ILLINOIS DEPARTMENT OF NATURAL RESOURCES

Office of Oil and Gas Resource Management
One Natural Resources Way Springfield, Illinois 62702-1271

HIGH VOLUME HORIZONTAL HYDRAULIC FRACTURING PERMIT APPLICATION HVHHF-10

References to "1-xx" or "§1-xx" are to the Hydraulic Fracturing Regulatory Act., 225 ILCS 732/1-1 et seq. References to "240.xxx" and "245.xxx" are to 62 Ill. Admin. Code 240 and 245, respectively.

Attachment: DirectionalDrillingPlan

Please save attachment and use the file name above.

Directional Drilling Plan. §1-35(b)(4); 245.210(a)(4).

(a) What is the total true vertical depth to which the well will be drilled or deepened? _____
(b) What is the total measured depth to which the well will be drilled or deepened? _____
(c) What is the proposed build angle of the well? _____
(d) What is the proposed direction (heading) of the well? _____
(e) At what depth will the well deviate from vertical? _____
(f) At what verticle depth will the well enter the formation that will be stimulated?_____
(g) What is the angle and direction of any nonvertical portion of the wellbore prior to total target depth/actual final depth? _____
(h) What is the estimated length of the proposed horizontal lateral or wellbore? _____
(i) What is the planned horizontal deviation of the horizontal lateral or wellbore?_____
(j) What is the planned direction/heading of the horizontal lateral or wellbore? _____
(k) What is the planned bottom hole location of the well (provide both PLSS and GPScoordinates)?

Scaled Cross (Top is Soil Surface). 245.210(a)(4), 245.210(a)(7).Attach a diagram of the well bore, showing in scaled cross-section of the following:

1) the well bore from the surface through the horizontal leg's total length
2) the dimensions and information stated in this Directional Drilling Plan
3) the features described in the Underground Fresh Water Plan in the following section; and
4) the formations to be stimulated as required by 245.210(a)(6)(A) and as described in the geological description in Attachment titled HVHHFOperationsPlan.