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June 18, 2009

North Carolina Department of Environment
and Natural Resources
Division of Waste Management
1646 Mail Service Center
Raleigh, North Carolina 27699-1646



Attention: Mr. Edward Mussler

Reference: Pilot Demonstration Project - Operations Plan for
Petroleum Hydrocarbon Contaminated Soils as Alternative
Waste Cover
Iredell County MSWLF, Permit No. 49-03
Statesville, North Carolina

Mr. Mussler:

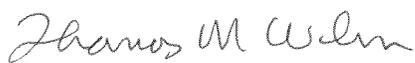
On behalf of Iredell County, ERM NC, PC is submitting this letter and attached Operations Plan regarding proposed use of petroleum hydrocarbon contaminated soils as alternative daily and intermediate cover at the Iredell County Municipal Solid Waste Landfill Facility (MSWLF) (Permit No. 49-03) in Statesville, North Carolina. The Pilot Demonstration Period is proposed for 6 months following approval from the Division of Waste Management. The Operations Plan for the Pilot Demonstration Project has been developed based on plans previously approved by the Division. If you should have any questions or require additional information concerning this submittal and attachments, please contact us at your convenience at (704) 541-8345.

Sincerely,

ERM NC, PC

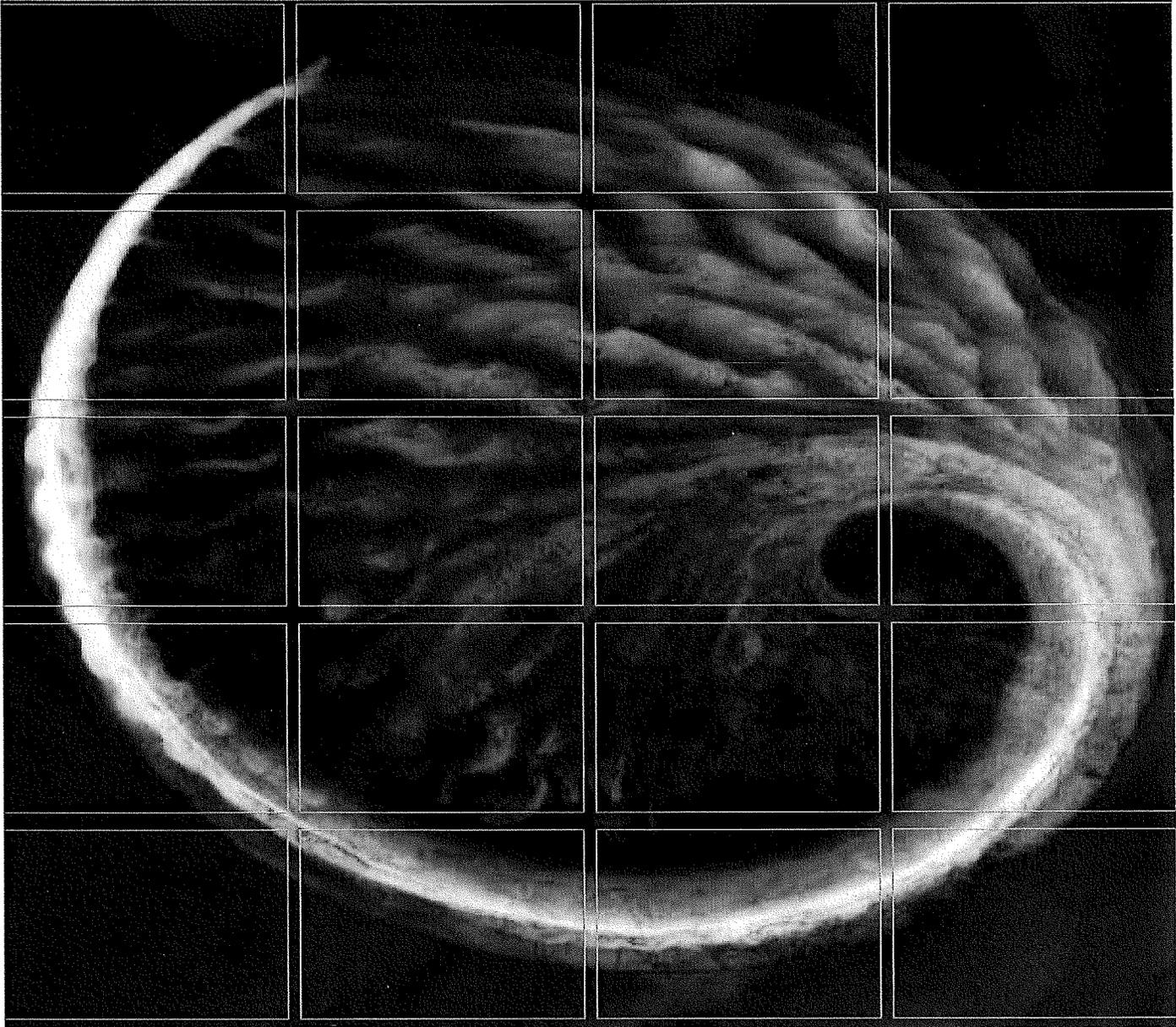

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Cc: Mr. David Lambert - Iredell County Solid Waste Director

Attch: Operations Plan



Iredell County MSWLF, Permit No. 49-03
Operations Plan for Use of Petroleum
Hydrocarbon Contaminated Soils as
Alternate Daily Cover
Statesville, North Carolina

June 2009

ERM NC, PC



Iredell County MSWLF, Permit No. 49-03
Operations Plan for Use of Petroleum Hydrocarbon
Contaminated Soils as Alternate Daily Cover
Statesville, North Carolina

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Attachment – Alternative Daily Cover Log

I. **INTRODUCTION**

The Iredell County Municipal Solid Waste Landfill Facility (MSWLF) (Permit No. 49-03) located in Statesville, Iredell County, North Carolina is a County owned and operated solid waste disposal facility. The landfill disposes of municipal solid wastes from communities and industries throughout incorporated and unincorporated areas of Iredell County, North Carolina. Currently, on-site borrow area soils are utilized for daily and intermediate cover of the waste along with a spray composite shell daily cover system. In order to conserve these materials and to beneficially reuse petroleum contaminated soils with relatively low levels of Total Petroleum Hydrocarbons (TPH), an alternative daily and intermediate cover system will be utilized. This alternative system will utilize petroleum hydrocarbon contaminated soils in place of current daily cover options as these soils become available.

This alternative daily cover option is presented to the NCDENR – Division of Waste Management as a Pilot Demonstration Project and will be governed by conditions and stipulations within the most current Permit to Operate (July 30, 2008) and Operations Plan (Document ID No. 5162 Approved July 2008) for Phase 4 of the municipal solid waste landfill. The demonstration period is proposed for 6 months following Division of Waste Management approval. Upon successful completion including monitoring and compliance over this demonstration period, Iredell County will either submit a revision to Operations Plan to incorporate this alternative daily cover option into the operating record or cease to accept these soils as a daily cover option.

II. **ACCEPTABLE ALTERNATIVE COVER SOILS**

Petroleum contaminated soils are generated at environmental cleanup sites, spill sites, and in conjunction with underground and above ground fuel tank removals. The sources of this soil material vary significantly in their levels of total petroleum hydrocarbons (TPH). For the alternative cover material, only those petroleum contaminated soils with

TPH concentrations not exceeding the following limits (based on acceptability criteria outlined below) will be acceptable:

- 3,000 parts per million (ppm) TPH by EPA method 5030 for soils impacted with low boiling point petroleum hydrocarbons; such as gasoline, aviation fuel, and gasohol.
- 3,000 ppm TPH by EPA method 3550 for soils impacted with high boiling point petroleum hydrocarbons; such as kerosene, diesel, and mineral spirits.
- 3,000 ppm TPH by EPA method 9071 for soils impacted with heavy fuels, oils, and grease; such as #4, #5, and #6 fuel oils.
- 3,000 ppm of total BTEX by EPA method 8020. (If a soil is impacted with more than one type petroleum product, more than one method may be used to characterize TPH levels.)

Acceptability of contaminated soils for use as alternative daily cover will be based on the results of composite sampling as outlined and detailed within "Groundwater Section Guidelines for the Investigation and Remediation of Soil and Groundwater, State of North Carolina Department of Environment and Natural Resources Division of Water Quality Groundwater Section, July 2000". For example, a stockpile of contaminated soil will be divided into grids containing approximately 200 cubic yards of soil per grid. For each grid block, a composite sample result is derived by extracting six (6) primary samples at two locations within the grid at three (3) depth intervals. Acceptance of contaminated soils will be based solely on the analytical testing results of the composite samples.

Only contaminated soils generated from within the facility's permitted service area (Iredell County) will be accepted at the municipal solid waste landfill (MSWLF). The facility shall not accept any soils contaminated with hazardous waste, chlorinated solvents, organic acids, tars or asphalt. The generator or contractor will sample all potential alternative cover materials to determine if the material is acceptable for use as

an alternative daily cover (ADC). These results will be reviewed by the Landfill Operator and acceptability determined. Material that does not meet the aforementioned acceptance criteria shall not be accepted or utilized as an ADC. Analytical testing results of petroleum hydrocarbon contaminated soils accepted at the MSWLF will be placed in the operating record on site.

III. STORAGE OF THE ALTERNATIVE COVER MATERIAL

Alternative cover soils with any level of petroleum contamination shall be stockpiled or stored within the limits of the lined cells of the facility. Petroleum hydrocarbon contaminated soils may not be stored at the facility for more than 45 days. Stockpiling of petroleum contaminated soils outside the limits of the lined cell is prohibited. Stockpiles shall be located away from traffic and operations areas. Stockpiles shall be covered by a tarp or maintained at an appropriate moisture content to prevent blowing of dust from the stockpiles. Earthen berms may be constructed around the stockpiles to prevent runoff from leaving the lined landfill footprint.

Soils being transported to the facility or awaiting transfer to the lined cell must be covered to prevent run-off due to precipitation.

IV. USAGE OF THE ALTERNATIVE COVER MATERIAL

The amount of Petroleum Contaminated soils accepted at the facility and used as ADC shall not exceed 10 percent of the permitted facility average monthly waste stream. Petroleum contaminated soils can be used as ADC only in areas or on intermediate slopes of the MSWLF cell which are within the confines of the base liner system. These soils will not be used on exterior side slopes of the MSWLF cell.

The Landfill Operator shall use special care to assure there is no operational difficulty caused by the usage of this material. In order to accomplish this, all personnel handling

the material, either in the cell or being transported to the site, shall be trained in proper handling of the alternative daily cover.

V. **FACILITY MONITORING**

In order to assess the impact of petroleum contaminated soils usage as alternative daily cover, the following sampling and analysis will be performed during the demonstration:

1. Leachate - Liquids collected in the lined landfill shall be analyzed on a monthly basis for TPH and BTEX. Samples will be collected at the manhole nearest to the cell receiving alternative daily cover.
2. Stormwater - Stormwater in the sediment basins hydraulically downgradient of alternative cover soil use shall be analyzed on a monthly basis for TPH and BTEX.
3. Air Quality - Once per quarter, a hand held photo ionization detector will be used to monitor the air quality in the area where alternative daily cover soils are stockpiled or placed. The detector will be "set-up" for detection of Benzene to detect the presence of airborne volatiles. The detection "action level" will be 10 ppm at which point placement of alternative daily cover will terminate until monitoring indicates that the air quality is within acceptable limits (less than 10 ppm Benzene). If the "action level" is met or exceeded, the landfill manager will be contacted immediately and all work shall cease.

Prior to use of any of the proposed contaminated soils as cover material, a baseline sampling of the leachate and affected sediment basin(s) will be performed for comparison to on-going monitoring.

VI. **RECORD KEEPING**

Records shall be maintained by the Landfill Operator including the following:

1. Manifests of incoming petroleum contaminated soils.
2. Waste profile forms for incoming petroleum contaminated soils with TPH on all materials (provided by generator).
3. Results of leachate analysis for TPH.
4. Results of stormwater analysis for TPH
5. Total amount of Petroleum Contaminated Soil received
6. Total amount of Waste received
7. Total amount of Petroleum Contaminated Soil used as ADC
8. Place an entry in the attached Alternate Daily Cover Log (attached) and maintain in the facility operating record for each day ADC is used or stockpiled.

VII. **TRAINING**

All employees handling petroleum contaminated soils shall be trained in:

1. Methods to utilize the petroleum contaminated soils as alternative daily cover.
2. Methods to store petroleum contaminated soils in the lined cells.
3. Methods to contain petroleum contaminated soils.
4. Record keeping
5. Health and safety concerns

VIII. REGULATORY AUTHORITY

The regulatory authority which permitted the landfill facility is:

NC Department of Environment & Natural Resources

Division of Waste Management

1646 Mail Service Center

Raleigh, NC 27699-1646

Phone No. (919) 508-8400

IX. FACILITY OPERATOR

The facility operator is:

Iredell County

Iredell County Solid Waste

354 Twin Oaks Road

Statesville, NC 28625

Phone No. (704) 878-5430

Facility Contact: Mr. David Lambert – Solid Waste Director

