

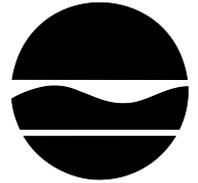
# New York State Department of Environmental Conservation

## Division of Environmental Remediation, Region 9

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Alexander B. Grannis  
Commissioner

January 24, 2008

Mr. William Barber  
Atlantic Richfield Company  
4850 East 49<sup>th</sup> Street, MBC3-147  
Cuyahoga Heights, Ohio 44125

Dear Mr. Barber:

**Carborundum Global Site No. 932036  
Town of Niagara, Niagara County  
Pilot Test Work Plan for *IN SITU* Treatment  
Using Enhanced Bioremediation**

The New York State Department of Environmental Conservation (NYSDEC) has reviewed Parsons Pilot Test Work Plan for *IN SITU* Treatment using Enhanced Bioremediation. This work plan is approved with the following modifications:

1. Section 1.2, page 1-2 - third bullet indicates that the purpose is to determine if enhanced in situ bioremediation is suitable to achieve site goals. The Record of Decision indicates that the goal is to reduce to the extent practical off-site migration of site contaminants through monitored natural attenuation. Site groundwater monitoring indicates that natural attenuation is occurring but at a very slow rate. This bullet should be reworded to indicate that the goal of this pilot study is to determine if the rate of in situ anaerobic biodegradation can be increased,
2. Section 2.2 page 2-1 - The use of a sodium bromide tracer at a concentration of 1000 mg/l is proposed. While this concentration is less than the groundwater standard for sodium and bromide, the groundwater wells being used to extract the groundwater to assist in the distribution of the vegetable oil emulsion must come from down gradient of the injection points to minimize the off-site migration of the tracer,
3. In general, for both the overburden and bedrock pilot test, the groundwater extraction points shall be down gradient of the injection wells to help induce flow of the injected fluids through the contaminated media and to make sure that the injection doesn't merely move the contamination off-site,
4. Section 2.7.2 page 2-7 - first paragraph states that the dilution ration will be based on site-specific parameters. What site specific parameters will be considered?,

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5. Section 2.7.2 page 2-7 - second paragraph, We agree that there is no prohibition on the reinjection of groundwater and that a permit is not required. However, this may be considered a Class 5 Injection well and EPA notification may be needed,
6. Section 2..7..2 page 2-7 - ast paragraph, how were the 2800 gallons for overburden and 6000 gallons for bedrock volumes arrived at?, and
7. Prior to the initiation of field work for this pilot test, a fact sheet is to be prepared and sent to the local community and elected officials. The NYSDEC will prepare and issue the fact sheet unless BP indicates a willingness to undertake this task. In that case the NYSDEC will need to review and approve the Fact Sheet before it is mailed.

Please prepare a revised work plan, along with an updated schedule, based on these modifications and submit one copy with and electronic version on CD to the NYSDEC. Two copies must be sent to the NYS DOH and one copy to the document repository located at the Town of Niagara Town Hall.

If you have any questions please call me at 716-851-7220.

Sincerely,

Michael J. Hinton P.E.  
Environmental Engineer II

MJH:dcg  
hinton\barber-pilotstudy.ltr

cc: Mr. Gregory Sutton P.E., Regional Haz Waste Remed Engineer  
Mr. Matthew Forcucci, NYS Department of Health, Buffalo  
Mr. Mark Raybuck, Parsons, Williamsville, New York 14221