Los Alamos Environmental Restoration Records Processing Facility

ER Record I.D.# 00[illegible]263

DATE RECEIVED: 06/09/93 PROCESSOR: MLB

ENTERED

LOS ALAMOS

LOS ALAMOS NATIONAL LABORATORY

ENVIRONMENTAL RESTORATION
Records Processing Facility
ER Record Index Form
(Side 1 of 2)

Part I: Complete all fields; indicate if not applicable or appropriate; please write legibly.

DOCUMENT TO: Cheryl Rofer DOCUMENT DATE: 02/17/93

ORIGINATOR NAME: Walt Meyers ORGANIZATION: LANL

SYMBOL: EES-1 PAGE COUNT: 1

SUBJECT/TITLE: Inactive Explosives SUMP, 22-015(D)

RECORD TYPE (Circle relevant type for primary record; type of attachments should be selected on *Keywords List*):

Analytical Data	Excerpt	Map	Plan	Study
Article	FAX	Memo	Procedure	Summary
Chain-of-Custody	Figure	Microform	Purchase Request	Telephone Record
Chart	Form	Notebook	Receipt Acknowledgment	TOC
Computer Output	Interview	Outline	Report	Transcription
Contract	Letter	Personal Notes	Review	Video
Controlled Distribution	List	Photo	SOW	Work Plan
Drawing	Logbook			Other _____

RECORD CATEGORY: P
(P for Programmatic or R for Reference)

RECORD PACKAGE #: —

RECORD FILMED (Y/N): Y

RECORD LOCATION: —
(Indicate location of record if not filmed.)

Part II: Complete all fields; indicate if not applicable or appropriate; please write legibly. Use *ER Record Index Form Attachment Sheet* if needed.

ATTACHMENTS FILMED (Y/N): —
(Were attachments to this record filmed?)

LOCATION: —
(Indicate location of attachments.)

TECH AREA(S)	ADS NO(S)	WBS NO(S)	STRUCTURE NO(S)/MDA
LIST RELEVANT TECH AREA(S).	LIST RELEVANT ADS NO(S).	LIST RELEVANT WBS NO(S).	LIST RELEVANT STRUCTURE NO(S)/MDA.
6 22	1111	1.4.2.6.14	22-TD-1 22-1 22-25 6-10

33998

Part III: Complete all fields; indicate if not applicable or appropriate; please write legibly. Use *ER Record Index Form Attachment Sheet* if needed.

PRS NO(S)	DOCUMENT TO	ORIGINATOR NAMES
LIST RELEVANT PRS NO(S).	*LIST MULTIPLE RECIPIENTS.*	*LIST MULTIPLE ORIGINATORS.*
22-015(D)	—	—

FILE FOLDER: —

CORRECTION (Y/N): —
(Is this a correction to a record previously processed?)

CORRECTED #: —
(If answer is Yes, please give ER Record # for corrected record.)

CORRECTION DESCRIPTION (Optional): —

SUPERCEDE: — REPLACE: — DELETE: — ADD: — REVISE: —

ATTACHMENT LIST

N/A

KEYWORDS: Circle relevant KEYWORDS from the list below for ER Record #: 15263

MISCELLANEOUS (List other indexing criteria as necessary; please write legibly):
OU 1111, Recrystallization, PETN, TWO-Mile Mesa

Abandon
Aboveground Tank
Absorption
Abstract
Accelerator
Access
Accident
Accumulation
Acid
Active
Administrative
ADS (Activity Data Sheet)
Adsorption
AEC (Atomic Energy Commission)
Aerial
Agenda
Agreement
Air
Alpha
Americium
Analysis
Analytical
AOC (Area of Concern)
Approval
Aquifer
ARAR (Applicable, Relevant, or Appropriate Requirements)
Archaeology
Archive
Area
Arsenic
Asbestos
Asphalt
Assessment
Audit

Backfill
Bacteria
Barium
Baseline
BCP (Baseline Change Proposal)
Beds
Bermed Area
Beryllium
Beta
Biology
Blank
Boiler
Boneyard
Bunker
Buried
Burn
Burn Site

Cadmium
Caisson
Calibration
Canyon
Capacitor
Caustic
CEARP (Comprehensive Environmental Assessment and Response Program)
Cement
CERCLA (Comprehensive Environmental Response, Compensation, and Liability Act)
Certification
Cesium
Chain of Custody
Chamber
Change Control
Change Order
Charge
Chart
Checklist
Chemical
Chromium
Cleanup
Clearance
Closure
Clothing
CMI/RA (Corrective Measures Implementation/Remedial Action)
CMS/FS (Corrective Measures Study/ Feasibility Study)
Cobalt
Comment
Committee
Community Relations
Compliance
Compressed Gas
Computer Modeling
Computer Output
Concern
Concrete
Concurrence
Configuration
Construction
Container
Containment
Contaminant
Contract
Control
Controlled Distribution
Core
Corrective Action
Correspondence
Criteria
Cyanide

Data
Deadline
Debris
Decision Analysis
Decommission
Decontamination
Deficiency
Deliverable
Demolition
Description
Detection
Detonation
Development
Discharge
Disposal
Documentation
DOE (Department of Energy)
Dose
DQO (Data Quality Objectives)
Draft
Drainage
Drainline
Drawing
Drilling
Drop Tower
Drum
Dry Well
Dump
Duplicates

Ecology
Effluent
EIS (Environmental Impact Statement)
Emission
Engineering
Environmental
EPA (Environmental Protection Agency)
Equipment
ERDA (Energy Research and Development Administration)
Erosion
Error
ES&H (Environment, Safety, and Health)
Estimate
Evacuation
Evaluation
Evaporator
Excavation
Exclusion
Exhaust
Experiment
Explosive
Exposure
Extension
Extraction

Facility
Fallout
Farm
FAX
Fence
Field
Figure
Filter
FIMAD (Facility for Information Management, Analysis, and Display)
Finding
Fire
Firing Site
Fiscal
Fission
Five-Year Plan
Flow
Flow chart
Fluid
Form
Framework
Free
Fuel
Fume

Gamma
Gas
Generation
Generic
Geochemistry
Geology
Geophysics
Glass Beaker
Glove Box
Graph
Guidance
Gun

Handling
Hazardous
Health
HE (High Explosive)
History
Hole
Home Owner
Hood
HSWA (Hazardous and Solid Waste Amendments)
Hydrology
Hygiene

Impact
Implementation
Implosion
Impoundment
Inactive
Incident
Incinerator
Industrial
Infiltration
Injection Well
Injury
Inorganic
Inspection
Installation
Interim
Interim Action
Internal
Interview
Inventory
Investigation
IRM (Interim Remedial Measure)
Isotope
IWP (Installation Work Plan)

Lab Job
Laboratory
Lagoon
Land
Landfill
Laundry
Leach
Lead
Leak
Legal

Letter
Limit
Lines
Liquid
List
Log
Logbook

Magazine
Management
Manhole
Map
Material
MDA (Material Disposal Area)
Media
Meeting
Memo
Mercury
Metal
Microform
Minimization
Minutes
MIS (Management Information System)
Mixed Waste
MOA (Memo of Agreement)
Model
Modification
Money (Allocation, Appropriation, Budget, Cost, Funding, etc.)
Monitoring
Monthly Report
Mortar Impact Area
MOU (Memo of Understanding)
MSA (Major System Acquisition)

NEPA (National Environmental Policy Act)
NFA (No Further Action)
Nitrate
NMED (New Mexico Environment Department)
NMEID (New Mexico Environmental Improvement Division)
NOD (Notice of Deficiency)
Nonexplosive
Notebook
Notification
NPDES (National Pollutant Discharge Elimination System)
NRC (Nuclear Regulatory Commission)
Nuclear

Observation
Off-gas
Oil
Open
Open Burning
Operation
Order
Organic
Organization
OSHA (Occupational Safety & Health Administration)
OU (Operable Unit)
Outfall
Outline

Pad
PA/RFA (Preliminary Assessment /RCRA Facility Assessment)
PCB (Polychlorinated Biphenyl)
Permit
Personal Notes
Personnel
Personnel Qualification
Photo
Pilot Study
Pipe
Pit
Plan
Plant
Plutonium
Pollution
Polonium
Polaroid
Potential
Presentation
Prevention
Priority
Procedure
Program
Programmatic
Project
Project Leader
Propellant
Property
Proposal
Protection
Protocol
PRS (Potential Release Site)
Public
Pump
Purchase Request

Quality
QA (Quality Assurance)
QP (Quality Procedure)
Quarterly Report

Radioactive
Radiochemistry
Radionuclide
Radium
Rationale
RCRA (Resource, Conservation, and Recovery Act)
Reactor
Receipt Acknowledgment
Recommendation
Reconnaissance
Records
Recovery
Recycle
Reduction
Reference
Regulation
Release
Remediation
Removal
Report
Request
Requirements
Research
Resin Bed
Resolution
Resource
Respirator
Response
Restoration
Restriction
Results
Review
Revision
RFI/RI (RCRA Facility Investigation/Remedial Investigation)
Risk
RPF (Records Processing Facility)

Safety
Salamander
Salvage
Sample
Sampling Plan
Sanitary
Satellite
Schedule
Scope
Scrap
Scrap Detonation Site
Screening
Scrubber
Search
Security
Seep
Seminar
Semivolatile
Septic
Sewer
Shaft
Sheet
Shell
Shot
Silver
Site
Sludge
Soil
Solid
Solvent
SOP (Standard Operating Procedure)
SOW (Statement of Scope of Work)
Specific
Spill
Stack
Standard
Statistics
Steamline
Steel
Storage
Strontium
Structure
Study
Subcontractor
Subsurface
Summary
Sump
Support
Surface
Surveillance
Survey
Swipe
SWMU (Solid Waste Management Unit)
System

Table
Tank
Task
TCLP (Toxicity Characteristic Leaching Procedure)
TDD (Technical Document Description)
Technical
Technical Team
Technology
Telephone Record
Test Area
Testing
TLD (Thermoluminescent Dosimeter)
TOC (Table of Contents)
Townsite
Toxic
Tracking
Training
Transcription
Transfer
Transformer
Transport
Treatment
Trench
Trip Report
Tritium
TRU (Transuranic)
TSCA (Toxic Substances Control Act)
Tuballoy
Tuff

Underground
Uranium
Urine
USGS (United States Geological Survey)
UST (Underground Storage Tank)
Utility

Validation
Variance
VE (Value Engineering)
Ventilation
Verification
Video
Volatile
Volume

Warehouse
Waste
Water
WBS (Work Breakdown Structure)
Weapon
Well
Work
Working Group

Zinc

Los Alamos
Los Alamos National Laboratory
Los Alamos, New Mexico 87545

1
9-0102

memorandum

TO: Cheryl Rofer, EES-1, MS D462

DATE: February 17, 1993

FROM: Walt Meyers

MAIL STOP/TELEPHONE: D462

SYMBOL: EES-1

SUBJECT: **INACTIVE EXPLOSIVES SUMP, 22 - 015(D)**
REFERENCE: Memorandum from Meyers to Rofer dated January 6, 1993, Subject: Recrystallization of PETN on Two-Mile Mesa

This "sump" is located south of building TD-1, just below the fill slope created when the building was built. In the SWMU report, it was identified under the numbers 22-011 (disposal pit) and 22-015(d) (drainage field). The purpose of this memorandum is to give the history of this sump and to correctly identify its use. It will be seen that 22-015(d) was designed as a "filter pit" rather than a sump. It may also be thought of as a seepage pit, although the original designers did not believe that any permeation into the surrounding rock would occur.

In the reference memorandum, five areas were identified as sites at which the explosive, PETN, was processed to remove impurities and to adjust its particle size and morphology. Three involved processing of pound-size batches. The other two involved smaller, laboratory-sized batches. The three "production" areas were: (1) a facility in building TA-6-10, (2) a facility in Room 109 of building TA-22-1, and (3) a facility in building TA-22-25. They were used sequentially, over the period from 1945 to September 1980.

In 1948, I helped move the detonator operations from the TA-6 area to TD Site (TA-22). One aspect of that work was to set up a new facility for recrystallization of PETN. Room 109 in the explosives operation building (TA-22-1) was selected. It was separated from the rest of the building by heavy concrete walls that served as a barricade in the event of a detonation. The earlier facility at TA-6-10 had a drain line carrying the filtrate and the wash water to a septic tank that also served TA-6-19, a toilet facility. When the move to TD Site was being planned, it was decided that the effluent from the recrystallization work should not enter the septic system but rather should go into a sump of its own. An "upside down filter" design was adopted because it was felt that the effluent would not penetrate the underlying rock, tuff. An (approximately 10-foot-deep) pit was dug into the tuff. The drain from Room 109 extended to the bottom of the pit. A layer of coarse gravel, approximately four feet thick, covered the bottom of the pit. Over that was a layer of fine sand. Since the flow rate in the drain was never high, the system tended to settle out most of the PETN carried down the drain, and the fine sand captured what did not settle. Most of the PETN carried into the pit was the result of the residual solubility of PETN in the water-acetone solution at the end of the process. Wash water entering the liquid in the pit would take some of that out of the solution. As the pit filled, it was expected that eventually the liquid would evaporate, depositing the remainder of the explosive near the top of the sand. While no studies were made to test the premise of this design, I believe that the few grams of PETN that entered the pit were indeed captured in it, and that a reasonable estimate is that the PETN is dispersed to a degree that it does not constitute an explosive hazard.

The pit was not used very long because of the recognition that acetone vapor constituted an explosive hazard in itself. Building TA-22-25 was originally used as a formal transfer station in which detonators made by the Laboratory were turned over to Atomic Energy Commission representatives. That function was dropped, making the building available for recrystallization work at a location removed from other workers.

At some point, the drain line to the pit was broken and was never repaired. I believe this occurred after the work was moved to building 25.

Cy: EES-1, MS D462