

From: Steve Ewing <sewing@woodardcurran.com>
To: "branwen.ellis@njpines.state.nj.us" <branwen.ellis@njpines.state.nj.us>
CC: "nancy.wittenberg@njpines.state.nj.us" <nancy.wittenberg@njpines.state.n...>
Date: 8/27/2013 12:41 PM
Subject: South Jersey Gas - HDD

Hello Branwen,

This is in response to your question about the HDD process/ drilling fluid.

Drilling Fluid/Mud is a mixture of water, bentonite, water conditioner such as soda ash, and/or inert, non-toxic polymers continuously pumped to the Cutting Head to facilitate cutting, reduce required torque, facilitate the removal of cuttings, stabilize the borehole, cool the head and lubricate the installation of the Product Pipe. In suitable soil conditions water and bentonite alone may be used. During the Horizontal Directional Drilling process, the drilling mud helps to recirculate the soil out of the bore hole and create the void in which the pipe will be installed when pulled back from the opposite side. As the mud circulates to the surface, it is collected and pumped into a holding tank where it can be recycled for disposal and the water reused.

If you have any further questions please email or call me.

Steven R. Ewing
Vice President
Woodard & Curran
50 Millstone Road
Bldg 300, Suite 115
East Windsor, NJ 08520
T 609 448-8110 Ext. 2904
F 609 448-8118
Cell 732 740-5728
sewing@woodardcurran.com<mailto:sewing@woodardcurran.com>

COMMITMENT & INTEGRITY DRIVE RESULTS
www.woodardcurran.com<http://www.woodardcurran.com>

This e-mail communication and any attachments are confidential and intended only for the use of the designated recipients named above. This communication may be an attorney-client communication and as such is privileged and confidential. If you are not the intended recipient, you are hereby notified that you have received this communication in error and that any review, disclosure, dissemination, distribution or copying of it or its contents is prohibited.