Los Alamos
NATIONAL LABORATORY

Solid Waste Regulatory Compliance (SWRC)
P.O. Box 1663, Mail Stop K490
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Date: May 15, 2002
Refer to: SWRC:02-037

CERTIFIED MAIL
RETURN RECEIPT REQUESTED

James P. Bearzi
Hazardous Waste Bureau
New Mexico Environment Department
2905 Rodeo Park Drive East, Building 1
Santa Fe, New Mexico 87505-6303

Dear Mr. Bearzi:

SUBJECT: TREATABILITY STUDY NOTIFICATION

The purpose of this letter is to provide notification of intent to conduct one mixed waste treatability study at Los Alamos National Laboratory (LANL), pursuant to Title 20 of the New Mexico Administrative Code, Chapter 4, Part 1 (20 NMAC 4.1), which incorporated 40 CFR 261.4(f). The study will be conducted by the Waste Management and Environmental Compliance Group (NMT-7) of the Nuclear Materials Technology Division. The waste sample to be studied is waste vacuum pump oil that is radioactive at low levels (2 nCi/gram). It will be absorbed by Nochar Petro Bond Polymer, which has been presented as an oil absorbent with a capacity to reduce waste oils toxicity levels. A total of 5.0 kg of mixed waste sample will be treated in this study.

This treatability study is intended to evaluate Nochar Petro Bond Polymer treatment effectiveness to determine if the absorbed waste oil toxicity levels are below maximum concentration of contaminant levels and can be considered non-hazardous and managed as low-level radioactive solid waste. This study will be conducted at Technical Area 55 (TA-55), in building PF-4.

If you have any questions, please contact me at (505) 665-0451.

Sincerely,

Tony Grieggs

Tony Grieggs
Acting Group Leader

ARG/LVH/vch

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Enc. 1) Treatability Study Process Description, Nochar Petro Bond Polymer Waste Oil Absorption

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ENCLOSURE

TREATABILITY STUDY PROCESS DESCRIPTION

NOCHAR PETRO BOND POLYMER WASTE OIL ABSORPTION

Los Alamos
NATIONAL LABORATORY

Solid Waste Regulatory Compliance Group
Los Alamos National Laboratory
Los Alamos, New Mexico 87545

Facility Name:	**Los Alamos National Laboratory (LANL) Nuclear Materials Technology Division Waste Management and Environmental Compliance Group (NMT- 7)**
Facility EPA m Number:	**NM0890010515**
Project Title:	**Nochar Petro Bond Polymer Waste Oil Absorption**
Location of Project:	**TA-55, Building PF-4, Room B40**
Project Contact:	**Egan McCormick NMT- 7, Mail Stop E501 (505) 667-8158**
Other Contacts:	**James Barbour RRES-AT/CON, Mail Stop J591 (505) 667-4045** **Jeff Carmichael RRES-SWRC, Mail Stop E501 (505) 665-2505**

Project Description:

Nochar Petro Bond Polymer has been presented as an oil absorbent agent with a capacity to reduce waste oils toxicity levels. Waste vacuum pump oil that is radioactive at low levels (2 nCi/gram) will be absorbed using Nochar Petro Bond Polymer. The effectiveness of the Nochar treatment will then be assessed and documented.

Project Goals and Objectives:

Evaluate Nochar's treatment effectiveness to determine if the absorbed waste oil toxicity levels are below maximum concentration of contaminant levels. These levels are listed in Title 20 of the New Mexico Administrative Code, Chapter 4, Part I (20 NMAC 4.1); and incorporated by reference are 40 CFR 262.24 Toxicity Characteristics, 40 CFR 268.40 "Treatment Standards for Hazardous Waste," and 40 CFR 268.48 "Universal Treatment Standards" concentration levels for

non-wastewater. If Nochar treatment can be proven effective (meets all treatment standards) then the absorbed waste oil will be considered non-hazardous and can be managed as low-level radioactive solid waste.

Project Tasks:

1. Absorb waste oil samples on Nochar Petro Bond Polymer
2. Ship absorb waste oil samples to Assaigai Analytical Laboratory
3. Determine treatment effectiveness

Project Discussion Treatability Study:

Description of Waste to be Treated: Vacuum pump oil is collected and replaced at scheduled maintenance intervals. The vacuum pumps are located in radiological control areas. The pump oil becomes slightly contaminated at radiological levels usually below 2 nCi/gram. These vacuum pump oils are collected in an interim status container storage unit and eventually sent off-site and burned for energy recovery.

Sample Waste Amounts to be Treated: 5.0 kg

RCRA Waste Code(s): Cadmium D006, Lead D008, Benzene D018, 1,4-Dichlorobenzene D027, 1,2-Dichloroethane D028, 2,4-Dinitrotoluene* D030, Hexchlorobenzene* D032, Hexchlorobutadiene* D033, Hexchloroethane* D034, Nitrobenzene* D036, Pentachlorophenol* D037, Pyridine* D038, 2,4,6-Trichlorophenol* D042, Vinyl chloride* D043

* Analytical analysis indicates that these hazardous constituents were not detected. However, the detection limit is greater than the regulatory concentration level.

Site Treatment Plan Information: This waste stream is currently not included in the Compliance Plan Volume of LANL's Federal Facility Compliance Order Site Treatment Plan.

Description of the Waste Treatment Technology: Nochar Petro Bond is a 3rd generation elastomeric polymer. It has a high affinity for hydrogen based compounds and forms mechanical and inter-molecular bonds with hydrocarbons. Department of Energy (DOE) demonstrations have shown that solidified waste oil passes the Toxicity Characteristic Leaching Procedure (TCLP) maximum concentrations of contaminants for toxicity characteristic.

Surrogate Waste Treatment Results: None

Waste Management: Any untreated waste samples will be returned to TA-55's mixed waste interim status storage unit. The Nochar waste oil samples will be returned from the analytical laboratory and will be managed based on the effectiveness of treatment.

Project Milestones:

1. Absorb waste oil on Nochar July 1,2002

2. Ship to Assaigai Analytical Laboratory for analysis July 2, 2002
3. Complete data evaluation July 31,2002

Qualifications:

Experience: The NMT-7 Waste Management and Environmental Compliance Group has over ten years of waste management experience. Egan McCormick has been a Waste Management Coordinator for over 5 years. Sampling and data evaluations will be conducted by Risk Reduction and Environmental Stewardship Division's Solid Waste Regulatory Compliance Group (RRES-SWRC) formerly ESH-19.

Equipment and Facilities:

This project will be conducted within LANL's radiological controlled Plutonium Facility. Sample collecting will be performed according to RRES-SWRC's standard operating procedures. Sample analysis will be conducted by Assaigai Analytical Laboratory's quality assurance program.