

ALO-LA-LANL-LANL-1992-0002
11/18/1992

Final Report
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OCCURRENCE REPORT

Los Alamos National Laboratory

(Name of Facility)

Balance-of-Plant

(Facility Function Involved)

Los Alamos National Laboratory / Los Alamos National Laboratory

(Name of laboratory, site or organization)

Name: Elliott, Alverton A.
Title: Occurrence Report Section Leader
Telephone No.: (505)665-0033

(Facility Manager/Designee)

Name: Ron Stafford
Title: HS Deputy Division Leader
Telephone No.: (505)667-5489

(Originator)

1. OCCURRENCE REPORT NUMBER: ALO-LA-LANL-LANL-1992-0002
Depleted Uranium Explosive Test Fragments Discovered During Health
Safety Perimeter Survey

2. REPORT TYPE AND DATE:	Date	Time
[] Notification	07/17/1992	0749 (MTZ)
[] 10 Day	07/17/1992	1711 (MTZ)
[] 10 Day Update		
[X] Final	11/06/1992	0623 (MTZ)

3. OCCURRENCE CATEGORY

[] Emergency
[] Unusual
[X] Off-Normal

4. DIVISION OR PROJECT:
ENG-8

5. DOE PROGRAM OFFICE:
DP - Defense Programs

6. SYSTEM, BLDG., OR EQUIPMENT:
TA-36 Outside



Received by ER-RPF
FEB 17 1993

7. UCNI?:
No

8. PLANT AREA:
TA-36

9. DATE AND TIME DISCOVERED:
07/15/1992 1300 (MTZ)

10. DATE AND TIME CATEGORIZED:
07/16/1992 1300 (MTZ)

11. DOE NOTIFICATION:

12. OTHER NOTIFICATIONS:

13. SUBJECT OR TITLE OF OCCURRENCE:

Depleted Uranium Explosive Test Fragments Discovered During Health Safety Perimeter Survey

14. NATURE OF OCCURRENCE:

09) Cross-Category Items
D. Potential Concerns/Issues

15. DESCRIPTION OF OCCURRENCE:

On July 15, 1992, the HS Deputy Division Leader was briefed that KOB-TV based in Albuquerque was inquiring about the discovery of radioactive fragments by Public Service Company of New Mexico (PNM) during an on-site perimeter survey. The incident was then considered a reportable under 5000.3A because of the public concern.

On July 9, 1992, three (3) IT Corporation personnel and one (1) PNM employee were conducting a Health & Safety (HS) Perimeter Survey of Technical Area (TA)-36 near a wellhouse station (TA-36-136). PNM was pursuing field studies in support of their right-of-way permit application to DOE for a new electrical power transmission line. Because the area that they were to study involved a known Solid Waste Management Unit (SWMU), they were required to submit a Health and Safety plan. The plan had been reviewed by the Laboratory's Industrial Hygiene & Safety and Health Physics Policy & Programs Groups, as well as by the Environmental Restoration Group. A major purpose of the study was to review the area for archeological sites. This area is designated as restricted access and has been posted "no trespassing" since 1962. The origin of the fragments may have been a result of operations at TA-27. TA-27 ceased operations in 1946 and was closed in the mid-1950's. This area was then consolidated into TA-36.

PNM was not under contract to the Laboratory. Three employees of IT Corporation, under contract to PNM, accompanied the one PNM employee. They obtained

Thermoluminescent Dosimeter (TLD) badges (for radiation exposure) at Area G of TA-54 prior to beginning the study. They picked up the badges at 0900 hours on July 9, 1992, and returned them the same day at 1500 hours. Subsequent reading of the badges showed no exposure above background. They made no mention of having found radioactive fragments on their survey. Laboratory procedure is to provide an escort for such groups only if access is required to areas that are restricted (e.g., security areas) or involve operations. Because PNM/IT had an approved work plan, and because the area was accessible, no Laboratory personnel accompanied them. On July 13, one IT employee informed the Environmental Restoration Group that fragments had been found at the survey site. The information was given in the context of the implications regarding SWMUs; the issue of the fragments being radioactive was not raised.

Since July 9, a total of four fragments have been found and sent to the Health Physics Measurement Group for isotopic analysis. Two contained a low level radioactive component and two did not. Both of the contaminated fragments appear to be an aluminum alloy (roughly 6 x 7 x 3 cm) with depleted uranium contamination. The contamination seems to be embedded in the aluminum; it cannot be rubbed off. The physical condition of the fragments suggests that they are the results of an old test(s) of an explosives assembly containing aluminum in proximity to depleted uranium. One of the uncontaminated fragments resembles the two contaminated fragments, and the other appears to be steel with a thickness of approximately 9 mm. The activity level of the contaminated fragments is very low, approximating the activity level of a Coleman lantern mantle (which contains thorium). The IT employee who made the field measurements reportedly regarded the activity levels as inconsequential.

THE NAME APPEARING AS FACILITY MANAGER IN THIS REPORT IS AUTHORIZED TO ACT AS FACILITY MANAGER DESIGNEE FOR THE PURPOSE OF DATA TRANSMITTAL ONLY. THE ACCOUNTABLE FACILITY MANAGER FOR RESOLUTION IS Ronald G. Stafford, (505) 667-5489.

16. OPERATING CONDITIONS OF FACILITY AT TIME OF OCCURRENCE:
Does not apply

17. ACTIVITY CATEGORY:
Inspection/Monitoring

18. IMMEDIATE ACTIONS TAKEN AND RESULTS:

All dosimeters were read to determine if the employees were exposed. Results of these readings indicated only background.

An investigative team was formed, directed by Environmental Restoration (EM-13) and including personnel with Radiation Protection (HS-1), two with Technical Engineering Support (MEE-4), one DOE Los Alamos Area Office (LAAO) representative, one International Technologies (IT) contractor, and one Emergency Management Office/Occurrence Reporting Section (EMO/ORS) Coordinator. The intent of this team was to walk the area and take radiation readings of the fragments.

The first fragment (Fragment A) was discovered to have a beta radiation measurement of 21,600 disintegrations per minute (dpm) per probe area. Approximately 50 feet away, Fragment B, similar in size but slightly smaller, measured 29,800 dpm/beta emitters. Fragments C and D had no detectable activity. The background reading resulted in 580 dpm. All fragments were retrieved and taken to the Analysis Laboratory (HS-4) for further analysis.

This report has been reviewed by an Authorized Derivative Classifier (Alverton A. Elliott) on September 21, 1992, and determined to be unclassified.

19. DIRECT CAUSE:

- 6) MANAGEMENT PROBLEM
 - F. Other Management Problem

20. CONTRIBUTING CAUSE(S):

21. ROOT CAUSE:

- 6) MANAGEMENT PROBLEM
 - F. Other Management Problem

22. DESCRIPTION OF CAUSE:

The Direct and Root Causes have been identified as Management Problem, Other Management Problem (6F), because ORPS does not list a directly relevant cause. The incident was reported only to provide DOE with information on a potentially sensitive issue. The area was posted with no trespassing signs and institutional controls (i.e., fences and signs) are used to limit access to these areas. Those controls have been reviewed

for adequacy and identified in Corrective Action No 1.

23. EVALUATION: (By Facility Manager/Designee)

There are several types of documented munitions testing areas dating back to the Manhattan Project days. Annual walk-through surveys of these areas had been conducted since the early 1960's but were discontinued in 1984 because so little material of concern was being found. The walk-through surveys were resumed last year.

24. IS FURTHER EVALUATION REQUIRED?: Yes [] No [X]

25. CORRECTIVE ACTIONS:

(* = Date added/revised since final report was signed off)

01) Fence Installation.

Fencing will be installed on the north side of Pajarito Road for approximately two miles. This will complete fencing the entire north side of the road to the bottom of Pajarito Hill.

Responsible Group/Division: HS-DO

TARGET COMPLETION DATE: 09/15/1992 COMPLETION DATE: 09/15/1992

02) Contract Clause.

Develop and insert standard contract clauses in all LANL subcontracts involving on-site operations that specify a process for the timely notifications of and reporting to LANL Management of any radioactive and/or hazardous material contamination encountered during subcontract operations.

Responsible Group/Division: HS-DO

TARGET COMPLETION DATE: 10/01/1992 COMPLETION DATE:

26. IMPACT ON ENVIRONMENT, SAFETY AND HEALTH:

None

27. PROGRAMMATIC IMPACT:

None

28. IMPACT UPON CODES AND STANDARDS:

None

29. FINAL EVALUATION AND LESSONS LEARNED:

Final Evaluation: There will always be occasions or situations that subcontractors or workers will take an issue to the media. We can not control this activity. Management must foster the appropriate relationship so that these issues will first be brought to the attention of management.

Lessons Learned: Management must try to ensure that the proper level of rapport and confidence is instilled with any subcontractors or workers so that they will report unusual events or conditions to the appropriate level of management for resolution. DOE facilities must be aware of public sensitivity to DOE issues.

30. SIMILAR OCCURRENCE REPORT NUMBERS:

1) None

31. DOE FACILITY REPRESENTATIVE INPUT:

The fencing refered to in this report has been installed. The action by ty the contractor is adequate and no further action required.

Entered by: Phoenix, James

Date: 09/23/1992

33. SIGNATURES:

Signed by: Elliott, Alverton A.
Facility Manager/Designee

Date: 09/21/1992
Telephone No.: (505)665-0033

Signed by: PHOENIX, JAMES
DOE Facility Representative/Designee Telephone No.: (505)667-5288

Signed by: ORDAZ, JOHN C.
DOE Program Manager/Designee

Date: 11/06/1992
Telephone No.: (301)903-2865