

ER Record I.D.:

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

DATE RECEIVED: 11/12/91 PROCESSOR: YPA

**Part I:** Complete all fields; indicate if not applicable or appropriate; please write legibly. INC-D8

DOCUMENT TO: Gary Ellen DOCUMENT DATE: 6/5/91  
ORIGINATOR NAME: Phil Freague ORGANIZATION: HSE-8  
SYMBOL: HSE-8:910956 PAGE COUNT: 5  
SUBJECT/TITLE: Sampling Activities at TA-99 (Area 2)

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

- |                         |           |                |                        |                  |
|-------------------------|-----------|----------------|------------------------|------------------|
| Analytical Data         | FAX       | <u>Memo</u>    | Plan                   | Study            |
| Chain-of-Custody        | Figure    | Microform      | Procedure              | Telephone Record |
| Computer Output         | Form      | Notebook       | Purchase Request       | Transcription    |
| Contract                | Interview | Personal Notes | Receipt Acknowledgment | Video            |
| Controlled Distribution | Letter    | Photo          | Report                 | Work Plan        |
| Drawing                 | Logbook   |                | Review                 | Other _____      |

RECORD CATEGORY: P RECORD PACKAGE #: \_\_\_\_\_  
(for Programmatic or R for Reference)

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): Y LOCATION: \_\_\_\_\_  
(Were attachments to this record filmed?) (Indicate location of attachments.)

TECH AREA(S)	ADS NO(S)	WBS NO(S)	STRUCTURE NO(S)/MDA
LIST RELEVANT TECH AREA(S) <u>49</u>	LIST RELEVANT ADS NO(S) <u>1144</u>	LIST RELEVANT WBS NO(S) <u>1.4.2.6.1.24</u>	LIST RELEVANT STRUCTURE NO(S)/MDA <u>49-2</u>

**KEYWORDS:** Circle relevant KEYWORDS from the list below for ER Record #: 14822

**MISCELLANEOUS** (List other indexing criteria as necessary; please write legibly):

*Vegetation, gopher hole diggings*

Abandon	Burn	<b>Contaminant</b>	ERDA (Energy Research and Development Administration)	Glove Box
Aboveground Tank	Burn Site	Contract	Erosion	Graph
Absorption	-----	Control	Error	Guidance
Abstract	Cadmium	Controlled Distribution	ES&H (Environment, Safety, and Health)	Gun
Accelerator	Caisson	Core	Estimate	-----
Access	Calibration	Corrective Action	Evacuation	Handling
Accident	Canyon	Correspondence	Evaluation	Hazardous
Accumulation	Capacitor	Criteria	Evaporator	Health
Acid	Caustic	Cyanide	Excavation	HE (High Explosive)
Active	CEARP (Comprehensive Environmental Assessment and Response Program)	<b>Data</b>	Exclusion	History
Administrative	Cement	Deadline	Exhaust	<b>Hole</b>
ADS (Activity Data Sheet)	CERCLA (Comprehensive Environmental Response, Compensation, and Liability Act)	Debris	Experiment	Home Owner
Adsorption	Certification	Decision Analysis	Exposure	Hood
AEC (Atomic Energy Commission)	Cesium	Decommission	Extension	HSWA (Hazardous and Solid Waste Amendments)
Aerial	Chain of Custody	Decontamination	Extraction	Hydrology
Agenda	Chamber	Deficiency	-----	Hygiene
Agreement	Change Control	Deliverable	Facility	Impact
Air	Change Order	Demolition	Fallout	Implementation
<b>Alpha</b>	Charge	Description	Farm	Implosion
<b>Americium</b>	Chart	Detonation	FAX	Impoundment
Analysis	Checklist	Development	Fence	Inactive
Analytical	Chemical	Discharge	Field	Incident
AOC (Area of Concern)	Chromium	Disposal	Field Figure	Incinerator
Approval	Cleanup	Documentation	Filter	Industrial
Aquifer	Clearance	DOE (Department of Energy)	FIMAD (Facility for Information Management, Analysis, and Display)	Infiltration
ARAR (Applicable, Relevant, or Appropriate Requirements)	Closure	Dose	Finding	Injection Well
Archaeology	Clothing	DOQ (Data Quality Objectives)	Fire	Injury
Archive	CMI/RA (Corrective Measures Implementation/Remedial Action)	Draft	Firing Site	Inorganic
Area	CMS/FS (Corrective Measures Study/ Feasibility Study)	Drainage	Fiscal	Inspection
Arsenic	Cobalt	Drainline	Fission	Installation
Asbestos	Comment	Drawing	Five-Year Plan	Interim
Asphalt	Committee	Drilling	Flow	Interim Action
Assessment	Community Relations	Drop Tower	Flow chart	Internal
Audit	Compliance	Drum	Fluid	Interview
-----	Compressed Gas	Dry Well	Form	Inventory
Backfill	Computer Modeling	Dump	Framework	Investigation
Bacteria	Computer Output	Duplicates	Free	IRM (Interim Remedial Measure)
Barium	Concern	-----	Fuel	Isotope
Baseline	Concrete	Ecology	Fume	IWP (Installation Work Plan)
BCP (Baseline Change Proposal)	Concurrence	Effluent	-----	-----
Beds	Configuration	EIS (Environmental Impact Statement)	Gamma	Lab Job
Bermed Area	Construction	Emission	Gas	Laboratory
Beryllium	Container	Engineering	Generation	Lagoon
Beta	Containment	Environmental	Generic	Land
Biology	-----	EPA (Environmental Protection Agency)	Geochemistry	Landfill
Blank		Equipment	Geology	Laundry
Boiler			Geophysics	Leach
Boneyard			Glass Beaker	Lead
Bunker				Leak
Buried				Legal

Los Alamos

Los Alamos National Laboratory  
Los Alamos, New Mexico 87545

memorandum

TO Gary Eller, INC-DO, MS J519  
THRU *WJ* Ron Conrad, HSE-8, MS K490

DATE June 5, 1991

MAIL STOP/TELEPHONE K490/7-0815

FROM Phil Fresquez, HSE-8 *MF*

SYMBOL HSE-8:91-956

SUBJECT: **SAMPLING ACTIVITIES AT TA-49 (AREA 2)**

As per your request, I am enclosing soil and vegetation data that was collected around the perimeter of Area 2 at TA-49 on September 9, 1987. Also, you will find data from soil collected from gopher hole diggings (mounds) on March 28 and on April 16, 1991.

In general, of the 20 soil surface samples collected around the perimeter of Area 2 in September, two of them showed elevated levels of gross alpha (80 pCi/g) and Pu-239 1660 pCi/g) activity. These samples were collected on the northeastern side of the asphalt pad. A phoswich survey over the same area showed 7142 counts/100 seconds (background is 3400 counts/100 seconds). Also, positive readings were measured along the drainage channel northeast of Area 2.

Ten soil samples from gopher hole diggings (mounds) were collected around the perimeter of Area 2 in March 1991. One soil sample, also collected from the northeastern corner of the asphalt pad, exhibited elevated alpha activity (135 pCi/g). Consequently, the sample was submitted to the Health and Environmental Chemistry Group (HSE-9) for the analysis of Am-241, Pu-238, Pu-239,240 and total U. Results show levels of Am-241 at 37.7 pCi/g, Pu-238 at 24.1 pCi/g and Pu-239,240 at 43.1 pCi/g. Total U has not been determined at this time.

In April of 1991, additional soil samples were collected from the same gopher hole mound that was previously sampled in March. An additional sample was collected to determine the nature and extent of RCRA regulated wastes, if any. As expected, soil samples showed elevated alpha activity of up to 1,234 pCi/g. However, there was no evidence of volatile, semivolatile or PCB compounds. Additionally, TCLP metals were all below EPA action level guidelines.

RECEIVED

NOV 12 1991

- JCA

G. Eller  
HSE-8:91-956

-2-

June 5, 1991

PF:RC/gr

Enc. a/s

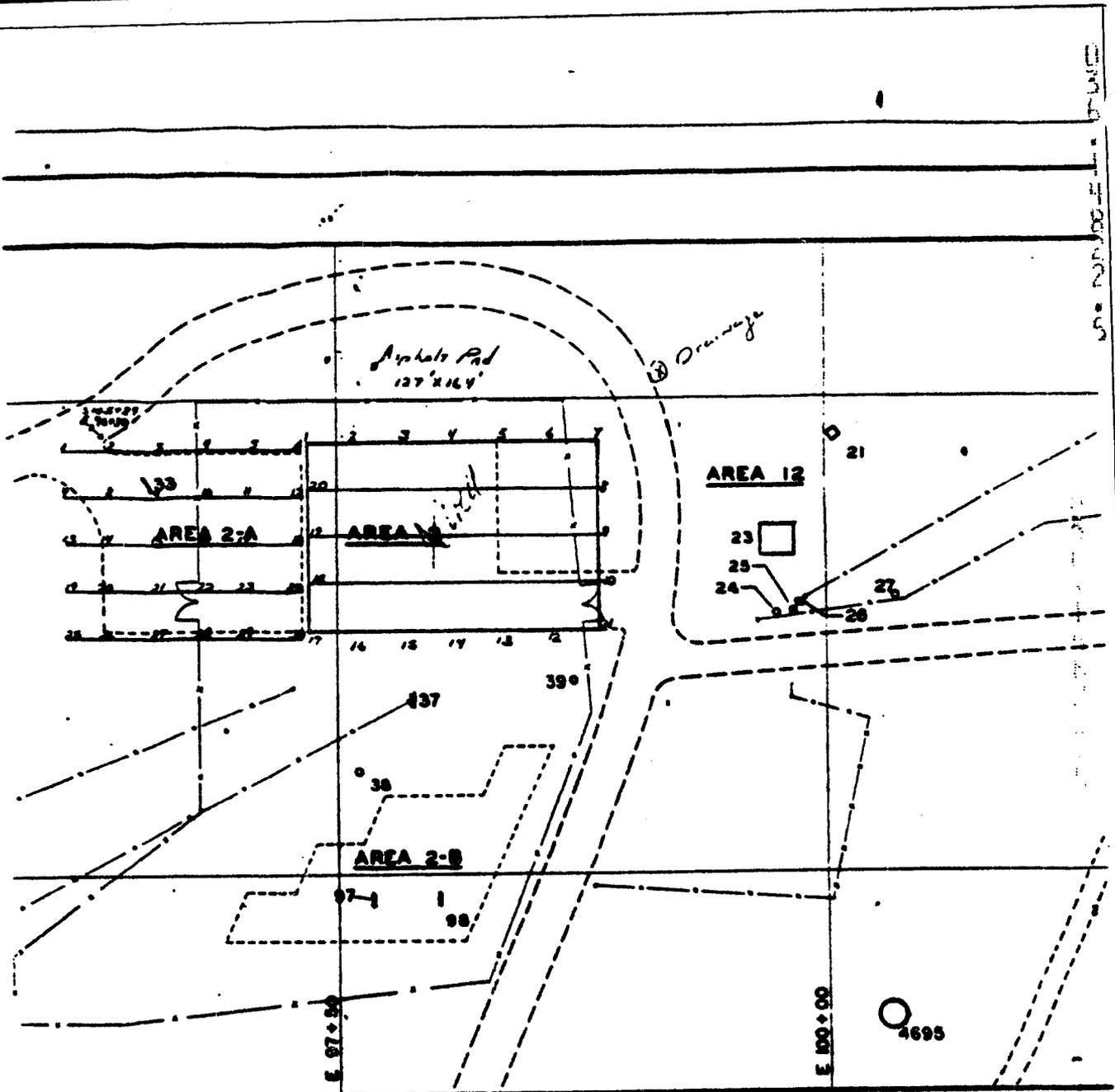
Cy: Roger Ferenbaugh, HSE-8, w/enc., MS K490  
Richard Romero, HSE-8, w/enc., MS K490  
Circ. File

Sept. 9, 1987 Data.

TA-49 Area 2 09/09/87

Asphalt Pad 164' long x 127' wide

- 1.) Soil sample point #7 (surface) collected at N.E. corner of Area 2 outside exclusion fence exhibited 80 pCi/g alpha activity characterized as PU-239 by HSE-9.
- 2.) HSE-9 Chem Lab Replication of same sample exhibited 41 pCi/g and 1.66 nCi/g respectively. (Non-homogenous; highly particulate).
- 3.) Phoswich Survey - BKG = 3400 counts/100 seconds (TA-49) Soil sample point #7 exhibited 7142 counts/100 seconds (2X greater).
- 4.) Davidson Germanium Analyzer set at 60 keV, Am-241 peak with 3 meter radius in-situ capability exhibited 6228 counts/1000 seconds at soil sample point #7. BKG = 0 counts/1000 seconds (Don VanEtten). Natural drainage north and east of soil sample point #7 exhibits positive "migration" pattern.
- 5.) Soil sample point #9 (50 feet south of soil sample point #7) exhibited 44 uG/g Be. All other samples (20 total) averaged 5 uG/g Be. No elevated levels of U were identified.
- 6.) Vegetation sample point #9 exhibited 24 pCi/g PU-239. All other samples (20 total) averaged < .1 pCi/g.
- 7.) 20 each soil and vegetation samples were collected at 25 foot intervals along the perimeter of the asphalt pad at Area 2. Predominant vegetation species identified at Area 2 include Chamisa (*Chrysothamnus* spp.), Goldenweed (*Chrysopsis foliosa*), Mullein (*Verbascum thapsus*), and False Terragon (*Artemisia dracunculus*). Sampling stations permanently marked with 3 foot aluminum stakes and surveyed in according to LA Grid and New Mexico State Plane (NMSP) coordinate system.



**AREAS NOS 2, 2-A, 2-B & AREA NO. 12**

1" = 50' (Reference Original Maps)

25' Grid (7.62 meters)

Point 1 S 105+22 E 97+35 LA Grid System

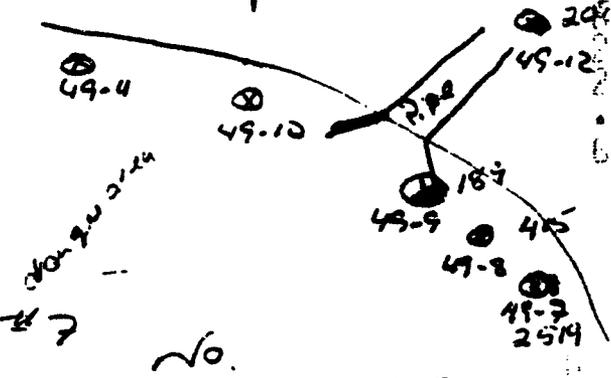
Reference L.A. Notebook A003530 R. Romo

ENG-R 5126

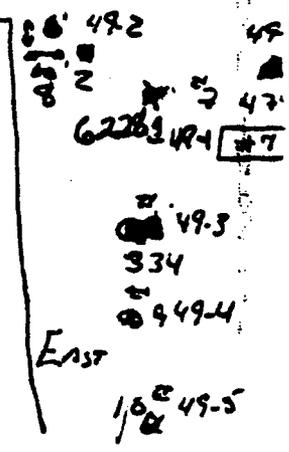
J. Ahlquist Grid Point A S 105+22 E 97+33 (1979)

- ① Sample # 1 at S 105+22 E 97+20 (1987)  
 Samples collected on perimeter of asphalt pad.

- TA-49-1 4 ft west Crown Area 2' Flag # 7
- TA-49-2 4 ft east 7' south from corner of fence Area 2
- TA-49-3 on Flag # 8
- TA-49-4 on Flag # 9
- TA-49-5 on Flag # 10
- TA-49-6 on ditch east of # 7



- AREA 2
- TA-49-7 on ditch NE of fence corner
  - TA-49-8 " " 10' east of culvert
  - TA-49-9 " " east edge of culvert
  - TA-49-10 " " 15' west of culvert
  - TA-49-11 " " 20' west of culvert
  - TA-49-12 12' NE or down ditch of culvert outlet



## AREA 2

Gemma Spec

Germanium

Davidson Analyzer @ 60 KeV 24" Am only  
part

3 meter radius

① New line (use it) moments