

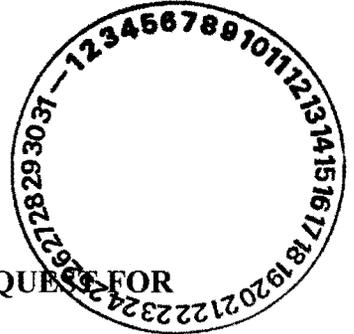
TA 1'



Risk Reduction & Environmental Stewardship Division
Water Quality & Hydrology Group (RRES-WQH)
PO Box 1663, MS K497
Los Alamos, New Mexico 87545
(505) 665-1859/Fax: (505) 665-9344

Date: April 7, 2004
Refer to: RRES-WQH: 04-046

Mr. John Young
New Mexico Environment Department
Hazardous Waste Bureau
P.O. Box 26110
Santa Fe, NM 87502



SUBJECT: RESIDUAL DIESEL CONTAMINATION AT TA-16-7, REQUEST FOR CLOSURE UNDER NMWQCC REGULATIONS

Dear Mr. Young:

On September 26, 2003 the Laboratory's Water Quality and Hydrology Group (RRES-WQH) notified your office of the discovery of diesel-contaminated soil while Laboratory Utilities personnel were disconnecting a potable water supply line to TA-16-7. This notification was pursuant to the New Mexico Water Quality Control Commission (NMWQCC) Regulations (20 NMAC 6.2). Enclosed for your review is the 7-Day and 15-Day Combined Release / Discharge Notification (Enclosure 1) which was previously submitted to your office.

The Laboratory conducted an assessment to determine the nature and extent of the diesel contaminated soil. The assessment and associated findings are discussed in Enclosure 2 (*Results of Investigation of Petroleum Contaminated Soil Adjacent to Building 16-7 and Technical Area 16*).

The Laboratory is requesting that NMED closeout its file for this release under the NMWQCC Regulations (20 NMAC 6.2.1203). Please contact Mark Haagenstad at (505) 665-2014 if additional information would be helpful.

Sincerely,

Steven Rae
Group Leader
Water Quality & Hydrology Group

SR:MH/tml



Enclosures: a/s

Cy: Waudelle Strickley, EPA Region 6, Dallas, TX, w/enc.
Brett Lucas, NMED/SWQB, Santa Fe, NM, w/enc.
Roger Husted, NMED/HWB, Santa Fe, NM, w/enc.
Stephen Yanicak, NMED, w/enc., MS J993
Gene Turner, NNSA/LASO, w/enc., MS A316
Darrik Stafford, FWO-IP, w/enc., MS M878
Beverly Ramsey, RRES-DO, w/o enc., MS J591
Kenneth Hargis, RRES-DO, w/o enc., MS J591
Tori George, RRES-DO, w/o enc., MS J591
Doug Stavert, RRES-EP, w/o enc., MS J591
Paula Bertino, RRES-ECR, w/enc., MS M992
Gabriela Lopez-Escobedo, RRES-ECR, w/enc., MS M992
David McInroy, RRES-RS, w/enc., MS M992
Alice Barr, RRES-SWRC, w/enc., MS K490
Tina Sandoval, RRES-WQH, w/o enc., MS K497
Mike Saladen, RRES-WQH, w/enc., MS K497
Mark Haagenstad, RRES-WQH, w/enc., MS K497
Ellen Louderbough, LC-ESH, w/enc., MS A187
RRES-WQH File, w/enc., MS K497
IM-5, w/enc., MS A150

RELEASE / DISCHARGE NOTIFICATION

LOS ALAMOS NATIONAL LABORATORY

Permit Number: .

Calendar Year

2003NPDES or Operational Spill/Release ER Spill/Release Other Spill/Release

Indicate with "X" in appropriate box.

Release ID Number:

126

Responsible Facility/User Group: FWO-IP

Contact Person: Darrik Stafford

Pager #: 996-3624

Phone #: 667-1638

Cell Phone #: NA

Release/Discharge Location:

TA: 16

Building: 7

While conducting a potable waterline disconnect during D&D activities at TA-16-7, between 9/25/2003 and 9/29/2003, ~660 gallons of potable water was discharged into the water line excavation (~18 ft long, 12 ft wide, and 6 ft deep). Utilities personnel observed a sheen on the surface of potable water produced during the waterline disconnect, and also noticed a petroleum odor.

If the release/discharge is associated with a NPDES Outfall, Potential Release Site (PRS) or Solid Waste Management Unit (SWMU), indicate the site/unit number and its relationship to the release/discharge:

NPDES Outfall: PRS: SWMU: PRS/SWMU Number:

Indicate with "X" in appropriate box(es).

Relationship of the Discharge to a SWMU or PRS:

To be determined (TBD).

Discharge Occurred: 9/25/2003 ~11:30 a.m.

Date & Time

Discharge Discovered: 9/25/2003 ~11:30 p.m.

Date & Time

Discharge Stopped: 9/29/2003 ~2:00 p.m.

Date & Time

Cleanup Started: 9/25/2003 12:30 p.m.

Date & Time

Cleanup Completed: TBD

Date & Time

Date & Time

Material(s) Released / Discharged:

Approximately 100 gallons of potable water was released into a water line excavation on 9/25/2003 at 11:30 a.m.. The excavated region appears to be contaminated with petroleum product. On 9/29/2003, an additional ~560 gallons of potable water was discharged into the excavation during completion of the waterline disconnect to TA-16-7, however the water was immediately removed from the excavation. Soil samples were collected from the excavation and excavation soil pile on 10/1/2003 to determine the nature of the contamination.

Release/Discharge Mitigation Method:

Final disconnection activities for the potable waterline to TA-16-7 were completed on 9/29/2003 and all water that had collected in the excavation during waterline disconnect was pumped into 55-gallon drums for characterization and disposal.

Weather Conditions:

Sunny and warm.

Duration of Release/
Discharge, in HOURS:

0.5

Est. Volume Released/
Discharged, in GAL.

~660

Est. Volume
Recovered, in GAL.

~660

Corrective Actions Taken (ie, type of BMPs, etc):

The excavation was covered with plastic to prevent exposure to storm water. All excavated soil was placed within earthen berms and covered with plastic. A preliminary sampling and analysis plan was developed to determine the nature of the contamination. Soil samples were collected and submitted for analysis on 10/1/2003. Sampling results are pending.

Nearest Watercourse (Canyon Name)

Water Canyon

If the release/discharge reached a watercourse, describe the estimated surface area affected, presence of release/discharge now in the watercourse, and the media the release/discharge was detected in:

The potable water with oil sheen did not reach or impact a watercourse.

Depth to Groundwater, in FT, if known: ~1300

Distance to Nearest Drinking Water Well, in FT, if known: ~22,500 Well ID# PM-5

24-HOUR RELEASE / DISCHARGE NOTIFICATIONS

	Contact Person	Phone	Fax	Date & Time (or Comment)	
EPA:	Waudelle Strickley	214 665-7491	214 665 2168	10/2/2003	FAX
NMED/SWQB:	Bret Lucas	827-2933	827-0160	10/2/2003	FAX
NMED/GWQB:	Curt Frischkorn	827-2918	827-2965	10/2/2003	FAX
NMED/HRMB:	John Young	428-2538	428-2567	9/26/2003	11:45 a.m.
NMED/DOE-OB:	Steve Yanicak	672-0448	672-0466	10/2/2003	FAX
RRES-WQH:	Mike Saladen	665-6085	665-9344	10/2/2003	FAX
DOE:	Gene Turner	667-5794	505-665-4872	10/2/2003	FAX
OTHER:	Alice Barr	667-0820	667-5224	10/2/2003	FAX
OTHER:	Roger Husted	428-2500	428-2567	9/26/2003	11:30 a.m.

Comments: Mark Haagenstad (RRES-WQH) provided a verbal 24-hour release notification to NMED-HWB's Roger Husted at ~11:30 a.m. on 9/26/2003. Alice Barr (RRES-SWRC) and Kelly Vanderpoel (RRES-ECR) provided a courtesy notification to NMED-HWB's John Young at 11:45 a.m. on 9/26/2003.

Form Completed By: Mark Haagenstad

7-DAY RELEASE / DISCHARGE ACTIONS

7 Day Notice 7 Day Notice Date: 10/2/2003 7 Day Notice By: Mark Haagenstad

Mark "X" when done.

Comments: Preliminary sampling and analysis was conducted on 10/1/2003 in the excavation and from the excavated soil pile. Sampling results pending.

15 DAY RELEASE / DISCHARGE ACTIONS

15 day Follow-up Due: 10/9/2003 15-day Follow-Up By: Mark Haagenstad

Comments: Sampling results pending.

NMED 30 DAY APPROVAL / DISAPPROVAL

NMED 30 Day Response Date: 10/25/2003

Comments:

Ralph Erickson, Director
Office of Los Alamos Site Operations
Department of Energy
Los Alamos, New Mexico 87544
(505) 667-5105

Beverly Ramsey, RRES Division Director
University of California
Los Alamos National Laboratory
P.O. Box 1663, MS K491
Los Alamos, New Mexico 87544
(505) 667-4218

ENCLOSURE 2

Results of Investigation of Petroleum Contaminated Soil Adjacent to Building 16-7 and Technical Area 16

Workers excavating an area directly adjacent to the southeast corner of Building 16-7 to disconnect a waterline during preliminary D&D activities observed what appeared to be petroleum-contaminated soil within the excavation. The bottom of the excavation was approximately 6 ft below ground surface (bgs). As reported by Mark Haagenstad (RRES-WQH) on September 26, 2003, site workers indicated that a sheen was visible on the surface of potable water released from the water line within the excavation and a petroleum odor was evident. Final disconnection activities for the potable water line to Building 16-7 were completed on September 29, 2003, and approximately 600 gallon of water was pumped from the excavation into drums at the site pending characterization results for the contaminated soil. As a courtesy, John Young of the NMED-HWB was advised of the water release and potential petroleum contamination. RRES-WQH reported the water release to NMED pursuant to NMWQCC regulations (20 NMAC 6.2.1203) on September 26, 2003. The site was field screened for gross alpha, beta and gamma radiation. Results showed no radiation levels above background.

Building 16-7 was operated as a steam plant and machine shop in the former administration area of TA-16 from 1944 until 1956. The building was subsequently used for storage. D&D of the structure is scheduled for completion by the end of April 2004.

On September 30, 2003, RRES-ECR, RRES-WQH, and RRES-SWRC proposed the following approach for the initial characterization of the petroleum-contaminated soil discovered in the excavation adjacent to Building 16-7:

- One grab sample would be collected from the bottom/center of the excavation and submitted for analysis of VOCs, SVOCs plus a duplicate, BTEX, TPH-DRO, TAL metals and HE.
- One grab sample would be collected from either a biased location (i.e., stained soil within the excavation) from bottom/western end of the excavation and submitted for analysis of VOCs, SVOCs, BTEX, TPH-DRO, TAL metals and HE.
- One grab sample would be collected from the middle of the excavated soil pile with the most visible or obvious contamination and submitted for analysis of VOCs, SVOCs, and HE.
- One trip blank (deionized water) would be collected outside the area of influence where the soil samples were collected and would be submitted for analysis of VOCs.
- One equipment blank (deionized water) would be collected from the sample collection scoop prior to initiation of actual sample collection.

The samples described above were collected by Darrick Stafford of FWO-IP on October 1, 2003 and were submitted to the SMO for the analyses listed above. During sample collection, no obvious staining was observed in the excavation or excavated soil pile. Immediately following sample collection, Bill Kopp (RRES-ECR) surveyed the sample locations.

Analytical results were faxed to RRES-ECR on October 14, 2003 and all detected analytes are summarized in the tables below.

Table 1.0-1
Inorganic Chemicals Detected Above Background in Soil Samples Collected from Excavation
Adjacent to Building 16-7

Analyte	Sample ID	Location ID	Depth (bottom of excavation)	Media	Sample Value (mg/kg)	BV ^a (mg/kg)	SAL ^b (mg/kg)
Cadmium	RE16-03-52667	16-22562	6.0-6.5 ft	Soil	0.422	0.4	70
Cobalt	RE16-03-52666	16-22561	6.0-6.5 ft	Soil	13.4	8.64	4500
Copper	RE16-03-52666	16-22561	6.0-6.5 ft	Soil	18.5	14.7	2800
Copper	RE16-03-52667	16-22562	6.0-6.5 ft	Soil	20.9	14.7	2800
Lead	RE16-03-52666	16-22561	6.0-6.5 ft	Soil	31.9	22.3	400
Zinc	RE16-03-52667	16-22562	6.0-6.5 ft	Soil	50.6	48.8	23,000

^aBV = Background Value. Background values used in this table are from the 1998 paper: "Inorganic and Radionuclide Background Data for soils, Canyon Sediments, and Bandelier Tuff at Los Alamos National Laboratory." (LANL 1998, 59730)

^bSAL = Screening action level. The SALs used in this table for follow guidance from the 1998 IWP (LANL 1998, 62060), and the 2000 IWP currently pending approval (LANL 2000, 66802)

Table 1.0-2
Volatile Organic Chemicals Detected in Soil Samples Collected from Excavation Adjacent to Building
16-7

Analyte	Sample ID	Location ID	Depth (bottom of excavation)	Media	Sample Value (mg/kg)	SAL ^a (mg/kg)
n-Butylbenzene	RE16-03-52666	16-22561	6.0-6.5 ft	Soil	0.33	140
Sec-Butylbenzene	RE16-03-52666	16-22561	6.0-6.5 ft	Soil	0.12	110
n-Butylbenzene	RE16-03-52667	16-22562	6.0-6.5 ft	Soil	0.18	140
Sec-Butylbenzene	RE16-03-52667	16-22562	6.0-6.5 ft	Soil	0.078	110

Note: VOCs were not detected in the sample collected from the excavated soil pile or in the QA samples.

^aSAL - Screening action level. The SALs used in this table for follow guidance from the 1998 IWP (LANL 1998, 62060), and the 2000 IWP currently pending approval (LANL 2000, 66802)

Table 1.0-3
Semivolatile Organic Chemicals Detected in Soil Samples Collected from Excavation Adjacent to
Building 16-7

Analyte	Sample ID	Location ID	Depth (bottom of excavation)	Media	Sample Value (mg/kg)	SAL ^a (mg/kg)
2-Methylnaphthalene	RE16-03-52666	16-22561	6.0-6.5 ft	Soil	2.2	53
Bis(2-Ethylhexyl)phthalate	RE16-03-52666	16-22561	6.0-6.5 ft	Soil	0.69	35
Dibenzofuran	RE16-03-52666	16-22561	6.0-6.5 ft	Soil	0.60	290
Fluorene	RE16-03-52666	16-22561	6.0-6.5 ft	Soil	0.46	3700
Naphthalene	RE16-03-52666	16-22561	6.0-6.5 ft	Soil	0.48	53
Phenanthrene	RE16-03-52666	16-22561	6.0-6.5 ft	Soil	0.74	1800
TPH-DRO	RE16-03-52666	16-22561	6.0-6.5 ft	Soil	740	NA ^b
2-Methylnaphthalene	RE16-03-52667	16-22562	6.0-6.5 ft	Soil	1.2	53
Bis(2-Ethylhexyl)phthalate	RE16-03-52667	16-22562	6.0-6.5 ft	Soil	0.64	35
Dibenzofuran	RE16-03-52667	16-22562	6.0-6.5 ft	Soil	0.36	290

Analyte	Sample ID	Location ID	Depth (bottom of excavation)	Media	Sample Value (mg/kg)	SAL ^a (mg/kg)
di-n-Butylphthalate	RE16-03-52667	16-22562	6.0-6.5 ft	Soil	0.72	6100
Fluorene	RE16-03-52667	16-22562	6.0-6.5 ft	Soil	0.26	3700
Naphthalene	RE16-03-52667	16-22562	6.0-6.5 ft	Soil	0.21	53
Phenanthrene	RE16-03-52667	16-22562	6.0-6.5 ft	Soil	0.41	1800
TPH-DRO	RE16-03-52667	16-22562	6.0-6.5 ft	Soil	220	NA
Bis(2-Ethylhexyl)phthalate	RE16-03-52668	16-22563	Soil Pile	Soil	0.39	35
2-Methylnaphthalene	RE16-03-52671 ^c	16-22561	6.0-6.5 ft	Soil	1.5	53
Bis(2-Ethylhexyl)phthalate	RE16-03-52671 ^c	16-22561	6.0-6.5 ft	Soil	0.58	35
Dibenzofuran	RE16-03-52671 ^c	16-22561	6.0-6.5 ft	Soil	0.41	290
Fluorene	RE16-03-52671 ^c	16-22561	6.0-6.5 ft	Soil	0.31	3700
Naphthalene	RE16-03-52671 ^c	16-22561	6.0-6.5 ft	Soil	0.22	53
Phenanthrene	RE16-03-52671 ^c	16-22561	6.0-6.5 ft	Soil	0.50	1800

^aSAL = Screening action level. The SALs used in this table for follow guidance from the 1998 IWP (LANL 1998, 62060), and the 2000 IWP currently pending approval (LANL 2000, 66802)

^bNA = Not available

^c = duplicate of sample RE16-03-52666

Data Review

Analytical results indicated that five inorganic chemicals were detected in the two excavation samples at concentrations at or slightly above background values and well below screening action levels (SALs), which are based on residential land use. The most likely source of the metals is metal chips generated from the waterline disconnection activities involving cutting and subsequent repair of the waterline within the excavation. Only two volatile organic compounds (VOCs) were detected in the two samples collected from the excavation at concentrations similar to estimated quantitation limits (EQLs) and well below SALs. No VOCs were detected in the soil pile sample or in any of the QA samples. A total of eight semivolatile organic compounds (SVOCs) were detected in the soil samples collected from the excavation (including the duplicate) and one SVOC was detected in the soil pile sample. The SVOCs other than TPH-DRO were all detected at concentrations close to the EQLs and well below SALs, and are typically associated with asphalt. TPH-DRO was detected at 740 mg/kg and 220 mg/kg in the two samples collected from the bottom of the excavation, respectively. HE was not detected in any of the samples.

Based on these results, the contamination observed in the excavation is believed to be consistent with a release of diesel fuel. The only known sites of historical diesel fuel usage in the vicinity of the excavation are AOCs C-16-030 and C-16-031. These AOCs are the only PRSs in the general vicinity of the excavation that are still considered "in progress" for RRES-RS Project. AOC C-16-030 is the former location of an aboveground concrete diesel tank housing (former structure 16-181) and AOC C-16-031 is the former location of a diesel unit (i.e., generator) building (former structure 16-182). The diesel unit building was constructed in 1944 and the tank housing (consisting of a concrete stand) was added in 1948; both structures were removed in 1956. The fuel for the diesel unit was stored in a tank located on the concrete housing. These structures were located approximately 40 ft northeast of the northeast corner of Building 16-7 and approximately 100 ft north of the waterline excavation. There is no utility corridor connecting the AOCs to Building 16-7 or to the location of the waterline excavation. Based on the dates of operation and removal of AOCs C-16-030 and C-16-031, their distance from the excavation, and the absence of a utility corridor to serve as a preferential pathway for contaminant transport, these

AOCs do not appear to be the source of the contamination observed in the excavation. Based on a review of historical structures and operations in this area, no discernible unit could be identified as a source of the contamination.

Conclusions and Recommendations

Based on the analytical results, operational history of Building 16-7, and the location of the two AOCs northeast of Building 16-7, RRES-RS has determined that the petroleum hydrocarbon contamination detected in the waterline excavation southeast of Building 16-7 is not associated with either of the AOCs located northeast of Building 16-7. There is no obvious source of the residual diesel contamination detected (at a depth of 6 ft bgs) in the excavation and the lack of any visible staining and relatively low TPH concentrations is not indicative of a systematic and/or routine release. Because there is no evidence that the contamination was a result of a routine and systematic release of solid waste, and because no discernible unit could be identified as a source of this contamination, RRES-RS has determined that this site does not constitute a new Solid Waste Management Unit (SWMU). Consequently, notification to NMED under Section G of Module VIII of LANL's Hazardous Waste Facility Permit is not required. The detected concentrations of residual petroleum hydrocarbon contamination and SVOCs do not pose an unacceptable risk to human health or the environment. RRES-RS has no plans for any further investigation or remediation at this location.

The bottom of the excavation was lined with plastic to denote the depth and location of the waterline break and residual petroleum hydrocarbon contamination, and the excavation was subsequently backfilled to minimize hazards to site workers.