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Los Alamos
NATIONAL LABORATORY
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Los Alamos Field Office, A316
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Los Alamos, New Mexico, 87544
(505) 606-0397/Fax (505) 284-7522

Date: MAR 3 1 2016
Symbol: EPC-DO-16-077
LA-UR: 16-21886
Locates Action No.: N/A

Ms. Michelle Hunter, Chief
Ground Water Quality Bureau
New Mexico Environment Department
Harold Runnels Building, Room N2261
1190 St. Francis Drive
P.O. Box 26110
Santa Fe, NM 87502

Dear Ms. Hunter:

Subject: **Request for Additional Information, Discharge Permit DP-857 Application for Renewal and Modification**

On March 11, 2016, the New Mexico Environment Department (NMED) submitted a request for additional information to the U.S. Department of Energy and Los Alamos National Security, LLC (DOE/LANS) for Discharge Permit Application DP-857 (voice mail, Mr. Gerald Knutson, NMED, to Mr. Robert Beers, DOE/LANS). Specifically, the NMED requested the following pertinent information on alluvial groundwater monitoring well SCA-3 in Sandia Canyon: location, well log, and depth to groundwater. Per the NMED's request, DOE/LANS are providing the following:

- Enclosure 1: Location map of Sandia Canyon and monitoring well SCA-3
- Enclosure 2: Lithologic log for monitoring wells SCA-3

The depth to groundwater at the time of well construction (September 9, 2006) was 30.6 ft below ground surface (bgs). The most recent depth to groundwater measurement was 32.3 ft bgs on March 22, 2016.

37530

Please contact Robert S. Beers by telephone at (505) 667-7969 or by email at bbeers@lanl.gov if you have questions regarding this information.

Sincerely,

John P. McCann
Acting Division Leader
Environmental Protection & Compliance Division
Los Alamos National Security LLC

Sincerely,

Jody M. Pugh
Assistant Manager
National Security Missions
NNSA/Los Alamos Field Office

JPM:JMP:MTS:RSB/lm

Enclosures: (1) Location map of Sandia Canyon and monitoring well SCA-3
(2) Lithologic log for monitoring wells SCA-3

Cy: James Hogan, NMED/SWQB, Santa Fe, NM, (E-File)
John E. Kieling, NMED/HWB, Santa Fe, NM, (E-File)
Stephen M. Yanicak, NMED/DOE/OB, (E-File)
Jody M. Pugh, NA-LA, (E-File)
Jordan Arnswald, NA-LA, (E-File)
Kirsten Laskey, EM-LA, (E-File)
Craig S. Leasure, PADOPS, (E-File)
William Mairson, PADOPS, (E-File)
Michael T. Brandt, ADESH, (E-File)
Raeanna Sharp-Geiger, ADESH, (E-File)
John P. McCann, EPC-DO, (E-File)
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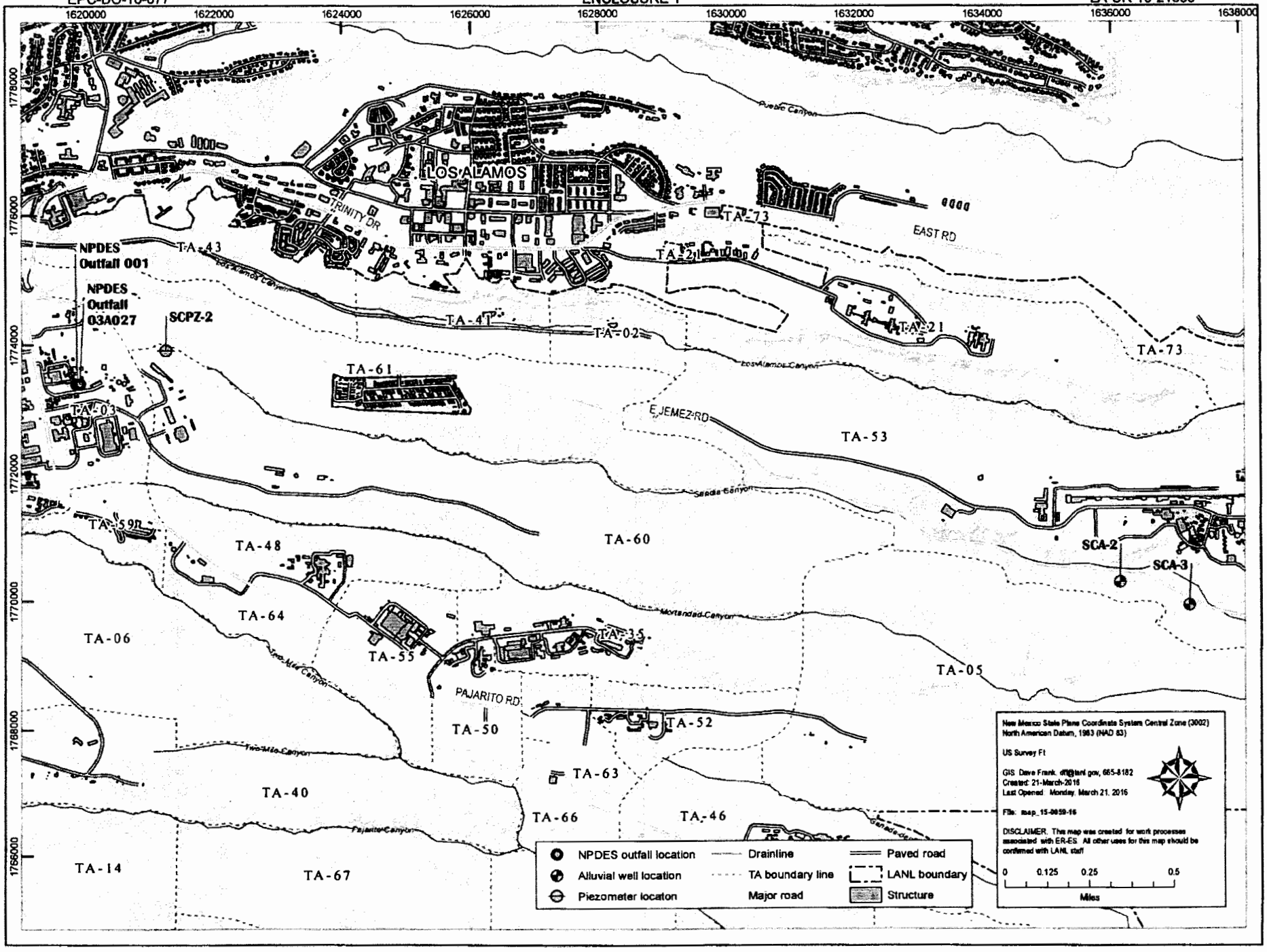
ENCLOSURE 1

Location map of Sandia Canyon
and monitoring well SCA-3

EPC-DO-16-077

LA-UR-16-21886

Date: MAR 3 1 2016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TRINITY DR
Pueblo Canyon
TA-73
EAST RD
TA-43
NPDES Outfall 001
NPDES Outfall 03A027
SCPZ-2
TA-41
TA-02
TA-21
Los Alamos Canyon
TA-61
TA-03
EJEMEZ RD
TA-53
Sandia Canyon
TA-59
TA-48
TA-60
SCA-2
SCA-3
Mortandad Canyon
TA-64
TA-06
TA-55
TA-35
TA-05
Ten Mile Canyon
PAJARITO RD
TA-50
TA-52
TA-63
Two Mile Canyon
TA-40
TA-66
TA-46
Pajarito Canyon
TA-14
TA-67
NPDES outfall location
Alluvial well location
Piezometer locaton
Drainline
TA boundary line
Major road
Paved road
LANL boundary
Structure
New Mexico State Plane Coordinate System Central Zone (3002)
North American Datum, 1983 (NAD 83)
US Survey Ft
GIS: Dave Frank, dnf@lanl.gov, 665-8182
Created: 21-March-2016
Last Opened: Monday, March 21, 2016
File: map_15-0059-16
DISCLAIMER: This map was created for work processes associated with ER-ES. All other uses for this map should be confirmed with LANL staff
0 0.125 0.25 0.5
Miles

ENCLOSURE 2

Lithologic log for monitoring wells SCA-3

EPC-DO-16-077

LA-UR-16-21886

Date: MAR 3 1 2016

LANL - Sandia Canyon Interim Measures Chromium Investigation

Date	Kleinfelder Inc.	LITHOLOGIC LOG	Well No. SCA-3
Started: 9/9/2006			
Completed: 9/9/2006	Rig Type: CME 55 HSA	Logged By: Jordan Vaughn	TD Borehole: 58.5 ft
Northing: 1769917.84	Easting: 1637200.75	Location ID: None	TD Casing: 32.6 ft

ELEVATIONS:
Ground Surface: 6722.72
Brass Cap: 6723.22
Casing: 6725.36

Saturation

Depth (ft)	Saturation Level	Date
30.6	Top	9/9/2006
Not Observed	Bottom	9/9/2006

Groundwater	Depth (ft)	Geologic Unit	Sample Taken	Sample Type	Analytical Sample Number	Graphical Log	Visual Classification	FINAL CONSTRUCTION
	0	Qal		C	No Samples Analyzed		QUATERNARY ALLUVIUM - INTERBEDDED SILTY SAND (SM) AND SANDY CLAYEY/SILT (MLS) (layers from 4 inches to 2 feet) - moderate brown (5YR 4/4) to dark yellowish brown (10YR 4/2) to dusky yellowish brown (10YR 2/2), moderately to well sorted, non indurated to poorly indurated. Silty sand is composed of 60-90% sand, predominantly felsic grains (clear, medium to coarse, angular to subangular, sanidine noted); 10-40% clay to silt; trace gravel, pumice (vitric, white to very pale orange, up to 5 mm, rounded), inter. comp. volcanics (dark gray, up to 3 mm, subrounded). Sandy clayey silt is composed of 70% silt to clay; 20% sand, predominantly felsic grains (clear, coarse, subangular, sanidine noted), trace pumice (vitric, white, coarse, rounded), trace mafic grains (black, coarse, angular); 10% gravel, pumice (vitric, white to pale orange, up to 10 mm, rounded), inter. comp. volcanics (dark brown to dark gray, up to 5 mm, subangular), trace tuff (pale orange to tan, with vitric pumice, up to 5 mm, subrounded). Damp.	Cement 2.3" OD PVC
	5							1.9 ft
	10							Cement grout
	15							9.6 ft
	20			CS				Bentonite chips
							21.0'	
	25						INTERBEDDED SAND (SW) AND SILTY CLAYEY/SAND (SC-SM) (layers from 4 inches to 3 feet) - moderate yellowish brown (10YR 5/4) to dark yellowish brown (10YR 4/2), moderately to well sorted, non-indurated to poorly indurated. (Continued on next page).	24 ft
							25.0'	10/20 Sand

Notes: All depths are in feet below ground surface. All geologic contacts are preliminary and subject to change.
▼ - Top of saturation; ▽ - Bottom of saturation (not shown if not observed).
C - Drill Cuttings; CORE - Core Barrel; CS - Continuous Sampler (Split Spoon); T - Shelby Tube (in Pitcher Sampler);
NR - No Recovery; OD - Outer Diameter; P&A - Plugged and Abandoned; TD - Total Depth; amsl - above mean sea level

Log Completed By: _____ Log Reviewed By (LANL Geology PI): _____

LANL - Sandia Canyon Interim Measures Chromium Investigation

Date	Kleinfelder Inc.	LITHOLOGIC LOG	Well No. SCA-3
Started: 9/9/2006			
Completed: 9/9/2006	Rig Type: CME 55 HSA	Logged By: Jordan Vaughn	TD Borehole: 58.5 ft
Northing: 1769917.84	Easting: 1637200.75	Location ID: None	TD Casing: 32.6 ft

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Saturation

Depth (ft)	Saturation Level	Date
30.6	Top	9/9/2006
Not Observed	Bottom	9/9/2006

Groundwater	Depth (ft.)	Geologic Unit	Sample Taken	Sample Type	Analytical Sample Number	Graphical Log	Visual Classification	FINAL CONSTRUCTION
▼	25	Qal		CS			QUATERNARY ALLUVIUM - INTERBEDDED SAND (SW) AND SILTY CLAYEY/SAND (SC-SM) (continued) Sand is composed of 95-100% sand, predominantly felsic grains (clear, medium to coarse, angular to subangular), with tuff (orange, medium to coarse, subangular), pumice (white, coarse, rounded), and mafic grains (black, fine to medium, subangular); 0-5% clay to silt. Silty clayey sand is 50-80% sand (same as above); 20-50% clay to silt; trace gravel, pumice (vitric, white to pale orange, up to 8 mm, rounded) and tuff with vitric pumice (pale orange, up to 6 mm, subrounded). Damp to wet (silty clayey sand interval was wet).	10/20 Sand
	30							27.6 ft 0.01" screen prepack 2.8" OD
	35						INTERBEDDED SAND (SW) AND SILTY/CLAYEY SAND (SC-SM) (layers from 4 inches to 3 feet) - moderate yellowish brown (10YR 5/4) to dark yellowish brown (10YR 4/2), moderately to well sorted, non-indurated to poorly indurated. Sand is composed of 95-100% sand, predominantly felsic grains (clear, medium to coarse, angular to subangular), with tuff (orange, medium to coarse, subrounded), vitric pumice (pale orange to white, coarse, rounded), and mafic grains (black, medium, subangular); 0-5% clay to silt; trace gravel, vitric pumice (pale orange to white, up to 10 mm, rounded). Silty clayey sand is composed of 70-90% sand (as described above); 10-30% clay to silt; trace gravel, pumice (as described above). Wet.	31.5 ft 32 ft 32.6 ft
	40							Slough
	45			C				
	50						50.0'	

Notes: All depths are in feet below ground surface. All geologic contacts are preliminary and subject to change.
▼ - Top of saturation; ▽ - Bottom of saturation (not shown if not observed).
C - Drill Cuttings; CORE - Core Barrel; CS - Continuous Sampler (Split Spoon); T - Shelby Tube (in Pitcher Sampler); NR - No Recovery; OD - Outer Diameter; P&A - Plugged and Abandoned; TD - Total Depth; amsl - above mean sea level

Log Completed By: _____ **Log Reviewed By (LANL Geology PI):** _____

LANL - Sandia Canyon Interim Measures Chromium Investigation

Date	Kleinfelder Inc.	LITHOLOGIC LOG	Well No.
Started: 9/9/2006			SCA-3
Completed: 9/9/2006	Rig Type: CME 55 HSA	Logged By: Jordan Vaughn	TD Borehole: 58.5 ft
Northing: 1769917.84	Easting: 1637200.75	Location ID: None	TD Casing: 32.6 ft

ELEVATIONS:
Ground Surface: 6722.72
Brass Cap: 6723.22
Casing: 6725.36

Saturation

Depth (ft)	Saturation Level	Date
30.6	Top	9/9/2006
Not Observed	Bottom	9/9/2006

Groundwater	Depth (ft.)	Geologic Unit	Sample Taken	Sample Type	Analytical Sample Number	Graphical Log	Visual Classification	FINAL CONSTRUCTION
	50	Qal		C			QUATERNARY ALLUVIUM - INTERBEDDED SAND (SW) AND SILTY/CLAYEY SAND (SC-SM) - as above.	Slough
	55			CS			58.5'	TD = 58.5 ft

Notes: All depths are in feet below ground surface. All geologic contacts are preliminary and subject to change.
▼ - Top of saturation; ▽ - Bottom of saturation (not shown if not observed).
C - Drill Cuttings; CORE - Core Barrel; CS - Continuous Sampler (Split Spoon); T - Shelby Tube (in Pitcher Sampler);
NR - No Recovery; OD - Outer Diameter; P&A - Plugged and Abandoned; TD - Total Depth; amsl - above mean sea level

Log Completed By:_____ Log Reviewed By (LANL Geology PI): _____