



University of California
 Environmental Restoration Project, MS M992
 Los Alamos, New Mexico 87545
 505-667-0808/FAX 505-665-4747



U. S. Department of Energy
 Los Alamos Area Office, MS A316
 Environmental Restoration Program
 Los Alamos, New Mexico 87544
 505-667-7203/FAX 505-665-4504

ASWA LBL 3/1082/16 16-021(c)

Date: September 8, 1997
 Refer to: EM/ER:97-365

Mr. Benito Garcia
 NMED-HRMB
 P.O. Box 26110
 Santa Fe, NM 87502

SUBJECT: BIOREMEDIATION PILOT STUDY AT SWMU 16-021(c)

Dear Mr. Garcia:

The purpose of this letter is to inform you of the pending in situ bioremediation pilot study that is planned at solid waste management unit (SWMU) 16-021(c). This SWMU is highly contaminated with high explosives (HE). Due to the danger associated with movement of the soil at this site, in situ bioremediation will be considered as a possible final remedy at this site.

The in situ bioremediation pilot study will utilize data collected from the treatability study conducted in 1996 on soil from this SWMU. We anticipate using 4 plots, each 7 feet by 20 feet. The in situ bioremediation relies on organisms already present in the soil. Water is added to the plots at a low rate, just to keep the soil moist with no runoff. Food sources, such as corn steep, manure, shredded paper, and dog food are applied to the soil surface and covered with a plastic sheet to create an anaerobic environment.

The HE is consumed by anaerobic micro-organisms. The by-products anticipated are the intermediates of TNT, HMX, and RDX degradation. Some of the intermediates expected include diaminonitrotoluenes (intermediates of TNT), and MNX, DNX, and TNX (nitroso intermediates of RDX). By assuring that an anaerobic environment exists for the bacteria, potentially adverse intermediates will not remain at the site. The rate of HE degradation will be monitored monthly by HPLC analysis of soil samples collected in specific locations at the site. HPLC stands for high performance liquid chromatography, a standard analytical technique used for isolating organic compounds. Los Alamos National Laboratory has HPLC equipment suitable for analysis of HE compounds and their intermediates. Sampling will continue through Fiscal Year 1998 with potential studies to continue beyond that time frame, assuming initial results are successful.

TV



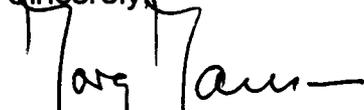
Mr. Benito Garcia
EM/ER:97-365

2

September 8, 1997

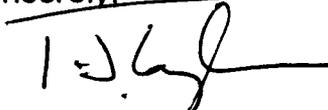
Please contact Dave McInroy at (505) 667-0819 or Joe Mose at (505) 667-5808 if you would like additional information. A meeting to present information has been arranged between our staffs and is scheduled for September 25, 1997.

Sincerely,



Jorg Jansen, Program Manager
LAN/ER Project

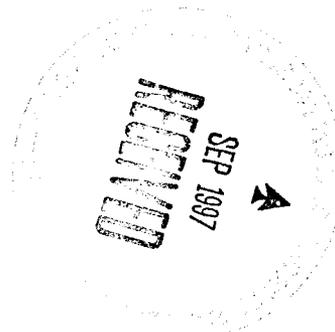
Sincerely,



Theodore J. Taylor, Program Manager
DOE/LAAO

JJ/TT/ss

Cy: D. Griswold, AL-ERD, MS A906
D. McInroy, EM/ER, MS M992
R. Michelotti, CST-7, MS E525
J. Mose, LAAO, MS A316
D. Neleigh, EPA, R.6, 6PD-N
T. Taylor, LAAO, MS A316
S. Dinwiddie, NMED-HRMB
M. Leavitt, NMED-GWQB
J. Parker, NMED-OB
G. Saums, NMED-SWQB
P. Shanley, ESH-19, MS K498
S. Yanicak, NMED-AIP, MS J993
EM/ER File, MS M992
RPF, MS M707



Information Only:

T. Baca, EM, MS J591
J. Canepa, EM/ER, MS M992
T. Longo, DOE-HQ, EM-453
J. Plum, LAAO, MS A316
S. Rae, ESH-18, MS K497
G. Rael, AL-ERD, MS A906
J. Vozella, LAAO, MS A316
J. White, ESH-19, MS K490