



Department of Energy
Albuquerque Operations Office
Los Alamos Area Office
Los Alamos, New Mexico 87544
SEP 30 1996

TA-21 (Release. "HotCell", Building 21-4, DandD, DP Canyon)

Mr. Benito Garcia, Bureau Chief
Hazardous and Radioactive Materials Bureau
New Mexico Environment Department
2044 Galisteo
P. O. Box 26110
Santa Fe, New Mexico 87505

Dear Mr. Garcia:

As you are aware, the Department of Energy (DOE) and the Los Alamos National Laboratory (Laboratory) verbally reported a release to surface water to the New Mexico Environment Department (NMED) Surface Water Quality Bureau on September 20, 1996. The release consisted of 500 to 1400 gallons of "dust suppression water" into a tributary to DP Canyon.

The water was used as a dust suppressant during the demolition of a building at Technical Area (TA)- 21. At the time of the release, a portion of Building TA-21-4, known as the "hot cell" was being decommissioned. Extensive radiological screening indicated that no radiological contamination was present in the structure. The structure is comprised primarily of concrete, rebar, and locally lined with magnetite concrete. This activity is being conducted by the Environmental Restoration Project's Decommissioning Group.

At the time the Laboratory was gathering specific information on the release to provide to the Surface Water Quality Bureau, you and some of your staff were attending a meeting at the Laboratory. DOE staff informed you of the surface water release. Subsequently, two of the NMED staff left that meeting to visit the TA-21 Decommissioning activity, the source of the release. This letter is being submitted to you to address the Hazardous Waste and Radioactive Materials Bureau (HWRMB) request to be informed about this release.

The waste water discharging from the Demolition activity was originally characterized using pH paper. Laboratory personnel later used a pH meter as well as three different types of pH papers to determine the pH of the water that had been discharged. The highest pH found was approximately 12, verifying a hazardous waste (D002) had not been released to the environment. Therefore, no RCRA-triggered notifications are required. Members of the HWRMB and a representative from DOE were present during this testing.



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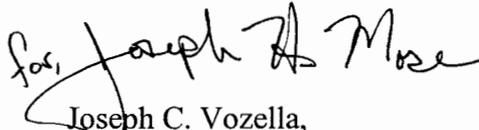
SEP 30 1996

Demolition activities at this location stopped on September 20, 1996 and recommenced September 25, 1996. As a corrective action, less dust suppression water is being generated and the water is now being managed on the concrete pad of Building TA-21-4. No release of dust suppression water to the ground surface is occurring.

The following sequence of events has occurred or is anticipated.

A seven day corrective action plan (attached) was submitted to the Surface Water Quality Bureau on September 26, 1996 pursuant to 1203 of the New Mexico Water Quality Control Commission (WQCC) Regulations. This plan provides specific information on the release and what actions will be taken to mitigate the release, if any. Also, a Notice of Intent to Discharge will be submitted to the Ground Water Quality Bureau under the WQCC regulations. The Laboratory will also submit a 14-day corrective action plan per WQCC requirements. The Laboratory will provide copies of these submittals to you. If you have any questions regarding the release or the resulting documentation that must be submitted to the SWQB, please contact Mike Saladen at 665- 9752 or Joe Mose at 667-5808.

Sincerely,



Joseph C. Vozella,
Assistant Area Manager
Environment and Projects

cc w/enclosure

D. Neleigh

RCRA Permits Branch
U.S. EPA Region 6
1445 Ross Ave., Suite 1200
Dallas, Texas 75202-2733

B. Hoditschek

Hazardous and Radioactive Materials Bureau
New Mexico Environment Department
2044 Galisteo
Santa Fe, New Mexico 87505

N. Weber

Agreement in Principle, DOE Oversight
New Mexico Environment Department
2044 Galisteo
Santa Fe, New Mexico 87505

S. Yanicak, AIP, NMED, MS J993

R E C E I V E D

OCT 02 1996

DOE OVERSIGHT BUREAU

Los Alam National Laboratory NPDES Permit No M0028355
Release Notification Form

Responsible Facility/User Group: TA-21 Decontamination and Decommissioning D&D Project

Contact Person: JCI: Miguel Velasquez; EM/ER D&D: Dan Stout Phone#: M. Velasquez: 665-8122 D. Stout: 667-9948

Discharge Location: TA-21 (near bldg. 5) and runoff to DP Canyon from D&D Project

Discharge Occurred: 9/19/96 12:30 p.m. Discharge Discovered: 9/19/96 1:00 p.m.
date time date time

Discharge Stopped: 9/19/96 1:00 p.m. Method: Shut off pump
date time

Corrective Actions: On 9/19/96, D&D Project was shut-down. An application for Notice of Intent for discharge of water used for dust suppression will be submitted to the NMED for approval. In addition, Procedures will be developed describing the system for collection, full containment, and disposal of water used for dust suppression.

Nearest watercourse and/or canyon affected: None Describe: Tributary to DP Canyon

Source and cause of discharge: The D&D project at TA21, DP West, includes demolition of the 3 to 4 foot thick concrete walls from former hot cells. Jackhammers, trackhoes, wrecking balls, and other heavy equipment is used to break up the concrete. Potable water used for dust suppression created a runoff that drained into a tributary to DP Canyon.

Materials Spilled: Potable water with elevated pH readings; no radioactivity (see attached report.)

Estimated Amount: 1,500-4,000 gallons

***24 Hr. Notification:**

EPA E. Spencer
Time: 4:00 p.m.
Date: 9/26/96

NMED: N. Wells
Time: 2:30 p.m.
Date: 9/19/96

ESH-7 R. Jagnow
Time: 9:55 a.m.
Date: 9/23/96

DOE: K. Zamora
Time: 4:00 p.m.
Date: 9/26/96

Cleanup Started: N/A No Date Time:

Cleanup Finished: N/A No Date Time:

Weather Conditions: Partly cloudy.

Written follow-up within 7 days: Date: 9/26/96

Corrective action report within 15 days: Date: Pending

NMED/EPA Approval on file: Date: Pending

Comments: On 5/18/96 at 5:00 p.m., the JCI construction supervisor was notified by the radioactive liquid waste disposal facility at TA-21 that the facility was possibly receiving water from the D&D Project. (Project management believe the water used for dust suppression was seeping into capped drains formerly used as part of the radioactive liquid waste system.) The facility supervisor stated that the water exhibited an elevated pH. The supervisor turned off the water at the project site, and the low at the waste disposal facility stopped. When the work resumed on 9/19/96, JCI/JENV used litmus paper to test for pH at the culvert adjacent to the D&D work area. Readings taken at 9:00 a.m. and 11:00 a.m. indicated a pH of 7. At 11:30 a.m. work was halted for lunch and water was shut off. At 12:30 p.m. the water was turned back on and at 12:30 the pH reading using litmus paper indicated a pH of approximately 13. At that time, the supervisor shut off the water and suspended work on the project. Three additional pH samples were taken in the runoff leading to DP Canyon, each approximately 25 yards apart. The first reading resulted in a pH of 12, the second resulted in a pH of 6 and the third resulted in a pH of 6. No running water was observed flowing into DP Canyon by personnel taking pH readings; only pooled pockets of water were observed. There were three samples collected screening for radioactivity and results showed no detectable activity (see attached report).

Release Notification Form Completed by: R. Georgioff, JCI/JENV and Carla Jacquez, ESH-18 Water Quality & Hydrology Group.

Thomas Todd
Area Manager
Department of Energy
Los Alamos Area Office
Los Alamos, New Mexico
(505) 667-5105

Dennis J. Erickson
Division Director, ESH-DO
University of California
Los Alamos National Laboratory
P.O. Box 1663, MS K491
Los Alamos, New Mexico 87545
(505) 667-4218

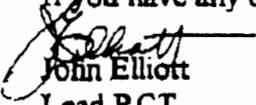
facsimil

TRANSMITTAL

to: Carla Jacquez
fax #: 5-9344
re: Analysis of water from hot cell demolition
date: September 23, 1996
pages: 13, including cover sheet.

Carla, this is the results of the analysis of the water that was released last Thursday, 9/19/96. The two water samples were analyzed by liquid scintillation counter (LSC) and by gamma spectroscopy. The water results show about 95 counts per minute, which is below our background for LSC cocktail and water. No radionuclides were identified by gamma spectroscopy. The third sample is magnetite concrete, the material that part of the hot cell structure is constructed of, the remainder of the structure is made of normal concrete. This sample was analyzed by gamma spectroscopy. The sample contained 1.5 pCi/gram of ⁴⁰K, which is background levels for concrete.

If you have any questions, please call me at 5-7461 or page me at 104-7264.


John Elliott
Lead RCT
TA-21 D&D Project

From the desk of . . .

John Elliott
RCT
ESH-1, MS C339
Los Alamos National Laboratory, P.O.
Box 1663
Los Alamos, NM 87545

(505) 665-7461
Fax: (505) 667-8748

ESH-1 SAMPLE ANALYSIS FORM

SAMPLE DESCRIPTION

Sample Date/Time: 9/19/96 No. Of Samples: 3
 TA: 21 Bldg: 4N
 RCT: JOHN ELLIOTT Z Number: 115629
 Phone/Fax: 665-7461

SAMPLE TRACKING NUMBER

PURPOSE OF SURVEY

- ROUTINE PRE-JOB POST-JOB HOT-JOB
 ITEM RELEASE OFFSITE SHIPMENT ONSITE SHIPMENT
 NON-ROUTINE/OTHER: debris (concrete rubble)
and run-off water from
direct impingement

ADDITIONAL INFORMATION

- Occurrence No.: _____
 Incident No.: _____
 RWP No.: _____

INSTRUMENTATION

TYPE	HSE No.	CAL DUE	% EFF	BKG

NASAL SMEARS

Name	Z No.	Group	Resp. Yes/No	Date	Time	Nasal Smear Results (dpm)	
						Alpha	Beta

LIQUID / WOUND / OTHER SAMPLES

Description	ID No.	Results (add units)	Comments
<u>Water Sample #1</u>		<u>NDA (L BKG - LSC)</u>	<u>from hot cell demolition</u>
<u>Water Sample #2</u>		<u>NDA (L BKG - LSC)</u>	<u>↓ gamma spec</u>
<u>Magnafite - Concrete</u>		<u>1.5 pCi/gm. AOK.</u>	<u>analysis</u>

LSC Results

PAGE: 1

ID: GROSS ALPHABETA 20 SEP 1996 07:
 USER: 8 COMMENT: TA-21 WATER SAMPLES
 PRESET TIME : 3.00
 DATA CALC : CPM R# YES SAMPLE REPEATS: 1 PRINTER : S
 COUNT BLANK : NO IC# NO REPLICATES : 1 RS232 : 0
 TWO PHASE : NO ACC NO CYCLE REPEATS : 1 DISK : S
 SCINTILLATOR: LIQUID LUMEX: NO LOW SAMPLE REJ: 0 RWM LIST : 0
 LOW LEVEL : NO HALF LIFE CORRECTION DATE: none
 WIDE OPEN WINDOW %ERROR: 0.00 FACTOR: 1.000000 BKG. SUB: 0
 WIDE OPEN WINDOW %ERROR: 0.00 FACTOR: 1.000000 BKG. SUB: 0

ALPHA-BETA DISCRIMINATION: NO

SAM NO	POS	TIME MIN	H#	WIDE		WIDE		LUMEX %	ELAPSED TIME
				CPM	%ERROR	CPM	%ERROR		
1	**-1	3.00	112.0	93.33	11.95	93.33	11.95	0.34	3.49
2	**-2	3.00	102.6	95.67	11.81	95.67	11.81	0.43	7.68

*Water sample from concrete dust suppression
 during hot cell demolition. Background counts with tap water
 and floor is approx 100 cpm.
 J. Elliott 7/15/96*

***** G A M M A S P E C T R U M A N A L Y S I S *****

Report Generated On : 9-19-96 4:20:18 PM
Sample Title : 21SAMPS
Spectrum Description :
Sample Identification : WASTE WATER #1
Sample Type : 021
Sample Geometry :
Peak Locate Threshold : 5.00
Peak Locate Range (in channels) : 1 - 4096
Peak Area Range (in channels) : 1 - 4096
Identification Energy Tolerance : 1.000 keV
Sample Size : 2.681E+02 GRAM
Sample Taken On : 9-19-96 4:01:54 PM
Acquisition Started : 9-19-96 4:01:54 PM
Live Time : 800.0 seconds
Real Time : 800.2 seconds

Energy Calibration Used Done On : 9-17-96
Efficiency Calibration Used Done On : 8-27-96

 ***** P E A K A N A L Y S I S R E P O R T *****

Detector Name: DET01

Sample Title: 21SAMPS

Peak Analysis Performed on: 9-19-96 4:20:20 PM

Peak Analysis From Channel: 1

Peak Analysis To Channel: 4096

Peak No.	ROI start	ROI end	Peak centroid	Energy (keV)	Net Peak Area	Net Area Uncert.	Continuum Counts
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One or more peaks were dropped due to multiplet de-convolution.

M = First peak in a multiplet region

m = Other peak in a multiplet region

F = Fitted singlet

Errors quoted at 1.000 sigma

 ***** N U C L I D E I D E N T I F I C A T I O N R E P O R T *****

Sample Title: 21SAMPS
 Nuclide Library Used: C:\PROCOUNT\CAMFILES\SOIL1.NLB

..... IDENTIFIED NUCLIDES

Nuclide Name	Id Confidence	Energy (keV)	Yield (%)	Activity (pCi/GRAM)	Activity Uncertainty
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* - Energy line found in the spectrum.
 @ - Energy line not used for Weighted Mean Activity
 Energy Tolerance : 1.000 keV
 Nuclide confidence index threshold = 0.30
 Errors quoted at 2.000 sigma

Interference Corrected Activity Report

9-19-96 4:20:31 PM Page 4

***** INTERFERENCE CORRECTED REPORT *****

Nuclide Name	Nuclide Id Confidence	Wt mean Activity (pCi/GRAM)	Wt mean Activity Uncertainty
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Total Activity 0.0000E+00

- ? = nuclide is part of an undetermined solution
- X = nuclide rejected by the interference analysis
- @ = nuclide contains energy lines not used in Weighted Mean Activity

Errors quoted at 2.000 sigma

No peak search results available for nuclide analysis.

***** TA-21 DECOMMISSIONING PROJECT SAMPLE NUCLIDE REPORT *****

Report Generated On : 9-20-96 7:30:36 AM
Collected By: :CHRIS

Sample Title : 21SAMPS
Spectrum File Name : C:\PROCOUNT\CAMFILES\21SAMPS\02100478.CNF
Sample Identification : WASTE WATER #2
Sample Type : 021
Sample Geometry :

Peak Locate Threshold : 3.00
Peak Locate Range (in channels) : 1 - 4096
Peak Area Range (in channels) : 1 - 4096
Identification Energy Tolerance : 1.000 keV

Sample Size : 2.658E+02 GRAM

Sample Taken On : 9-20-96 7:17:01 AM
Acquisition Started : 9-20-96 7:17:01 AM

Live Time : 800.0 seconds
Real Time : 800.2 seconds

Energy Calibration Used Done On : 9-17-96
Efficiency Calibration Used Done On : 9-17-96

 ***** N U C L I D E I D E N T I F I C A T I O N R E P O R T *****

Sample Title: 21SAMPS
 Nuclide Library Used: C:\PROCOUNT\CAMFILES\SOIL1.NLB

..... IDENTIFIED NUCLIDES

Nuclide Name	Id Confidence	Energy (keV)	Yield (%)	Activity (pCi/GRAM)	Activity Uncertainty
--------------	---------------	--------------	-----------	---------------------	----------------------

* - Energy line found in the spectrum.
 @ - Energy line not used for Weighted Mean Activity
 Energy Tolerance : 1.000 keV
 Nuclide confidence index threshold = 0.30
 Errors quoted at 2.000 sigma

 ***** INTERFERENCE CORRECTED REPORT *****

Nuclide Name	Nuclide Id Confidence	Wt mean Activity (pCi/GRAM)	Wt mean Activity Uncertainty
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Total Activity 0.0000E+00

? = nuclide is part of an undetermined solution
 X = nuclide rejected by the interference analysis
 @ = nuclide contains energy lines not used in Weighted Mean Activity

Errors quoted at 2.000 sigma

***** UNIDENTIFIED PEAKS *****

Peak Locate Performed on: 9-20-96 7:30:37 AM
 Peak Locate From Channel: 1
 Peak Locate To Channel: 4096

Peak No.	Energy (keV)	Peak Size in Counts per Second	Peak CPS & Uncertainty
F 1	16.10	3.3585E-02	67.64

M = First peak in a multiplet region
 m = Other peak in a multiplet region
 F = Fitted singlet

Errors quoted at 2.000 sigma

***** TA-21 DECOMMISSIONING PROJECT SAMPLE NUCLIDE REPORT *****

Report Generated On : 9-19-96 12:59:09 PM
Collected By: :PAT

Sample Title : 21SAMPS
Spectrum File Name : C:\PROCOUNT\CAMFILES\21SAMPS\02100476.CNF
Sample Identification : HOTCELL CONCRETE
Sample Type : 021
Sample Geometry :

Peak Locate Threshold : 3.00
Peak Locate Range (in channels) : 1 - 4096
Peak Area Range (in channels) : 1 - 4096
Identification Energy Tolerance : 1.000 keV

Sample Size : 1.210E+03 GRAM

Sample Taken On : 9-19-96 12:45:34 PM
Acquisition Started : 9-19-96 12:45:34 PM

Live Time : 800.0 seconds
Real Time : 800.3 seconds

Energy Calibration Used Done On : 9-17-96
Efficiency Calibration Used Done On : 9-17-96

 ***** N U C L I D E I D E N T I F I C A T I O N R E P O R T *****

Sample Title: 21SAMPS
 Nuclide Library Used: C:\PROCOUNT\CAMFILES\SOIL1.NLB

..... IDENTIFIED NUCLIDES

Nuclide Name	Id Confidence	Energy (keV)	Yield (%)	Activity (pCi/GRAM)	Activity Uncertainty
K-40	0.972	1460.75*	10.67	1.51271E+00	2.26365E-01

* = Energy line found in the spectrum.
 @ = Energy line not used for Weighted Mean Activity
 Energy Tolerance : 1.000 keV
 Nuclide confidence index threshold = 0.30
 Errors quoted at 2.000 sigma

***** INTERFERENCE CORRECTED REPORT *****

Nuclide Name	Nuclide Id Confidence	Wt mean Activity (pCi/GRAM)	Wt mean Activity Uncertainty
K-40	0.972	1.512711E+00	2.263646E-01

Total Activity 1.5127E+00

- ? = nuclide is part of an undetermined solution
- X = nuclide rejected by the interference analysis
- @ = nuclide contains energy lines not used in Weighted Mean Activity

Errors quoted at 2.000 sigma

***** UNIDENTIFIED PEAKS *****

Peak Locate Performed on: 9-19-96 12:59:11 PM
 Peak Locate From Channel: 1
 Peak Locate To Channel: 4096

Peak No.	Energy (keV)	Peak Size in Counts per Second	Peak CPS % Uncertainty
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All peaks were identified.

- M = First peak in a multiplet region
- m = Other peak in a multiplet region
- F = Fitted singlet

Errors quoted at 2.000 sigma