**TULSA DISPOSAL, LLC**

**TULSA, OKLAHOMA**

**TAB VII**

**WASTE ANALYSIS PLAN**

In Compliance With

40 CFR 270.14 (b) (2 and 3)

Revised October 2015

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**7.0 - WASTE ANALYSIS PLAN**

**ODEQ Item Number B-2, B-3**

**40 CFR 270.14 (b)(2 and 3)**

Tab VII provides a description of the waste analysis plan for Tulsa Disposal, LLC (the Facility). Because waste management operations at the Facility ceased in June 1996, the Waste Analysis Plan (as required by 40 CFR 270.14 (b)(3)) is limited to waste generated in connection with the operation of the groundwater pumping, recovery and treatment system and the wells used to monitor the effectiveness of this system. Analysis of waste generated during final closure of the facility is described in Tab XI.

The original Waste Analysis Plan covered waste analysis procedures for the Facility until waste handling operations were ceased on June 3 1996. Previous activities at the Facility have included the solvent operations in the solvent recycling plant, waste oil treatment in the waste oil plant, and, when waste oil treatment operations were discontinued, non-hazardous industrial wastewater treatment in the former waste oil plant. Three major types of waste streams have historically been managed by these activities:

1. chlorinated solvents;
2. non-chlorinated solvents (including paint and lacquer thinners); and
3. waste oils.

The objective of this Waste Analysis Plan is to describe the constant waste streams generated from the groundwater pumped from the Corrective Measure system with the water discharged to the City of Tulsa, Oklahoma Publicly Owned Treatment Works (POTW) and the solids removed from the site via a licensed hazardous waste commercial transporter.

Groundwater from the four recovery sumps (RS-1 through RS-2) is collected in the 500,000 gallon V-69 storage tank. The recovered water is then batch treated through a granular activated carbon system to remove volatile organic carbon (VOCs), prior to discharge to the POTW. As required by the City of Tulsa POTW Permit No. 3620, treated water is sampled at the designated sample chamber located approximately 75 feet west and 6 feet north of the south double swing gate at Beard Avenue. The effluent has remained so stable over the years that the POTW Permit has a minimum sample collection frequency of at least once per year. The analytical methods or parameters may change as the permit is renewed and updated but the Facility will operate in accordance with the permit conditions as required by the City of Tulsa Permit. As required, an ODEQ certified laboratory is used for analyzing samples required by the Facility’s permit.

Two solid waste streams are removed from the facility. The first stream, granular activated carbon that was used to remove volatile organic carbon from the groundwater is replaced in the system on an annual basis. Monitoring constituents in the groundwater confirms that break through in the carbon does not occur within a one year timeframe. The characterization is based on the compounds found in the groundwater while collecting data for the Corrective Measures Study. The chemicals of concern are all spent solvents, (F001 to F005) which was the nature of HRI’s business, and 1, 1 dichloroethane (U076) and 1, 2 dichloroethane (U077).

The second waste stream is debris and personal protective equipment (PPE) used for sampling and working around the groundwater system. This waste stream is considered hazardous by association with the contaminated groundwater.

Appendix 3, Attachment 3 provides a Groundwater Sampling and Analysis Plan (SAP) based on the current Resource Conservation and Recovery Act (RCRA)-approved Corrective Measure activities. The Sampling and Analysis Plan provides a description of the procedures to be used in the groundwater monitoring events and for the regulatory agency-approved discharge of groundwater containing volatile organic compounds at the Facility. The objective of the SAP is to provide a sampling, analysis, operation, and maintenance plan for the Corrective Measure at the Facility in fulfillment of 40 CFR 270.14 (c). Since it is a separate document, the SAP can be amended by mutual written consent of the Oklahoma Department of Environmental Quality (ODEQ) and the Facility without a permit modification being required.

Because the Facility is under partial closure and no longer handles hazardous waste, the SAP included as Appendix 3, Attachment 3 covers tasks related to groundwater sampling and analysis. The objectives of the groundwater monitoring program are:

* Define the groundwater flow direction and gradient in the shallow saturated zone;
* Assess the hydraulic impact of the containment and recovery trenches;
* Assess the distribution and migration of contaminants identified in the groundwater at the Facility during the RCRA Facility Investigation (RFI) and subsequent investigations;
* Delineate VOC concentration gradients across the Facility and downgradient of the Facility;
* Verify any significant changes in concentrations from previous sampling events;
* Assess the groundwater and VOC mass removal for the containment and recovery trenches;
* Adequately maintain the Corrective Measure containment and recovery trenches in order to ensure attainment of Corrective Measures objectives; and
* Determine when Corrective Measures may cease.