	337410.00	1372519.27	Point

To convert a Magnetic Direction to a Grid Direction, Subtract 7.99°

Magnetic Model: BGGM2011 Date: 17-May-12
 Azimuths to Grid North



UA_APPALACHIA



Project: SLIPPERY ROCK
Site: PURYEAR J #2069
Well: PURYEAR #2069-5HD
Wellbore: PURYEAR #2069-5HD
Design: Design #2
Rig: TBD

Surface Location:

EPW NAD83
 NAD83 / Pennsylvania North [1188.2271]
 Elevation: DFE @ 1317.00ft (TBD)
 Northing 341387.00 Easting 1370297.46 Latitude 41° 4' 59.073 N Longitude 79° 55' 12.533 W

To convert a Magnetic Direction to a Grid Direction, Subtract 7.99°

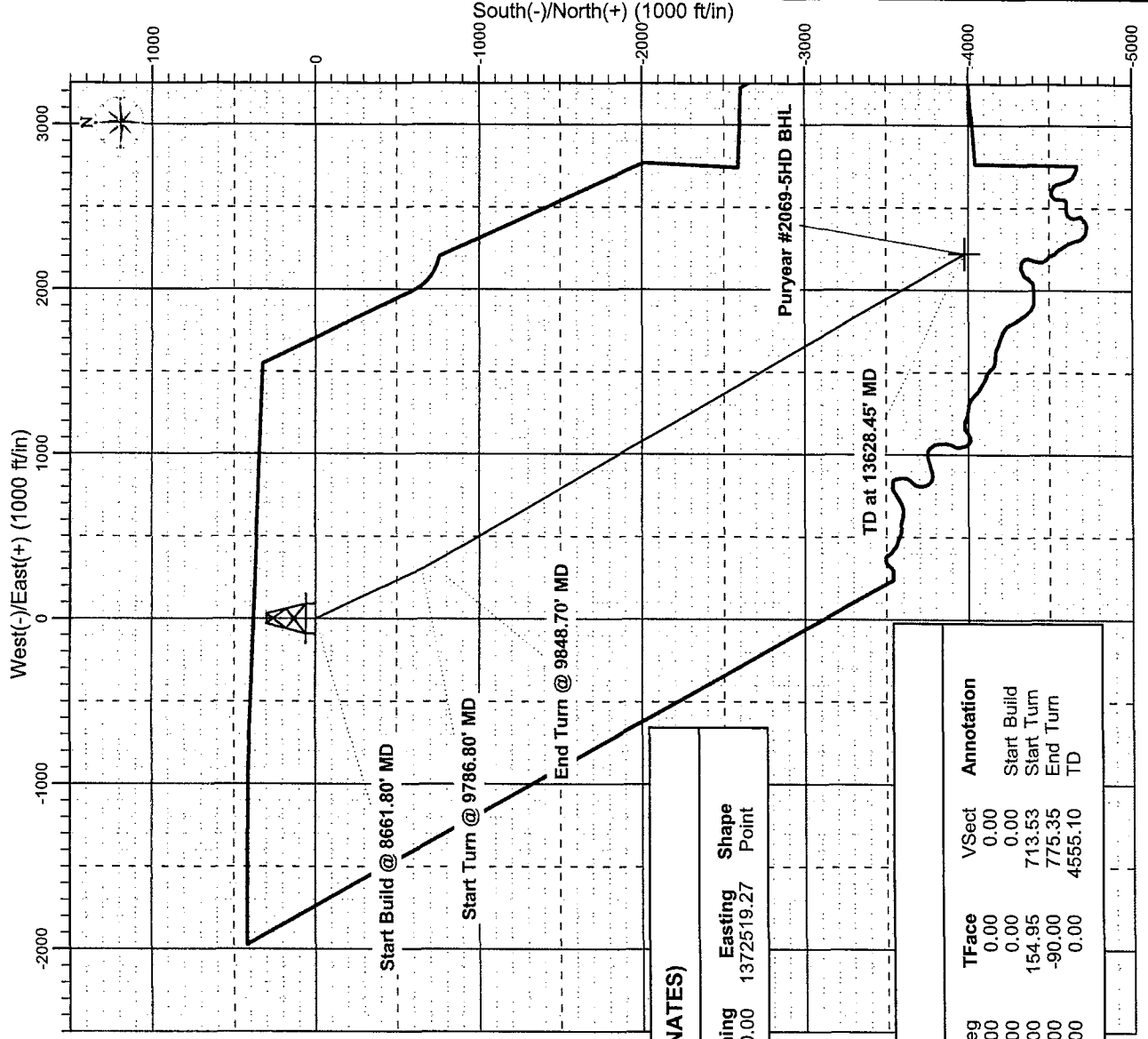
Magnetic Model: BGGM2011 Date: 17-May-12
 Azimuths to Grid North

WELLBORE TARGET DETAILS (MAP CO-ORDINATES)

Name	MD	Inc	Azi	TVD	+N/-S	+E/-W	North	East	Shape
Puryear #2069-5HD BHL	0.00	0.00	0.00	0.00	-3977.01	2221.82	337410.00	1372519.27	Point

SECTION DETAILS

MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	VFace	Annotation
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
8661.80	0.00	0.00	8661.80	0.00	0.00	0.00	0.00	0.00	Start Build
9786.80	90.00	154.95	9378.00	-648.83	303.24	8.00	154.95	713.53	Start Turn
9848.70	90.00	150.00	9378.00	-703.70	331.84	8.00	-90.00	775.35	End Turn
13628.45	90.00	150.00	9378.00	-3977.01	2221.82	0.00	0.00	4555.10	TD



Top Hole Well is located on topo map 1019 feet west of longitude 79° 35' 00"
Bottom Hole Well is located on topo map 10976 feet west of longitude 79° 52' 30"



Dwg. #:

Date:

Scale:

Tract

Lat. & Long Metadata Method: RTK GPS Accuracy: ± 5 ft. Datum: NAD 83			Elevation Metadata Method: GPS Accuracy: ± 5 ft. Datum: NAD 83			Survey Date: JULY 19, 2011		
Applicant / Well Operator Name: SWEPI LP			DEP ID#: 284309		Well(Farm) Name: PURYEAR, J		Well #: 2069-4HD Serial #: 	
Address: 190 Thorn Hill Road, Warrendale, PA 15086			County - Code: BUTLER		Municipality: CHERRY		Well Type: Horizontal	
Surface Landowner / Lessor: PURYEAR JOSEPH C			USGS 71/2 Quadrangle Map Name: WEST SUNBURY			Map Section: 5		Surface Elevation: 1295
Target Formation(s): Utica Shale			Angle & Course of Deviation (Drilling): S21° 38' 26"E 3910'			Anticipated Total Depth TVD: 9760' TMD: 13347'		
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	
NONE			---		NONE			

UA_APPALACHIA

Project: SLIPPERY ROCK

Site: PURYEAR #2069

Well: PURYEAR #2069-4HD

Wellbore: PURYEAR #2069-4HD

Design: Design #2

Rig: TBD

Surface Location:

EPW NAD83

NAD83 / Pennsylvania North [1188_2271]

Elevation: GL 1298' + KB 22' @ 1320.00ft (TBD)

Northing
341364.44

Easting
1370236.71

Latitude
41° 4' 58.835 N

Longitude
79° 55' 13.319 W

SECTION DETAILS

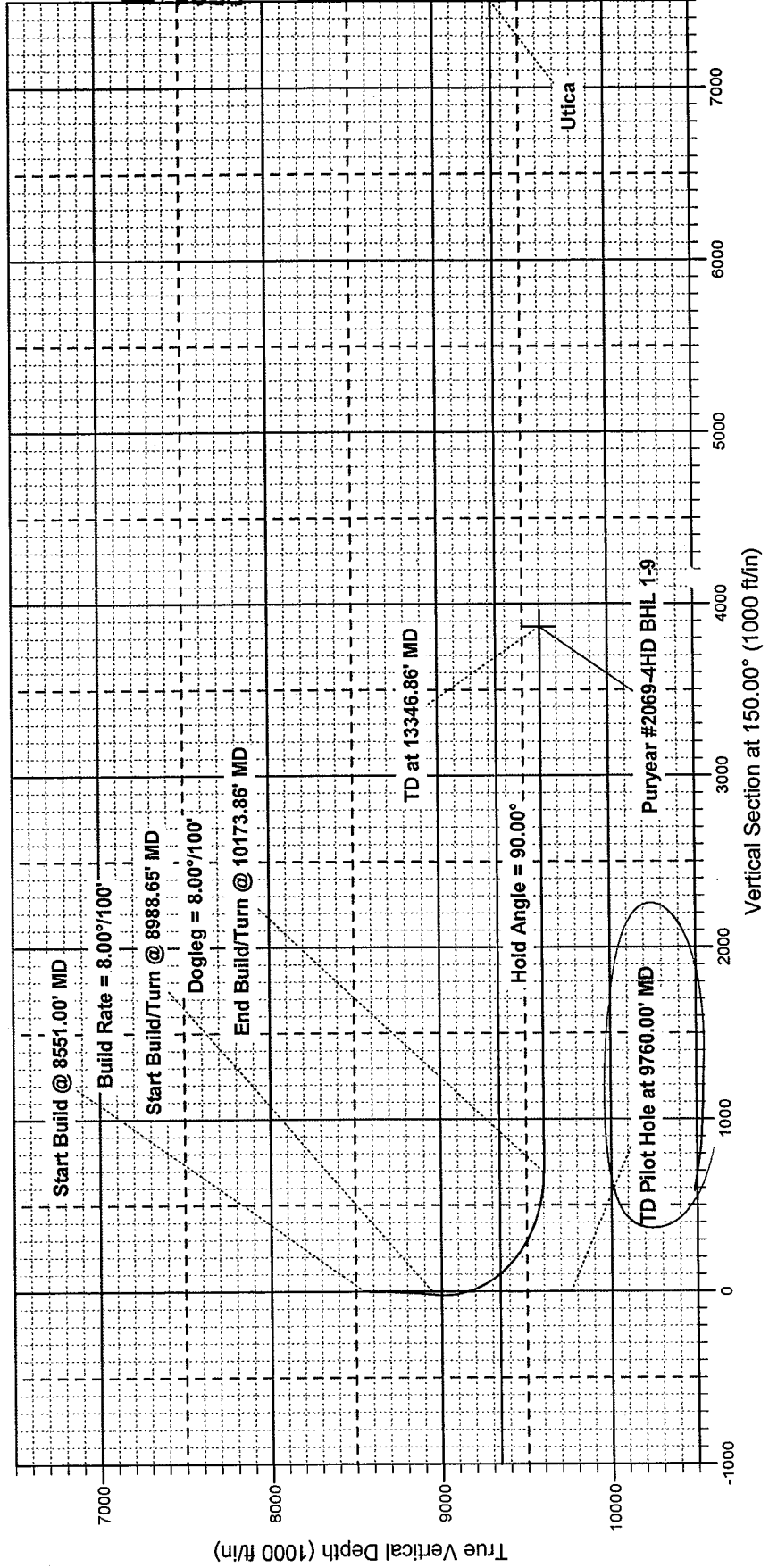
MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	VFace	Annotation
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	Start Build
8551.00	0.00	0.00	8551.00	0.00	0.00	0.00	0.00	0.00	Start Build/Turn
8988.65	35.00	248.38	8961.93	-47.74	-120.47	8.00	248.38	-18.89	End Build/Turn
10173.86	90.00	150.00	9600.00	-886.98	-146.41	8.00	-96.88	694.94	TD
13346.86	90.00	150.00	9600.00	-3634.88	1440.09	0.00	0.00	3867.94	

WELLBORE TARGET DETAILS (MAP CO-ORDINATES)

Name	TVD	+N/-S	+E/-W	Northing	Easting	Shape
Puryear #2069-4HD BHL 1-9	9600.00	-3634.88	1440.09	337729.57	1371676.80	Point

To convert a Magnetic Direction to a Grid Direction, Subtract 7.99°

Magnetic Model: BGGM2011 Date: 22-Nov-11
Azimuths to Grid North



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NORTHWEST REGION

Project: SLIPPERY ROCK
Site: PURYEAR #2069
Well: PURYEAR #2069-4HD
Wellbore: PURYEAR #2069-4HD
Design: Design #2
Rig: TBD

Surface Location:

EPW NAD83
NAD83 / Pennsylvania North [1188, 2271]
Elevation: GL 1298' + KB 22' @ 1320.00ft (TBD)
Northing 341364.44 Easting 1370236.71 Latitude 41° 4' 58.835 N Longitude 79° 55' 13.319 W

To convert a Magnetic Direction to a Grid Direction, Subtract 7.99°

Magnetic Model: BGGM2011 Date: 22-Nov-11
Azimuths to Grid North

WELLBORE TARGET DETAILS (MAP CO-ORDINATES)

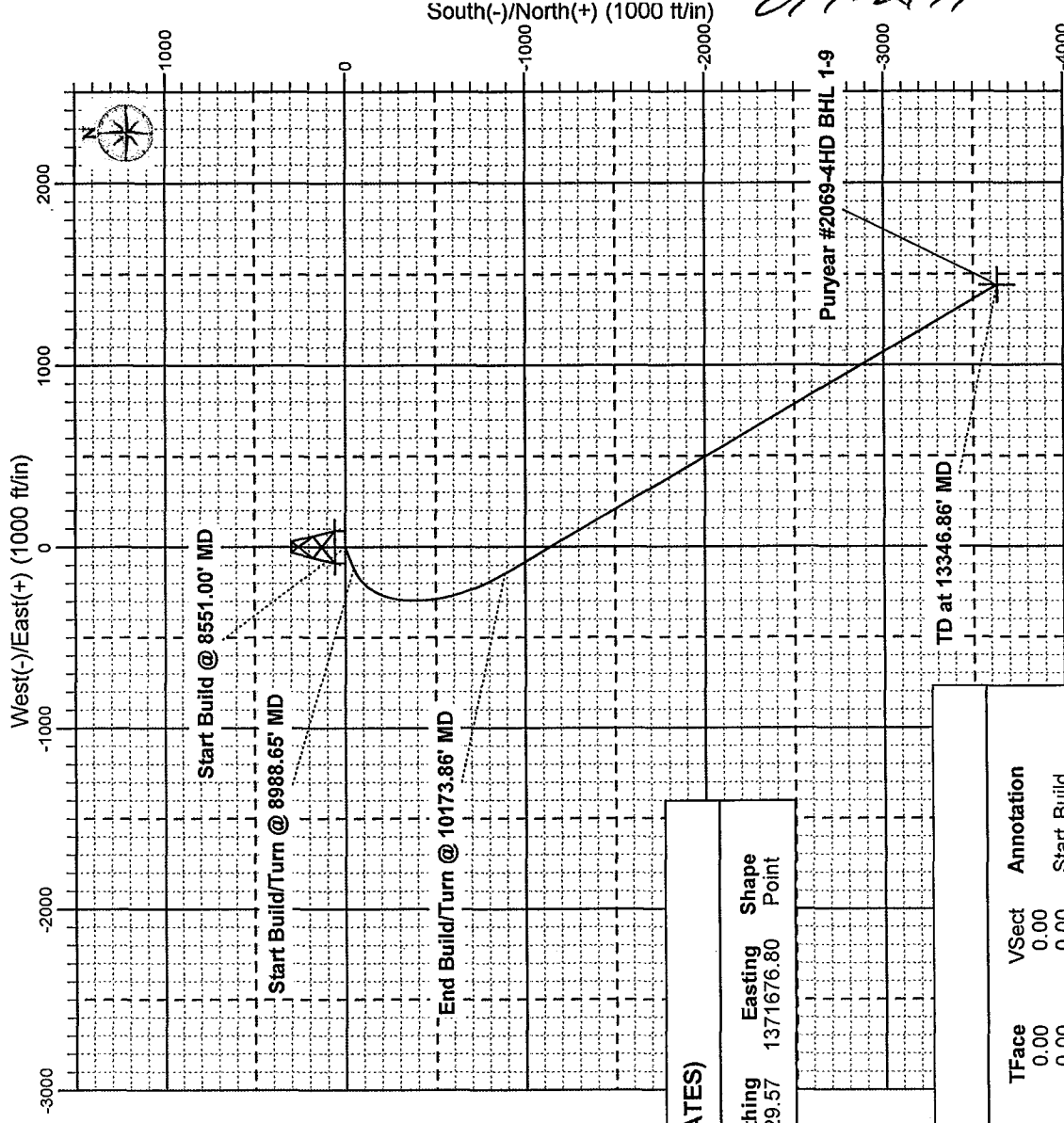
Name	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	V/Sect	Annotation
------	-----	-----	-------	-------	------	-------	--------	------------

Puryear #2069-4HD BHL 1-9

9600.00 -3634.88 1440.09 337729.57 1371676.80

SECTION DETAILS

MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	V/Sect	Annotation
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	Start Build
8551.00	0.00	0.00	8551.00	0.00	0.00	0.00	0.00	0.00	Start Build/Turn
8988.65	35.00	248.38	8951.93	-47.74	-120.47	8.00	248.38	-18.89	End Build/Turn
10173.86	90.00	150.00	9600.00	-886.98	-146.41	8.00	-96.88	694.94	TD
13346.86	90.00	150.00	9600.00	-3634.88	1440.09	0.00	0.00	3867.94	TD



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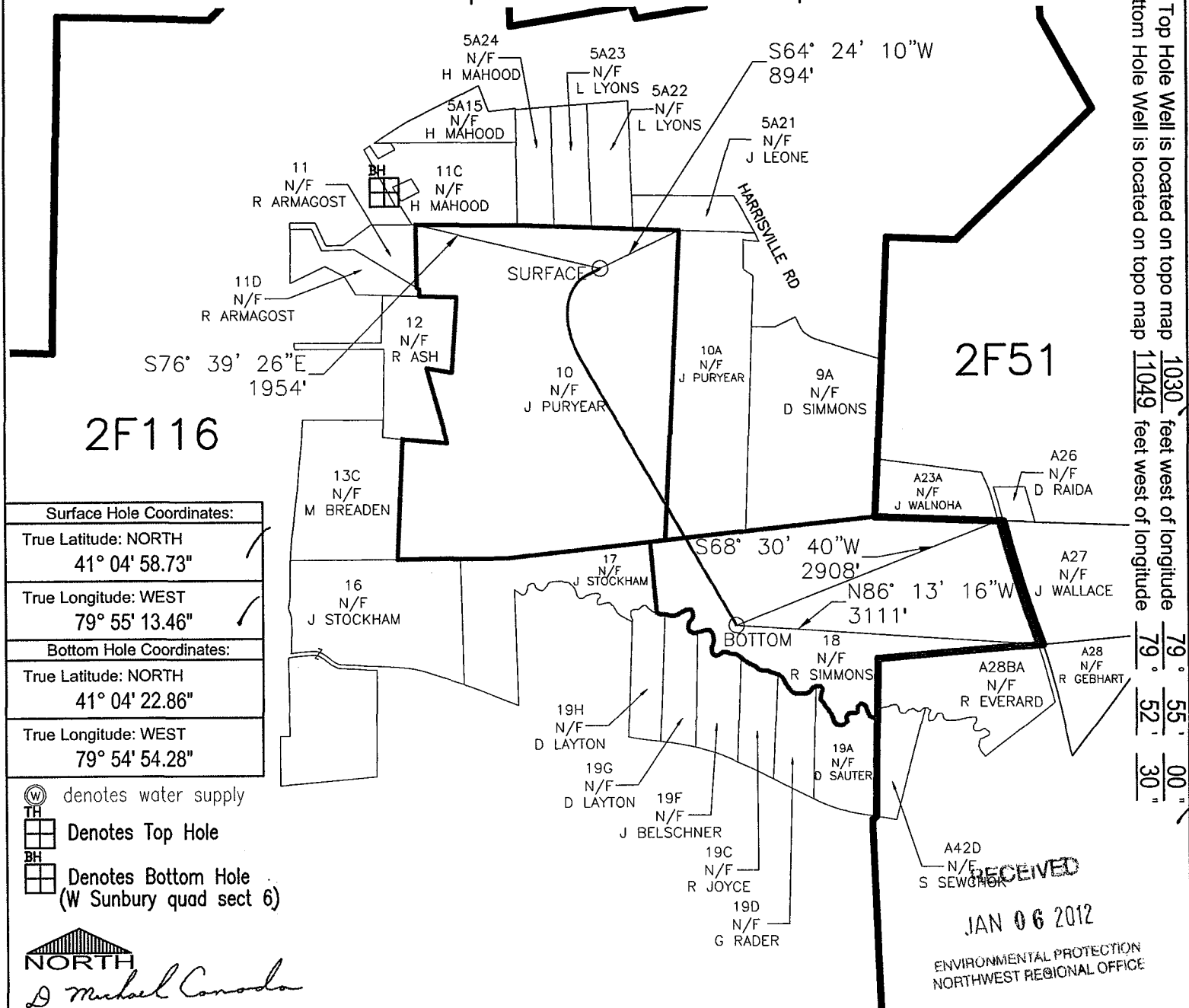
pennsylvania
DEPARTMENT OF ENVIRONMENTAL PROTECTION

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

DEP Application
Tracking #: **019-21941**
Permit #: **019-21941**
Project #:

G: **123/12**
C:
TH

Top Hole Well is located on topo map 128 feet south of latitude 41° 05' 00"
Bottom Hole Well is located on topo map 3758 feet south of latitude 41° 05' 00"
parcel lines taken from tax map information



Surface Hole Coordinates:	
True Latitude: NORTH	41° 04' 58.73"
True Longitude: WEST	79° 55' 13.46"
Bottom Hole Coordinates:	
True Latitude: NORTH	41° 04' 22.86"
True Longitude: WEST	79° 54' 54.28"

- (W) denotes water supply
TH Denotes Top Hole
BH Denotes Bottom Hole
(W Sunbury quad sect 6)



D Michael Canada

Surveyor or D. Michael Canada Phone #: (716) 379-7918
Engineer: Pa. Lic. # SU029272 E

Dwg. #: **2069 PURYEAR**

Date: **NOVEMBER 30, 2011**

Scale: **1" = 1500'**

Tract Acreage: **195.19**

Lat. & Long Metadata Method: RTK GPS Accuracy: ± 5 ft. Datum: NAD 83		Elevation Metadata Method: GPS Accuracy: ± 5 ft. Datum: NAD 83		Survey Date: JULY 19, 2011	
Applicant / Well Operator Name: SWEPI LP		DEP ID#: 284309		Well (Farm) Name: PURYEAR, J	
Address: 190 Thorn Hill Road, Warrendale, PA 15086		County - Code: BUTLER		Municipality: CHERRY	
Surface Landowner / Lessor: PURYEAR JOSEPH C		USGS 71/2 Quadrangle Map Name: WEST SUNBURY		Map Section: 5 Surface Elevation: 1295 ft.	
Target Formation(s): Marcellus Shale		Angle & Course of Deviation (Drilling): S20° 37' 27"E 3916'		Anticipated Total Depth: 5635' TMD: 9345'	
Surface Owner or Water Provider: NONE		Approximate Course and Distance: NONE		Owner (Lessor or Operator): NONE	
Water Supply: NONE		Water Supply: NONE		Water Supply: NONE	

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NORTHWEST REGIONAL OFFICE

Top Hole Well is located on topo map 1030 feet west of longitude 79° 55' 00"
Bottom Hole Well is located on topo map 11049 feet west of longitude 79° 52' 30"



Project: SLIPPERY ROCK

Site: PURYEAR #2069

Well: PURYEAR #2069-4HM

Wellbore: PURYEAR #2069-4HM

Design: Design #1

Rig: TBD

Surface Location:

EPW NAD83

NAD83 / Pennsylvania North [1188_2271]

Elevation: GL 1298' + KB 22' @ 1320.00ft (TBD)

Northing	Easting	Latitude	Longitude
341354.13	1370225.82	41° 4' 58.731 N	79° 55' 13.458 W

SECTION DETAILS

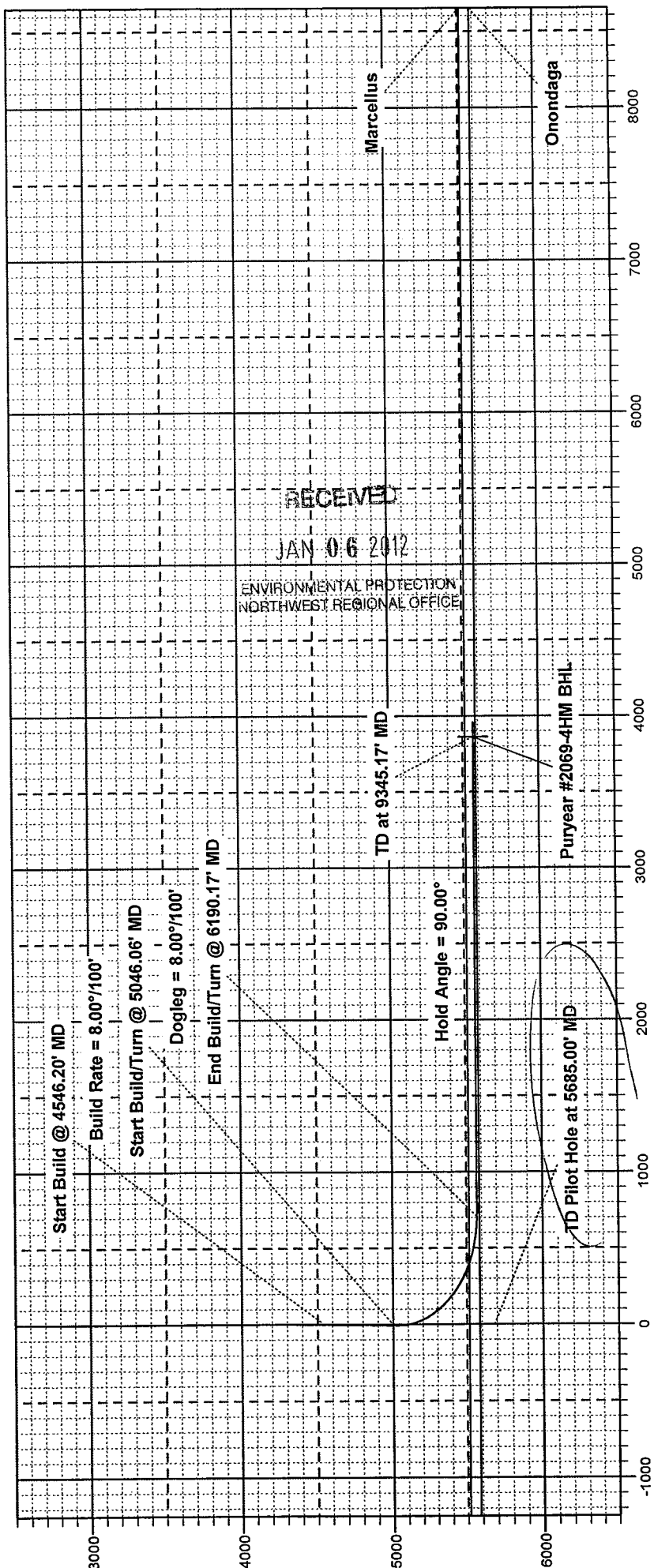
MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	Vsect	Annotation
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
4546.20	0.00	0.00	4546.20	0.00	0.00	0.00	0.00	0.00	Start Build
5046.06	40.00	242.42	5006.43	-77.55	-148.48	8.00	242.42	-7.08	Start Build/Turn
6190.17	90.00	150.00	5570.00	-933.62	-199.81	8.00	-91.86	708.63	End Build/Turn
9345.17	90.00	150.00	5570.00	-3665.93	1377.69	0.00	0.00	3863.63	TD

WELLBORE TARGET DETAILS (MAP CO-ORDINATES)

Name	TVD	+N/-S	+E/-W	Northing	Easting	Shape
Puryear #2069-4HM BHL	5570.00	-3665.93	1377.69	337688.21	1371603.50	Point

To convert a Magnetic Direction to a Grid Direction, Subtract 7.99°

Magnetic Model: BGGM2011 Date: 22-Nov-11
Azimuths to Grid North



Vertical Section at 150.00° (1000 ft/in)



Project: SLIPPERY ROCK
 Site: PURYEAR #2069
 Well: PURYEAR #2069-4HM
 Wellbore: PURYEAR #2069-4HM
 Design: Design #1
 Rig: TBD

Surface Location:

EPW NAD83
 NAD83 / Pennsylvania North [1188 2271]
 Elevation: GL 1298' + KB 22' @ 1320.00ft (TBD)
 Northing 341354.13 Easting 1370225.82 Latitude 41° 4' 58.731 N Longitude 79° 55' 13.458 W

To convert a Magnetic Direction to a Grid Direction, Subtract 7.99°

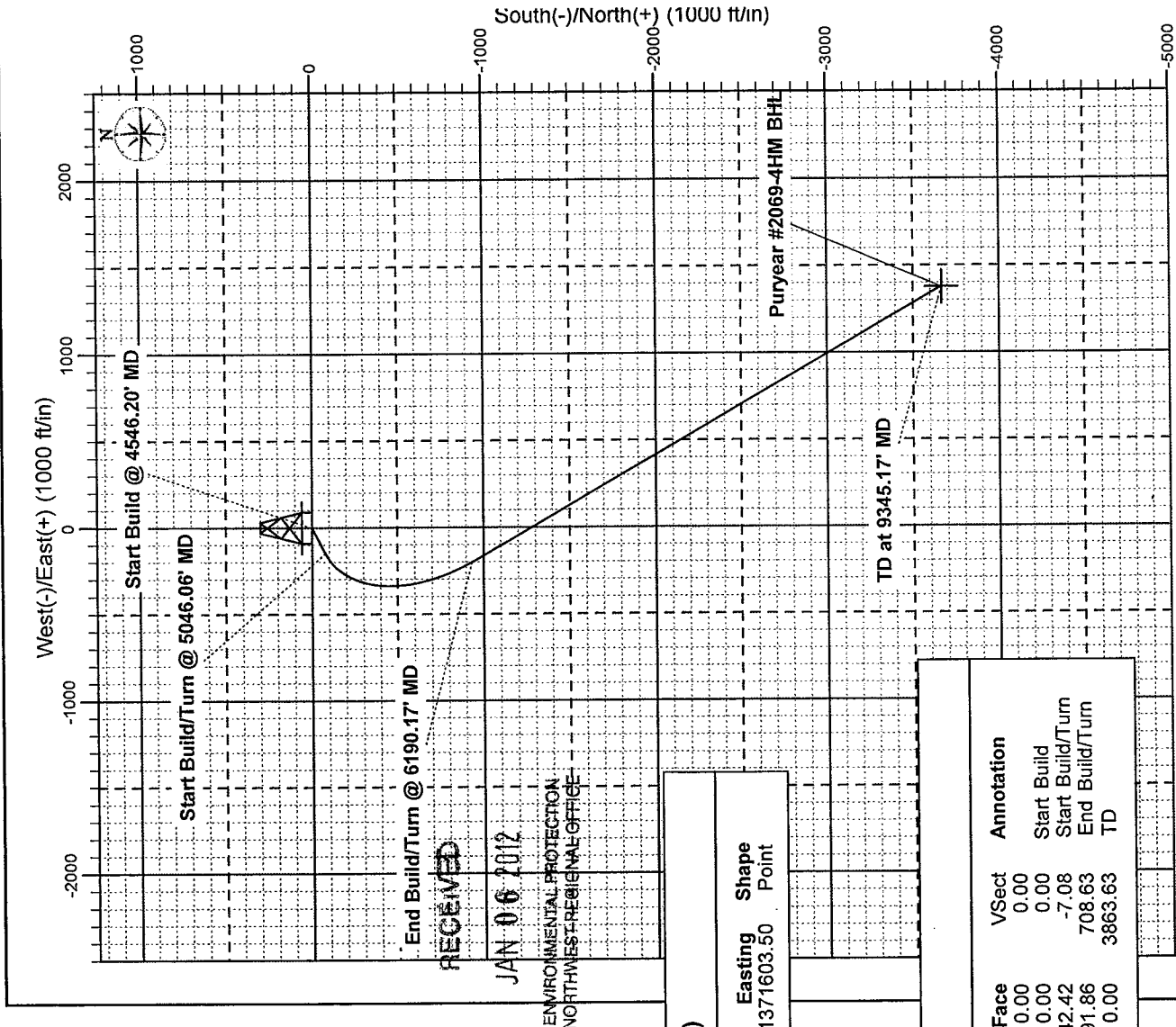
Magnetic Model: BGGM2011 Date: 22-Nov-11
 Azimuths to Grid North

WELLBORE TARGET DETAILS (MAP CO-ORDINATES)

Name	TVD	+N/-S	+E/-W	Northing	Easting	Shape
Puryear #2069-4HM BHL	5570.00	-3665.93	1377.69	337688.21	1371603.50	Point

SECTION DETAILS

MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	Vsect	Annotation
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	Start Build
4546.20	0.00	0.00	4546.20	0.00	0.00	0.00	0.00	0.00	Start Build/Turn
5046.06	40.00	242.42	5006.43	-77.55	-148.48	8.00	242.42	-7.08	End Build/Turn
6190.17	90.00	150.00	5570.00	-933.62	-199.81	8.00	-91.86	708.63	TD
9345.17	90.00	150.00	5570.00	-3665.93	1377.69	0.00	0.00	3863.63	TD



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 NORTHWEST REGIONAL OFFICE

Puryear #2069-4HM BHL

TD at 9345.17 MD

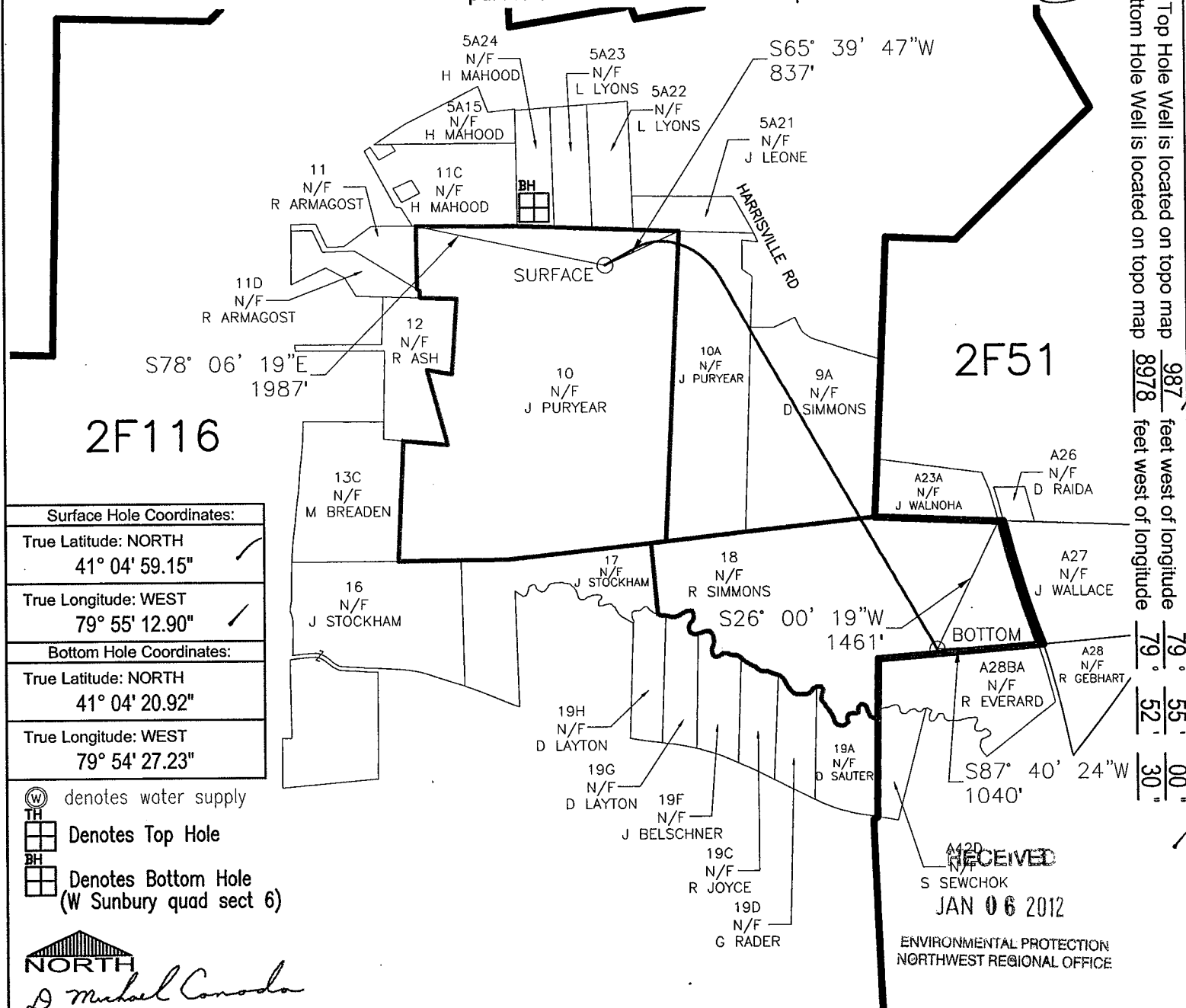


pennsylvania

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

DEP Application	G: <i>mt</i> 1/23/11
Tracking #:	
Permit #:	
019-21942	C:
Project #:	TH

Top Hole Well is located on topo map 86 feet south of latitude 41° 05' 00"
 Bottom Hole Well is located on topo map 3955 feet south of latitude 41° 05' 00"
 parcel lines taken from tax map information



 denotes water supply
 Denotes Top Hole
 Denotes Bottom Hole
 (W Sunbury quad sect 6)



NORTH
A Michael Canada

Surveyor or Engineer: D. Michael Canada Pa. Lic. # SU029272 E Phone #: (716) 379-7918

Dwg. #: 2069 PURYEAR

Date: **NOVEMBER 30, 2011**

Scale: 1" = 1500'

Tract
Acreage: 195.19

Lat. & Long Metadata Method: RTK GPS Accuracy: ± 5 ft. Datum: NAD 83		Elevation Metadata Method: GPS Accuracy: ± 5 ft. Datum: NAD 83		Survey Date: JULY 19, 2011	
Applicant / Well Operator Name: SWEPI LP		DEP ID#: 284309		Well (Farm) Name: PURYEAR, J	
Address: 190 Thorn Hill Road, Warrendale, PA 15086		County - Code: BUTLER		Municipality: CHERRY	
Surface Landowner / Lessor: PURYEAR JOSEPH C		USGS 71/2 Quadrangle Map Name: WEST SUNBURY		Well #: 2069-6HM	
Target Formation(s): Marcellus Shale		Angle & Course of Deviation (Drilling): S40° 42' 25"E 5216'		Serial #: Horizontal	
Anticipated Total Depth: 5685'		Map Section: 5		Surface Elevation: 1295 ft.	
Surface Owner or Water Provider Natural Water Supply (NWS) or Other		Approximate Closest and Distance to Water Supply		Owner (Lessor) of Drilling Workable Coal Seam	
NONE		---		NONE	

Project: SLIPPERY ROCK
 Site: PURYEAR #2069
 Well: PURYEAR #2069-6HM
 Wellbore: PURYEAR #2069-6HM
 Design: Design #1
 Rig: TBD

Surface Location:

EPW NAD83
 NAD83 / Pennsylvania North [1188, 2271]
 Elevation: GL 1298' + KB 22' @ 1320.00ft (TBD)
 Northing 341395.39 Easting 1370269.38
 Longitude 79° 55' 12.902 W
 Latitude 41° 4' 59.149 N

WELLBORE TARGET DETAILS (MAP CO-ORDINATES)

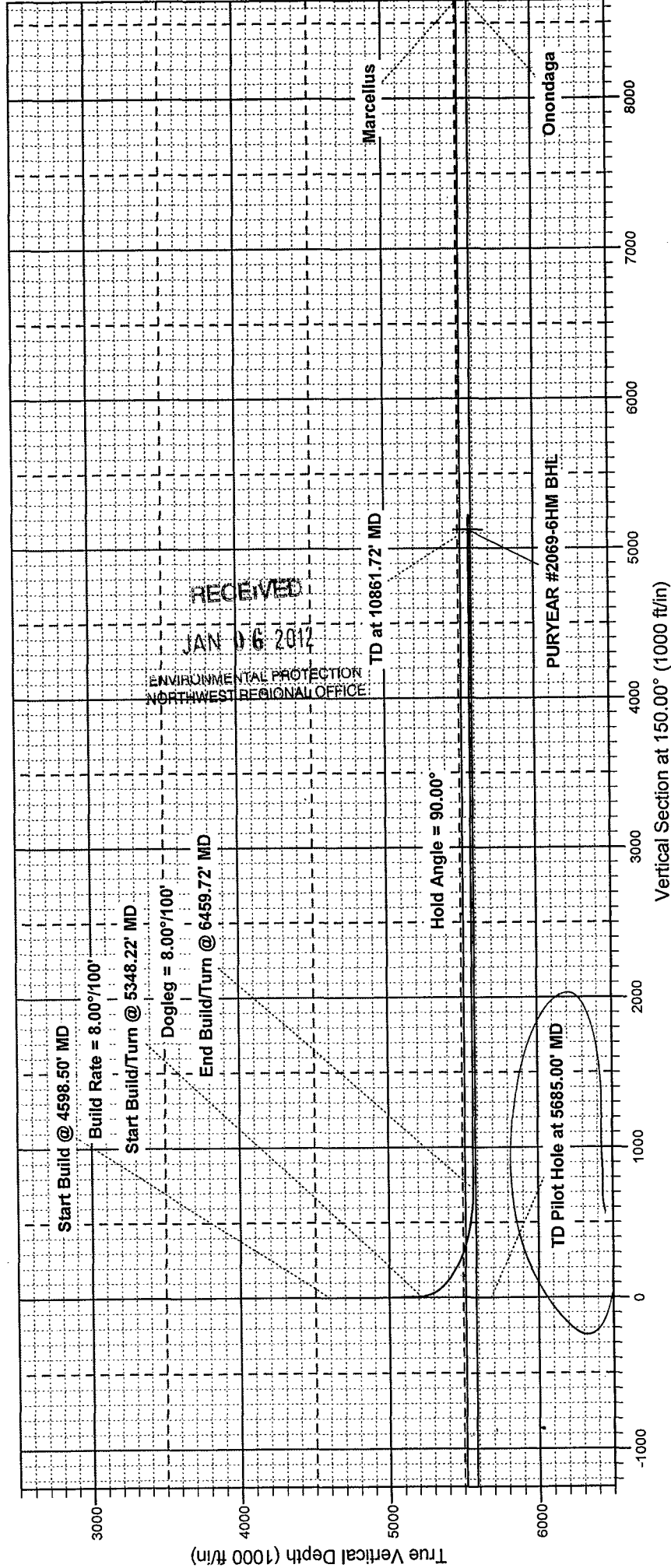
Name: PURYEAR #2069-6HM BHL
 TVD: 5570.00
 +N/-S: -3955.44
 +E/-W: 3399.73
 Northing: 337439.96
 Easting: 1373669.10
 Shape: Point

To convert a Magnetic Direction to a Grid Direction, Subtract 7.99°

Magnetic Model: BGGM2011
 Date: 22-Nov-11
 Azimuths to Grid North

SECTION DETAILS

MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	VSec	Annotation
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	Start Build
4598.50	0.00	0.00	4598.50	0.00	0.00	0.00	0.00	0.00	Start Build/Turn
5348.22	60.00	61.21	5218.52	172.40	313.72	8.00	61.21	7.56	End Build/Turn
6459.72	90.00	150.00	5570.00	-143.20	1198.73	8.00	89.40	723.37	TD
10861.72	90.00	150.00	5570.00	-3955.44	3399.73	0.00	0.00	5125.37	TD



Project: SLIPPERY ROCK
 Site: PURYEAR #2069
 Well: PURYEAR #2069-6HM
 Wellbore: PURYEAR #2069-6HM
 Design: Design #1
 Rig: TBD

Surface Location:

EPW NAD83
 NAD83 / Pennsylvania North [1188_2271]
 Elevation: GL 1298' + KB 22' @ 1320.00ft (TBD)
 Northing 341395.39 Easting 1370269.38 Latitude 41° 4' 59.149 N Longitude 79° 55' 12.902 W

To convert a Magnetic Direction to a Grid Direction, Subtract 7.99°

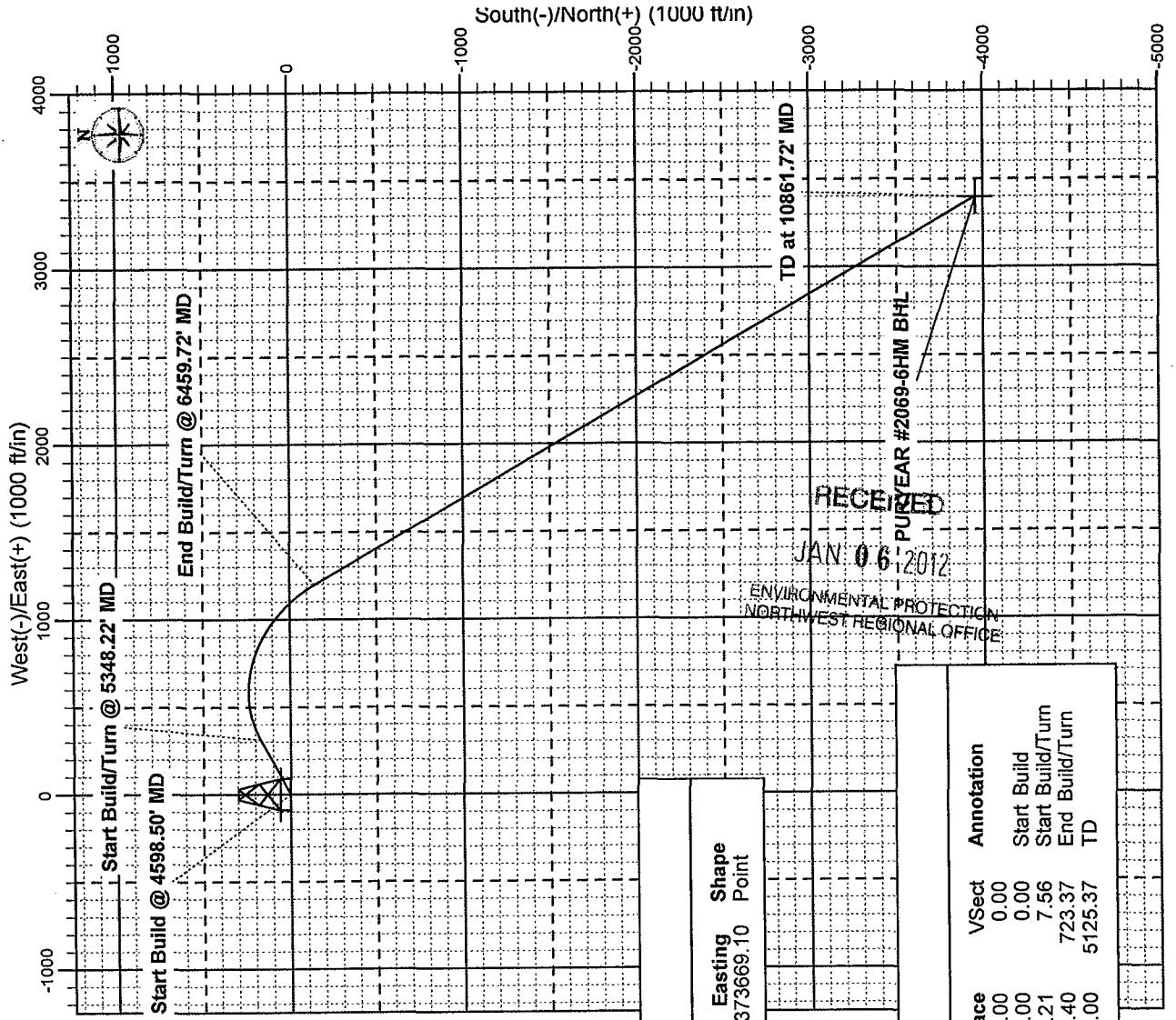
Magnetic Model: BGGM2011 Date: 22-Nov-11
 Azimuths to Grid North

WELLBORE TARGET DETAILS (MAP CO-ORDINATES)

Name	TVD	+N/-S	+E/-W	Northing	Easting	Shape
PURYEAR #2069-6HM BHL	5570.00	-3955.44	3399.73	337439.96	1373669.10	Point

SECTION DETAILS

MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	Vsect	Annotation
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
4598.50	0.00	0.00	4598.50	0.00	0.00	0.00	0.00	0.00	Start Build
5348.22	60.00	61.21	5218.52	172.40	313.72	8.00	61.21	7.56	Start Build/Turn
6459.72	90.00	150.00	5570.00	-143.20	1198.73	8.00	89.40	723.37	End Build/Turn
10861.72	90.00	150.00	5570.00	-3955.44	3399.73	0.00	0.00	5125.37	TD



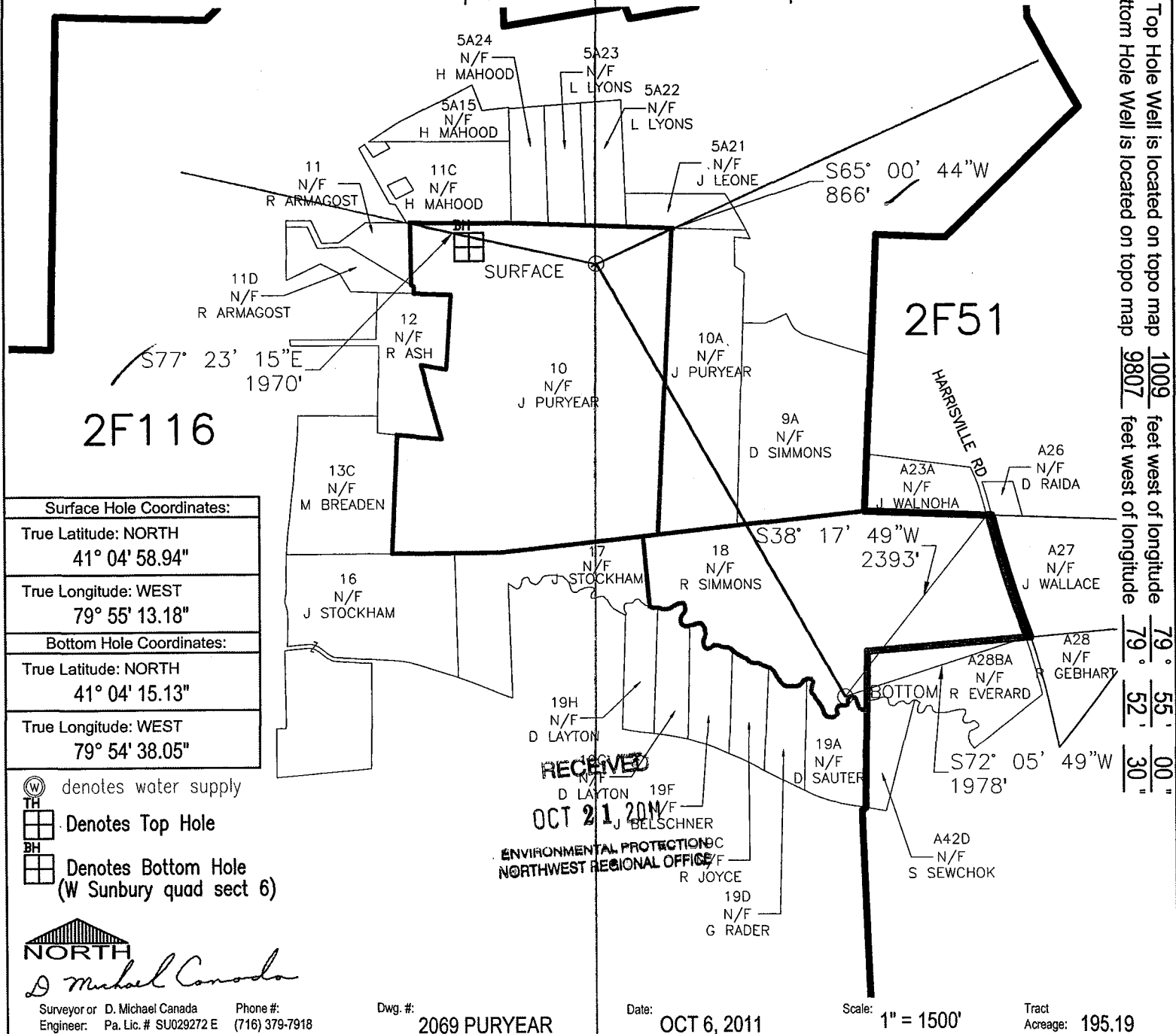


pennsylvania
DEPARTMENT OF ENVIRONMENTAL PROTECTION

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

DEP Application Tracking #:	11/22/11
Permit #:	019-21913
Project #:	

Top Hole Well is located on topo map 107 feet south of latitude 41° 05' 00"
Bottom Hole Well is located on topo map 4541 feet south of latitude 41° 05' 00"
parcel lines taken from tax map information



Surface Hole Coordinates:

True Latitude: NORTH
41° 04' 58.94"

True Longitude: WEST
79° 55' 13.18"

Bottom Hole Coordinates:

True Latitude: NORTH
41° 04' 15.13"

True Longitude: WEST
79° 54' 38.05"

- ⊙ denotes water supply
TH Denotes Top Hole
BH Denotes Bottom Hole
(W Sunbury quad sect 6)

NORTH
D Michael Canada

Surveyor or Engineer: D. Michael Canada
Pa. Lic. # SU029272 E Phone #: (716) 379-7918

Dwg. #: 2069 PURYEAR

Date: OCT 6, 2011

Scale: 1" = 1500'

Tract Acreage: 195.19

Lat. & Long Metadata Method: RTK GPS Accuracy: ± 5 ft. Datum: NAD 83		Elevation Metadata Method: GPS Accuracy: ± 5 ft. Datum: NAD 83		Survey Date: JULY 19, 2011	
Applicant / Well Operator Name: SWEPI LP		DEP ID#: 284309		Well (Farm) Name: PURYEAR, J	
Address: 190 Thorn Hill Road, Warrendale, PA 15086		County - Code: BUTLER		Municipality: CHERRY	
Surface Landowner / Lessor: PURYEAR JOSEPH C & JILL L		USGS 71/2 Quadrangle Map Name: WEST SUNBURY		Map Section: 5	
Target Formation(s): Marcellus Shale		Angle & Course of Deviation (Drilling): S29° 50' 20"E 5187'		Anticipated Total Depth: 5100' TMD: 10,529'	
Surface Owner: Water Supply		Approximate Distance to Water Supply		Owner: Water Supply	
NONE		---		NONE	

Top Hole Well is located on topo map 1009 feet west of longitude 79° 55' 00"
Bottom Hole Well is located on topo map 9807 feet west of longitude 79° 52' 30"



WELL DETAILS: PURYEAR 2019-5HM

+N/-S 0.0 +E/-W 0.0 Northing 341374.70 Easting 1370247.50 Ground Level: 41° 4' 58.939 N Latitude 79° 55' 13.181 W Longitude

DESIGN TARGET DETAILS

TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
LP 5HM5650.0	-621.4	356.0	340753.27	1370603.54	41° 4' 52.889 N	79° 55' 8.330 W
TD 5HM5650.0	-4500.1	2578.4	336874.60	1372825.90	41° 4' 15.126 N	79° 54' 38.056 W

Project: PURYEAR 2069
Site: PURYEAR 2069-5HM
Well: PURYEAR 2019-5HM
Wellbore: PURYEAR 2069-5HM
Design: PURYEAR 2069-5HM 9/28/11

ANNOTATIONS

TVD	MD	Inc	Azi	+N/-S	+E/-W	VSec	Departure	Annotation
4933.8	4933.8	0.00	0.00	0.0	0.0	0.0	0.0	CURVE KOP->4934' TVD, BUILD @ 8.00°/100'
6058.0	6058.8	90.00	150.19	-621.4	356.1	716.2	716.2	LAND @ 5650' TVD - 6059' TMD - 90.00° - 150.19° AZM
5650.0	10529.0	90.00	150.19	-4500.1	2578.4	5186.4	5186.4	TD 5HM @ 5650' TVD - 10529' TMD

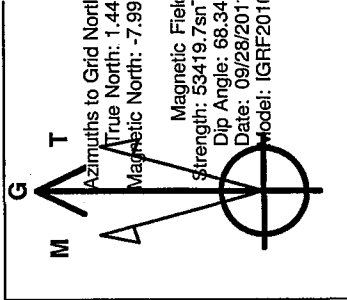
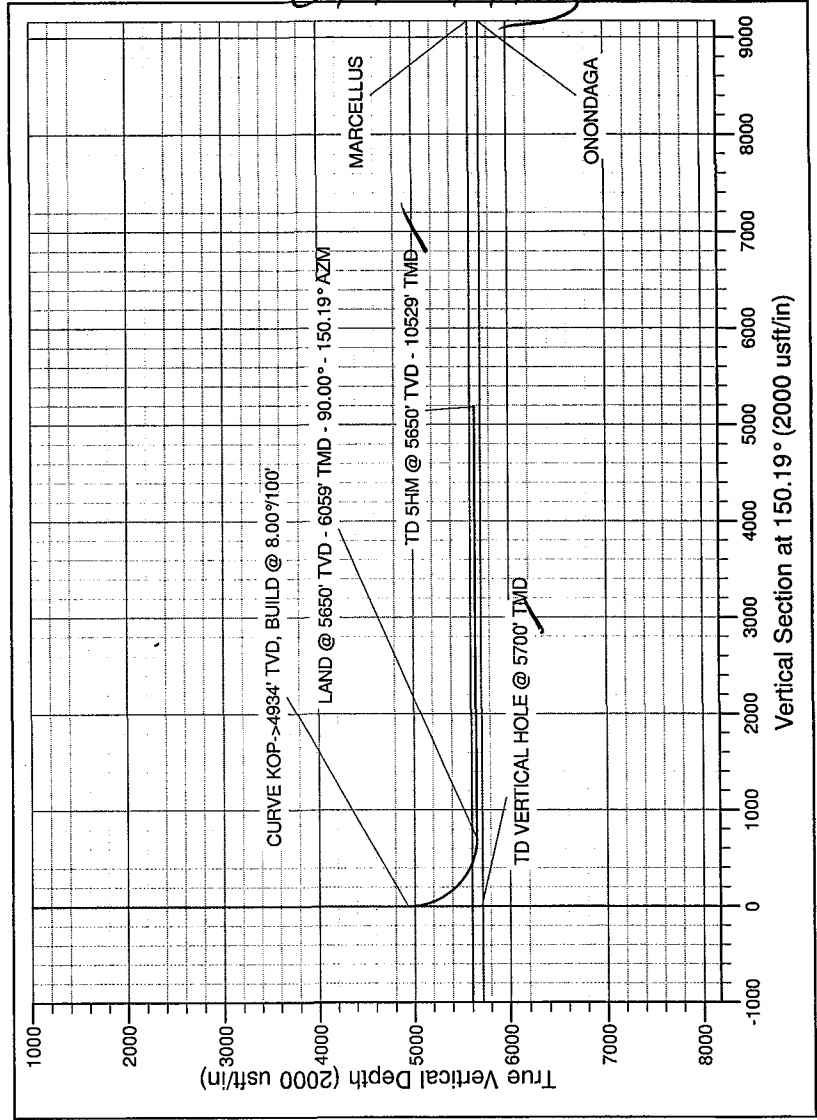
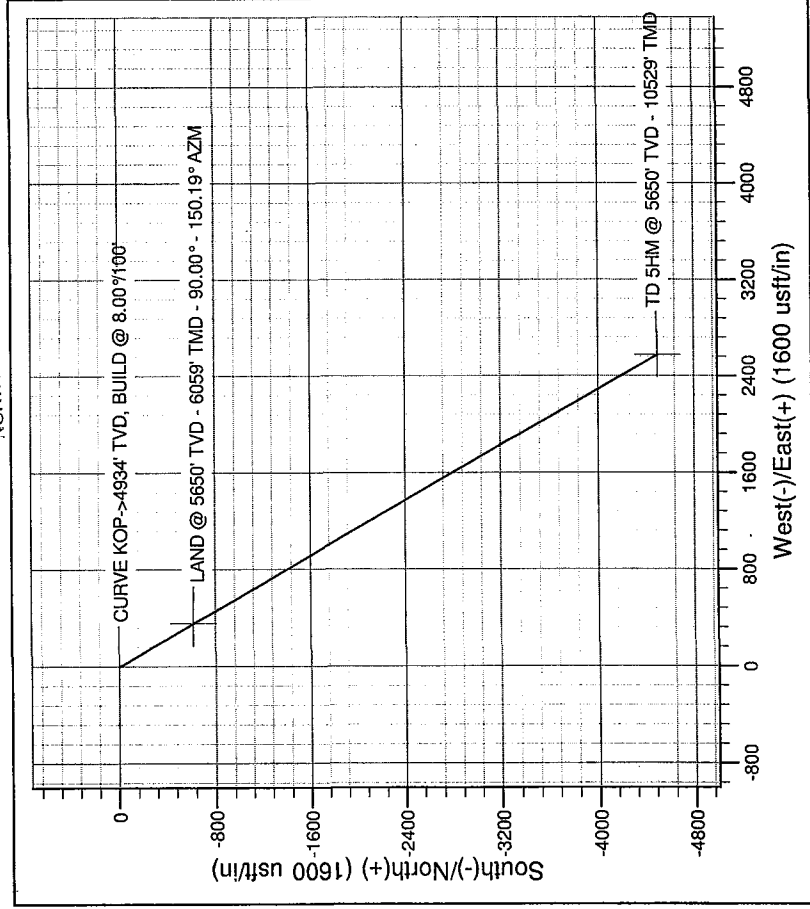
SECTION DETAILS

MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	VSec	Target
4933.8	0.00	0.00	4933.8	0.0	0.0	0.00	0.00	0.00	0.0
6058.8	90.00	150.19	5650.0	-621.4	356.1	8.00	150.19	716.2	LP 5HM
10529.0	90.00	150.19	5650.0	-4500.1	2578.4	0.00	0.00	5186.4	TD 5HM

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NORTHWEST REGIONAL OFFICE



BDE
Bentley Design Engineering, LLC

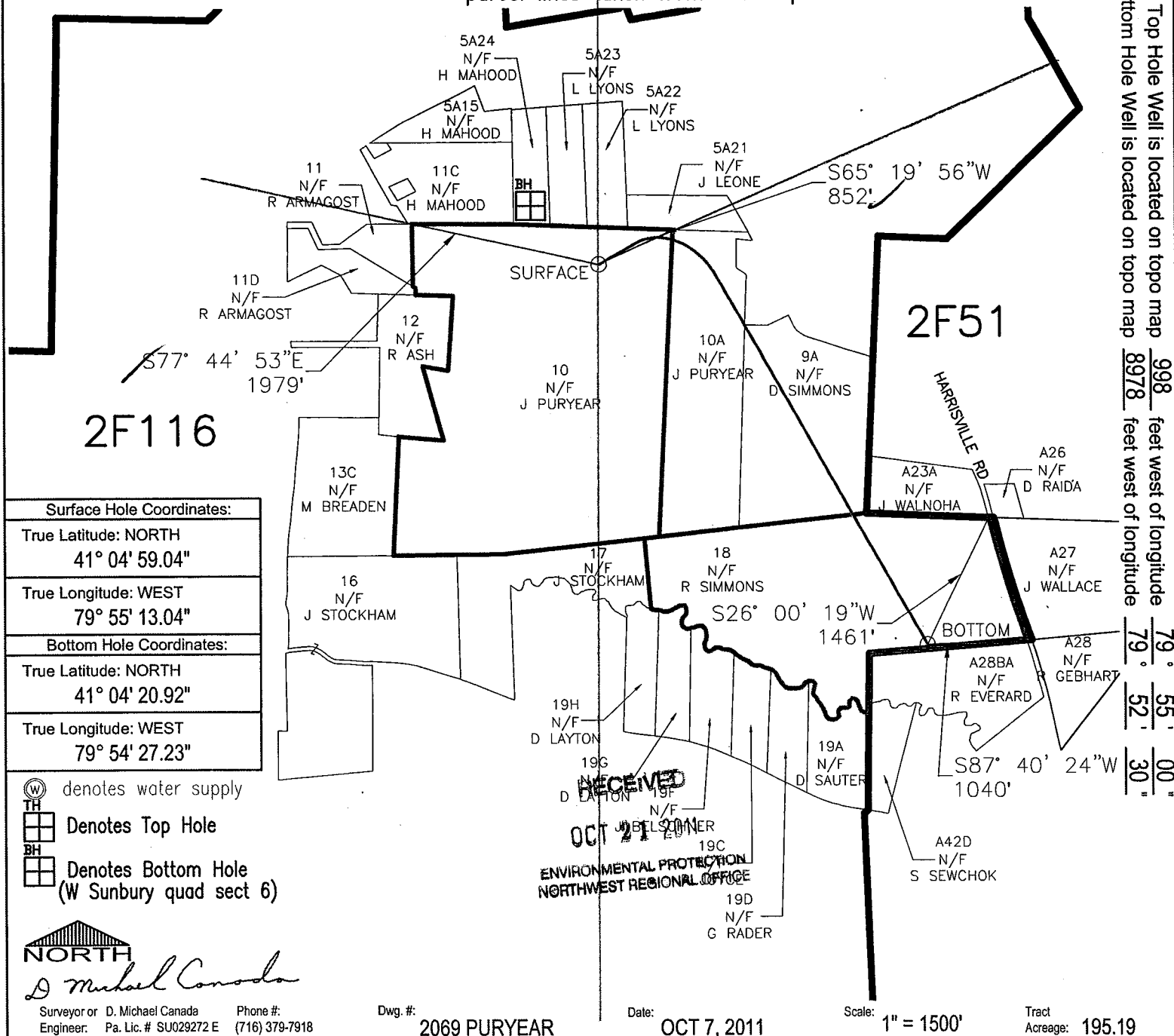


pennsylvania
DEPARTMENT OF ENVIRONMENTAL PROTECTION

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

DEP Application Tracking #:	11/22/11
Permit #:	019-21914
Project #:	

Top Hole Well is located on topo map 97 feet south of latitude 41° 05' 00"
Bottom Hole Well is located on topo map 3955 feet south of latitude 41° 05' 00"
parcel lines taken from tax map information



Surface Hole Coordinates:

True Latitude: NORTH
41° 04' 59.04"

True Longitude: WEST
79° 55' 13.04"

Bottom Hole Coordinates:

True Latitude: NORTH
41° 04' 20.92"

True Longitude: WEST
79° 54' 27.23"

- (W) denotes water supply
TH Denotes Top Hole
BH Denotes Bottom Hole
(W Sunbury quad sect 6)



Surveyor or Engineer: D. Michael Canada
Pa. Lic. # SU029272 E Phone #: (716) 379-7918

Dwg. #: 2069 PURYEAR

Date: OCT 7, 2011

Scale: 1" = 1500'

Tract Acreage: 195.19

Lat. & Long Metadata Method: RTK GPS Accuracy: ± 5 ft. Datum: NAD 83		Elevation Metadata Method: GPS Accuracy: ± 5 ft. Datum: NAD 83		Survey Date: JULY 19, 2011	
Applicant / Well Operator Name: SWEPI LP		DEP ID#: 284309		Well (Farm) Name: PURYEAR, J	
Address: 190 Thorn Hill Road, Warrendale, PA 15086		County - Code: BUTLER		Municipality: CHERRY	
Surface Landowner / Lessor: PURYEAR JOSEPH C & JILL L		USGS 71/2 Quadrangle Map Name: WEST SUNBURY		Map Section: 5	
Target Formation(s): Genesee Shale		Angle & Course of Deviation (Drilling): S40° 52' 17"E 5215'		Anticipated Total Depth: 6450 TMD: 11,703	
Surface Owner of Water: Puryear		Approximate course and distance to water supply		Name of local stream	
NONE		NONE		NONE	



WELL DETAILS: PURYEAR 2069-6HS

+N/-S	+E/-W	Northing	Ground Level:	Latitude	Longitude
0.0	0.0	341385.00	Easting	41° 4' 59.044 N	79° 55' 13.042 W

DESIGN TARGET DETAILS

TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
LP 6HS 5450.0	-125.8	1223.6	341259.21	1371481.95	41° 4' 58.104 N	79° 54' 57.028 W
TD 6HS 5450.0	-3945.1	3410.6	337439.90	1373669.00	41° 4' 20.917 N	79° 54' 27.235 W

Project: PURYEAR 2069
Site: PURYEAR 2069-6HS
Well: PURYEAR 2069-6HS
Wellbore: PURYEAR 2069-6HS
Design: PURYEAR 2069-6HS REVISION 9/29/11

ANNOTATIONS

TVD	MD	Inc	Azi	+N/-S	+E/-W	VSec	Departure	Annotation
4330.0	4330.0	0.00	0.00	0.0	0.0	0.0	0.0	CURVE KOP->4330' TVD, BUILD @ 8.00°/100'
4898.2	4898.2	0.10	60.36	0.0	0.0	0.5	0.5	HOLD @ 52.50° 60.36° AZM
5015.0	5178.1	0.10	60.36	0.0	0.0	0.5	0.5	BUILD & TURN @ 8.00°/100'
5450.0	6301.5	19.72	60.36	20.8	36.5	8.2	105.3	LAND @ 5450' TVD - 6302° TMD - 90.00° - 150.20° AZM
5450.0	10702.6	52.50	60.36	138.6	243.5	54.4	280.2	TD 6HS @ 5450' TVD - 11703° TMD

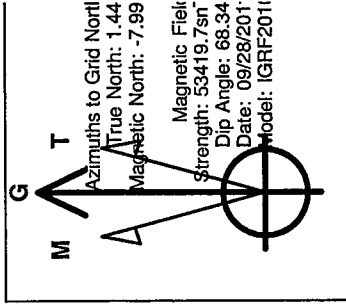
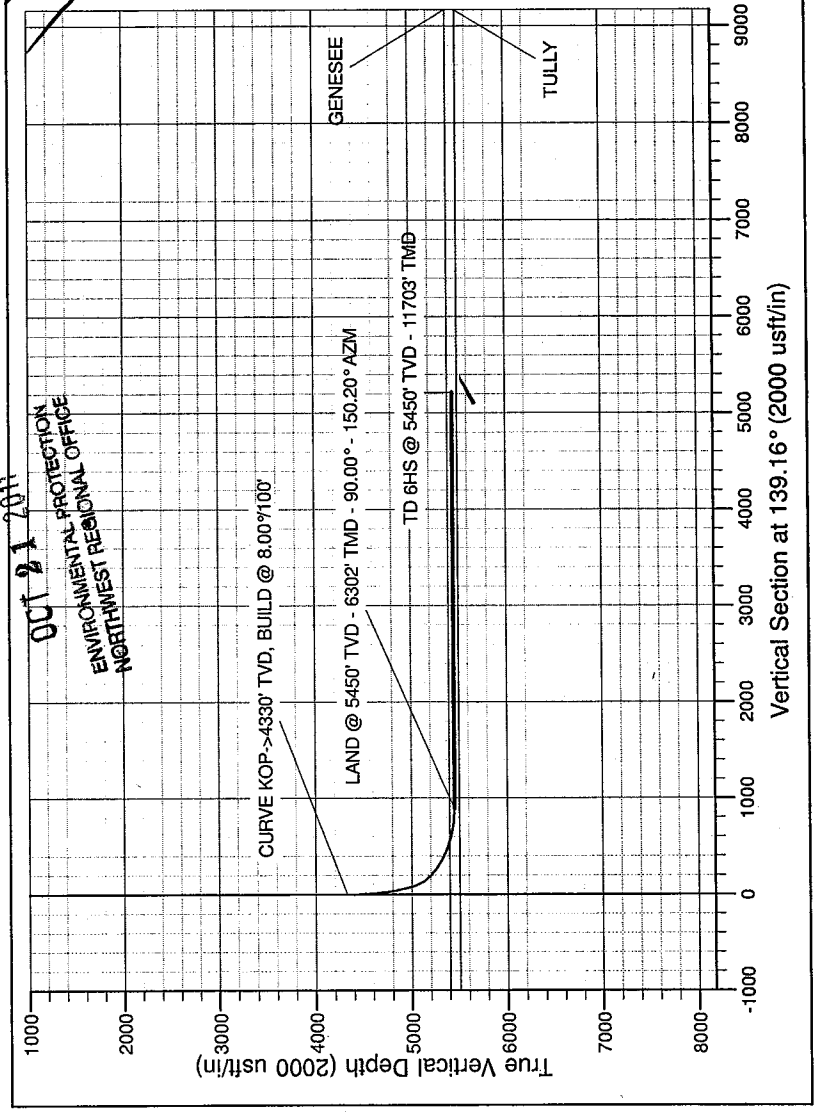
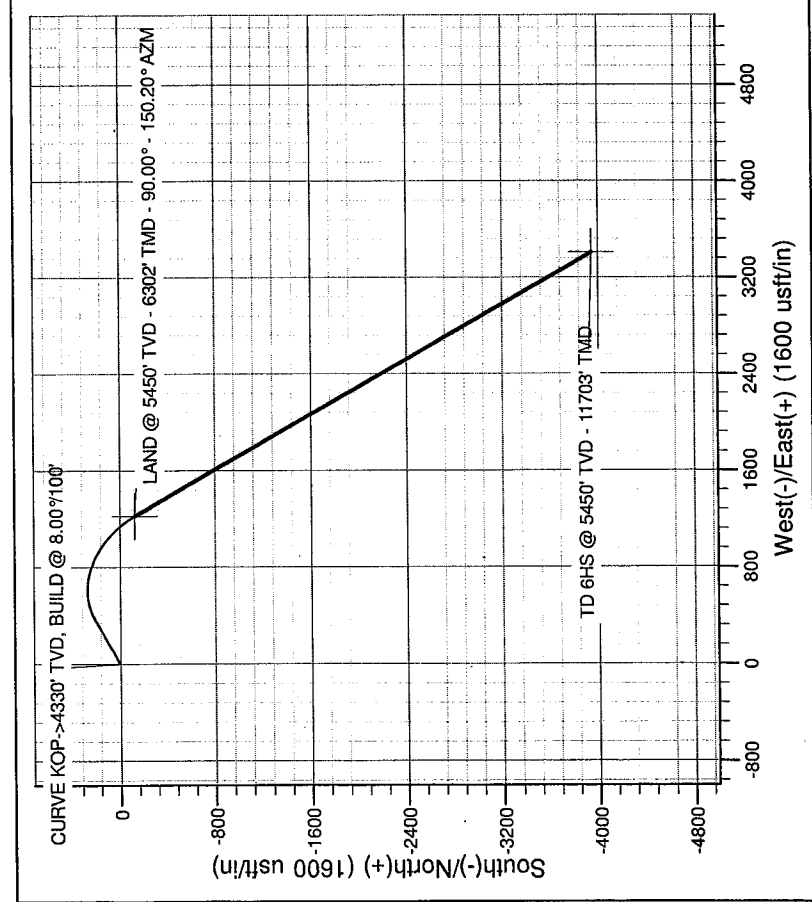
SECTION DETAILS

MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	Vsect	Target
4330.0	0.00	0.00	4330.0	0.0	0.0	0.0	0.00	0.00	0.0
4898.2	52.50	60.36	4898.2	138.6	243.5	8.00	60.36	54.4	54.4
5178.1	52.50	60.36	5015.0	213.9	375.8	0.00	0.00	84.0	84.0
6301.5	90.00	150.20	5450.0	-125.8	1223.6	8.00	89.91	895.4	LP 6HS
10702.6	90.00	150.20	5450.0	-3945.1	3410.6	0.00	0.00	5215.0	TD 6HS

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NORTHWEST REGIONAL OFFICE



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