ERID-111819 EP2011-5077

Los Alamos
NATIONAL LABORATORY
EST 1943

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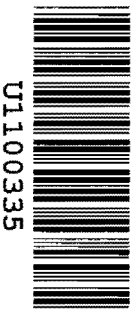
Official Correspondence Form

Name:	U1100335
Title:	Response to Notice of Intent to Discharge; Discharge Permit not Required for Storm Water Discharge at Los Alamos Canyon Weir Technical Area 72 AI:856 PRD20100010
Date Received:	2/24/2011
Addressee Name:	A. Grieggs, ENVRCRA
Originator:	W. Olson, NMED
Action Item Description:	
Action Due Date:	
Responsible for Action:	Search
Responsible Office:	
Distribution:	Anthony R. Grieggs, Michael R. Anastasio, Isaac E. RichardsonIII, Richard A. Marquez, Michael B. Mallory, Deborah K. Woitte, David J. McInroy, James C. Cantwell, Phoebe K. Suina, Michael J. Graham, William Z. Alexander, Victoria A. George, Tina M. Sandoval, Scotty Jones



NEW MEXICO
ENVIRONMENT DEPARTMENT

Ground Water Quality Bureau

Harold Runnels Building
1190 St. Francis Drive
PO Box 5469, Santa Fe, NM 87502-5469
Phone (505) 827-2900 Fax (505) 827-2965
www.nmenv.state.nm.us

BILL RICHARDSON
Governor
DIANE DENISH
Lieutenant Governor

F. DAVID MARTIN
Secretary
RAJ SOLOMON, P.E.
Deputy Secretary

CERTIFIED MAIL – RETURN RECEIPT REQUESTED

February 18, 2011

Anthony R. Grieggs, Group Leader
Environmental Protection Division
Water Quality & RCRA (ENV-RCRA)
P.O. Box 1663, Mail Stop K490
Los Alamos, NM 87545

RE: Response to Notice of Intent to Discharge; Discharge Permit Not Required for Storm Water Discharge at Los Alamos Canyon Weir Technical Area 72, AI:856 (PRD20100010)

Dear Mr. Grieggs:

The New Mexico Environment Department (NMED) received a Notice of Intent (NOI), dated December 21, 2010 (copy enclosed), requesting temporary permission for a one-time discharge of approximately 21,600 cubic feet of retained storm water from a storm water impoundment to an adjacent hillside, upgradient from the watercourse. Storm water proposed to be discharged has been tested by Los Alamos National Laboratory and is shown to contain elevated levels of aluminum, total polychlorinated biphenyls (PCBs) and gross alpha. With the exception of aluminum, the storm water does not exceed NMED Ground Water Quality Standards as defined in 20.6.2.3103 NMAC. The storm water will be discharged by pumping from the impoundment to the hillside over a period of three days at a maximum discharge volume of 7,200 cubic feet per day. Best management practices will be implemented to prevent erosion and adverse impacts to the identified solid waste management unit (SWMU) C-00-006. The proposed discharge is located in Technical Area (TA) 72 at 35°52'5.6" north latitude, 106°13'6.8" west longitude, Los Alamos National Laboratory, Los Alamos County.

NMED has reviewed the Notice of Intent and determined that a Discharge Permit is not required at this time because the information provided indicates that the proposed discharge of effluent or leachate is not likely to adversely affect ground water quality.

The NMED Ground Water Quality Bureau (GWQB) has been advised by the NMED Surface Water Quality Bureau (SWQB) that this activity will not result in a "discharge" to a surface water of the state, as defined under 40 CFR § 122.2. Please contact Richard Powell of the

NMED-SWQB at (505) 827-2798 if further information regarding surface water permitting requirements is needed.

Although a Discharge Permit is not being required for the discharge proposed in the NOI at this time, you are not relieved of liability should your operation result in actual pollution of surface or ground waters. This decision by NMED does not relieve you of your responsibility to comply with any other applicable federal, state, and/or local laws and regulations.

If at some time in the future you intend to change the amount, character or location of your discharge, or if observation or monitoring shows that the discharge is not as described in your Notice of Intent, you must file a revised Notice of Intent with the GWQB.

If you have any questions, please contact either Jennifer Fullam at (505) 827-2909 or George Schuman, Program Manager of the Ground Water Pollution Prevention Section, at (505) 827-2945.

Sincerely,

George Schuman for W. Olson

William C. Olson, Chief
Ground Water Quality Bureau

WO:JF

Enc: Notice of Intent, dated December 21, 2010

cc: Robert Italiano, District Manager, NMED District II (w/ enc)
NMED Santa Fe Field Office(w/ enc)
NOI File(w/ enc)
County File (w/ enc)
Glenn Saums, NMED SWQB(w/ enc)
Richard Powell, NMED SWQB (w/ enc)
James Bearzi, NMED HWB(w/ enc)
Steven Yanicak, NMED-DOE-Oversight Bureau (w/o enc)
Erik Galloway, NMED-DOE-Oversight Bureau (w/ enc)
Gene Turner, LASO-EO, Los Alamos National Laboratory, A316, Los Alamos, NM 87545 (w/o enc)
Michael B. Mallory, PADOPS, Los Alamos National Laboratory, A102, Los Alamos, NM 87545 (w/o enc)
Chris Cantwell, ADESHQ, Los Alamos National Laboratory, K491, Los Alamos, NM 87545 (w/o enc)
Michael Saladen ENV-RCRA, Los Alamos National Laboratory, K490, Los Alamos, NM 87545 (w/o enc)
Jacob Meadows, ENV-RCRA, Los Alamos National Laboratory, K490, Los Alamos,

NM 87545 (w/o enc)
Mark Haagenstad, ENV-RCRA, Los Alamos National Laboratory, K490, Los Alamos, NM 87545 (w/o enc)
Charles Barnett, UI-DO, Los Alamos National Laboratory, J972, Los Alamos, NM 87545 (w/o enc)
Bob Beers, ENV-RCRA, Los Alamos National Laboratory, MS K497, Los Alamos, NM 87545 (w/o enc)

Los Alamos
NATIONAL LABORATORY
EST. 1943

DEC 23 2010

NOI 2010
LA Canyon Weir
Storm Water Diversion

Environmental Protection Division
Water Quality and RCRA Group (ENV-RCRA)
P.O. Box 1663, Mail Stop K490
Los Alamos, New Mexico 87545
(505) 667-0666/FAX: (505) 667-5224

Date: December 21, 2010
Refer To: ENV-RCRA-10-242
LA-UR: 10-08272

Mr. William C. Olson, Chief
Ground Water Protection Bureau
New Mexico Environment Department
Harold Runnels Building, N2250
1190 St. Francis Drive
P.O. Box 26110
Santa Fe, New Mexico 87502

Mr. Glenn Saums
Surface Water Quality Bureau
New Mexico Environment Department
Harold Runnels Building, N2050
1190 St. Francis Drive
P.O. Box 5469
Santa Fe, New Mexico 87502-5469

Dear Mr. Olson and Mr. Saums:

SUBJECT: NOTICE OF INTENT FOR DIVERSION OF STORM WATER AT LOS ALAMOS NATIONAL LABORATORY LOS ALAMOS CANYON WEIR - IN SUPPORT OF SEDIMENT SAMPLING UNDER ADMINISTRATIVE ORDER ON CONSENT

Enclosed is a Notice of Intent to Discharge (NOI) that has been prepared for submittal to the New Mexico Environment Department (NMED) pursuant to 20.6.2.1201 NMAC of the New Mexico Water Quality Control Commission (WQCC) regulations and the Los Alamos National Laboratory (LANL) Liquid Discharge Reporting Guidance (Decision Tree), dated March 10, 2009. Per recommendations during a 12/2/2010 conversation with NMED-Groundwater Quality Bureau Staff Robert George, a Notice of Intent (NOI, Enclosure 1) has been prepared to propose a diversion of storm water above the Los Alamos Canyon Weir.

LANL is required to sample sediment above the Weir by the *Supplemental Interim Measure Work Plan to Mitigate Contaminated Sediment Transport in Los Alamos and Pueblo Canyon*, dated October, 2008. As detailed in the enclosed NOI, the diversion of storm water is necessary to facilitate sampling of sediment currently beneath the water.

Please contact Jake Meadows at (505) 606-0185 or jmeadows@lanl.gov of the Water Quality and RCRA Group (ENV-RCRA) if you have questions.

Sincerely,

A R Grieggs

Anthony R. Grieggs
Group Leader
Water quality & RCRA Group

ARG:JM/lm

Enclosures: a/s

Cy: Robert George, NMED/GWQB, Santa Fe, NM, w/enc.
Jennifer Fullam, NMED/GWQB, Santa Fe, NM, w/enc.
Richard Powell, NMED/SWQB, Santa Fe, NM, w/enc.
Steven Yanicak, LASO-GOV, w/enc., M894
Gene Turner, LASO-EO, w/enc., A316
Michael B. Mallory, PADOPS, w/o enc., A102
J. Chris Cantwell, ADESHQ, w/o enc., K491
Michael Saladen, ENV-RCRA, w/o enc., (E-File)
Steven J. Veenis, PMFS-DO, w/enc., (E-File)
Dennis A. Romero, ET-ER, w/enc., (E-File)
Jacob Meadows, ENV-RCRA, w/enc., (E-File)
ENV-RCRA File, w/enc., K490
IRM-RMMSO, w/enc., A150

ENCLOSURE 1

NOTICE OF INTENT

1. **Name and address of facility making the discharge.**

DEC 2 3 2010

Los Alamos National Laboratory
P.O. Box 1663
Los Alamos, New Mexico 87545

2. **Location of the discharge (In Township, Range and Section, if available).**

Township **T19N R7E**
Section **S20 T19N R7E**

(Lat and Long = -106.218563, 35.867231 – WGS 1984)

3. **The means of discharge. (To lagoon, Flowing stream, Water course, Arroyo, Septic tank, other).**

A series of pumps and hoses will be set up to divert approximately 21,600 ft^3 of detained storm water from the Los Alamos Canyon Weir to the vegetated slope immediately upstream and north of the structure. Diverting the storm water is necessary to facilitate sediment sampling above the Los Alamos Canyon Weir. The water would be pumped at such a rate as to minimize erosion and allow for infiltration of the water. Pumping distances for this operation will vary from a minimum of 20-ft to a maximum distance of 100-ft.

The proposed diversion is within the boundaries of a Solid Waste Management Unit (C-00-006). The storm water would be diverted within the boundary of SWMU C-00-006 in such a manner as to prevent erosion and adverse impacts to the SWMU.

4. **The estimated concentration of contaminants (if any) in the discharge.**

Enclosure 2 contains preliminary storm water data collected in 2010 at gaging station E042.1.

Based on the February 20, 2009 letter to NMED (Enclosure 3), the sediment concentrations in the area are as follows:

Lead	22 mg/kg
Copper	32.6 mg/kg
Cyanide	2.21 mg/kg

Enclosure 4 is a letter from NMED-Hazardous Waste Bureau, dated 5/5/2009, granting approval to proceed with soil removal from the Weir.

5. **The type of operation from which the discharge is derived.**

Pumping of detained storm water upstream of the Los Alamos Weir. The water would be diverted to the adjacent hillside up-gradient of the watercourse.

6. **The estimated flow to be discharged per day.**

The proposed diversion would take approximately three days, with an average application rate of 7,200 ft^3 per day. Over an eight-hour period, the water will be pumped at a continuous rate of 0.25 cubic feet per second.

The discharge would be conducted in a manner to prevent erosion. Best Management Practices will be implemented to prevent adverse impacts to SWMU C-00-006.

7. **The estimated depth to Ground Water (if available).**

A perched water table is approximately 80 feet below ground surface (Installation of the Monitoring Site at the Los Alamos Canyon Low-Head Weir – LA-13970).

ENCLOSURE 2

2010 Preliminary Storm Water Data for Station E042.1

LOCATION_NAME	STATION_NUMBER	START_DATE	ANALYTE	ANALYTE_DESC	SYMBOL	STD_RESULT	STD_UOM
Los Alamos above low-head weir	E042.1	22-Jul-10	Al	Aluminum		2180	ug/L
Los Alamos above low-head weir	E042.1	16-Aug-10	Al	Aluminum		868	ug/L
Los Alamos above low-head weir	E042.1	22-Jul-10	1336-36-3	Total PCB		0.166	ug/L
Los Alamos above low-head weir	E042.1	22-Jul-10	1336-36-3	Total PCB		0.222	ug/L
Los Alamos above low-head weir	E042.1	22-Jul-10	1336-36-3	Total PCB		0.35	ug/L
Los Alamos above low-head weir	E042.1	23-Jul-10	1336-36-3	Total PCB		0.112	ug/L
Los Alamos above low-head weir	E042.1	31-Jul-10	1336-36-3	Total PCB		0.039	ug/L
Los Alamos above low-head weir	E042.1	31-Jul-10	1336-36-3	Total PCB		0.112	ug/L
Los Alamos above low-head weir	E042.1	31-Jul-10	1336-36-3	Total PCB		0.0575	ug/L
Los Alamos above low-head weir	E042.1	05-Aug-10	1336-36-3	Total PCB		0.293	ug/L
Los Alamos above low-head weir	E042.1	05-Aug-10	1336-36-3	Total PCB		0.452	ug/L
Los Alamos above low-head weir	E042.1	05-Aug-10	1336-36-3	Total PCB		0.556	ug/L
Los Alamos above low-head weir	E042.1	05-Aug-10	1336-36-3	Total PCB		0.225	ug/L
Los Alamos above low-head weir	E042.1	15-Aug-10	1336-36-3	Total PCB		0.522	ug/L
Los Alamos above low-head weir	E042.1	15-Aug-10	1336-36-3	Total PCB		0.152	ug/L
Los Alamos above low-head weir	E042.1	15-Aug-10	1336-36-3	Total PCB		1.39	ug/L
Los Alamos above low-head weir	E042.1	15-Aug-10	1336-36-3	Total PCB		0.192	ug/L
Los Alamos above low-head weir	E042.1	16-Aug-10	1336-36-3	Total PCB		1.96	ug/L
Los Alamos above low-head weir	E042.1	16-Aug-10	1336-36-3	Total PCB		0.518	ug/L
Los Alamos above low-head weir	E042.1	16-Aug-10	1336-36-3	Total PCB		1.86	ug/L
Los Alamos above low-head weir	E042.1	16-Aug-10	1336-36-3	Total PCB		1.17	ug/L
Los Alamos above low-head weir	E042.1	22-Jul-10	GROSSA	Gross alpha		57.7	pCi/L
Los Alamos above low-head weir	E042.1	05-Aug-10	GROSSA	Gross alpha		86.6	pCi/L

*1 Results presented have not all received validation review. Aluminum results presented exceed the acute aquatic life standard of 750 ug/L. Total PCB results presented exceed the human health standard of 0.00064 ug/L. Gross alpha results presented exceed the Livestock watering standard of 15 pCi/L. Other analytical results obtained during 2010 at this sampling station do not exceed these and other applicable surface water screening levels.

ENCLOSURE 3

Los Alamos
NATIONAL LABORATORY
EST. 1943

Environmental Programs
P.O. Box 1663, MS M991
Los Alamos, New Mexico 87545
(505) 606-2337/FAX (505) 665-1812

National Nuclear Security Administration
Los Alamos Site Office, MS A316
Environmental Restoration Program
Los Alamos, New Mexico 87544
(505) 667-4255/FAX (505) 606-2132

Date: February 20, 2009
Refer To: EP2009-0107

James P. Bearzi, Bureau Chief
Hazardous Waste Bureau
New Mexico Environment Department
2905 Rodeo Park Drive East, Building 1
Santa Fe, NM 87505-6303

Subject: Submittal of the Los Alamos Canyon Low-Head Weir Ecological Risk Screening

Dear Mr. Bearzi:

The Los Alamos National Laboratory (the Laboratory) received an approval with modifications from the New Mexico Environment Department (NMED) on January 7, 2009, on the Laboratory's recommendation (included in the Supplemental Interim Measures Work Plan to Mitigate Contaminated Sediment Transport in Los Alamos and Pueblo Canyons, LA-UR-08-6588) to place excavated material currently impounded behind the Los Alamos Canyon low-head weir onto the adjacent embankment. The NMED's letter requested a comparison of detected analytes in the sediment behind the weir to ecological screening levels (ESLs) so NMED could make its determination on placement of the excavated material onto the embankment.

The Laboratory is submitting this letter and the comparison in response to NMED's requirement. The approach used for the analysis is consistent with the ecological risk assessment methods documented in existing NMED-approved canyons biota investigation plans and investigation reports. This general process was used to evaluate potential ecological risks in Los Alamos and Pueblo Canyons ("Los Alamos/Pueblo Surface Aggregate Report — Record of Communication" [Katzman 2002, Memorandum ER2002-0690]), Mortandad Canyon ("Mortandad Canyon Biota Investigation Work Plan" [LANL 2005, LA-UR-05-2231]) and Pajarito Canyon ("Pajarito Canyon Biota Investigation Work Plan" [LANL 2006, LA-UR-06-4106]).

The approach used for the Los Alamos Canyon weir analysis included use of depth-integrated samples collected through the entire thickness of sediment because they most represent the mixed condition of excavated sediment. The data were first compared with the sediment background values (BVs) or detection limits (for organic chemicals), and those values that exceeded BVs and detected organic chemicals (chemicals of potential concern [COPCs]) were then compared with the ESLs (see Table 1).

The following is a summary of the assessment:

- 51 analytes were detected
- 26 detected analytes were identified as COPCs
- 3 COPCs (copper, cyanide, and lead) were greater than ESLs

Consistent with the screening methodology, COPCs greater than the ESL are carried forward in the assessment because they have the potential for causing ecological risk. The approach taken in this assessment and in previous canyons biota investigation plans was to compare measured concentrations for a given COPC with those evaluated in previous canyons investigations. For example, the concentrations measured in Pajarito Canyon reaches were compared with Los Alamos/Pueblo Canyons and Mortandad Canyon (see Table D-2.2-10 in the Pajarito Canyon Biota Investigation Work Plan).

Table 2 lists the specific endpoints potentially at risk from concentrations of copper, cyanide, and lead, which are all avian receptors. As shown in Table 2, the concentrations of copper, cyanide, and lead in reaches previously evaluated for potential ecological risk to these receptors are greater than concentrations measured at the Los Alamos Canyon weir for these analytes. Thus, the studies and conclusions of no risk to avian receptors in the investigation reports for Los Alamos/Pueblo Canyons, Mortandad Canyon, and Pajarito Canyon are also applicable to the sediment currently impounded behind the weir and planned for land application on an adjacent embankment. In summary, although there are several COPCs identified as exceeding ESLs, there is no indication that these concentrations would pose an unacceptable ecological risk based on previous studies and assessments.

Table 2 Summary of COPCs with maximum concentrations greater than ESLs

Analyte	Depth-Integrated Samples (mg/kg)	ESL (mg/kg)	Assessment Endpoints where Los Alamos Canyon Weir Sample Is Greater Than the ESL	Los Alamos/ Pueblo Avian Reach Max (mg/kg)	Mortandad Avian Reach Max (mg/kg)	Pajarito avian reach max (mg/kg)
Copper	32.6	15	robin	31.5	**119**	**98.1**
Cyanide (Total)	2.21	0.1	kestrel, robin	no detects	0.377	**6.52**
Lead	22	14	robin	**76.5**	**36.2**	**77.2**

Note: Values in bold exceed maximum Los Alamos Canyon weir concentrations

The Laboratory proposes that the NMED approve the Laboratory's request to begin excavation of the sediment behind the weir and be granted approval to spread the material onto the adjacent embankment in accordance with the approach described in the Supplemental Interim Measures Work Plan to Mitigate Contaminated Sediment Transport in Los Alamos and Pueblo Canyons.

If you have any questions, please feel free to contact Danny Katzman at (505) 667-6333 (katzman@lanl.gov) or Nancy Werdel at (505) 665-3619 (nwerdel@doeal.gov).

Sincerely,

Michael J. Graham, Associate Director
Environmental Programs
Los Alamos National Laboratory

Sincerely,

David R. Gregory, Project Director
Environmental Operations
Los Alamos Site Office

MG/DG/PH/DK/SR:sm

Attachment: a/s

Cy: Laurie King, EPA Region 6, Dallas, TX
Steve Yanicak, NMED-OB, White Rock, NM
Tom Skibitski, NMED-OB, Santa Fe, NM
Keyana DeAguero, DOE-LASO (date-stamped letter emailed)
Nancy Werdel, DOE-LASO, MS A316
Danny Katzman, EP-LWSP, MS M992
Steven Reneau, EES-16, MS D452
Paul Huber, EP-LWSP, MS M992
Michael J. Graham, ADEP, MS M991
Alison M. Dorries, WES-DO, MS M992
Kristine Smeltz, WES-DO, MS M992
EP-LWSP File, MS M992
RPF, MS M707
IRM-RMMSO, MS A150 (date-stamped letter emailed)

Table 1
Comparison of Maximum Detected
Concentrations in Depth-Integrated Samples to BVs and ESLs

Analyte	Units	Maximum Detected Concentration	Sediment BV	Maximum > Sediment BV or Detected Organic?	ESL	COPC Maximum > ESL?
Aluminum	mg/kg	3140	15400	No	na[a]	n/a[b]
Arsenic	mg/kg	3	3.98	No	6.8	n/a
Barium	mg/kg	57.6	127	No	110	n/a
Beryllium	mg/kg	0.752	1.31	No	2.5	n/a
Calcium	mg/kg	1880	4420	No	na	n/a
Chromium	mg/kg	4.86	10.5	No	2.3	n/a
Cobalt	mg/kg	1.91	4.73	No	13	n/a
Copper	mg/kg	32.6	11.2	Yes	15	Yes
Cyanide (Total)	mg/kg	2.21	0.82	Yes	0.1	Yes
Iron	mg/kg	6410	13800	No	na	n/a
Lead	mg/kg	22	19.7	Yes	14	Yes
Magnesium	mg/kg	689	2370	No	na	n/a
Manganese	mg/kg	301	543	No	220	n/a
Mercury	mg/kg	0.0465	0.1	No	0.013	n/a
Nickel	mg/kg	3.24	9.38	No	9.7	n/a
Potassium	mg/kg	596	2690	No	na	n/a
Silver	mg/kg	0.0904	1	No	2.6	n/a
Sodium	mg/kg	92.8	1470	No	na	n/a
Thallium	mg/kg	0.215	0.73	No	0.032	n/a
Vanadium	mg/kg	8.79	19.7	No	0.025	n/a
Zinc	mg/kg	52.7	60.2	No	48	n/a
Americium-241	pCi/g	0.635	0.04	Yes	44	No
Cesium-137	pCi/g	1.53	0.9	Yes	680	No
Plutonium-238	pCi/g	0.0584	0.006	Yes	44	No
Plutonium-239/240	pCi/g	0.569	0.068	Yes	47	No
Strontium-90	pCi/g	0.401	1.04	No	560	n/a
Thorium-228	pCi/g	1.84	2.28	No	43	n/a
Thorium-230	pCi/g	1.48	2.29	No	52	n/a
Thorium-232	pCi/g	1.69	2.33	No	6.2	n/a
Uranium-234	pCi/g	1.6	2.59	No	51	n/a
Uranium-235	pCi/g	0.119	0.2	No	55	n/a
Uranium-238	pCi/g	1.57	2.29	No	55	n/a
Acenaphthene	mg/kg	0.0162	na	Yes	0.25	No

Table 1 (continued)

Analyte	Units	Maximum Detected Concentration	Sediment BV	Maximum > Sediment BV or Detected Organic?	ESL	COPC Maximum > ESL?
Anthracene	mg/kg	0.029	na	Yes	6.8	No
Aroclor-1254	mg/kg	0.0155	na	Yes	0.041	No
Aroclor-1260	mg/kg	0.023	na	Yes	0.14	No
Benzo(a)anthracene	mg/kg	0.118	na	Yes	3	No
Benzo(a)pyrene	mg/kg	0.129	na	Yes	53	No
Benzo(b)fluoranthene	mg/kg	0.217	na	Yes	18	No
Benzo(g,h,i)perylene	mg/kg	0.101	na	Yes	24	No
Chloroform	mg/kg	0.000286	na	Yes	8	No
Chrysene	mg/kg	0.143	na	Yes	2.4	No
Fluoranthene	mg/kg	0.229	na	Yes	10	No
Fluorene	mg/kg	0.0182	na	Yes	3.7	No
Indeno(1,2,3-cd)pyrene	mg/kg	0.0651	na	Yes	62	No
Naphthalene	mg/kg	0.016	na	Yes	1	No
Phenanthrene	mg/kg	0.146	na	Yes	5.5	No
Pyrene	mg/kg	0.249	na	Yes	10	No
Toluene	mg/kg	0.00102	na	Yes	23	No
Total Petroleum Hydrocarbons Diesel Range Organics	mg/kg	38.3	na	Yes	na	No
Total Petroleum Hydrocarbons Gasoline Range Organics	mg/kg	0.0512	na	Yes	na	No

[a] na = Not available.

[b] n/a = Not applicable (analyte not a COPC).

ENCLOSURE 4

106080

09-065

NEW MEXICO ENVIRONMENT DEPARTMENT

Hazardous Waste Bureau

2905 Rodeo Park Drive East, Building 1
Santa Fe, New Mexico 87505-6303
Phone (505) 476-6000 Fax (505) 476-6030
www.nmenv.state.nm.us

BILL RICHARDSON
Governor

DIANE DENISH
Lieutenant Governor

RON CURRY
Secretary

JON GOLDSTEIN
Deputy Secretary

CERTIFIED MAIL - RETURN RECEIPT REQUESTED

May 5, 2009

David Gregory, Federal Project Director
Department of Energy
Los Alamos Site Office
3747 West Jemez, Mail Stop A316
Los Alamos, New Mexico, 87544

David McInroy
Remediation Services Deputy Director
Los Alamos National Security, LLC
P.O. Box 1663, Mail Stop J591
Los Alamos, New Mexico 87545

RE: APPROVAL TO PROCEED WITH SOIL REMOVAL
LOS ALAMOS CANYON LOW-HEAD WEIR
LOS ALAMOS NATIONAL LABORATORY
EPA ID# NM0890010515
LANL-HWB-08-004

Dear Messrs. Gregory and McInroy:

The New Mexico Environment Department (NMED) is in receipt of the Los Alamos National Security, L.L.C. and U.S. Department of Energy (the Permittees) document entitled *Submittal of the Los Alamos Canyon Low-Head Weir Ecological Risk Screening* dated February 20, 2009 and referenced by EP2009-0107. The ecological risk screening (ERS) was submitted in response to NMED's January 7, 2009 *Approval with Modifications* (Approval) for the portion of the *Supplemental Interim Measure Work Plan to Mitigate Contaminated Sediment Transport in Los Alamos and Pueblo Canyons*, dated October 2008 (LA-UR-08-6588/EP2008-0519), that addressed removal of sediments from behind the Los Alamos Low-head Weir. NMED hereby issues this Approval to Proceed with the following comments and requirements:

In lieu of requesting additional analysis from the Permittees, NMED considered the following factors to determine whether adverse ecological impact might result from relocation of the contaminated sediments.

RECEIVED
JUN 05 2009
By RM

1. The volume of contamination appears to be small and will likely not result in a large area of impact once removed sediments are spread on the slope adjacent to the weir.

2. Sediment concentrations listed for lead, copper, and cyanide appear to be only slightly elevated with respect to background. The reported concentration of lead [22 milligrams per kilogram (mg/kg)] falls within the LANL background range for sediment (2 – 25.6 mg/kg) and soil (2 – 26 mg/kg). While no statistical comparison was conducted, detected concentrations of lead do not appear to be significantly elevated with respect to background. As such, ecological exposure to lead in the sediment would not likely result in adverse ecological impact.

3. Copper (32.6 mg/kg) is slightly elevated compared to background for sediment (0.77 – 12 mg/kg) and soil (0.25 – 15 mg/kg). Using a simple screening analysis for avian receptors (horned lark), the resulting hazard quotient (HQ) would be around 2.0 (compared to the target HQ of 1.0). If a Tier 2 analysis was performed and an area use factor was included in the refinement, the HQ would likely drop below a HQ of 1.0.

4. Cyanide (2.21 mg/kg) is elevated compared to sediment background (0.075 – 0.53 mg/kg). No background data are available for cyanide for soils at the Facility. A screening assessment would result in an HQ of roughly 11.0 for the horned lark. However, applying an area use factor and a lowest-observed adverse effect level (LOAEL) instead of a no-adverse observed effect level (NOAEL) in a Tier 2 assessment would probably drop the HQ to around 2. While still elevated, the HQ is not significantly elevated compared to the target level of 1.0

Given the above analysis, it appears that spreading of the sediment removed from behind the weir will likely not result in adverse ecological impact. The above analysis was conducted in order to allow completion of improvements to the weir prior to the summer storm season. For future reports, it is anticipated that deficiency comments will be generated and the Permittees will be required to provide a more detailed screening analyses.

The Permittees must stabilize the sediments placed on the slope next to the weir to ensure that the sediments do not return to the stream channel and also establish a vegetative cover on the sediments to reduce the potential for erosion and dust generation.

In addition, the Permittees reported the presence of contaminants in a layer of fine-grained surface sediments deposited behind the weir resulting from the water line break at SWMU 21-027(a) in July 2008. The sediments contain dioxins, furans and selected radionuclides and metals at concentrations greater than the range of concentrations detected during previous sampling. These fine-grained sediments were deposited as a discontinuous layer in Basin 3 and in a more well-defined layer in Basin 2 (the basins are identified in Figure 4.2.1 in the Permittees' work plan entitled *Interim Measure Work Plan to Mitigate Contaminated Sediment*

Please contact Dave Cobrain of my staff at (505) 476-6055 if you have questions.

Sincerely,

James P. Bearzi
Chief
Hazardous Waste Bureau

JPB:dc

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