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Date: AUG 0 9 2016
Refer To: ADESH-16-092
LAUR: 16-24663
Locates Action No.: n/a

Ms. Paulette Johnsey, Chief
Water Enforcement Branch (6EN)
Compliance Assurance and Enforcement Division
U.S. Environmental Protection Agency, Region 6
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Dallas, Texas 75202-2733

Mr. Everett Spencer
Water Enforcement Branch (6EN)
Compliance Assurance and Enforcement Division
U.S. Environmental Protection Agency, Region 6
1445 Ross Avenue, Suite 1200
Dallas, Texas 75202-2733

Subject: NPDES Permit No. NM0030759-Los Alamos National Laboratory's Response to Written Public Comment on the Alternative Compliance Request for 17 Site Monitoring Area/Site Combinations Exceeding Target Action Levels from Nonpoint Sources

Dear Ms. Johnsey and Mr. Spencer:

The U.S. Department of Energy (DOE) and Los Alamos National Security, LLC (LANS), hereafter, the Permittees, submitted an alternative compliance request for 17 site monitoring area (SMA)/site combinations to the U.S. Environmental Protection Agency (EPA) on February 26, 2016. Part I.E.3(b) of Individual Industrial Storm Water National Pollutant Discharge Elimination System Permit No. NM0030759 (the Individual Permit or Permit) requires the Permittees to make available the alternative compliance request and all supporting documentation for public review and written comment for a period of 45 days. The public notice for this alternative compliance request was published on March 2, 2016.

Public comments were received from Communities for Clean Water (CCW) on April 14, 2016. The Permittees have prepared written responses to all relevant and significant comments, which will also be posted on the Individual Permit section of the Los Alamos National Laboratory's public website, available at http://www.lanl.gov/environment/protection/compliance/individual-permit-stormwater/index.php. The attachments to this letter include a copy of CCW's comments and the Permittees' written responses.

This request for alternative compliance addresses 17 SMA/Site combinations regulated under the Individual Permit. These 17 combinations result from 17 Sites located within 5 SMAs. Alternative compliance is being requested because the Permittees have determined that it will not be possible to certify completion of corrective action under Part I.E.2 of the Individual Permit as a result of nonpoint source pollutants from the undeveloped (natural) and developed (urban) landscape environments. These SMAs/Sites are addressed in a single request because the target action level exceedances are not known to be associated with Site operations and are within the range expected

for nonpoint source pollutant runoff from natural and developed landscapes. Therefore, completion of corrective action cannot be certified under any other means provided in the Individual Permit.

If you have any questions, please contact Terrill Lemke at (505) 665-2397 (tlemke@lanl.gov) or David Rhodes at (505) 665-5325 (david.rhodes@em.doe.gov).

Sincerely,

John P. McCann, Acting Division Leader
Environmental Protection & Compliance Division
Los Alamos National Laboratory

Sincerely,

David S. Rhodes, Director
Office of Quality and Regulatory Compliance
Environmental Management
Los Alamos Field Office

JM/DR/SV:sm

Attachments: (1) Communities for Clean Water Comments on the Alternative Compliance Request for 17 Site Monitoring Area/Site Combinations Exceeding Target Action Levels from Nonpoint Sources
(2) Response to Communities for Clean Water Comments on Los Alamos National Laboratory's Alternative Compliance Request for 17 Site Monitoring Area/Site Combinations Exceeding Target Action Levels from Nonpoint Sources

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Communities for Clean Water Comments on the Alternative Compliance Request for 17 Site Monitoring Area/Site Combinations Exceeding Target Action Levels from nonpoint Sources

Communities For Clean Water

April 14, 2016

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Re: February 26, 2016 Alternative Compliance Request for 17 Site Monitoring Area/Site Combinations Exceeding Target Action Levels from Nonpoint Sources, ADESH-16-022, LAUR-16-20864

Dear Mr. Rhodes and Mr. McCann:

Please accept the following comments on behalf of Communities for Clean Water (CCW) on the February 26, 2016 Alternative Compliance Request for 17 Site Monitoring Area/Site Combinations (Request). We note that the Request was posted to the Permittees' Electronic Public Reading Room on March 2, 2016 and therefore calculate the 45-day comment period ending on April 15, 2016.

I. Introduction

Communities for Clean Water, a network of community groups working together since 2005 to address water contamination at the Department of Energy (DOE) facility at Los Alamos National Laboratory (LANL), would like to thank DOE and LANL for working collaboratively with us over the past several years in seeking solutions to cleanup stormwater pollution. We believe that we have developed a productive working relationship and we hope that we can continue to work together in the future.

Generally we believe that substantially more can be done at the 17 Site Monitoring Areas/Site Combinations to reduce contaminant levels in the runoff. While we understand that the structure of the current permit often results in a perceived constraint and lack of flexibility to experiment with control methods, we are hopeful that under the anticipated new permit structure LANL can explore additional methods for reducing contaminants in stormwater. CCW believes that LANL has a unique opportunity to be a leader in developing and testing low impact development (LID) stormwater management measures that are effective in the challenging climate of the arid southwest. The Individual Stormwater Permit (IP) and the associated alternative compliance requests provide a

regulatory structure for developing this leadership. We urge both LANL and the Environmental Protection Agency (EPA) to rise to the challenge.

Our specific concerns with the alternative compliance request are outlined below. Many of these concerns are based on similar positions we have previously put forth in written comments regarding previous alternative compliance requests, the renewal of the IP and during our joint technical meetings.

1. **Background Reports:** The two reports attached to the alternative compliance request, "Background Metals Concentrations and Radioactivity in Storm Water on the Pajarito Plateau, Northern New Mexico" and " Polychlorinated Biphenyls in Precipitation and Stormwater within the Upper Rio Grande Watershed" present data showing that urban runoff concentrations at Los Alamos frequently exceed target action levels (TALs) for metals and PCBs. As a result, the argument put forward by Permittees is that it will not be possible to meet Target Action Levels (TALs) at many sites. CCW has a different perspective on these reports. CCW contends that these extensive reports provide very useful information that could be used by LANL to drastically reduce pollutants at Site Monitoring Area (SMA) monitoring locations, the official points of compliance in the permit, by targeting areas that have been shown to contribute to the urban runoff problem. These reports could assist to prioritize where to install stormwater management measures to control run-on and runoff throughout the urbanized areas at LANL. TALs can potentially be met with implementation of enough strategically placed Best Management Practices (BMPs) throughout the SMA and in upland areas. CCW urges DOE/LANL to capitalize on the extensive resources and effort that went into collecting and analyzing the samples, researching and drafting these reports to work for positive on the ground change in water quality.

   CCW has a number of concerns about these reports and their use in the regulatory context. First, an outside party has not approved these reports. In their response to the MS4 petition submitted by Amigos Bravos to EPA, the New Mexico Environment Department (NMED) has questioned the validity of these reports and called out a potential conflict of interest:

   > NMED is also concerned by the Regional Administrator's use of the two LANL reports [Background Metals and PCBs Reports] in making the Designation that stormwater discharges cause o[r] contribute to water quality impairments. The conclusions of these reports have an inherent conflict of interest as they were developed by LANL to demonstrate that stormwater discharges from solid waste management units ("SWMUs") and areas of concern ("AOCs") regulated under LANL's individual stormwater permit (Permit #NM0030759) were not the cause of water quality impairments. Further these reports have not been vetted or approved by any outside agency, including NMED or EPA. [1]

[1] June 15, 2015 Letter from NMED to EPA on the MS4 designation petition for Los Alamos.

Second, CCW continues to have a number of technical concerns about the reports. For example, the data in the reports makes it very difficult to compare data across sites:

- The Rainfall data does include what types of storms were monitored (e.g., intensities). Were any samples collected during the same storms across all sampling sites? It appears that there is little overlap across urban, reference, and western areas.
- The land use, soil type, size, and imperviousness of each watershed sampled as a background or reference is not presented in the report making it difficult to compare results across areas.

Third, the use of Upper Tolerance Limits (UTL) as a basis to determine compliance also needs additional consideration and vetting. Based on the ProUCL 4.0 Technical Guide, there doesn't appear to be many examples or references to the application of such an approach for surface water sampling and in the context of existing aquatic health based water quality standards. In other words, the guidance suggests that UTLs might be appropriate for use where no other cleanup standard exists. Specifically, the guidance states, "when the environmental parameters listed above (e.g., compliance limit, maximum concentration limit, etc.) are not known or have not been pre-established, appropriate upper statistical limits are used to estimate the parameters." In the case of the individual stormwater permit at LANL, the compliance limits are known. They are tied, appropriately so, to aquatic life based water quality standards.

2. **Undeveloped versus Developed:** When site history is reviewed, few if any of the 17 sites in the five SMAs should be compared to an undeveloped condition. The fact that structure demolition has occurred on these sites should not be equivalent to an "undeveloped" condition. The "undeveloped" UTLs are being taken from data that in the LANL Background Metals and PCBs reports was described as "reference conditions", meaning that they represent sites without human or LANL influence. The historic operations at the SMAs that are subject to this request are inconsistent with the "reference conditions" LANL has established. Therefore CCW believes that if UTLs are to be used at all (see above for outstanding concerns), at the very least the developed UTLs should be utilized.

3. **Metals Data and Rationale:** Of the five SMAs that are part of the request, two are listed for TAL exceedances for aluminum and/or copper (CBD-SMA-0.15 and 2M-SMA-1.42). In each case the rationale for removal is that the sample exceedance is some percentage less than 100% of the UTL (taken from the April 2013 Background Metals Report). The UTL selected appears to be preferentially selected to show the best-case argument and to a lesser extent is based on the characterization of the SMA drainage area land cover description (developed vs. undeveloped).

To illustrate the point, Table 1 below is a subset from Table 4.1-1 in the Alternative Compliance Request Report (p. 15). UTL values (as a percentage) in black and non-bold font are those originally presented by LANL. CCW has added UTL values, also as a percentage, in **bold red** font that reflect the alternative UTL that potentially could have been used. CCW

also added the applicable TALs, also as a percentage and represented as **blue bold** font with the TALs themselves included in the parentheses.

Table 1
Comparison of Storm Water Monitoring Results to UTLs and to TALs

SMA	Sample Type	Constituent	Result (ug/L or pCi/L)	Comparison to the TAL	Comparison to Developed UTL	Comparison to Undeveloped UTL
2M-SMA-1.42	Corrective Action	Aluminum	1900	**253% (750)**	**776%**	86%
	Corrective Action	Gross Alpha	16	**107% (15)**	**49%**	1.10%
CDB-SMA-0.15	Baseline	Aluminum	1250	**167% (750)**	**510%**	56.60%
	Baseline	Copper	6.66	**154% (4.3)**	20.60%	**194%**
CDV-SMA-2.3	Baseline	Gross Alpha	54.4	**363% (15)**	**167%**	3.60%
STRM-SMA-5.05	Corrective Action	PCBs	0.002	**312% (.00064)**	**2%**	17.10%
W-SMA-10	Corrective Action	Gross Alpha	77.8	**519% (15)**	**239%**	5.20%

In almost every case the value that results in a lower exceedance percentage was chosen as the applicable UTL. Even more troubling at CDB-SMA-0.15 for aluminum, the report uses the undeveloped UTL, yet for copper the developed UTL is selected. This is a clear inconsistency.

CCW questions the conclusion made in the Request that aluminum and copper were not managed at the Sites in questions (Request at 7). Sites 04-003(a) and 04-004 found in CBD-SMA-0.15 are sites where darkrooms used to exist and photo processing occurred (Request at A-6). Both copper and aluminum have been known to be used in photo processing techniques and therefore the historical industrial activity at these sites could very well be a source of contaminants.

These sites should not be described as "undeveloped" based on past land use. The copper concentration, while below the developed UTL is still at a concentration greater than what is achievable based on widely accepted LID practices such as bioretention and media filters. Research has shown these practices capable of achieving effluent concentrations below the copper TAL (see *International Stormwater Best Management Practices (BMP) Database Pollutant Category Statistical Summary Report, Solids, Bacteria, Nutrients, and Metals* – December 2014).

Even if EPA deemed it reasonable that the undeveloped UTL could be used for 2M-MA-1.42 (where Request Table 4.1-3 indicates 0% currently developed landscape within the SMA), it appears feasible to manage the site with available controls to meet TALs. The site drainage

area is only 218 square feet, which should make it possible to divert the run-on being claimed as the cause/source of the exceedance.

PCBs and Rationale: STRM-SMA-5.05 had a TAL exceedance of 312% above the TAL but it also showed significant reductions achieved with the implementation of enhanced controls. A sample taken on 8/21/11, after baseline controls were installed, yielded PCB concentrations of 7 ng/L. Following installation of enhanced controls, a sample taken on 8/2/15 yielded PCB concentrations of 2 ng/L showing that enhanced controls reduced the amount of PCBs in the sample by well more than half (Request at A-16). Additional enhanced controls, while ultimately may not result in achieving the TAL, could result in considerable improvement in water quality coming off the site. Thus, additional controls should be implemented as an enhanced control. If the site is granted alternative compliance status, additional controls should be implemented as part of an alternative compliance individually tailored workplan approach.

The Request states that PCBs "may have been present in small amounts as minor components of the materials managed at the site" (Request at 7). It only takes small amounts of PCBs to cause or contribute to water quality impairments, and just because the amount of PCBs handled at the site was small in volume compared to other constituents, does not mean that the site is not a source of PCBs. LANL itself admits that the site may still be a source of PCBs by stating, "[w]hile this Site may be a source of PCBs in Storm water, concentrations are no different from ambient concentrations of PCBs in storm water"(Request at 7). Just because the Site has been cleaned up to the pollution level of other pollution sources that are more difficult to regulate does not mean that it is appropriate to continue to discharge pollutants that are actively sourced from that site into receiving waters. Any discharge of PCBs above TALs/water quality standards from sources tied directly to this site is still a discharge of pollutants that is causing or contributing to a violation of water quality standards and should be cleaned up. LANL has demonstrated, at this site and many others, that controls do work at reducing PCB levels, therefore additional controls should be implemented to attempt to reduce the PCB levels even further. In addition, because the historical use of this site as a material disposal site is a source of PCBs we believe that under no circumstance that the site should be removed from the permit.

4. **Gross Alpha and Rationale:** 2M-SMA-1.42, CDV-SMA-2.3 and W-SMA-10 all had gross alpha TAL exceedances. When compared to developed UTLs all but 2M-SMA-1.42 were considerably higher than the upper limits. At 2M-SMA-1.42, substantial reductions in gross alpha were realized (51.8 pCi/L to 16 pCi/L) after implementation of enhanced control measures, which is close to the ATAL of 15 pCi/L. LANL should consider implementing additional enhanced controls to achieve compliance at 2M-SMA-1.42.

No enhanced controls were implemented at CDV-SMA-2.3. Considering how successful enhanced controls were at reducing gross alpha levels at 2M-SMA-1.42, LANL should consider implementing similar enhanced controls at CDV-SMA-2.3 to achieve compliance.

W-SMA-10 also showed positive reductions with implementation of enhanced controls.

LANL should implement additional enhanced controls at W-SMA-10 to achieve compliance.

5. **Alternative Compliance Workplan:** In these comments, CCW has argued that the Permittees have inadequately demonstrated that the 17 sites included in this Request are not sources of the TAL exceedances. Therefore if Alternative Compliance is granted for one or more of these sites, an alternative compliance workplan(s) as detailed in Part 1(E)(3)(d) of the current permit would be required.

6. **Site Removal:** If EPA determines that some of these sites should be given alternative compliance status, the data clearly shows that currently installed enhanced controls are effectively reducing contaminants. Therefore, these sites should remain on the permit to ensure that these controls are maintained.

Thank you for your careful review of our comments. Please contact us with any questions or concerns. We look forward to receiving your written response to our comments.

Sincerely,

Communities for Clean Water Members

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Response to Communities for Clean Water Comments on the Alternative Compliance Request for 17 Site Monitoring Area/Site Combinations Exceeding Target Action Levels from Nonpoint Sources Los Alamos National Laboratory, NPDES Permit No. NM0030759, April 14, 2016

COMMENT 1: BACKGROUND REPORTS

CCW Comment

Lines 61 through 78, p. 2 of 7:

Background Reports: *The two reports attached to the alternative compliance request, "Background Metals Concentrations and Radioactivity in Storm Water on the Pajarito Plateau, Northern New Mexico" and " Polychlorinated Biphenyls in Precipitation and Stormwater within the Upper Rio Grande Watershed" present data showing that urban runoff concentrations at Los Alamos frequently exceed target action levels (TALs) for metals and PCBs. As a result, the argument put forward by Permittees is that it will not be possible to meet Target Action Levels (TALs) at many sites. CCW has a different perspective on these reports. CCW contends that these extensive reports provide very useful information that could be used by LANL to drastically reduce pollutants at Site Monitoring Area (SMA) monitoring locations, the official points of compliance in the permit, by targeting areas that have been shown to contribute to the urban runoff problem. These reports could assist to prioritize where to install stormwater management measures to control run-on and runoff throughout the urbanized areas at LANL. TALs can potentially be met with implementation of enough strategically placed Best Management Practices (BMPs) throughout the SMA and in upland areas. CCW urges DOE/LANL to capitalize on the extensive resources and effort that went into collecting and analyzing the samples, researching and drafting these reports to work for positive on the ground change in water quality.*

LANL Response

Comment noted. However, nonpoint source urban runoff and background sources of pollutants are not regulated under the Individual Permit. The National Pollutant Discharge Elimination System Permit NM0030759 (hereafter, the Individual Permit) regulates storm water discharges from solid waste management units (SWMUs) and areas of concern (AOCs) (i.e., Sites) listed in Appendix A of the Individual Permit. The background reports referenced by CCW allow the Permittees and the regulator to better differentiate between Site-related pollutants and pollutants from other sources (i.e., urban and natural background) when a target action level (TAL) is exceeded. Amigos Bravos, a member of Communities for Clean Water (CCW), recognized that nonpoint source urban runoff pollution is not regulated under the Individual Permit in its June 30, 2014, petition for a "Determination that Storm Water Discharges in Los Alamos County Contribute to Water Quality Standards Violations and Require a Clean Water Act Permit." The petition states, "Further the individual permits for LANL [Los Alamos National Laboratory] and Los Alamos County do not cover storm water discharges from the urbanized features that generate the pollution" and Statement of Fact 22, "NM0030759 does not regulate general urbanized runoff at LANL or from the Los Alamos Townsite" (p. 8).

CCW Comment

Lines 81 through 99, p. 2 of 7:

First, an outside party has not approved these reports. In their response to the MS4 petition submitted by Amigos Bravos to EPA, the New Mexico Environment Department (NMED) has questioned the validity of these reports and called out a potential conflict of interest: NMED is also concerned by the Regional Administrator's use of the two LANL reports [Background Metals and PCBs Reports] in making the Designation that stormwater discharges cause o[r] contribute to water quality impairments. The conclusions of these reports have an inherent conflict of interest as they were developed by LANL to demonstrate that stormwater discharges from solid waste management units ("SWMUs") and areas of concern ("AOCs") regulated under LANL's individual stormwater permit (Permit #NM0030759) were not the cause of water quality impairments. Further these reports have not been vetted or approved by any outside agency, including NMED or EPA. 1 1 June 15, 2015 Letter from NMED to EPA on the MS4 designation petition for Los Alamos.

LANL Response

Comment noted. The Permittees are seeking to work with both the New Mexico Environment Department Surface Water Quality Bureau (NMED-SWQB) and the U.S. Environmental Protection Agency (EPA) on a path to formally review and accept the background reports cited. However, the current Individual Permit does not stipulate an outside review of the background documentation.

CCW Comment

Lines 101 through 110, p. 3 of 7:

Second, CCW continues to have a number of technical concerns about the reports. For example, the data in the reports makes it very difficult to compare data across sites ie:

• The Rainfall data does include what types of storms were monitored (e.g., intensities). Were any samples collected during the same storms across all sampling sites? It appears that there is little overlap across urban, reference, and western areas.

• The land use, soil type, size, and imperviousness of each watershed sampled as a background or reference is not presented in the report making it difficult to compare results across areas.

LANL Response

Section 4 of the metals and radioactivity background report, entitled "Background Metals Concentrations and Radioactivity in Storm Water on the Pajarito Plateau, Northern New Mexico," examines the rainfall daily precipitation total (in inches) and indicates when samples were collected at all locations. While this section does not report on storm intensity, the available plots show that samples were collected on days when total precipitation was greater than 0.2 in. and less than 1 in., thus indicating a range of days with low and high total precipitation. Because summer monsoons on the Pajarito Plateau typically have higher intensities that result in higher daily precipitation, it can be inferred from the plots presented in the report that samples were collected from both high- and low-intensity storms.

Appendix B of both background reports provides an Excel table of the sampling data with a column indicating the date each sample was collected. Performing a sort of the data will show what locations were sampled on the same day. The Table 1 of this response provides storm-intensity values for each sample collected.

Other CCW comments are noted.

CCW Comment

Lines 112 through 122, p. 3 of 7:

Third, the use of Upper Tolerance Limits (UTL) as a basis to determine compliance also needs additional consideration and vetting. Based on the ProUCL 4.0 Technical Guide, there doesn't appear to be many examples or references to the application of such an approach for surface water sampling and in the context of existing aquatic health based water quality standards. In other words, the guidance suggests that UTLs might be appropriate for use where no other cleanup standard exists. Specifically, the guidance states, "when the environmental parameters listed above (e.g., compliance limit, maximum concentration limit, etc.) are not known or have not been pre-established, appropriate upper statistical limits are used to estimate the parameters." In the case of the individual stormwater permit at LANL, the compliance limits are known. They are tied, appropriately so, to aquatic life based water quality standards.

LANL Response

Under Part I.E.2 of the Individual Permit, background concentrations of pollutants of concern should be considered in an alternative compliance request when those concentrations could prevent the Permittees from certifying completion of corrective action. The upper tolerance limits (UTLs) presented in the background reports and cited in the alternative compliance request are not used to determine the TALs but rather to determine if an urban- or natural background–sourced pollutant potentially causes or contributes to a TAL exceedance.

COMMENT 2: UNDEVELOPED VERSUS DEVELOPED

CCW Comment

Lines 124 through 132, p. 3 of 7

When site history is reviewed, few if any of the 17 sites in the five SMAs should be compared to an undeveloped condition. The fact that structure demolition has occurred on these sites should not be equivalent to an "undeveloped" condition. The "undeveloped" UTLs are being taken from data that in the LANL Background Metals and PCBs reports was described as "reference conditions", meaning that they represent sites without human or LANL influence. The historic operations at the SMAs that are subject to this request are inconsistent with the "reference conditions" LANL has established. Therefore CCW believes that if UTLs are to be used at all (see above for outstanding concerns), at the very least the developed UTLs should be utilized.

LANL Response

The storm water runoff sampling results compared with the "undeveloped" UTL in the alternative compliance request all contain some percentage of "undeveloped" area in the site monitoring area (SMA). The term "undeveloped" means soil or sediments are present within the SMA (as opposed to the SMA containing only "developed" landscape surfaces such as concrete and asphalt). The soil and/or sediment at the SMA evolved from geologic processes of weathering Bandelier Tuff on the Pajarito Plateau. When storm water runoff is generated over an undeveloped area within an SMA, it will entrain soils or sediments derived from Bandelier Tuff. Undeveloped reference watershed samples reported in the metals and radioactivity background report included storm water runoff from

undeveloped areas containing soils or sediments derived from Bandelier Tuff. Therefore, the undeveloped UTL reported in the background report applies to the SMA.

SMAs where historical operations and/or development of a portion of the SMA occurred did not remove soils or sediments derived from Bandelier Tuff and replace those soils sourced from another geologic process. In many of the SMAs in question, these soils or sediments are original and undisturbed. In other cases, such as for S-SMA-5.05, remediation activities occurred and soils or sediments within the SMA were disturbed. For CDV-SMA-2.3, a portion of the watershed is reported as developed. Regardless of the percentage of developed area or disturbance of the soils or sediments, any SMA reported with a portion of undeveloped landscape has the potential to entrain soils or sediments derived from Bandelier Tuff. Therefore, the undeveloped UTL is applicable for comparison to determine what pollutants may be sourced from this geologic material.

COMMENT 3: METALS DATA AND RATIONALE

CCW Comment

Lines 134 through 140, p. 3 of 7

Of the five SMAs that are part of the request, two are listed for TAL exceedances for aluminum and/or copper (CBD-SMA-0.15 and 2M-SMA-1.42). In each case the rationale for removal is that the sample exceedance is some percentage less than 100% of the UTL (taken from the April 2013 Background Metals Report). The UTL selected appears to be preferentially selected to show the best-case argument and to a lesser extent is based on the characterization of the SMA drainage area land cover description (developed vs. undeveloped).

LANL Response

CDB-SMA-0.15 is estimated to have 83% undeveloped and 17% developed landscape. TAL exceedances at this SMA are for aluminum (1250 µg/L) and copper (6.66 µg/L). The TAL exceedance for aluminum is below the undeveloped background UTL value (2210 µg/L) but is above the developed landscape background UTL value (245 µg/L). Copper is above the undeveloped landscape UTL value (3.43 µg/L) and below the developed landscape UTL value (32.3 µg/L).

CCW contends the Permittees are preferentially selecting the “best-case argument” when selecting that UTL landscape type to compare with the SMA sampling result. However, both UTLs apply when the landscape is mixed (i.e., it contains both developed and undeveloped areas) because in these SMAs, storm water runoff is from both environments. In the case of the TAL exceedances at CDB-SMA-0.15, Sites 04-003(a) and 04-004 are not known to have managed or released aluminum or copper. The metals and radioactivity background report has demonstrated that concentrations of aluminum (undeveloped landscape) and copper (developed landscape) in reference watersheds are often above TALs in storm water. Therefore, these respective landscapes are the likely sources of the aluminum and copper exceedances.

An analogous example is an SMA that contains two Sites: Site 1 that is known to have managed and released constituent A and Site 2 that is known to have managed and released constituent B. If a storm water sample collected from the SMA exceeded the TALs for both constituents A or B, the likely conclusion is that Site 1 is the source of constituent A and Site 2 is the source of constituent B.

Because 2M-SMA-1.42 has 100% undeveloped conditions, the comment does not apply, and the SMA was incorrectly referenced in CCW’s comment.

CCW Comment

Lines 160 through 167, p. 4 of 7

CCW questions the conclusion made in the Request that aluminum and copper were not managed at the Sites in questions (Request at 7). Sites 04-003(a) and 04-004 found in CBD- SMA-0.15 are sites where darkrooms used to exist and photo processing occurred (Request at A-6). Both copper and aluminum have been known to be used in photo processing techniques and therefore the historical industrial activity at these sites could very well be a source of contaminants. These sites should not be described as "undeveloped" based on past land use.

LANL Response

Copper and aluminum are not known waste contaminants generated during historical industrial photoprocessing activities. During an EPA publication search, the Permittees could find no reference to aluminum or copper as a photoprocessing waste. None of the publications below list aluminum and copper as a photoprocessing waste.

1. Memorandum, Public Record for the 2006 Effluent Guidelines Program Plan EPA Docket Number OW-2004-0032 (www.epa.gov/edockets/), Re: Photoprocessing, https://www.epa.gov/sites/production/files/2015-11/documents/photo-processing_memo-304m-record_2005.pdf

2. Preliminary Data Summary of the Photoprocessing Industry (PDF) (84 pp, 13 MB, March 1997, 821-R-97-003), https://www.epa.gov/sites/production/files/2015-11/documents/photoprocessing_prelim-data-summary_1997.pdf

3. Development Document for Interim Final Effluent Limitations Guidelines and Proposed New Source Performance Standards for the Photographic Processing Subcategory of the Photographic Point Source Category (PDF)(184 pp, 7 MB, July 1976, 440/1-76/060_l), https://www.epa.gov/sites/production/files/2015-11/documents/photographic_interim-final_07-14-1976_41-fr-29078.pdf

Furthermore, reference 2 above states, "Aluminum is not used because it simultaneously generates hydrogen gas, which can be an explosion and fire hazard if improperly handled" (p. 48).

In addition, if either SWMU regulated by this SMA managed and released aluminum or copper, they would likely occur at much higher concentrations than that detected in storm water.

CCW Comment

Lines 167 through 173, p. 4 of 7

The copper concentration (at CDB-SMA-0.15), while below the developed UTL is still at a concentration greater than what is achievable based on widely accepted LID practices such as bioretention and media filters. Research has shown these practices capable of achieving effluent concentrations below the copper TAL (see International Stormwater Best Management Practices (BMP) Database Pollutant Category Statistical Summary Report, Solids, Bacteria, Nutrients, and Metals – December 2014).

LANL Response

The Individual Permit regulates storm water discharges from SWMUs and AOCs (i.e., Sites) listed in Appendix A of the Permit. The copper detected in storm water at this SMA is likely from nonpoint sources (i.e., developed background landscapes) and not from the Sites within this SMA. Therefore, this copper exceedance may be better addressed by the practices referenced through discharge permits that regulate nonpoint sources of contaminants.

CCW Comment

Lines 175 through 180, pp. 4 and 5 of 7

Even if EPA deemed it reasonable that the undeveloped UTL could be used for 2M-MA-1.42 (where Request Table 4.1-3 indicates 0% currently developed landscape within the SMA), it appears feasible to manage the site with available controls to meet TALs. The site drainage area is only 218 square feet, which should make it possible to divert the run-on being claimed as the cause/source of the exceedance.

LANL Response

For this SMA, aluminum and gross alpha exceeded their respective TALs. Following the logic presented in the alternative compliance request, the undeveloped landscape is the source of these constituents and not the Site within this SMA. Because the surrounding area is undeveloped, a storm water sample collected from runoff at any location in the surrounding undeveloped area also has a high probability of exceeding the TALs for aluminum and gross alpha. It would not be beneficial to build controls for an SMA that is 218 ft^2 in size when the surrounding area would discharge the same constituents at probably the same levels. The controls would serve only to control natural concentrations of contaminants, and the surrounding area has the identical natural conditions.

The Permittees consider further reduction of aluminum and gross-alpha radioactivity detected at these SMAs as nonpoint source pollution from the natural landscape and control of these pollutants as outside the regulatory scope of the Individual Permit.

COMMENT [4]: POLYCHLORINATED BIPHENYLS AND RATIONALE

CCW Comment

Lines 182 through 192 and 201 through 210, p. 5 of 7

STRM-SMA-5.05 had a TAL exceedance of 312% above the TAL but it also showed significant reductions achieved with the implementation of enhanced controls. A sample taken on 8/21/11, after baseline controls were installed, yielded PCB concentrations of 7 ng/L. Following installation of enhanced controls, a sample taken on 8/2/15 yielded PCB concentrations of 2 ng/L showing that enhanced controls reduced the amount of PCBs in the sample by well more than half (Request at A-16). Additional enhanced controls, while ultimately may not result in achieving the TAL, could result in considerable improvement in water quality coming off the site. Thus, additional controls should be implemented as an enhanced control. If the site is granted alternative compliance status, additional controls should be implemented as part of an alternative compliance individually tailored workplan approach…Just because the Site has been cleaned up to the pollution level of other pollution sources that are more difficult to regulate does not mean that it is appropriate to continue to discharge pollutants that are actively sourced from that site into receiving waters. Any discharge of PCBs above TALs/water

quality standards from sources tied directly to this site is still a discharge of pollutants that is causing or contributing to a violation of water quality standards and should be cleaned up. LANL has demonstrated, at this site and many others, that controls do work at reducing PCB levels, therefore additional controls should be implemented to attempt to reduce the PCB levels even further. In addition, because the historical use of this site as a material disposal site is a source of PCBs we believe that under no circumstance that the site should be removed from the permit.

LANL Response

At STRM-SMA-5.05, enhanced controls were installed on June 27, 2012. These controls consisted of two earthen berms (BMP IDs J03103010009, J03103010010) and seeding (BMP ID J03101040011).

The SMA is 100% undeveloped, and thus the undeveloped polychlorinated biphenyl (PCB) sample result is compared with the UTL for undeveloped landscapes. PCB results from both 2011 and 2015 (before and after installation of enhanced controls) were below the UTL for PCBs in the natural landscape. The PCB background report (which was a cooperative investigation effort between the Permittees and the NMED U.S. Department of Energy Oversight Bureau) analyzes the results of storm water samples collected from undeveloped watersheds throughout northern New Mexico and reports that PCBs were detected at levels greater than the TAL (0.64 ng/L). In Table 6 of the report, the mean concentration of all samples collected was 7.5 ng/L and maximum concentration was 29.5 ng/L. The maximum PCB concentration from LANL's Western Boundary was 20.7 ng/L and the mean was 5.1 ng/L (see Table 10 of the report). Comparison of the range of PCB values in the PCB background report to the PCB values detected at this SMA indicates samples collected at this SMA are within or below baseline conditions in the natural landscape.

The continued installation of controls at this SMA to reduce PCBs may ultimately result in a reduction of PCBs below the TAL; however, the surrounding natural landscape is discharging PCB concentrations for which the mean value is greater than is currently detected at the SMA. The Permittees contend that further reduction of PCBs at this SMA is outside the regulatory scope of the Individual Permit because PCB concentrations were within nonpoint source ranges representing baseline concentrations of PCBs in the natural landscape.

COMMENT [5]: GROSS ALPHA AND RATIONALE

CCW Comment

Lines 212 through 225, pp. 5 and 6 of 7

2M-SMA-1.42, CDV-SMA-2.3 and W-SMA-10 all had gross alpha TAL exceedances. When compared to developed UTLs all but 2M-SMA-1.42 were 214 considerably higher than the upper limits. At 2M-SMA-1.42, substantial reductions in gross alpha were realized (51.8 pCi/L to 16 pCi/L) after implementation of enhanced control measures, which is close to the ATAL of 15 pCi/L. LANL should consider implementing additional enhanced controls to achieve compliance at 2M-SMA-1.42. No enhanced controls were implemented at CDV-SMA-2.3. Considering how successful enhanced controls were at reducing gross alpha levels at 2M-SMA-1.42, LANL should consider implementing similar enhanced controls at CDV-SMA-2.3 to achieve compliance. W-SMA-10 also showed positive reductions with implementation of enhanced controls. LANL should implement additional enhanced controls at W-SMA-10 to achieve compliance.

LANL Response

Gross-alpha activities in natural background watersheds were reported with a mean of 288.4 pCi/L and a maximum of 1090 pCi/L in the metals and radioactivity background report. The maximum concentration of gross alpha at the three SMAs listed in this comment was 77.8 pCi/L. Sediment derived from Bandelier Tuff have been shown in the background reports (as well as numerous other LANL publications) as the source of gross-alpha radioactivity because Bandelier Tuff has high natural uranium and daughter-product activities. These natural radionuclides detected in the unfiltered storm water sample are the cause of the TAL exceedances for gross alpha. The continued installation of controls to reduce gross-alpha radioactivity may ultimately result in a reduction of gross alpha below the TAL; however, the surrounding natural landscape discharges gross alpha at activities at levels greater than that at the SMA.

The Permittees consider further reduction of gross-alpha radioactivity detected at these SMAs as nonpoint source pollution from the natural landscape and control of this pollutant as outside regulatory scope of the Individual Permit.

COMMENT [6]: ALTERNATIVE COMPLIANCE WORKPLAN

CCW Comment

Lines 227 through 231, p. 6 of 7

In these comments, CCW has argued that the Permittees have inadequately demonstrated that the 17 sites included in this Request are not sources of the TAL exceedances. Therefore if Alternative Compliance is granted for one or more of these sites, an alternative compliance workplan(s) as detailed in Part 1(E)(3)(d) of the current permit would be required.

LANL Response

The Permittees believe they have presented lines of evidence in the original request for alternative compliance and in this response why pollutant concentrations detected above the TALs are from nonpoint source pollutants in the natural and developed landscapes and are not Site-related. Therefore, implementation of controls for these pollutants is outside the scope of the Individual Permit and no additional controls are required.

COMMENT [7]: SITE REMOVAL

Lines 233 through 236, p. 6 of 7.

If EPA determines that some of these sites should be given alternative compliance status, the data clearly shows that currently installed enhanced controls are effectively reducing contaminants. Therefore, these sites should remain on the permit to ensure that these controls are maintained.

LANL Response

If EPA approves this alternative compliance request, the Permittees will continue to maintain the control measures that were installed in accordance with Part. I.A.

Table 1
Storm Intensity during Background Sampling

Rain Gage	Location Name	Station	SMA	Area	Sample Date	Total Precipitation (in.)	30-min Max Intensity (in.)	Precipitation Duration (h)
RG038	P-ROM-2.2a	—*	P-ROM-2.2(a)	Developed Urban	10/20/2009	0.61	0.09	4.41
RG038	RA095001	RA095001	GRA-ROM-2.2(a)	Developed Urban	10/20/2009	0.61	0.09	4.41
RG038	RA095001	RA095001	GRA-ROM-2.2(a)	Developed Urban	9/13/2012	0.01	0.01	0.08
RG038	RA09WC01	RA09WC01	Walnut-ROM-1	Reference	9/23/2010	0	0	0
RG038	RF09CH01	RF09CH01	CHUP-REF-1	Reference	8/4/2009	0	0	0
RG038	RF09CH01	RF09CH01	CHUP-REF-1	Reference	8/16/2010	0.95	0.61	1.91
RG038	RF09CO01	RF09CO01	CORRAL-REF-1	Reference	8/5/2010	0.37	0.31	1
RG038	RF09CO01	RF09CO01	CORRAL-REF-1	Reference	8/16/2010	0.95	0.61	1.91
RG038	RF09GA01	RF09GA01	GARCIA-REF-1	Reference	4/30/2010	0	0	0
RG038	RF09GA01	RF09GA01	GARCIA-REF-1	Reference	8/5/2010	0.37	0.31	1
RG038	RF09GA01	RF09GA01	GARCIA-REF-1	Reference	8/24/2010	0	0	0
RG038	RF09GU02	RF09GU02	GUAJE-REF-2	Reference	5/7/2010	0	0	0
RG038	RF09GU02	RF09GU02	GUAJE-REF-2	Reference	8/12/2010	0.12	0.06	0.91
RG038	RF09GU02	RF09GU02	GUAJE-REF-2	Reference	8/13/2010	0	0	0
RG038	RF09GU02	RF09GU02	GUAJE-REF-2	Reference	9/23/2010	0	0	0
RG038	RF09GU02	RF09GU02	GUAJE-REF-2	Reference	11/8/2010	0	0	0
RG038	RF09LL01	RF09LL01	LAS LATAS-REF-1	Reference	7/30/2009	0.43	0.39	0.75
RG038	RF09LL01	RF09LL01	LAS LATAS-REF-1	Reference	7/30/2010	0.55	0.35	1.75
RG038	RF09LL01	RF09LL01	LAS LATAS-REF-1	Reference	8/15/2010	1.21	0.7	2.16
RG038	RF09LL02	RF09LL02	LAS LATAS-REF-2	Reference	7/22/2010	0.36	0.16	1.75
RG038	RF09LL02	RF09LL02	LAS LATAS-REF-2	Reference	7/23/2010	0.01	0.01	0.08
RG038	RF09LL02	RF09LL02	LAS LATAS-REF-2	Reference	7/31/2010	0.16	0.07	1.16
RG038	RF09LM01	RF09LM01	LAS MARIAS-REF-1	Reference	7/22/2010	0.36	0.16	1.75
RG038	RF09LM01	RF09LM01	LAS MARIAS-REF-1	Reference	8/5/2010	0.37	0.31	1

Table 1 (continued)

Rain Gage	Location Name	Station	SMA	Area	Sample Date	Total Precipitation (in.)	30-min Max Intensity (in.)	Precipitation Duration (h)
RG038	RF09LM01	RF09LM01	LAS MARIAS-REF-1	Reference	10/4/2010	0.01	0.01	0.08
RG055.5	RA090101	RA090101	ACID-ROM-2(a)	Developed Urban	8/2/2009	0.02	0.01	0.16
RG055.5	RA090101	RA090101	ACID-ROM-2(a)	Developed Urban	8/30/2009	0.4	0.37	0.75
RG055.5	RA090101	RA090101	ACID-ROM-2(a)	Developed Urban	9/6/2009	0.19	0.19	0.25
RG055.5	RA090101	RA090101	ACID-ROM-2(a)	Developed Urban	10/13/2009	0.09	0.09	0.41
RG055.5	RA090101	RA090101	ACID-ROM-2(a)	Developed Urban	8/3/2012	0.16	0.13	0.66
RG055.5	RA090101	RA090101	ACID-ROM-2(a)	Developed Urban	8/6/2012	0.01	0.01	0.08
RG055.5	RA090101	RA090101	ACID-ROM-2(a)	Developed Urban	8/12/2012	0.12	0.06	1
RG055.5	RA090101	RA090101	ACID-ROM-2(a)	Developed Urban	8/16/2012	0.18	0.11	1
RG055.5	RA090101	RA090101	ACID-ROM-2(a)	Developed Urban	9/26/2012	0.05	0.05	0.16
RG055.5	RA090101	RA090101	ACID-ROM-2(a)	Developed Urban	9/27/2012	0.02	0.01	0.16
RG055.5	RA090102	RA090102	ACID-ROM-2(b)	Developed Urban	8/2/2009	0.02	0.01	0.16
RG055.5	RA090102	RA090102	ACID-ROM-2(b)	Developed Urban	8/13/2009	0.38	0.08	2
RG055.5	RA090102	RA090102	ACID-ROM-2(b)	Developed Urban	9/6/2009	0.19	0.19	0.25
RG055.5	RA090102	RA090102	ACID-ROM-2(b)	Developed Urban	10/13/2009	0.09	0.09	0.41
RG055.5	RA090102	RA090102	ACID-ROM-2(b)	Developed Urban	8/19/2012	0.17	0.09	0.58
RG055.5	RA090102	RA090102	ACID-ROM-2(b)	Developed Urban	9/10/2012	0.18	0.16	0.58
RG055.5	RA090102	RA090102	ACID-ROM-2(b)	Developed Urban	9/12/2012	0.72	0.1	5.25
RG055.5	RA090102	RA090102	ACID-ROM-2(b)	Developed Urban	9/28/2012	0.16	0.13	0.75
RG055.5	RA090103	RA090103	ACID-ROM-1	Developed Urban	8/2/2009	0.02	0.01	0.16
RG055.5	RA090103	RA090103	ACID-ROM-1	Developed Urban	8/13/2009	0.38	0.08	2
RG055.5	RA090103	RA090103	ACID-ROM-1	Developed Urban	10/13/2009	0.09	0.09	0.41
RG055.5	RA090801	RA090801	P-ROM-3	Developed Urban	10/8/2009	0.04	0.03	0.25
RG055.5	RA090801	RA090801	P-ROM-3	Developed Urban	10/20/2009	0.78	0.12	4.58
RG055.5	RA091001	RA091001	LA-ROM-2-PCB	Developed Urban	9/16/2009	0.26	0.15	1.41
RG055.5	RA091001	RA091001	LA-ROM-2-PCB	Developed Urban	10/13/2009	0.09	0.09	0.41

Table 1 (continued)

Rain Gage	Location Name	Station	SMA	Area	Sample Date	Total Precipitation (in.)	30-min Max Intensity (in.)	Precipitation Duration (h)
RG055.5	RA091004	RA091004	LA-ROM-4.1	Developed Urban	8/6/2012	0.01	0.01	0.08
RG055.5	RA091004	RA091004	LA-ROM-4.1	Developed Urban	8/20/2012	0.2	0.07	0.66
RG055.5	RA091004	RA091004	LA-ROM-4.1	Developed Urban	8/24/2012	0.07	0.04	0.41
RG055.5	RA091004	RA091004	LA-ROM-4.1	Developed Urban	9/10/2012	0.18	0.16	0.58
RG055.5	RA09WC01	RA09WC01	Walnut-ROM-1	Developed Urban	8/16/2010	1.62	0.94	2.16
RG121.9	RA091601	RA091601	S-ROM-2(a)	Developed Urban	8/13/2009	0.33	0.09	2.25
RG121.9	RA091601	RA091601	S-ROM-2(a)	Developed Urban	8/21/2009	0.06	0.06	0.25
RG121.9	RA091601	RA091601	S-ROM-2(a)	Developed Urban	8/29/2009	0.04	0.03	0.33
RG121.9	RA091601	RA091601	S-ROM-2(a)	Developed Urban	9/23/2009	0.42	0.07	3.33
RG121.9	RA091601	RA091601	S-ROM-2(a)	Developed Urban	8/16/2012	0.23	0.17	0.91
RG121.9	RA091602	RA091602	S-ROM-0.2	Developed Urban	10/1/2009	0	0	0
RG121.9	RA121042	RA121042	LA-ROM-1.25	Developed Urban	9/12/2012	0.66	0.1	5
RG121.9	RA121042	RA121042	LA-ROM-1.25	Developed Urban	9/28/2012	0.22	0.19	0.75
RG121.9	RA121626	RA121626	S-ROM-2	Developed Urban	8/17/2012	0.04	0.03	0.33
RG121.9	RA121626	RA121626	S-ROM-2	Developed Urban	8/22/2012	0.08	0.04	0.66
RG121.9	RA121626	RA121626	S-ROM-2	Developed Urban	9/10/2012	0.27	0.21	0.75
RG121.9	RA121627	RA121627	S-ROM-3.6(a)	Developed Urban	8/16/2012	0.23	0.17	0.91
RG121.9	RA121627	RA121627	S-ROM-3.6(a)	Developed Urban	8/20/2012	0.26	0.14	0.5
RG121.9	RA121627	RA121627	S-ROM-3.6(a)	Developed Urban	9/10/2012	0.27	0.21	0.75
RG121.9	RA121627	RA121627	S-ROM-3.6(a)	Developed Urban	9/28/2012	0.22	0.19	0.75
RG121.9	RA121628	RA121628	S-ROM-3.6(b)	Developed Urban	9/10/2012	0.27	0.21	0.75
RG121.9	RA121628	RA121628	S-ROM-3.6(b)	Developed Urban	9/12/2012	0.66	0.1	5
RG121.9	RF10E025	RF10E025	LAC-REF-01	Western Boundary	7/24/2010	0.4	0.25	1.75
RG121.9	RF10E025	RF10E025	LAC-REF-01	Western Boundary	8/5/2010	0.66	0.6	0.83
RG121.9	RF10E025	RF10E025	LAC-REF-01	Western Boundary	8/15/2010	0.54	0.2	1.91
RG121.9	RF10E025	RF10E025	LAC-REF-01	Western Boundary	8/16/2010	1.11	0.73	2

Table 1 (continued)

Rain Gage	Location Name	Station	SMA	Area	Sample Date	Total Precipitation (in.)	30-min Max Intensity (in.)	Precipitation Duration (h)
RG121.9	RF10E025	RF10E025	LAC-REF-01	Western Boundary	8/23/2010	0.59	0.36	1.5
RG121.9	RF10E025	RF10E025	LAC-REF-01	Western Boundary	9/15/2010	0	0	0
RG240	RA090401	RA090401	W Boundary (E252)	Western Boundary	8/30/2009	0.73	0.6	1.5
RG240	RA090401	RA090401	W Boundary (E252)	Western Boundary	8/23/2010	0.22	0.18	0.66
RG240	RA092301	RA092301	W Boundary (E240)	Western Boundary	8/30/2009	0.73	0.6	1.5
RG240	RA092301	RA092301	W Boundary (E240)	Western Boundary	9/18/2009	0.01	0.01	0.08
RG240	RA092301	RA092301	W Boundary (E240)	Western Boundary	10/21/2009	0.21	0.05	1.75
RG240	RA092301	RA092301	W Boundary (E240)	Western Boundary	8/5/2010	1.16	1.04	1
RG240	RA092301	RA092301	W Boundary (E240)	Western Boundary	8/15/2010	0.68	0.33	2
RG240	RA092301	RA092301	W Boundary (E240)	Western Boundary	8/16/2010	0.67	0.49	1.33
RG240	RA092301	RA092301	W Boundary (E240)	Western Boundary	8/16/2010	0.67	0.49	1.33
RG240	RA092301	RA092301	W Boundary (E240)	Western Boundary	9/21/2010	0	0	0
RG240	RA092301	RA092301	W Boundary (E240)	Western Boundary	9/23/2010	0	0	0
RG-NCOM	Kwage Canyon abv Pueblo		—*	NMED SWQB	9/29/2007	0.3	0.21	2
RG-NCOM	RA09WC01	RA09WC01	Walnut-ROM-1	Reference	9/23/2010	0	0	0
RG-NCOM	RF09CH01	RF09CH01	CHUP-REF-1	Reference	8/4/2009	0.02	0.02	0.25
RG-NCOM	RF09CH01	RF09CH01	CHUP-REF-1	Reference	8/16/2010	1.15	0.46	3.25
RG-NCOM	RF09CO01	RF09CO01	CORRAL-REF-1	Reference	8/5/2010	0.92	0.85	1
RG-NCOM	RF09CO01	RF09CO01	CORRAL-REF-1	Reference	8/16/2010	1.15	0.46	3.25
RG-NCOM	RF09GA01	RF09GA01	GARCIA-REF-1	Reference	4/30/2010	0	0	0
RG-NCOM	RF09GA01	RF09GA01	GARCIA-REF-1	Reference	8/5/2010	0.92	0.85	1
RG-NCOM	RF09GA01	RF09GA01	GARCIA-REF-1	Reference	8/24/2010	0	0	0
RG-NCOM	RF09GU02	RF09GU02	GUAJE-REF-2	Reference	5/7/2010	0	0	0
RG-NCOM	RF09GU02	RF09GU02	GUAJE-REF-2	Reference	8/12/2010	0.49	0.32	2.5
RG-NCOM	RF09GU02	RF09GU02	GUAJE-REF-2	Reference	8/13/2010	0	0	0
RG-NCOM	RF09GU02	RF09GU02	GUAJE-REF-2	Reference	9/23/2010	0	0	0

Table 1 (continued)

Rain Gage	Location Name	Station	SMA	Area	Sample Date	Total Precipitation (in.)	30-min Max Intensity (in.)	Precipitation Duration (h)
RG-NCOM	RF09GU02	RF09GU02	GUAJE-REF-2	Reference	11/8/2010	0	0	0
RG-NCOM	RF09LL01	RF09LL01	LAS LATAS-REF-1	Reference	7/30/2009	0.27	0.26	0.75
RG-NCOM	RF09LL01	RF09LL01	LAS LATAS-REF-1	Reference	7/30/2010	0.41	0.27	2.75
RG-NCOM	RF09LL01	RF09LL01	LAS LATAS-REF-1	Reference	8/15/2010	0.62	0.25	2.5
RG-NCOM	RF09LL02	RF09LL02	LAS LATAS-REF-2	Reference	7/22/2010	1.07	0.61n	4
RG-NCOM	RF09LL02	RF09LL02	LAS LATAS-REF-2	Reference	7/23/2010	0.01	0.01	0.25
RG-NCOM	RF09LL02	RF09LL02	LAS LATAS-REF-2	Reference	7/31/2010	0.18	0.08	1.5
RG-NCOM	RF09LM01	RF09LM01	LAS MARIAS-REF-1	Reference	7/22/2010	1.07	0.61	4
RG-NCOM	RF09LM01	RF09LM01	LAS MARIAS-REF-1	Reference	8/5/2010	0.92	0.85	1
RG-NCOM	RF09LM01	RF09LM01	LAS MARIAS-REF-1	Reference	10/4/2010	0.04	0.04	0.5
RG-TA-06	Canon de Valle abv SR 501 (E253)		—	NMED SWQB	8/8/2006	0.25	0.19	1.5
RG-TA-06	Canon de Valle abv SR 501 (E253)		—	NMED SWQB	8/14/2006	0.29	0.1	2
RG-TA-06	Canon de Valle abv SR 501 (E253)		—	NMED SWQB	8/25/2006	2.01	0.89	3
RG-TA-53	RA09WC01	RA09WC01	Walnut-ROM-1	Reference	9/23/2010	0	0	0
RG-TA-53	RF09CH01	RF09CH01	CHUP-REF-1	Reference	8/4/2009	0	0	0
RG-TA-53	RF09CH01	RF09CH01	CHUP-REF-1	Reference	8/16/2010	0.58	0.38	2.5
RG-TA-53	RF09CO01	RF09CO01	CORRAL-REF-1	Reference	8/5/2010	0.16	0.15	0.75
RG-TA-53	RF09CO01	RF09CO01	CORRAL-REF-1	Reference	8/16/2010	0.58	0.38	2.5
RG-TA-53	RF09GA01	RF09GA01	GARCIA-REF-1	Reference	4/30/2010	0	0	0
RG-TA-53	RF09GA01	RF09GA01	GARCIA-REF-1	Reference	8/5/2010	0.16	0.15	0.75
RG-TA-53	RF09GA01	RF09GA01	GARCIA-REF-1	Reference	8/24/2010	0	0	0
RG-TA-53	RF09GU02	RF09GU02	GUAJE-REF-2	Reference	5/7/2010	0	0	0
RG-TA-53	RF09GU02	RF09GU02	GUAJE-REF-2	Reference	8/12/2010	0.12	0.05	1.25
RG-TA-53	RF09GU02	RF09GU02	GUAJE-REF-2	Reference	8/13/2010	0	0	0
RG-TA-53	RF09GU02	RF09GU02	GUAJE-REF-2	Reference	9/23/2010	0	0	0
RG-TA-53	RF09GU02	RF09GU02	GUAJE-REF-2	Reference	11/8/2010	0	0	0

Table 1 (continued)

Rain Gage	Location Name	Station	SMA	Area	Sample Date	Total Precipitation (in.)	30-min Max Intensity (in.)	Precipitation Duration (h)
RG-TA-53	RF09LL01	RF09LL01	LAS LATAS-REF-1	Reference	7/30/2009	0.44	0.43	0.75
RG-TA-53	RF09LL01	RF09LL01	LAS LATAS-REF-1	Reference	7/30/2010	0.78	0.44	3.25
RG-TA-53	RF09LL01	RF09LL01	LAS LATAS-REF-1	Reference	8/15/2010	1.31	0.55	2.75
RG-TA-53	RF09LL02	RF09LL02	LAS LATAS-REF-2	Reference	7/22/2010	0.38	0.23n	1.75
RG-TA-53	RF09LL02	RF09LL02	LAS LATAS-REF-2	Reference	7/23/2010	0	0	0
RG-TA-53	RF09LL02	RF09LL02	LAS LATAS-REF-2	Reference	7/31/2010	0.27	0.1	2.5
RG-TA-53	RF09LM01	RF09LM01	LAS MARIAS-REF-1	Reference	7/22/2010	0.38	0.23	1.75
RG-TA-53	RF09LM01	RF09LM01	LAS MARIAS-REF-1	Reference	8/5/2010	0.16	0.15	0.75
RG-TA-53	RF09LM01	RF09LM01	LAS MARIAS-REF-1	Reference	10/4/2010	0	0	0

*— = Not available.