



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

DEP USE ONLY	DEP Application Tracking #	C-91500Z	G: RR
	Permit #	007-20339	03-01-12
	Project #		C: RD

☐ Denotes location of well on topo map

True Latitude: NORTH (NAD83)

40° 32' 40.45"

True Longitude: WEST (NAD83)

80° 22' 58.49"

Projected bottom hole

Latitude: NORTH (NAD83)

40° 31' 53.61"

Longitude: WEST (NAD83)

80° 22' 10.68"

Well is located on topo map 14121 feet south of latitude 40° 35' 00" 0' 1000' 2000'

NOTE:

THIS PLAT IS FOR WELL LOCATION PURPOSES ONLY AND DOES NOT REPRESENT A COMPLETE BOUNDARY SURVEY. CORNERS AND LINES PERTINENT TO LOCATING THE PROPOSED WELL ARE FROM FIELD SURVEY. OTHER LINES AND FEATURES SHOWN ARE FROM TAX MAPS AND/OR DEEDS. THE INFORMATION PRESENTED SHOULD NOT BE UTILIZED FOR ANY OTHER PURPOSES. THIS PROPERTY IS SUBJECT TO ANY EASEMENTS, RIGHT-OF-WAY AND/OR ENCUMBRANCES BOTH APPARENT AND OF RECORD. NO TITLE SEARCH HAS BEEN MADE IN PREPARATION OF THIS WELL PLAT.

LEGEND	
—	SURFACE BOUNDARY
○	PROPOSED GAS WELL TOPHOLE
⊙	PROPOSED GAS WELL BOTTOMHOLE
*	EXISTING GAS WELL
⊙	PURVEYOR - WATER WELL
⊙	PURVEYOR - SPRING
---	WELL TIE LINES
---	WELL BORE
---	TRACT BOUNDARY

Well is located on topo map

2199

feet west of longitude

80°

22'

30"

SPCS GRID NORTH
PA SOUTH ZONE
NAD83



TOPO



Tract

Acres

696.5547

A = S 68°57'40" E 2731.36'
B = S 38°12'37" W 2713.93'
C = N 15°37'26" W 3232.47'

MARNHOUT

NOTE: ALL PROPERTY OWNER AND DEED REFERENCE INFORMATION SHOWN SHALL BE PREFACED BY "N/F" (NOW OR FORMERLY).

RECEIVED

FEB 16 2012

DEP, SOUTHWEST REGION
OIL & GAS

FEB 9 '12

TRI-COUNTY ENGINEERING, LLC

Surveyor or

Phone #

Dwg. #

Date

Scale

Engineer STEPHEN PILIPOVICH (724)635-0210

RRAOG22-56-2H

2/9/2012

1" = 1000'

Tract

Acres

696.5547

Lat. & Long Metadata		Elevation Metadata		Survey Date	
Method	Direct GPS	Accuracy	SUB-METER	ft. Datum	NAVD88
Applicant / Well Operator Name		Well(Farm) Name		Well #	
RANGE RESOURCES - APPALACHIA LLC		NOSS UNIT		2H	
Address		County - Code		Municipality	
3000 TOWN CENTER BLVD. CANONSBURG, PA 15317		BEAVER - 4		HANOVER TOWNSHIP	
Surface Landowner / Lessor		USGS 712 Quadrangle Map Name		Map Section	
JAMES E. & ELLEN NOSS		HOOKSTOWN		6	
Target Formation(s)		Angle & Course of Deviation (Drilling)		Surface Elevation	
RHINESTREET/BURKETT		DEVIATED - SEE ATTACHMENTS		1255' ft.	
Anticipated Total Depth		TVD 5463'		11163	
NONE		JAMES E. & ELLEN NOSS		PITTSBURGH, UPPER FREEPORT & LOWER KITTANNING	
'ONLY WORKABLE SEAM'					

Range Resources - Appalachia LLC

HALLIBURTON

Sperry Drilling Services

Project: Beaver County, PA (NAD 83)

Site: Hookstown

Well: Noss Unit 2H

Wellbore: Wellbore #1

Plan: Plan #1

Rig: TBD

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	
4746.80	0.00	0.00	4746.80	0.00	0.00	0.00	0.00	0.00	Start Build
5871.80	90.00	143.79	5463.00	-577.90	423.04	8.00	143.79	716.20	End Build
11163.33	90.00	143.79	5463.00	-4847.67	3548.63	0.00	0.00	6007.72	TD

WELLBORE TARGET DETAILS (MAP CO-ORDINATES)

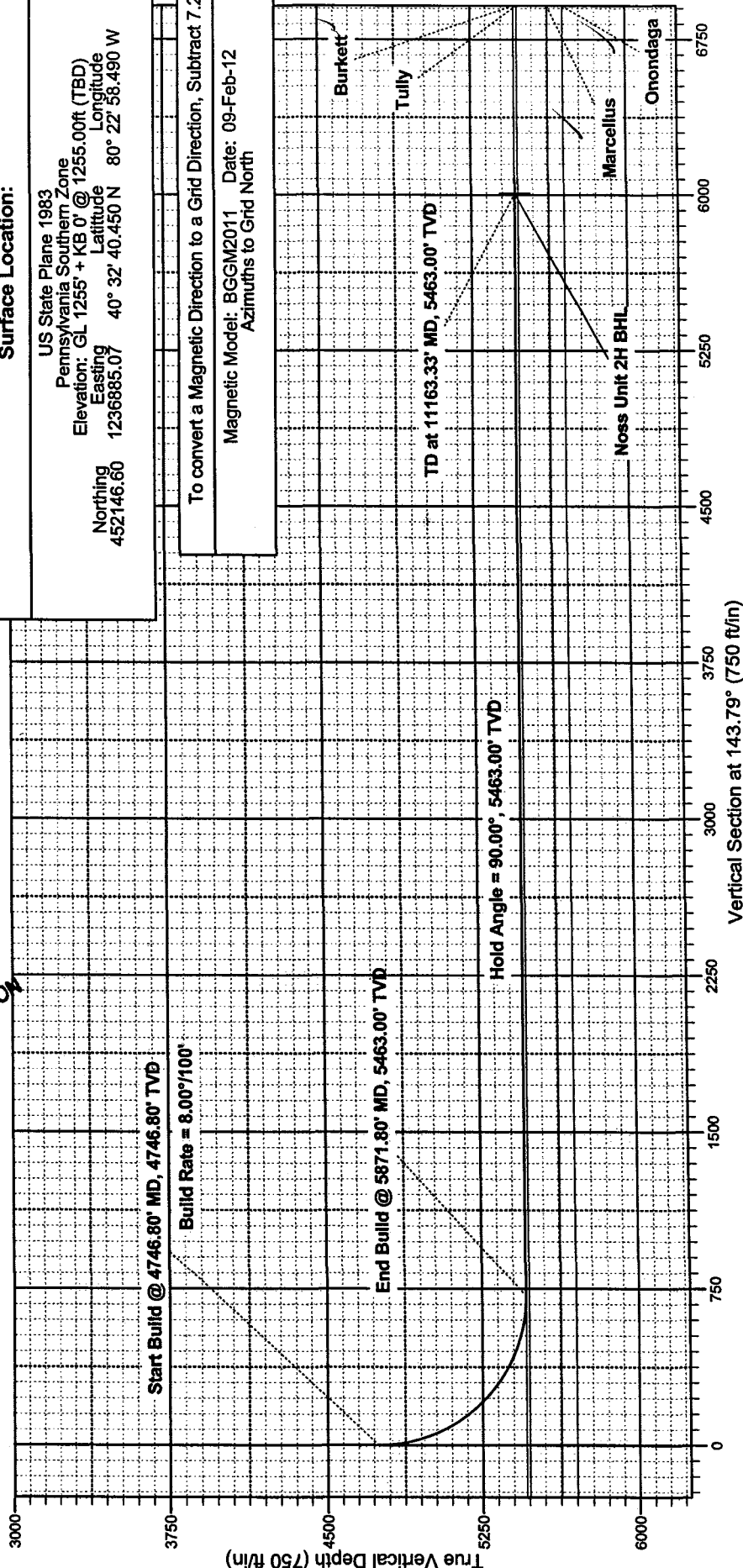
Name	TVD	+N/-S	+E/-W	Northing	Easting
Noss Unit 2H BHL	5463.00	-4847.67	3548.63	447298.92	1240433.70

Surface Location:

US State Plane 1983
Pennsylvania Southern Zone
Elevation: GL 1255' + KB 0' @ 1255.00ft (TBD)
Northing 452146.60 Easting 1236885.07
Latitude 40° 32' 40.450 N Longitude 80° 22' 58.490 W

To convert a Magnetic Direction to a Grid Direction, Subtract 7.28°

Magnetic Model: BGGM2011 Date: 09-Feb-12
Azimuths to Grid North



RECEIVED
FEB 16 2012
DEP. SOUTHWEST REGION
OIL & GAS



pennsylvania
DEPARTMENT OF ENVIRONMENTAL PROTECTION

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

DEP USE ONLY	DEP Application Tracking #	C-91500Z	G: RR
	Permit #	007-20339	03-01-12
	Project #		RD

☐ Denotes location of well on topo map

True Latitude: NORTH (NAD83)

40° 32' 40.45"

True Longitude: WEST (NAD83)

80° 22' 58.49"

Projected bottom hole

Latitude: NORTH (NAD83)

40° 31' 53.61"

Longitude: WEST (NAD83)

80° 22' 10.68"

Well is located on topo map 14121 feet south of latitude 40° 35' 00" 0' 1000' 2000'

NOTE:

THIS PLAT IS FOR WELL LOCATION PURPOSES ONLY AND DOES NOT REPRESENT A COMPLETE BOUNDARY SURVEY. CORNERS AND LINES PERTINENT TO LOCATING THE PROPOSED WELL ARE FROM FIELD SURVEY. OTHER LINES AND FEATURES SHOWN ARE FROM TAX MAPS AND/OR DEEDS. THE INFORMATION PRESENTED SHOULD NOT BE UTILIZED FOR ANY OTHER PURPOSES. THIS PROPERTY IS SUBJECT TO ANY EASEMENTS, RIGHT-OF-WAY AND/OR ENCUMBRANCES BOTH APPARENT AND OF RECORD. NO TITLE SEARCH HAS BEEN MADE IN PREPARATION OF THIS WELL PLAT.

LEGEND	
—	SURFACE BOUNDARY
○	PROPOSED GAS WELL TOPHOLE
⊕	PROPOSED GAS WELL BOTTOMHOLE
*	EXISTING GAS WELL
●	PURVEYOR - WATER WELL
●	PURVEYOR - SPRING
---	WELL TIE LINES
---	WELL BORE
---	TRACT BOUNDARY

Well is located on topo map

2199

feet west of longitude

80°

22'

30"

A = S 68°57'40" E 2731.36'
B = S 38°12'37" W 2713.93'
C = N 15°37'26" W 3232.47'

MARNHOUT

NOTE: ALL PROPERTY OWNER AND DEED REFERENCE INFORMATION SHOWN SHALL BE PREFACED BY "N/F" (NOW OR FORMERLY).

RECEIVED

FEB 16 2012

DEP, SOUTHWEST REGION
OIL & GAS

FEB 9 '12

TRI-COUNTY ENGINEERING, LLC

Surveyor or Engineer

Phone #

Dwg. #

Date

Scale

TOPO

Tract

Acreage 696.5547

STEPHEN PILIPOVICH (724)635-0210

RRAOG22-56-2H

2/9/2012

1" = 1000'

Lat. & Long Metadata Method Direct GPS Accuracy SUB-METER ft. Datum NAD 83

Elevation Metadata Method DIRECT GPS Accuracy 2' ft. Datum NAVD88 Survey Date 01/24/2011

Applicant / Well Operator Name RANGE RESOURCES - APPALACHIA LLC

Well(Farm) Name NOSS UNIT Well # 2H Serial #

Address 3000 TOWN CENTER BLVD. CANONSBURG, PA 15317

County - Code BEAVER - 4 Municipality HANOVER TOWNSHIP Well Type GAS

Surface Landowner / Lessor JAMES E. & ELLEN NOSS

USGS 71/2 Quadrangle Map Name HOOKSTOWN Map Section 6 Surface Elevation 1255' ft.

Target Formation(s) RHINESTREET/BURKETT

Angle & Course of Deviation (Drilling) DEVIATED - SEE ATTACHMENTS Anticipated Total Depth TVD 5463' TMD 11163

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

JAMES E. & ELLEN NOSS

PITTSBURGH, UPPER FREEPORT & LOWER KITTANNING

'ONLY WORKABLE SEAM'



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

DEP USE ONLY	DEP Application Tracking #	C-911773	G: DMM
	Permit #	CO7-20333	218112
	Project #		

☐ Denotes location of well on topo map

True Latitude: NORTH (NAD83)

40° 32' 41.01"

True Longitude: WEST (NAD83)

80° 22' 59.05"

Projected bottom hole

Latitude: NORTH (NAD83)

40° 33' 07.19"

Longitude: WEST (NAD83)

80° 23' 29.47"

Well is located on topo map 14065 feet south of latitude 40° 35' 00" 0' 1000' 2000'

NOTE:

THIS PLAT IS FOR WELL LOCATION PURPOSES ONLY AND DOES NOT REPRESENT A COMPLETE BOUNDARY SURVEY. CORNERS AND LINES PERTINENT TO LOCATING THE PROPOSED WELL ARE FROM FIELD SURVEY. OTHER LINES AND FEATURES SHOWN ARE FROM TAX MAPS AND/OR DEEDS. THE INFORMATION PRESENTED SHOULD NOT BE UTILIZED FOR ANY OTHER PURPOSES. THIS PROPERTY IS SUBJECT TO ANY EASEMENTS, RIGHT-OF-WAY AND/OR ENCUMBRANCES BOTH APPARENT AND OF RECORD. NO TITLE SEARCH HAS BEEN MADE IN PREPARATION OF THIS WELL PLAT.

NOTE: ALL PROPERTY OWNER AND DEED REFERENCE INFORMATION SHOWN SHALL BE PREFACED BY "N/F" (NOW OR FORMERLY).

LEGEND

—	SURFACE BOUNDARY
○	PROPOSED GAS WELL TOPHOLE
⊕	PROPOSED GAS WELL BOTTOMHOLE
*	EXISTING GAS WELL
●	PURVEYOR - WATER WELL
●	PURVEYOR - SPRING
---	WELL TIE LINES
---	WELL BORE
---	TRACT BOUNDARY

Well is located on topo map

2242'

feet west of longitude

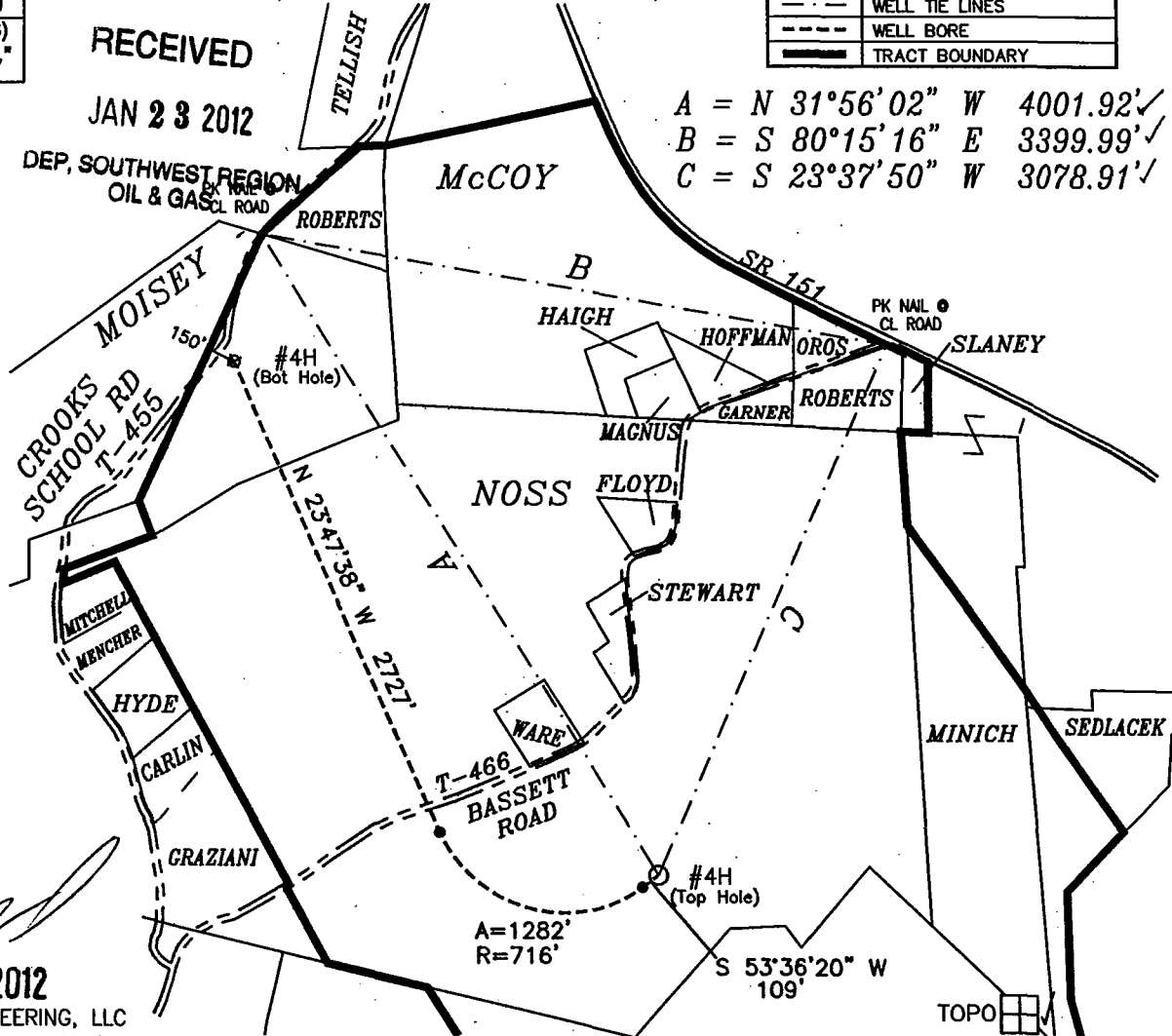
80°

22'

30"

A = N 31°56'02" W 4001.92'
B = S 80°15'16" E 3399.99'
C = S 23°37'50" W 3078.91'

SPCS GRID NORTH
PA SOUTH ZONE
NAD83



JAN 13 2012

TRI-COUNTY ENGINEERING, LLC

Surveyor or
Engineer

JOHN M. VOZEL

Phone #

(724)635-0210

Dwg. #

RRAOG22-56-4H

Date

1/13/2012

Scale

1" = 1000'

Tract

Acreage 641.9815

Lat. & Long Metadata		Elevation Metadata		Survey Date	
Method	Direct GPS	Accuracy	SUB-METER	ft. Datum	NAD 83
Applicant / Well Operator Name		Method		Direct GPS	Accuracy
RANGE RESOURCES - APPALACHIA LLC ✓		Well (Farm) Name		NOSS UNIT ✓	Well #
Address		County - Code		BEAVER - 4 ✓	Serial #
3000 TOWN CENTER BLVD. ✓		Municipality		HANOVER TOWNSHIP ✓	Well Type
CANONSBURG, PA 15317 ✓		USGS 71/2 Quadrangle Map Name		HOOKSTOWN ✓	GAS
Surface Landowner / Lessor		Map Section		6 ✓	Surface Elevation
JAMES E. & ELLEN NOSS ✓		Angle & Course of Deviation (Drilling)		DEVIATED - SEE ATTACHMENTS	Anticipated Total Depth
Target Formation(s)		TVD		5628' TMD 9211	
MARCELLUS		Owner, Lessor, or Operator of		Workable Coal Seam	Name of Coal Seam
Surface Owner or Water Purveyor		Approximate Course and		Distance to Water Supply	
NONE ✓		Owner, Lessor, or Operator of		Workable Coal Seam	
		JAMES E. & ELLEN NOSS ✓			PITTSBURGH, UPPER FREEPORT & LOWER KITTANNING ✓

Range Resources - Appalachia LLC

HALLIBURTON
Sperry Drilling Services

Project: Beaver County, PA (NAD 83)

Site: Hookstown

Well: Noss Unit 4H

Wellbore: Wellbore #1

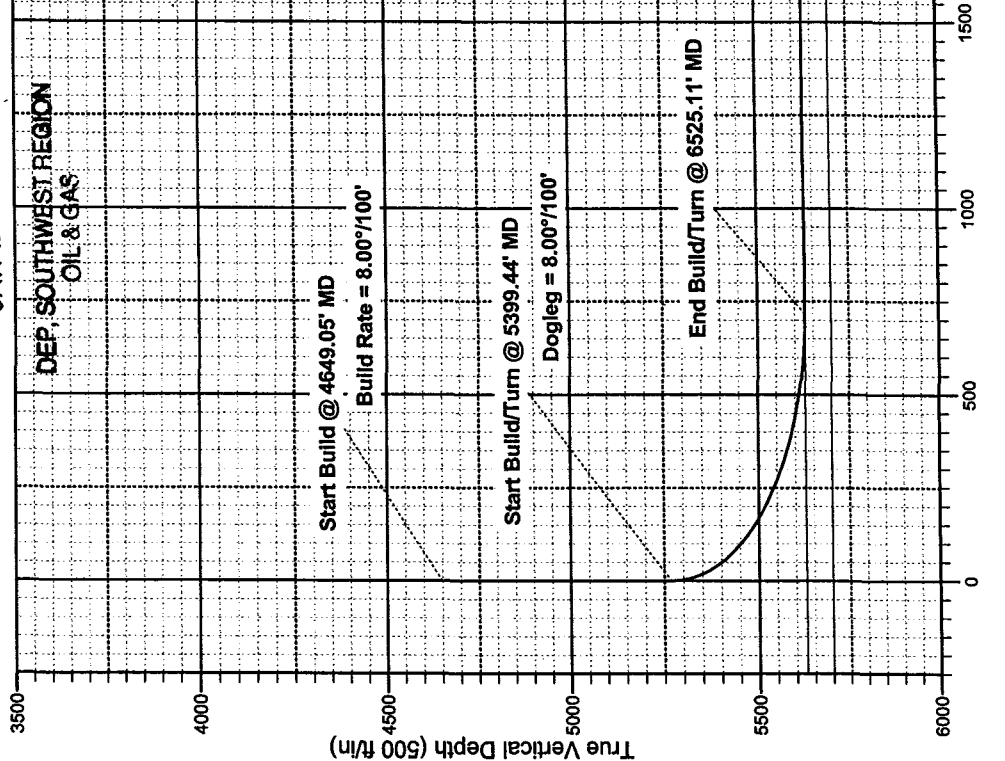
Plan: Plan #2

Rig: TBD

RECEIVED

JAN 23 2012

DEP, SOUTHWEST REGION
OIL & GAS



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	
4649.05	0.00	0.00	4649.05	0.00	0.00	0.00	0.00	0.00	Start Build
5399.44	60.00	246.21	5269.63	-144.53	-327.82	8.00	246.21	-0.01	Start Build/Turn
6525.11	90.00	336.21	5628.00	260.87	-1184.75	8.00	90.00	716.62	End Build/Turn
9210.71	90.00	336.21	5628.00	2718.27	-2268.09	0.00	0.00	3402.22	TD

WELLBORE TARGET DETAILS (MAP CO-ORDINATES)

Name	TVD	+N/-S	+E/-W	Northing	Easting
Noss Unit 4H BHL	5628.00	2718.28	-2268.09	454922.79	1234575.46

Surface Location:

US State Plane 1983
Pennsylvania Southern Zone
Elevation: 1240' GL @ 1240.00ft (TBD)
Northing: 452204.51
Easting: 1236843.55
Latitude: 40° 32' 41.010 N
Longitude: 80° 22' 59.050 W

To convert a Magnetic Direction to a Grid Direction, Subtract 7.28°
Magnetic Model: BGGM2011
Azimuths to Grid North
Date: 16-Jan-12

TD at 9210.71' MD

Hold Angle = 90.00°

Noss Unit 4H BHL

Marcellus

Onondaga

Vertical Section at 336.21° (500 ft/in)



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

DEP USE ONLY	DEP Application Tracking #	C-9189102	G: TF
	Permit #	007-20333	4-4-12
	Project #		C: KP

☐ Denotes location of well on topo map

True Latitude: NORTH (NAD83)

40° 32' 41.01"

True Longitude: WEST (NAD83)

80° 22' 59.05"

Projected bottom hole

Latitude: NORTH (NAD83)

40° 33' 11.47"

Longitude: WEST (NAD83)

80° 23' 32.15"

Well is located on topo map 14065 feet south of latitude 40° 35' 00" ✓
0' 1000' 2000'

NOTE:

THIS PLAT IS FOR WELL LOCATION PURPOSES ONLY AND DOES NOT REPRESENT A COMPLETE BOUNDARY SURVEY. CORNERS AND LINES PERTINENT TO LOCATING THE PROPOSED WELL ARE FROM FIELD SURVEY. OTHER LINES AND FEATURES SHOWN ARE FROM TAX MAPS AND/OR DEEDS. THE INFORMATION PRESENTED SHOULD NOT BE UTILIZED FOR ANY OTHER PURPOSES. THIS PROPERTY IS SUBJECT TO ANY EASEMENTS, RIGHT-OF-WAY AND/OR ENCUMBRANCES BOTH APPARENT AND OF RECORD. NO TITLE SEARCH HAS BEEN MADE IN PREPARATION OF THIS WELL PLAT.

NOTE: ALL PROPERTY OWNER AND DEED REFERENCE INFORMATION SHOWN SHALL BE PREFACED BY "N/F" (NOW OR FORMERLY).

LEGEND	
—	SURFACE BOUNDARY
○	PROPOSED GAS WELL TOPHOLE
⊕	PROPOSED GAS WELL BOTTOMHOLE
*	EXISTING GAS WELL
●	PURVEYOR - WATER WELL
●	PURVEYOR - SPRING
- - -	WELL TIE LINES
- - -	WELL BORE
—	TRACT BOUNDARY

A = N 31°56'02" W 4001.92' ✓
B = S 80°15'16" E 3399.99' ✓
C = S 23°37'50" W 3078.91' ✓

Well is located on topo map

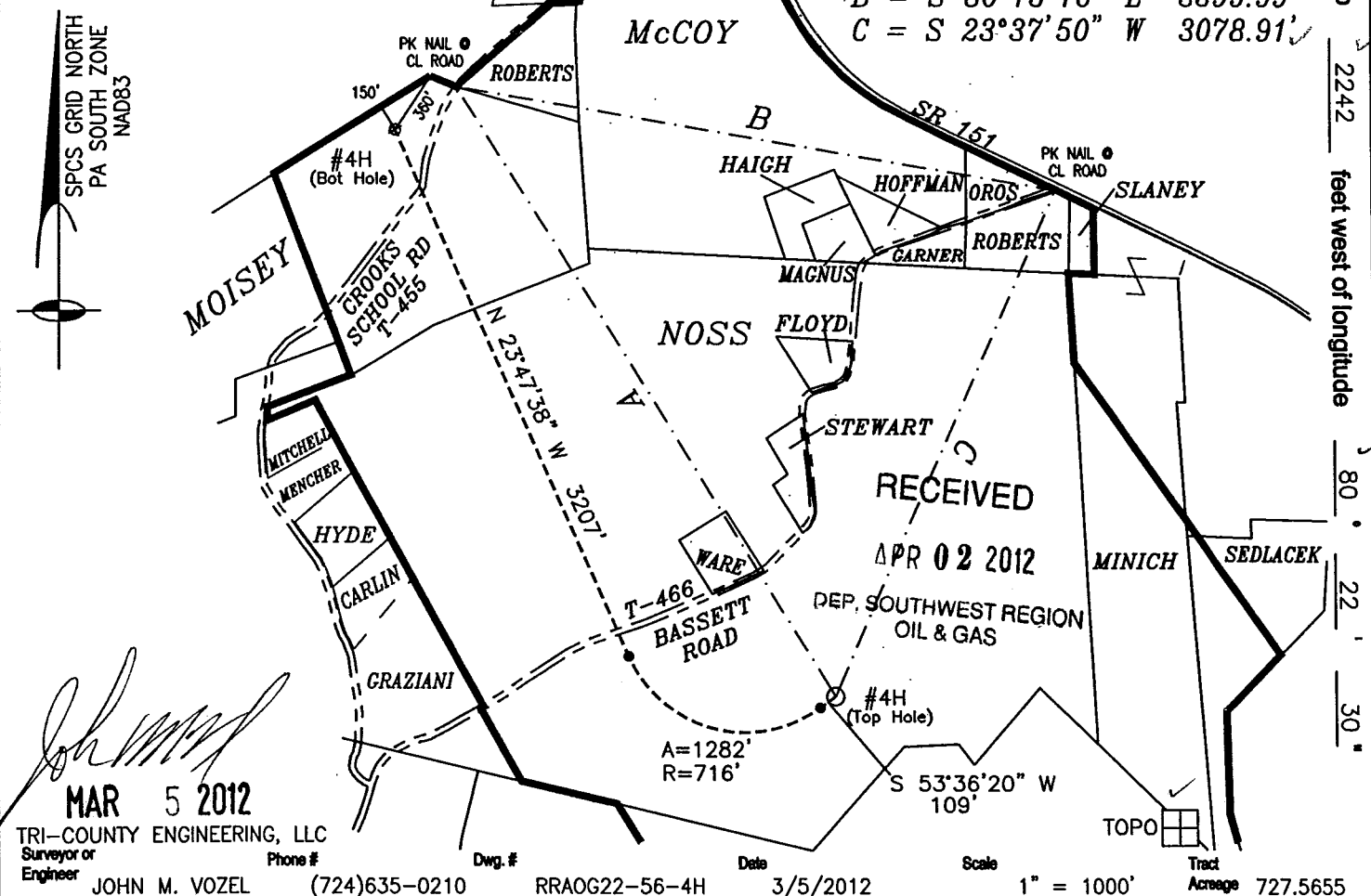
2242

feet west of longitude

80°

22'

30"



MAR 5 2012

TRI-COUNTY ENGINEERING, LLC
Surveyor or Engineer

JOHN M. VOZEL

Phone #

(724)635-0210

Dwg. #

RRAOG22-56-4H

Date

3/5/2012

Scale

1" = 1000'

Tract

Acres 727.5655

Lat. & Long Metadata		Elevation Metadata		Survey Date	
Method	Direct GPS	Accuracy	SUB-METER	ft. Datum	NAD 83
Applicant / Well Operator Name		Well(Farm) Name		Well #	
RANGE RESOURCES - APPALACHIA LLC		NOSS UNIT		4H	
Address		County - Code		Municipality	
3000 TOWN CENTER BLVD. CANONSBURG, PA 15317		BEAVER - 4		HANOVER TOWNSHIP	
Surface Landowner / Lessor		USGS 71/2 Quadrangle Map Name		Map Section	
JAMES E. & ELLEN NOSS		HOOKSTOWN		6	
Target Formation(s)		Angle & Course of Deviation (Drilling)		Anticipated Total Depth	
MARCELLUS		DEVIATED - SEE ATTACHMENTS		TVD 5628' TMD 9691	
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	
NONE				JAMES E. & ELLEN NOSS	
				PITTSBURGH, UPPER FREEPORT & LOWER KITTANNING	
				'ONLY WORKABLE SEAMS'	

Range Resources - Appalachia LLC

HALLIBURTON
Sperry Drilling Services

Project: Beaver County, PA (NAD 83)

Site: Hookstown

Well: Noss Unit 4H

Wellbore: Wellbore #1

Plan: Plan #3

Rig: TBD

To convert a Magnetic Direction to a Grid Direction, Subtract 7.28°

Magnetic Model: BGGM2011 Date: 06-Mar-12
Azimuths to Grid North

RECEIVED

MAR 13 2012

DEP, SOUTHWEST REGION
OIL & GAS

SECTION DETAILS

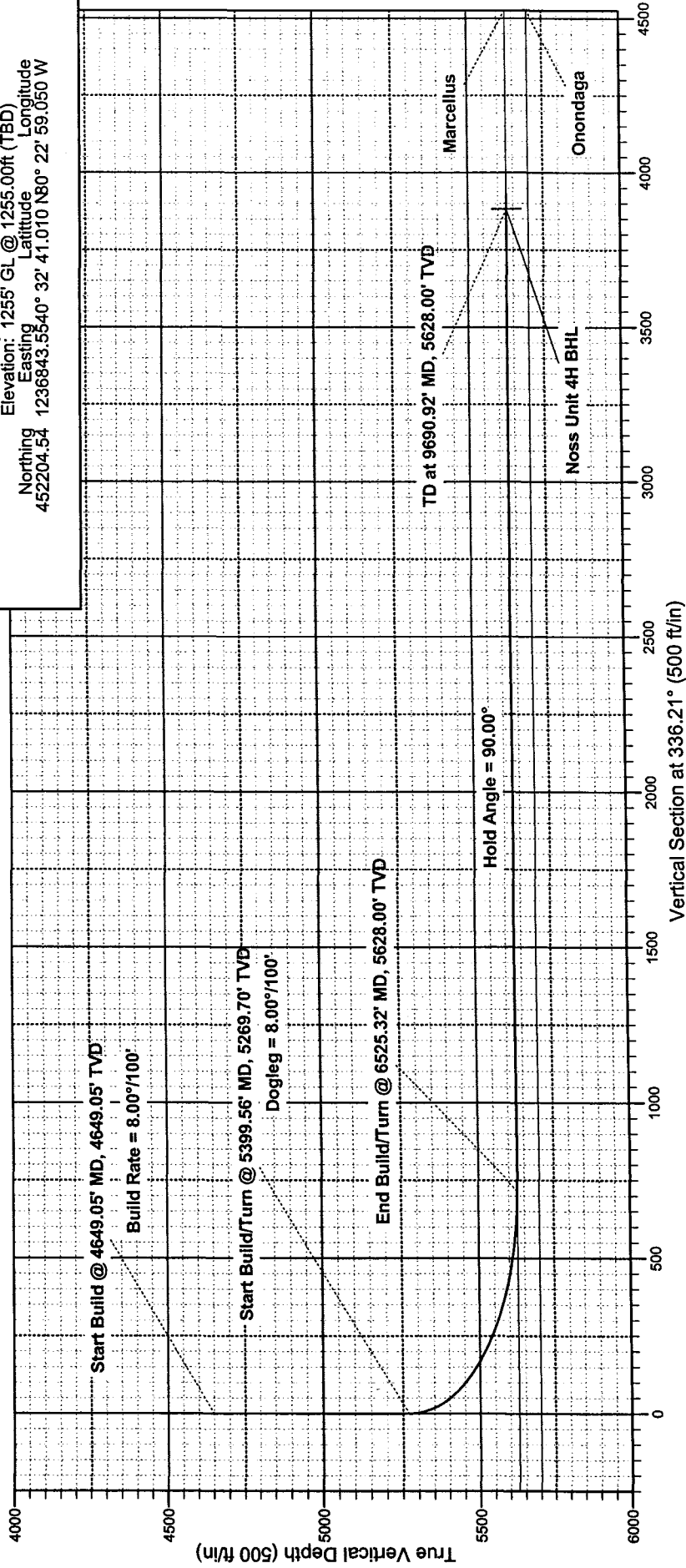
MD	Inc	Azi	TVD	+N/-S	+E/-W	DLeg	TFace	VSec	Annotation
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	Start Build
4649.05	0.00	0.00	4649.05	0.00	0.00	0.00	0.00	0.00	Start Build/Turn
5399.56	60.00	246.20	5269.70	-144.60	-327.90	8.00	246.20	-0.04	End Build/Turn
6525.32	90.00	336.21	5628.00	260.75	-1184.95	8.00	90.00	716.59	TD
9690.92	90.00	336.21	5628.00	3157.37	-2461.91	0.00	0.00	3882.19	

WELLBORE TARGET DETAILS (MAP CO-ORDINATES)

Name	TVD	+N/-S	+E/-W	Northing	Easting
Noss Unit 4H BHL	5628.00	3157.37	-2461.91	455361.91	1234381.64

Surface Location:

US State Plane 1983
Pennsylvania Southern Zone
Elevation: 1255' GL @ 1255.00ft (TBD)
Northing: 452204.54 Easting: 1236843.5540° 32' 41.010 N80° 22' 59.050 W





pennsylvania
DEPARTMENT OF ENVIRONMENTAL PROTECTION

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

DEP USE ONLY	DEP Application Tracking #	CC-911779	G: DMM
	Permit #	007-20334	218/12
	Project #		C:

☐	Denotes location of well on topo map
True Latitude: NORTH (NAD83) 40° 32' 40.92"	
True Longitude: WEST (NAD83) 80° 22' 58.69"	
Projected bottom hole	
Latitude: NORTH (NAD83) 40° 33' 16.70"	
Longitude: WEST (NAD83) 80° 23' 21.06"	

Well is located on topo map 14074 feet south of latitude

NOTE:

THIS PLAT IS FOR WELL LOCATION PURPOSES ONLY AND DOES NOT REPRESENT A COMPLETE BOUNDARY SURVEY. CORNERS AND LINES PERTINENT TO LOCATING THE PROPOSED WELL ARE FROM FIELD SURVEY. OTHER LINES AND FEATURES SHOWN ARE FROM TAX MAPS AND/OR DEEDS. THE INFORMATION PRESENTED SHOULD NOT BE UTILIZED FOR ANY OTHER PURPOSES. THIS PROPERTY IS SUBJECT TO ANY EASEMENTS, RIGHT-OF-WAY AND/OR ENCUMBRANCES BOTH APPARENT AND OF RECORD. NO TITLE SEARCH HAS BEEN MADE IN PREPARATION OF THIS WELL PLAT.

NOTE: ALL PROPERTY OWNER AND DEED REFERENCE INFORMATION SHOWN SHALL BE PREFACED BY "N/F" (NOW OR FORMERLY).

40° 35' 00" 0' 1000' 2000'

LEGEND	
—	SURFACE BOUNDARY
○	PROPOSED GAS WELL TOPHOLE
⊕	PROPOSED GAS WELL BOTTOMHOLE
*	EXISTING GAS WELL
⊙	PURVEYOR - WATER WELL
⊙	PURVEYOR - SPRING
---	WELL TIE LINES
---	WELL BORE
---	TRACT BOUNDARY

Well is located on topo map

2214

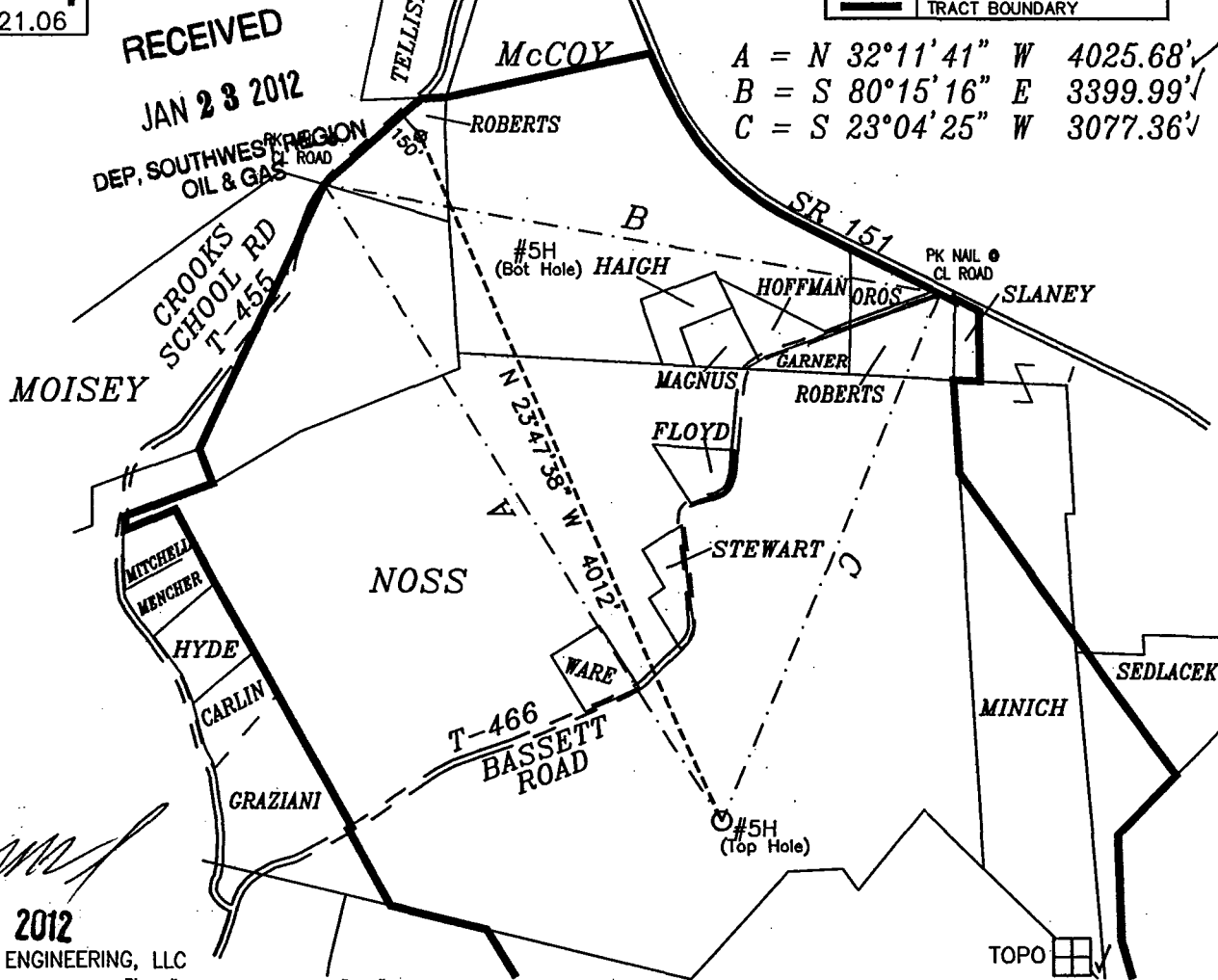
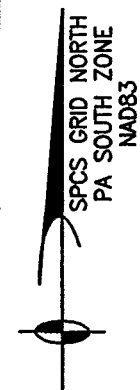
feet west of longitude

80°

22'

30"

A = N 32°11'41" W 4025.68'
B = S 80°15'16" E 3399.99'
C = S 23°04'25" W 3077.36'



TOPO

Tract Acreage 641.9815

JAN 13 2012
TRI-COUNTY ENGINEERING, LLC
Surveyor or Engineer

JOHN M. VOZEL

Phone #

(724)635-0210

Dwg. #

RRAOG22-56-5H

Date

1/13/2012

Scale

1" = 1000'

Lat. & Long Metadata Method Direct GPS Accuracy SUB-METER ft. Datum NAD 83		Elevation Metadata Method DIRECT GPS Accuracy 2' ft. Datum NAVD88		Survey Date 01/24/2011	
Applicant / Well Operator Name RANGE RESOURCES - APPALACHIA LLC ✓		Well (Farm) Name NOSS UNIT ✓		Well # 5H ✓	
Address 3000 TOWN CENTER BLVD. CANONSBURG, PA 15317 ✓		County - Code BEAVER - 4 ✓		Municipality HANOVER TOWNSHIP ✓	
Surface Landowner / Lessor JAMES E. & ELLEN NOSS		USGS 7 1/2 Quadrangle Map Name HOOKSTOWN ✓		Map Section 6 ✓	
Target Formation(s) MARCELLUS		Angle & Course of Deviation (Drilling) DEVIATED - SEE ATTACHMENTS		Anticipated Total Depth TVD 5800 TMD 10220	
Surface Owner of Well (Purveyor) None ✓		Approximate Course and Distance to Water Supply		Name of Coal Seam PITTSBURGH, UPPER FREEPORT & LOWER KITTANNING ✓	

Range Resources - Appalachia LLC

HALLIBURTON
Sperry Drilling Services

Project: Beaver County, PA (NAD 83)

Site: Hookstown

Well: Noss Unit 5H

Wellbore: Wellbore #1

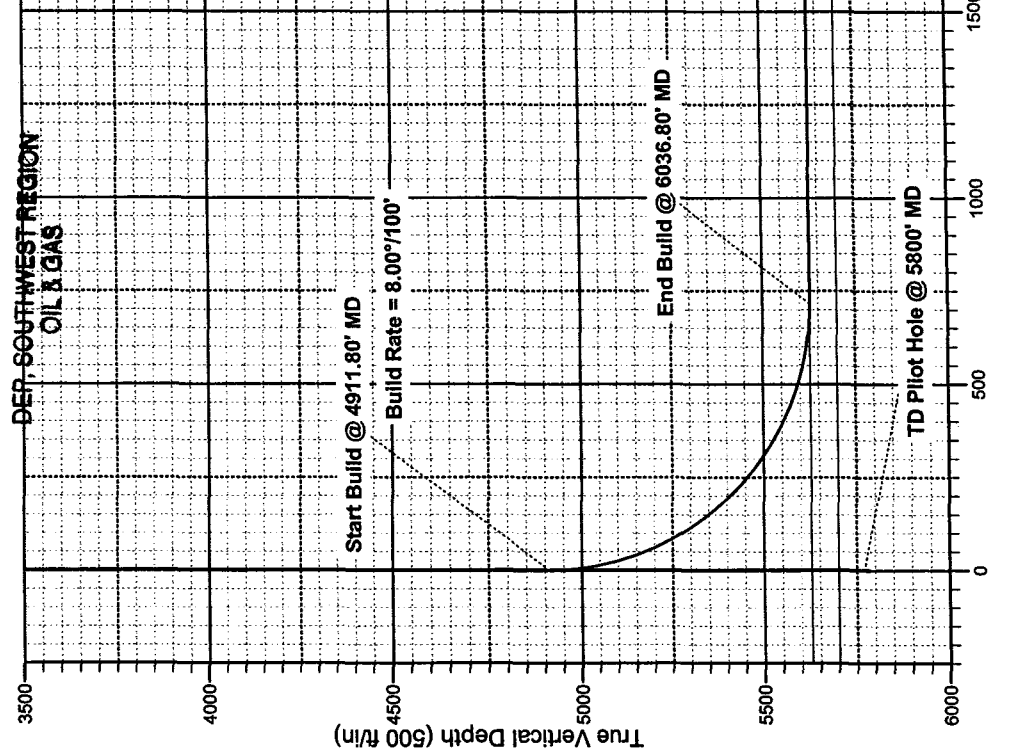
Plan: Plan #2

Rig: TBD

RECEIVED

JAN 23 2012

DER, SOUTHWEST REGION
OIL & GAS



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	
4911.80	0.00	0.00	4911.80	0.00	0.00	0.00	0.00	0.00	Start Build
6036.80	90.00	336.21	5628.00	655.36	-288.87	8.00	336.21	716.20	End Build
9332.10	90.00	336.21	5628.00	3670.73	-1617.96	0.00	0.00	4011.49	TD

WELLBORE TARGET DETAILS (MAP CO-ORDINATES)

Name	TVD	+N/-S	+E/-W	Northing	Easting	Shape Point
Noss Unit 5H BHL	5628.00	3670.74	-1617.96	455865.33	1235253.09	

Surface Location:

US State Plane 1983
Pennsylvania Southern Zone
Elevation: 1240' GL @ 1240.00ft (TBD)
Northing 452194.59
Easting 1236871.06
Latitude 40° 32' 40.920 N
Longitude 80° 22' 58.690 W

To convert a Magnetic Direction to a Grid Direction, Subtract 7.28°
Magnetic Model: BGGM2011 Date: 16-Jan-12
Azimuths to Grid North

TD @ 9332.10' MD
Marcellus
Noss Unit 5H BHL
Onondaga

Vertical Section at 336.21° (500 ft/in)



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

DEP USE ONLY	DEP Application Tracking #	C-911787	G: DMM
	Permit #	007-20335	2/8/12
	Project #		RD

	Denotes location of well on topo map
True Latitude: NORTH (NAD83) 40° 32' 40.82"	
True Longitude: WEST (NAD83) 80° 22' 58.32"	
Projected bottom hole	
Latitude: NORTH (NAD83) 40° 33' 19.37"	
Longitude: WEST (NAD83) 80° 23' 08.38"	

Well is located on topo map 14084 feet south of latitude

40° 35' 00" 0' 1000' 2000'

NOTE:

THIS PLAT IS FOR WELL LOCATION PURPOSES ONLY AND DOES NOT REPRESENT A COMPLETE BOUNDARY SURVEY. CORNERS AND LINES PERTINENT TO LOCATING THE PROPOSED WELL ARE FROM FIELD SURVEY. OTHER LINES AND FEATURES SHOWN ARE FROM TAX MAPS AND/OR DEEDS. THE INFORMATION PRESENTED SHOULD NOT BE UTILIZED FOR ANY OTHER PURPOSES. THIS PROPERTY IS SUBJECT TO ANY EASEMENTS, RIGHT-OF-WAY AND/OR ENCUMBRANCES BOTH APPARENT AND OF RECORD. NO TITLE SEARCH HAS BEEN MADE IN PREPARATION OF THIS WELL PLAT.

NOTE: ALL PROPERTY OWNER AND DEED REFERENCE INFORMATION SHOWN SHALL BE PREFACED BY "N/F" (NOW OR FORMERLY).

LEGEND	
	SURFACE BOUNDARY
	PROPOSED GAS WELL TOPHOLE
	PROPOSED GAS WELL BOTTOMHOLE
	EXISTING GAS WELL
	PURVEYOR - WATER WELL
	PURVEYOR - SPRING
	WELL TIE LINES
	WELL BORE
	TRACT BOUNDARY

Well is located on topo map

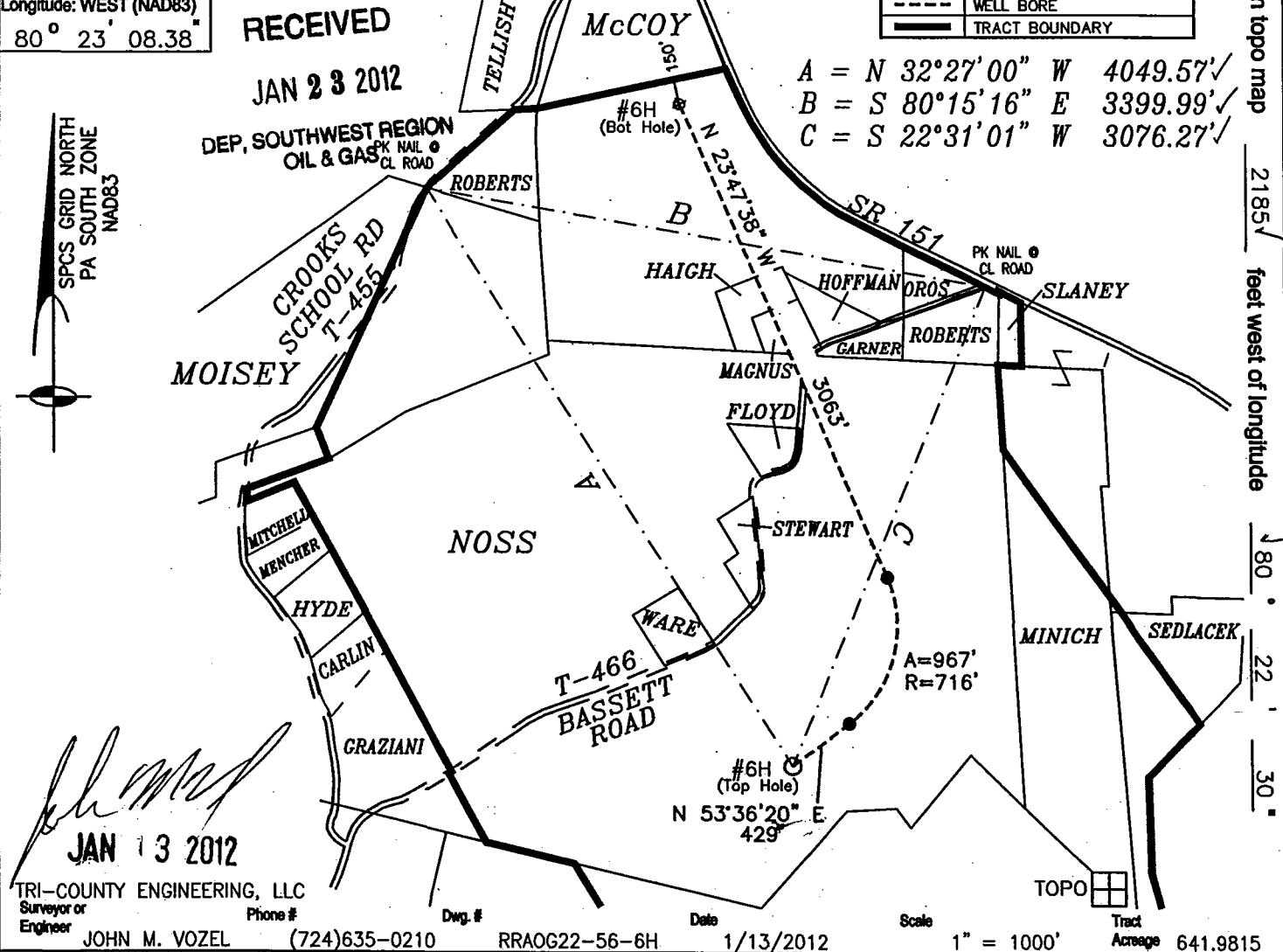
2185'

feet west of longitude

180°

22'

30"



TRI-COUNTY ENGINEERING, LLC
Surveyor or Engineer
JOHN M. VOZEL
Phone # (724)635-0210
Dwg. # RRAOG22-56-6H
Date 1/13/2012
Scale 1" = 1000'

Tract Acreage 641.9815

Lat. & Long Metadata Method Direct GPS Accuracy SUB-METER ft. Datum NAD 83		Elevation Metadata Method DIRECT GPS Accuracy 2' ft. Datum NAVD88		Survey Date 01/24/2011	
Applicant / Well Operator Name RANGE RESOURCES - APPALACHIA LLC ✓		Well (Farm) Name NOSS UNIT ✓		Well # 6H ✓	
Address 3000 TOWN CENTER BLVD. CANONSBURG, PA 15317 ✓		County - Code BEAVER - 4 ✓		Municipality HANOVER TOWNSHIP ✓	
Surface Landowner / Lessor JAMES E. & ELLEN NOSS		USGS 7 1/2 Quadrangle Map Name HOOKSTOWN ✓		Map Section 6 ✓	
Target Formation(s) MARCELLUS		Angle & Course of Deviation (Drilling) DEVIATED - SEE ATTACHMENTS		Anticipated Total Depth 5628' TMD 9664	
Surface Owner or Water Purveyor With a Water Supply within 1,000 ft.		Approximate Course and Distance to Water Supply		Name of Coal Seam PITTSBURGH, UPPER FREEPORT & LOWER KITTANNING ✓	
NONE ✓					

Range Resources - Appalachia LLC

HALLIBURTON
Sperry Drilling Services

Project: Beaver County, PA (NAD 83)
Site: Hookstown
Well: Noss Unit 6H
Wellbore: Wellbore #1
Plan: Plan #2
Rig: TRD RECEIVED

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	
4649.60	0.00	0.00	4649.60	0.00	0.00	0.00	0.00	0.00	Start Build
5399.71	60.00	66.21	5269.92	144.47	327.75	8.00	66.21	-0.01	Start Build/Turn
6524.81	90.00	336.21	5628.00	1050.10	606.45	8.00	-90.00	7'16.24	End Build/Turn
9664.01	90.00	336.21	5628.00	3922.56	-659.86	0.00	0.00	3855.44	TD

JAN 23 2012

DEP, SOUTHWEST REGION
OIL & GAS

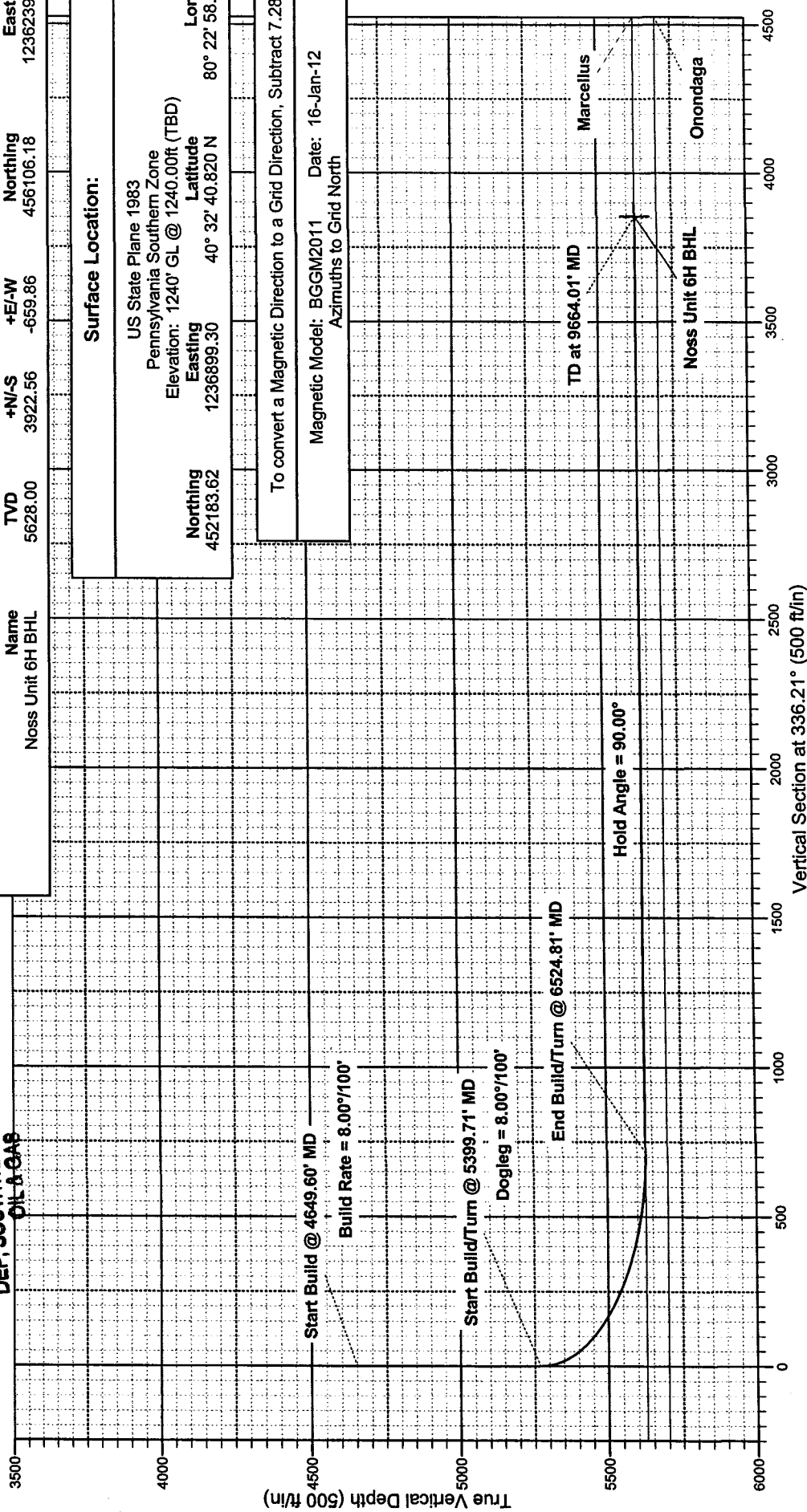
WELLBORE TARGET DETAILS (MAP CO-ORDINATES)

Name	TVD	+N/-S	+E/-W	Northing	Easting
Noss Unit 6H BHL	5628.00	3922.56	-659.86	456106.18	1236239.45

Surface Location:

US State Plane 1983
Pennsylvania Southern Zone
Elevation: 1240' GL @ 1240.00ft (TBD)
Northing 452183.62
Easting 1236899.30
Latitude 40° 32' 40.820 N
Longitude 80° 22' 58.320 W

To convert a Magnetic Direction to a Grid Direction, Subtract 7.28°
Magnetic Model: BGGM2011 Date: 16-Jan-12
Azimuths to Grid North





pennsylvania
DEPARTMENT OF ENVIRONMENTAL PROTECTION

**COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF ENVIRONMENTAL PROTECTION**

GEOCOPY
Oil and Gas Management Program
WELL LOCATION PLAT

DEP USE ONLY	DEP Application Tracking #	C-918301	G: TF
	Permit #	007-20335	4-412
	Project #		C: 

Denotes location of well on topo map

True Latitude: NORTH (NAD83)
40° 32' 40.82"

True Longitude: WEST (NAD83)
80° 22' 58.32"

NOTE:
THIS PLAT IS FOR WELL LOCATION PURPOSES ONLY AND DOES NOT REPRESENT A COMPLETE BOUNDARY SURVEY. CORNERS AND LINES PERTINENT TO LOCATING THE PROPOSED WELL ARE FROM FIELD SURVEY. OTHER LINES AND FEATURES SHOWN ARE FROM TAX MAPS AND/OR DEEDS. THE INFORMATION PRESENTED SHOULD NOT BE UTILIZED FOR ANY OTHER PURPOSES. THIS PROPERTY IS SUBJECT TO ANY EASEMENTS, RIGHT-OF-WAY AND/OR ENCUMBRANCES BOTH APPARENT AND OF RECORD. NO TITLE SEARCH HAS BEEN MADE IN PREPARATION OF THIS WELL PLAT.

NOTE: ALL PROPERTY OWNER AND DEED REFERENCE INFORMATION SHOWN SHALL BE PREFACED BY "N/F" (NOW OR FORMERLY).

Well is located on topo map 14084, feet south of latitude 40° 35' 00"

RECEIVED MAR 07 2012

DEP, SOUTHWEST REGION OIL & GAS

LEGEND

—	SURFACE BOUNDARY
○	PROPOSED GAS WELL TOPHOLE
⊗	PROPOSED GAS WELL BOTTOMHOLE
*	EXISTING GAS WELL
●	PURVEYOR - WATER WELL
●	PURVEYOR - SPRING
---	WELL TIE LINES
---	WELL BORE
---	TRACT BOUNDARY

A = N 32°27'00" W 4049.57'
B = S 80°15'16" E 3399.99'
C = S 22°31'01" W 3076.27'

SPCS GRID NORTH PA SOUTH ZONE NAD83

MAR 5 2012

TRI-COUNTY ENGINEERING, LLC
Surveyor or Engineer JOHN M. VOZEL Phone # (724)635-0210 Dwg. # RRAOG22-56-6H Date 3/5/2012 Scale 1" = 1000' Tract Acreage 727.5655

Lat. & Long Metadata
Method Direct GPS Accuracy SUB-METER ft. Datum NAD 83

Applicant / Well Operator Name
RANGE RESOURCES - APPALACHIA LLC

Address 3000 TOWN CENTER BLVD.
CANONSBURG, PA 15317

Surface Landowner / Lessor
JAMES E. & ELLEN NOSS

Target Formation(s)
MARCELLUS

Surface Owner or Water Purveyor with a Water Supply within 1,000 ft.
NONE

Elevation Metadata
Method DIRECT GPS Accuracy 2' ft. Datum NAVD88

Well(Farm) Name
NOSS UNIT

County - Code
BEAVER - 4

Municipality
HANOVER TOWNSHIP

USGS 71/2 Quadrangle Map Name
HOOKSTOWN 1402

Angle & Course of Deviation (Drilling)
DEVIATED - SEE ATTACHMENTS

Owner, Lessee, or Operator of Workable Coal Seam
JAMES E. & ELLEN NOSS

Survey Date
01/24/2011

Well #
6H

Well Type
GAS

Map Section
6

Surface Elevation
1255

Anticipated Total Depth
TVD 5628' TMD 1059'

Name of Coal Seam Owned, Leased, or Operated
PITTSBURGH, UPPER FREEPORT & LOWER KITTANNING

'ONLY WORKABLE SEAMS'

Range Resources - Appalachia LLC

HALLIBURTON
Sperry Drilling Services

Project: Beaver County, PA (NAD 83)

Site: Hookstown

Well: Noss Unit 6H

Wellbore: Wellbore #1

Plan: Plan #2

Rig: ~~TBD~~ RECEIVED

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	
4649.60	0.00	0.00	4649.60	0.00	0.00	0.00	0.00	0.00	Start Build
5399.71	60.00	66.21	5269.92	144.47	327.75	8.00	66.21	-0.01	Start Build/Turn
6524.81	90.00	336.21	5628.00	1050.10	606.45	8.00	-90.00	716.24	End Build/Turn
9664.01	90.00	336.21	5628.00	3922.56	-659.86	0.00	0.00	3655.44	TD

WELLBORE TARGET DETAILS (MAP CO-ORDINATES)

Name	TVD	+N/-S	+E/-W	Northing	Easting
Noss Unit 6H BHL	5628.00	3922.56	-659.86	456106.18	1236239.45

Surface Location:

US State Plane 1983
Pennsylvania Southern Zone
Elevation: 1240' GL @ 1240.00ft (TBD)

Northing	Easting	Latitude	Longitude
452183.62	1236899.30	40° 32' 40.820 N	80° 22' 58.320 W

To convert a Magnetic Direction to a Grid Direction, Subtract 7.28°

Magnetic Model: BGGM2011 Date: 16-Jan-12

Azimuths to Grid North

DEP, SOUTHWEST REGION

OIL & GAS

