

APPENDIX I - FEDERAL OIL AND GAS LEASING AVAILABILITY - STIPULATIONS

1. HORIZONTAL DRILLING MORATORIUM STIPULATION

The surface management agency (USDA-Forest Service) has a moratorium on processing Surface Use Plan of Operations of an Application for Permit to Drill for any horizontal well and associated hydraulic fracturing. The moratorium will end on May 1, 2013. The moratorium applies on the lands described below (legal subdivision or other description).

For the purpose of: Considering additional information, such as information developed by U.S. Environmental Protection Agency, for use in processing Application for Permit to Drill for horizontal wells with multi-stage hydraulic fracturing.

Based on the Revised Land and Resource Management Plan for the George Washington National Forest (Forest Plan).

Any changes to this stipulation will be made in accordance with the land use plan and/or the regulatory provisions for such changes.

2. HORIZONTAL DRILLING OPERATIONS CONTROL STIPULATION

Horizontal drilling operations are subject to the following special operating constraints. The surface management agency (USDA-Forest Service) will be lead agency for conducting environmental analysis of Application for Permit to Drill (APD) for any horizontal well and associated hydraulic fracturing. In cooperation with BLM, the USDA-Forest Service will scrutinize proposed operations in regard to use and disposal of surface water and groundwater, and the type and amounts of materials used in hydraulic fracturing. Applicants for Surface Use Plan of Operations of APD shall supply a list of the quantity and chemical composition of all materials proposed for use in drilling and hydraulic fracturing, including any associated Material Safety Data Sheets.

The Drilling Plans must be in sufficient detail to permit a complete appraisal of the technical adequacy of the ground water protection components of the proposed drilling. The proposed casing and cementing programs shall be designed to protect and/or isolate all usable water zones, lost circulation zones, and abnormally pressured zones. The operator shall submit the proposed casing program, including size, grade, weight, type of thread and coupling, the setting depth of each string, and its condition. The operator must include the minimum design criteria, including casing loading assumptions and corresponding safety factors for burst, collapse, and tensions (body yield and joint strength).

Based on an the environmental analysis, the USDA-Forest Service will determine whether use of surface water and/or groundwater on National Forest System (NFS) lands will be authorized. Use of surface water and/or groundwater may be severely limited or prohibited.

Prior to conducting hydraulic fracturing operation, the operator shall submit as-built wellbore construction information so that the APD administrators (BLM and Forest Service) can assess:

Adequacy of surface casing to protect fresh water and to isolate potable fresh water supplies from deeper gas-bearing zones,

Adequacy of cement in the annular space around the surface casing,

Adequacy of cement on production (and intermediate) casing to prevent upward migration of fluids during all reservoir conditions,

Use of centralizers to ensure that the cement sheath surrounds the casing strings.

No hydraulic fracturing operation shall commence until the APD administrators provide authorization for the operation after a review of the as-built wellbore construction information. After authorization is granted, the operator shall provide the APD administrators with at least three days notice before commencing hydraulic fracturing operation.

Flowback operations shall use above ground storage tanks rather than surface impoundments. The fluid disposal plan must demonstrate that flowback water pipelines and conveyances will be constructed of suitable materials, maintained in a leak-free condition, regularly inspected

and operated using all appropriate spill control and storm water pollution prevention practices.

Surface disposal of hydraulic fracturing materials on NFS lands will not be authorized. Based on an environmental analysis, the USDA-Forest Service will determine whether subsurface disposal of hydraulic fracturing materials in an EPA-approved underground injection well on NFS lands will be authorized or prohibited.

On the lands described below:

For the purpose of (reasons): Protecting surface water and ground water.

Based on the Revised Land and Resource Management Plan for the George Washington National Forest (Forest Plan).

Any changes to this stipulation will be made in accordance with the land use plan and/or the regulatory provisions for such changes.

3. NO HORIZONTAL DRILLING STIPULATION

No horizontal drilling is allowed on the lands described below (legal subdivision or other description).

For the purpose of (reasons): Protecting surface water and ground water.

Based on the Revised Land and Resource Management Plan for the George Washington National Forest (Forest Plan).

Any changes to this stipulation will be made in accordance with the land use plan and/or the regulatory provisions for such changes.

4. NO SURFACE OCCUPANCY STIPULATION

No surface occupancy or use is allowed on the lands described below (legal subdivision or other description).

For the purpose of:

Based on the Revised Land and Resource Management Plan for the George Washington National Forest (Forest Plan).

Any changes to this stipulation will be made in accordance with the land use plan and/or the regulatory provisions for such changes.

5. CONTROLLED SURFACE USE STIPULATION

Surface occupancy or use is subject to the following special operating constraints.

On the lands described below:

For the purpose of (reasons):

Based on the Revised Land and Resource Management Plan for the George Washington National Forest (Forest Plan).

Any changes to this stipulation will be made in accordance with the land use plan and/or the regulatory provisions for such changes.

6. TIMING LIMITATION STIPULATION

No surface use is allowed during the following time period(s). This stipulation does not apply to operation and maintenance of production facilities

On the lands described below:

For the purpose of (reasons):

Based on the Revised Land and Resource Management Plan for the George Washington National Forest (Forest Plan).

Any changes to this stipulation will be made in accordance with the land use plan and/or the regulatory provisions for such changes.

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