Guidelines for the SWVH-1 Horizontal Field Rules Permit Submittals

The Virginia Gas and Oil Board (VGOB) approved the new Horizontal Field Rules in December of 2011. It was recommended that specific guidelines be developed to ensure permit submittals meet the field rules requirements. The guidelines should be beneficial in assisting operators to conform and develop permits with consistency throughout the industry. Attached are the guidelines that have been developed in cooperation with Division of Gas and Oil staff and members of the horizontal committee.

Horizontal Drill Unit Naming Convention
Intent: Create a unit name that is unique and provides meaningful location, geographic reference, and technical data.

Base Grid naming convention: Using the 20-acre NAD 1983 base grid system approved by the Board, individual 20 acre squares are named by "Area-Row-Column" and geographically defined by corner coordinates. Download the field map and grid from the DGO website.

Horizontal drilling unit naming convention: SWVH-1_A-R201-C490_HR
SWVH-1 = Southwest Virginia Horizontal-1 [this is the name of the approved drilling pool].
A-R201-C490 = Horizontal Drilling Region A-Row201-Colum490 [this is the first 20 acre square with production going down the hole from surface location identified by "Area -Row-Column"].
LH = Lower Huron [this identifies the producing formation using the attached formation two letter abbreviations. Note this is the first Lower Huron well drilled in this 20 acre square, and thus has no suffix following the producing formation identifier].
LH (A) = Lower Huron (A [the second Lower Huron well drilled in this 20 acre square, this would be followed by "LH (B)", "LH (C)", "LH (D)", etc. if needed.

Conventional Production Units	**Abbreviation**	**(Geologic Formations)**
Bluestone	BS	(Bluestone Formation)
Ravencliff	RC	(Princeton / Tallery Sandstone)
Maxton (or Maxon)	MX	(Hinton / Stony Gap Sandstone)
Little Lime	LL	(Bluefield Formation)
Big Lime	BL	(Greenbrier Limestone)
Injun	IJ	(Maccrady Formation)
Weir	WR	(Price Formation)
Sunbury	SB	(Chattanooga Shale / Big Stone Gap Member)
Berea	BR	(Chattanooga Shale / Big Stone Gap Member)
Cleveland	CL	(Upper Devonian, undivided / Chattanooga Shale)
Huron (undivided)	HR	(Upper Devonian, undivided / Chattanooga Shale)
Rhinestreet	RS	(Upper Devonian, undivided / Chattanooga Shale)
Marcellus	MC	(Marcellus Shale)
Corniferious	CN	(Wildcat Valley Sandstone / Huntersville Formation)
*additional production can be added as needed.		

Coal Beds / Coal Zones / Coalbed Methane Production Units	**Abbreviation**
Upper Banner	UN
Lower Banner	LB
Big Fork	BF
Kennedy	KN
Aily	AL
Raven / Red Ash	RA
Jawbone	JB
Tiller	TL
Upper Seaboard	US
Greasy Creek	GC
Middle Seaboard	MS
Lower Seaboard	LS
Sewell	SE
Bandy	BA

Upper Horsepen	UH
Middle Horsepen	MH
War Creek	WC
Beckley	BK
Fire Creek	FC
Lower Horsepen	LH
X-Seam	XS
Little Fire Creek	LF
Pocahontas No. 11	P11
Pocahontas No. 10	P10
Pocahontas No. 9	P9
Pocahontas No. 8	P8
Pocahontas No. 7	P7
Pocahontas No. 6	P6
Pocahontas No. 5	P5
Pocahontas No. 4	P4
Pocahontas No.3	P3
Pocahontas No. 2	P2
Pocahontas No. 1	P1
Squire Jim	SJ
*additional coal beds and coalbed methane production units can be added as needed.	

Digital Plat and related maps: The plat must be submitted in .dwg format with a valid digital signature. (Additional GIS format and data layers may be requested in the future.) The topographic map may be submitted in .pdf format. Download the field map and grid from the DGO website.

The plat (and associated exhibits) must include:

- Horizontal drilling unit
- Horizontal lateral well bore
- Base drainage area polygon
- Base grids making up the drilling unit
- Table listing of base grids with name and coordinates in MS Excel format (template provided)

- Proposed surface location
- Estimated landing point
- Vertical depth
- Estimated location of initial production
- Estimated lateral orientation defined by azimuth
- Estimated total measured depth of the horizontal lateral
- Unit name
- Well name
- All drilled and permitted wells within 2000 feet of the surface location and horizontal lateral
- Table listing of the horizontal distances of all drilled and permitted wells shown on the plat

- Table list of all existing vertical wells producing from the same natural gas formation (or same coal bed) located within 600 feet horizontal distance from the horizontal later well bore gas producing sections.
- Table list of all existing horizontal drilling laterals gas producing sections in different natural gas formations (or different coal beds) located within 600 feet vertical distance where gas ownership differs.
- Tract boundaries and Tract Identification list (with gas / coalbed methane acreage)

The topographic map must include:

- Topographic base map with not less than 1” - 400’ scale (scale bar included on digital map)
- Proposed surface location
- Estimated vertical depth
- Estimated lateral orientation
- Estimated total depth of the horizontal lateral

Downloads:

- VGOB Southwest Virginia Horizontal – 1 Field Rules Order at: http://www.energy.virginia.gov/gas-oil/documents/Board/SWVH-1/2986_Field_Order.pdf

- Southwest Virginia Horizontal – 1 Field Map (ESRI shape file format) at: http://www.energy.virginia.gov/gas-oil/documents/Board/SWVH-1/SWVH-1_Field_Boundary.zip

- 20 acre grid map (ESRI shape file format) at: http://www.energy.virginia.gov/gas-oil/documents/Board/SWVH-1/SWVH-1_Grid.zip

- plat template (.dwg format) at: http://www.energy.virginia.gov/gas-oil/documents/Board/SWVH-1/New_Horizontal_Unit_Plat-templage.zip

- plat template example (.pdf format) at: http://www.energy.virginia.gov/gas-oil/documents/Board/SWVH-1/New_Horizontal_Unit_Plat-example.pdf

- plat with topo template example (.pdf format) at: http://www.energy.virginia.gov/gas-oil/documents/Board/SWVH-1/New_Horizontal_Unit_Plat_with_topoexample.pdf

- unit coordinates spreadsheet template(.xls format) at: http://www.energy.virginia.gov/gas-oil/documents/Board/SWVH-1/Unit_Coordinates_Spreadsheet-template.xls

- unit coordinates spreadsheet template example (.pdf format) at: http://www.energy.virginia.gov/gasoil/documents/Board/SWVH1/Unit_Coordinates_Spreadsheet-example.pdf 5