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Title:	**April 2015 Public Meeting Presentation, Individual Permit for Storm Water, NPDES Permit No. NM0030759**
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Intended for:	Public, NMED, USEPA
Purpose:	This presentation was prepared for the Individual Permit for Storm Water (IP) public meeting held at the Cities of Gold Conference Center in Pojoaque, NM, on April 28, 2015. The purpose of the meeting was to update the public on implementation of and compliance with the IP and to provide the opportunity for public comment as required under Part1.I(7) of the IP (National Pollutant Discharge Elimination System Permit No. NM0030759). This presentation will be available on Los Alamos National Laboratory's public website.

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Individual Permit for Storm Water

Public Information Meeting

Tuesday, April 28, 2015

Agenda

Time	Topic	Speaker
5:30	Welcome and agenda	Terrill Lemke
5:35	Project overview and progress	Steve Veenis
5:50	Corrective actions update	Bill Foley
6:10	Urban sampling and airborne deposition	Armand Groffman Courtney Perkins Don Carlson
6:40	New IP Permit	Terrill Lemke
7:00	Communities for Clean Water	Rachel Conn

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Project Overview and Progress

Steve Veenis

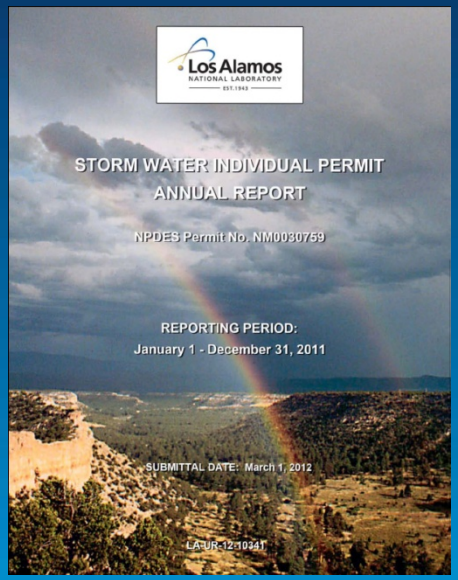
April 28th, 2015

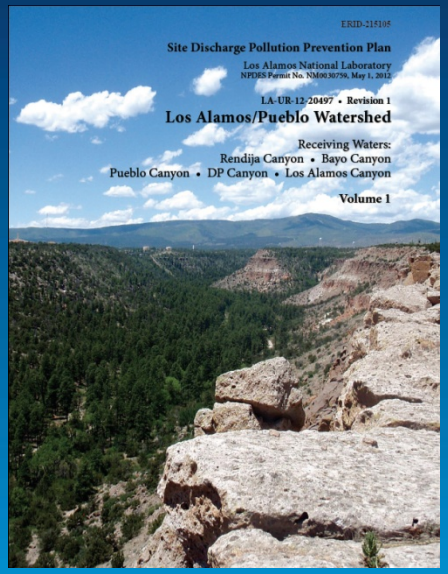
Major Elements of Current IP

- 406 SWMUs/AOCs on the final permit
- 250 Surface Monitoring Areas (SMAs)
- Installation of Control Measures
- Confirmation sampling
- Corrective Action required if Target Action Levels (TAL) exceeded
  - Total Retention
  - No Exposure
  - Enhanced BCMs
  - Certificate of Completion

Other IP Requirements

- Annual Compliance Status Report
- Annual SDPPP Update
- Bi-annual Public Meetings & Website





http://www.lanl.gov/community-environment/environmental-stewardship/protection/compliance/individual-permit

www.intellusnmdata.com

IP Overview 2011-2014

- Current permit result of settlement agreement with activists and State of New Mexico
- Installation of over 1,000 Baseline Control Measures and over 100 Enhanced Controls
- Inspection/Maintenance completed

- Stormwater sample collection at 155 of 250 SMAs
  - Samples collected at 155 SMAs
  - No Sample collected at 95 SMAs
  - No >TAL 9 SMAs
  - Corrective Action Complete at 24 SMAs
  - Confirmation monitoring at 87 Enhanced Control Sites
  - Corrective Action Planning at 44 SMAs

- Annual IP deliverables on schedule
  - Annual Compliance Report, SDPPP, data reports
- Bi-annual public meetings and public website requirements met

Individual Permit Commitments

- Improving environmental protection and stewardship
- Mitigating transport of legacy contaminants by stormwater
- Ongoing implementation of Permit requirements
- Meeting permit milestones
- Sharing results with the public
- Incorporate feedback from stakeholders

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IP Corrective Actions Update

William Foley

April 28, 2015

Enhanced Controls

- Based on monitoring results, SMAs with confirmation samples exceeding TALs are visually inspected.
- Existing control measures are re-evaluated to determine if any one or a combination for the following will be completed:
  - Repaired
  - Retired
  - Replaced

Challenges Completing Field Work

- Health & safety issues
  - Accessibility
  - Site specific hazards
- Seasonal Restrictions
  - Lightning
  - Red flag conditions
  - Endangered species
  - Nesting season
  - Flash floods
- Operational Restrictions
- Permit Requirements
- Cultural Issues
  - Archaeological sites
  - Historical sites/trails
- Property ownership
  - Access agreements

Certifications Submitted

- 2nd half of 2014
  - No Exposure Certifications
    - 4 Site Monitoring Areas (SMAs)
    - 9 Site / SMA combinations
  - Enhanced Controls
    - 9 SMAs
    - 23 Site / SMA combinations

Installation Update

- Current Activities
  - 2015 Enhanced controls substantially complete
    - 6 SMAs
    - 8 Site / SMA combinations
  - Construction of enhanced controls on-going at 4 SMAs
    - 14 Site / SMA combinations
- Future Activities
  - Construction scheduled both moderate priority SMAs and one high priority SMA to meet IP requirements
  - Evaluating potential certifications for 3 year-24 hour storm at 5 SMAs

R-SMA-1.95

LA-SMA-2.1

LA-SMA-5.54

M-SMA-1.2

M-SMA-12.92

PJ-SMA-5

PJ-SMA-11

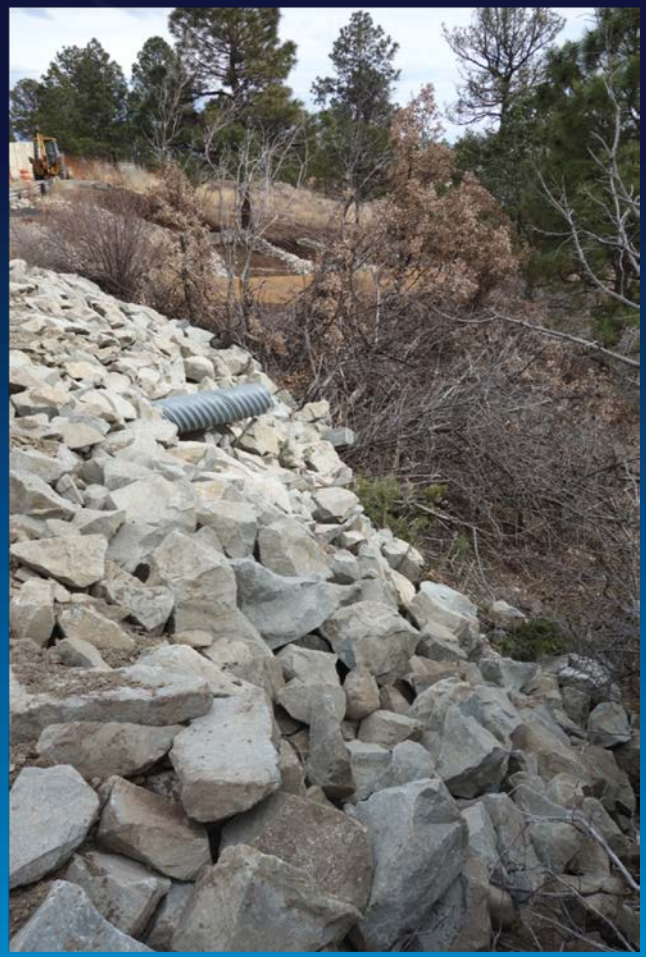
PJ-SMA-11.1

W-SMA-8

CHQ-SMA-1.02

A-SMA-2

T-SMA-4



CHQ-SMA-6

CDV-SMA-1.7

A-SMA-3

Certification Packages

- Enhanced Controls
  - Certification Statement
  - Enhanced Control Measure Description
  - Enhanced Control Measure Photo Documentation
  - SMA Map Depicting Enhanced Control Measures

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Urban Storm Water Runoff Collaborative Study

NEW MEXICO ENVIRONMENT DEPARTMENT

NNSA National Nuclear Security Administration

Urban Runoff Collaborative Study

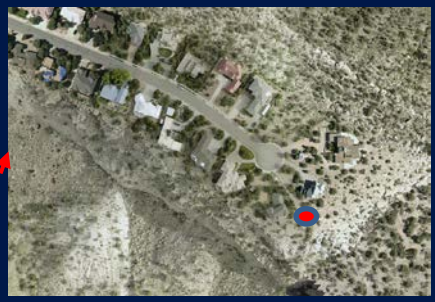
- Goal: To evaluate Metals and Total PCB concentrations in urban storm runoff from areas in Los Alamos with no known history of industrial activity
- Collaborative study began in 2014:
  - Los Alamos National Laboratory (LANL) and
  - New Mexico Environment Department's Department of Energy Oversight Bureau (NMED DOE OB)

Urban Runoff Study

- **Storm water runoff from Los Alamos County town site urban residential areas was monitored from August through November 2014.**

- Storm Water collected with Global Water automated water sampler

Los Alamos County Urban Storm Water Monitoring Locations
2014 Locations Red; 2009 – 2012 Monitoring Locations Green

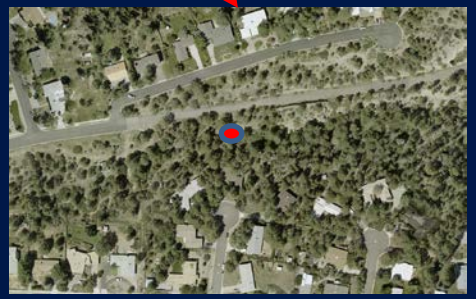


Barranca Mesa 6, Los Pueblos Rd

Barranca Mesa 4, Barranca Rd.

Western Area 3, Sandia Dr.

Western Area 5, Sandia Dr.

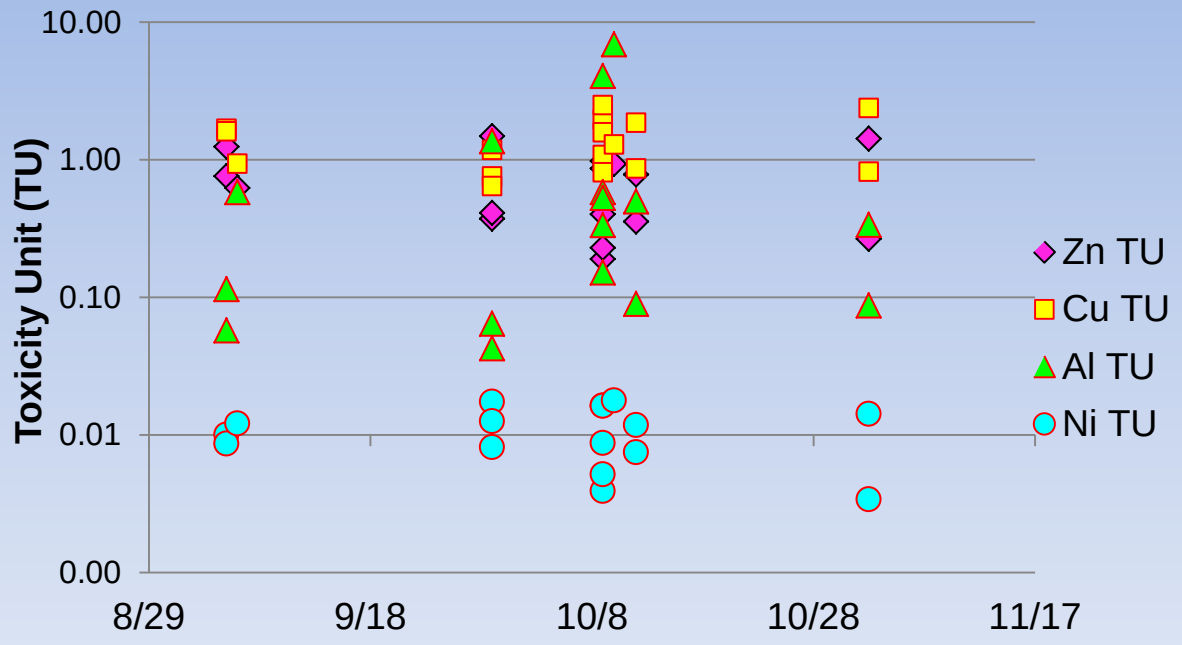


Barranca Mesa 2, Rendija Canyon

North Mesa 9, San Ildefonso Rd.

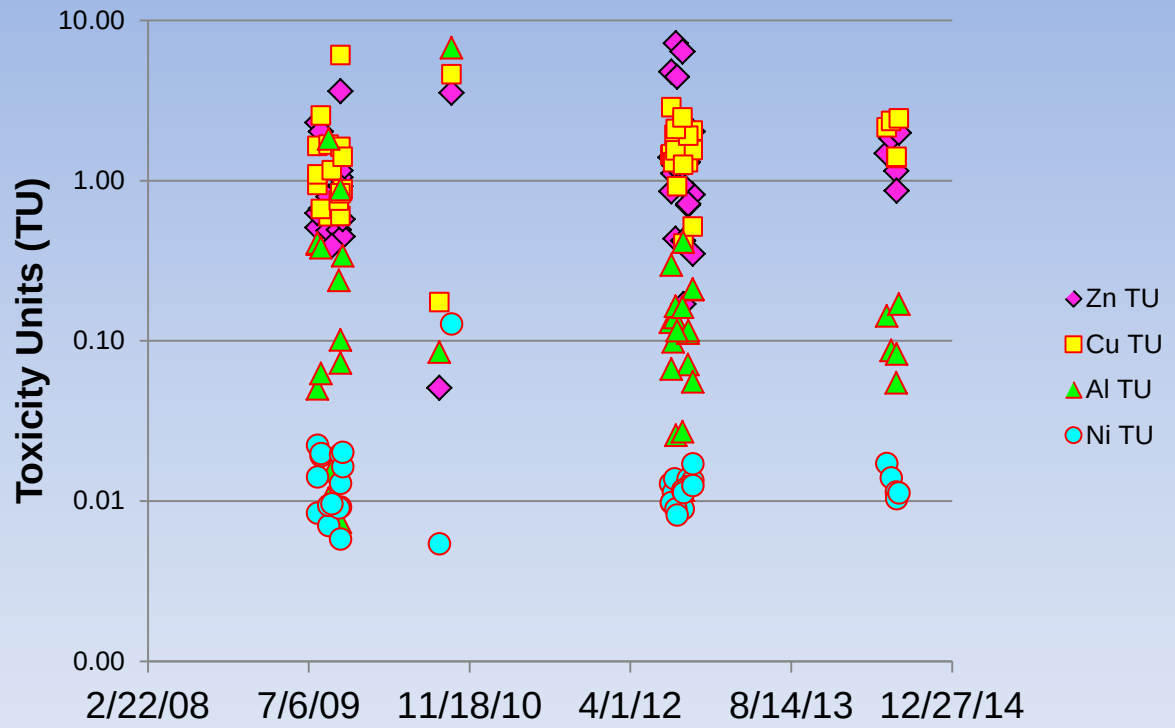
2014 Los Alamos County Urban Neighborhood Results (n=16)

Toxicity Unit (TU) is defined as the Analytical Result/Acute Aquatic Life Criteria (20.6.4.1 NMAC)



Metal-specific aquatic life criterion = $\exp(m_A[\ln(\text{hardness})] + b_A)(CF)$

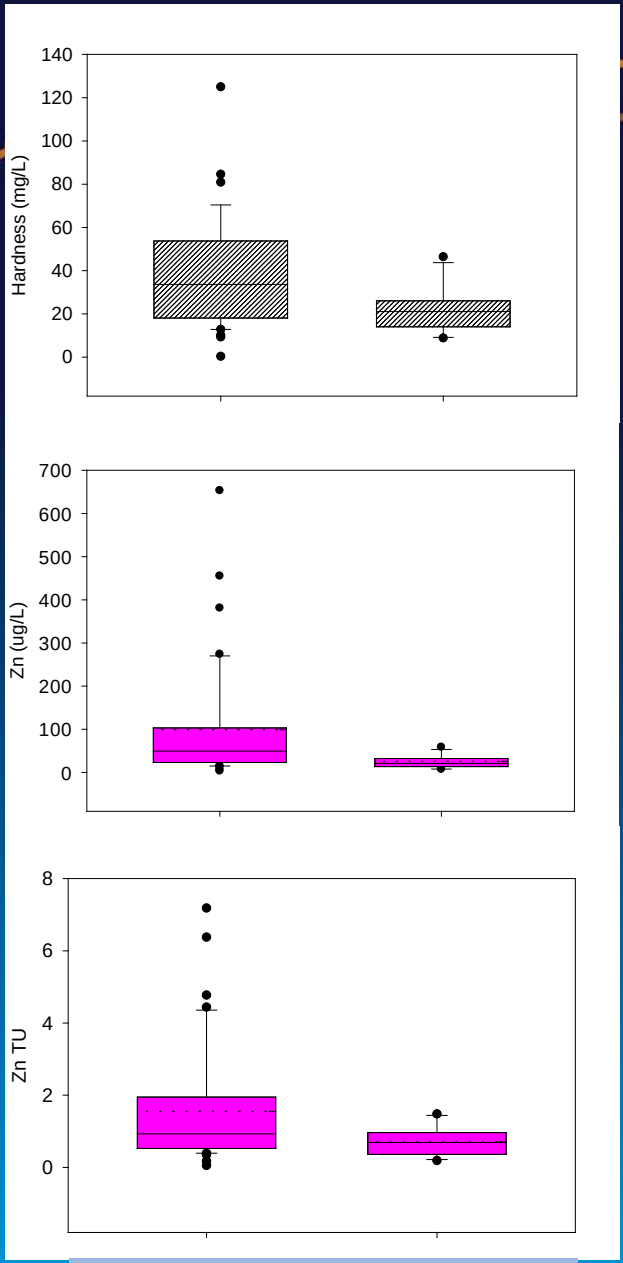
2009 - 2012 Los Alamos County Town Site (n=40)
Toxicity Unit (TU) is defined as the
alytical Result/Acute Aquatic Life Criteria (20.6.4.1 NMAC)



Metal-specific aquatic life criterion = $\exp(m_A[\ln(\text{hardness})] + b_A)(CF)$

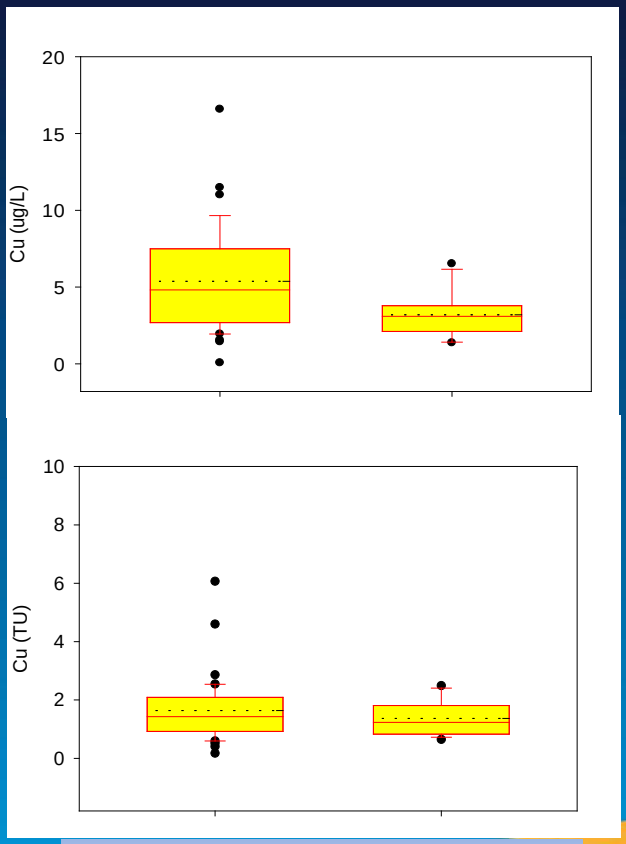
Comparison of LAC Town Site and Neighborhoods

ER =Exceedance Rate



LAC Town Site n=40; ER=48%

LAC Neighborhoods n-16; ER=19%



LAC Town Site n=40; ER=73%

LAC Neighborhoods N-16; ER=63%

Common Sources of Zinc and Copper in Storm Water Runoff from Urban Landscapes and Industrial Facilities

- Roofs--galvanized HVAC, ducts, ventilation fans, turbines, galvanized downspouts and flashing, guard rails, cooling water systems, copper pipes.

- Parking Areas—automobiles, trucks, forklifts, motor oil, tire particles, hydraulic fluid, truck/trailer or bus parking, vehicle break pads, culverts.

- Material storage, galvanized metals, chain link fences, printed circuit boards, and vehicles (as above).

Total PCBs in Urban Runoff

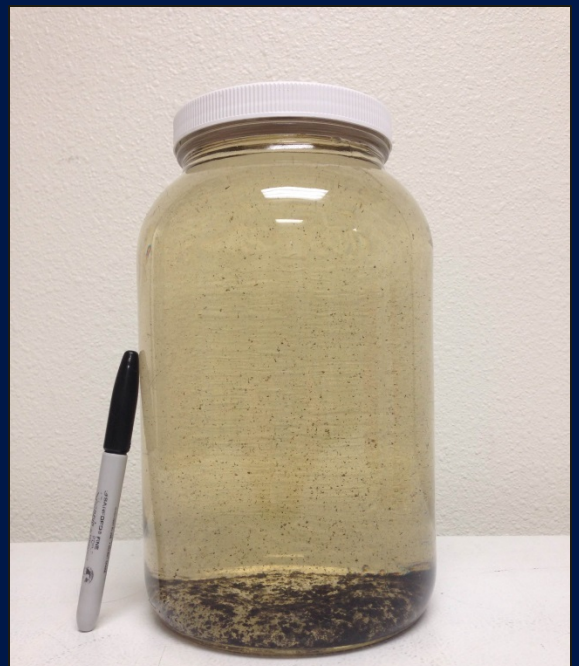
Collected a total of 15 samples from 5 of 6 locations, analytical results for 13 samples*

Number of Sample results from 2014

Location	# PCB Results
BM-REF-2	1
BM-REF-4	3
BM-REF-6	3
NM-REF-9	4
WA-REF-3	0
WA-REF-5	2
Total	13

Analyses:

- PCB Congeners (USEPA Method 1668A)
- Suspended Sediment Concentration (SSC; ASTM: D3977-97)



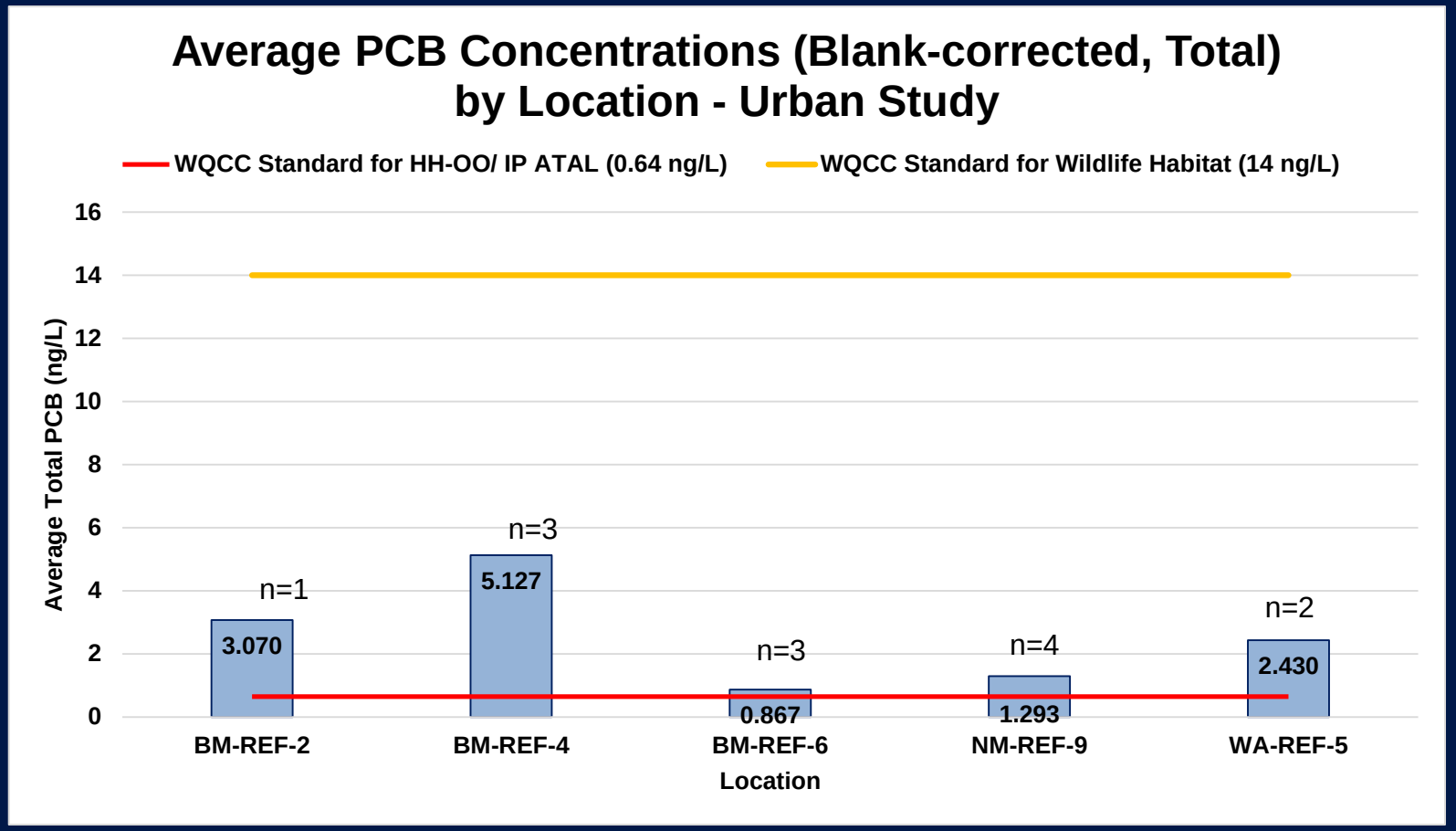
1-gallon clear glass jar

*1 sample broke in shipment and results are pending for 1 other sample

Total PCBs in Urban Runoff

Summary of Total PCB Sample Results from 2014 Study

Total PCB Concentration (ng/L)	N	Min	Max	Mean	SD	Median
2014 Study - Urban Stations (no known historical industrial)	13	0.67	9.31	2.39	2.44	1.38



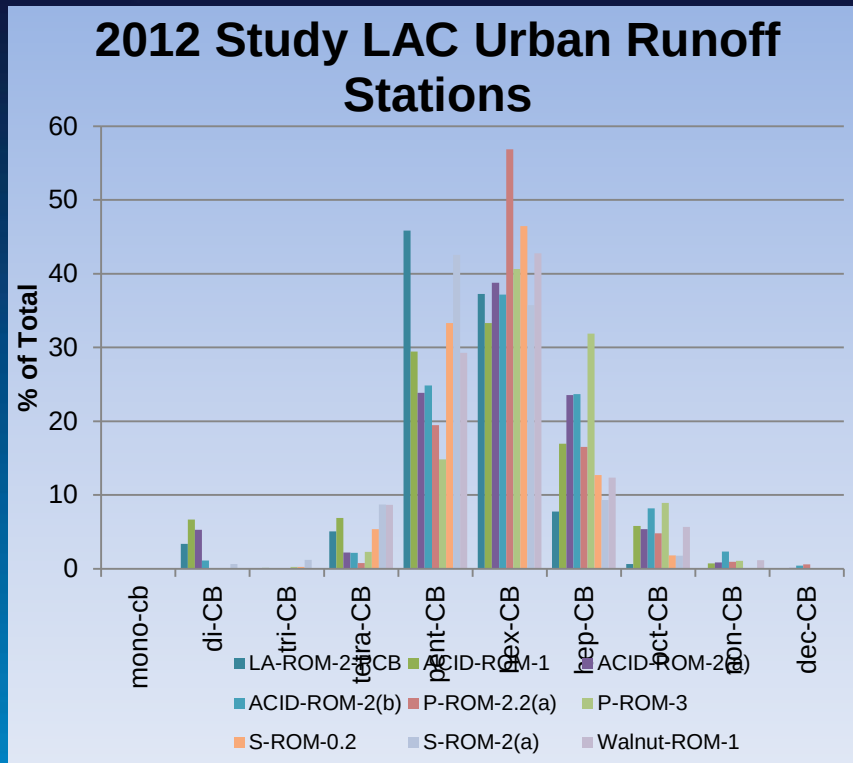
Historical PCB Baseline Study Data

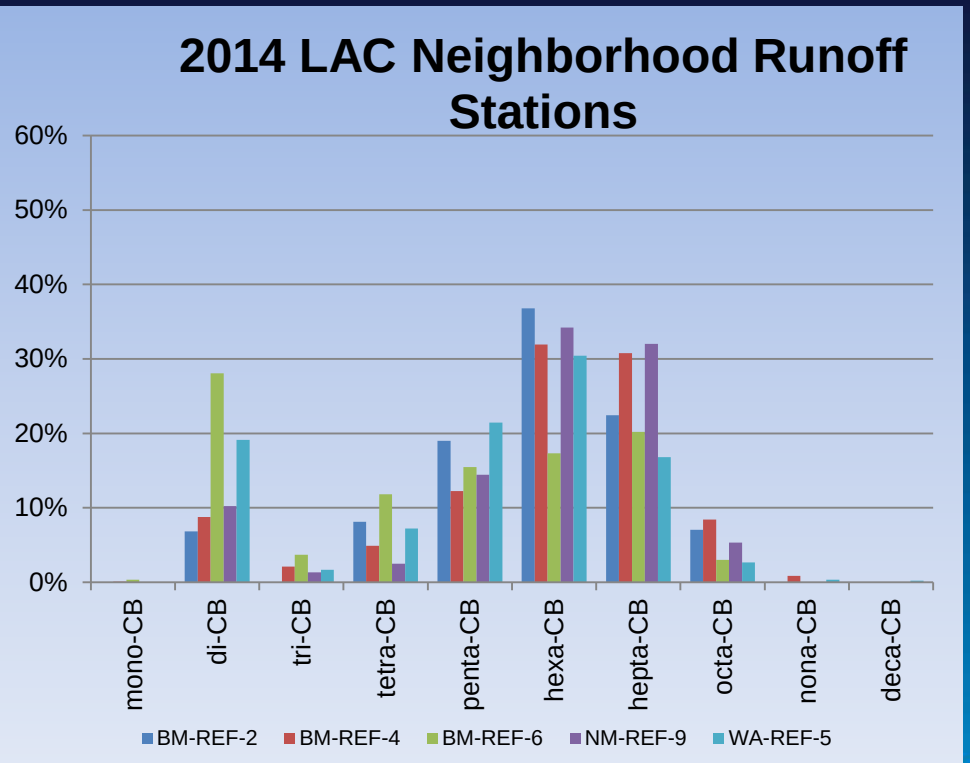
Summary table of Urban Runoff PCB Concentrations in Los Alamos from the 2012 PCB study and the 2014 study

Total PCB Concentration (ng/L)	N	Min	Max	Mean	SD	Median
2012 LANL/NMED Report -Urban Stations (including historical industrial)	41	0.01	144	27.7	37.7	12
2014 Study - Urban Stations (no known historical industrial)	13	0.67	9.31	2.39	2.44	1.38

Comparison of Homolog Distributions

Average homolog distributions





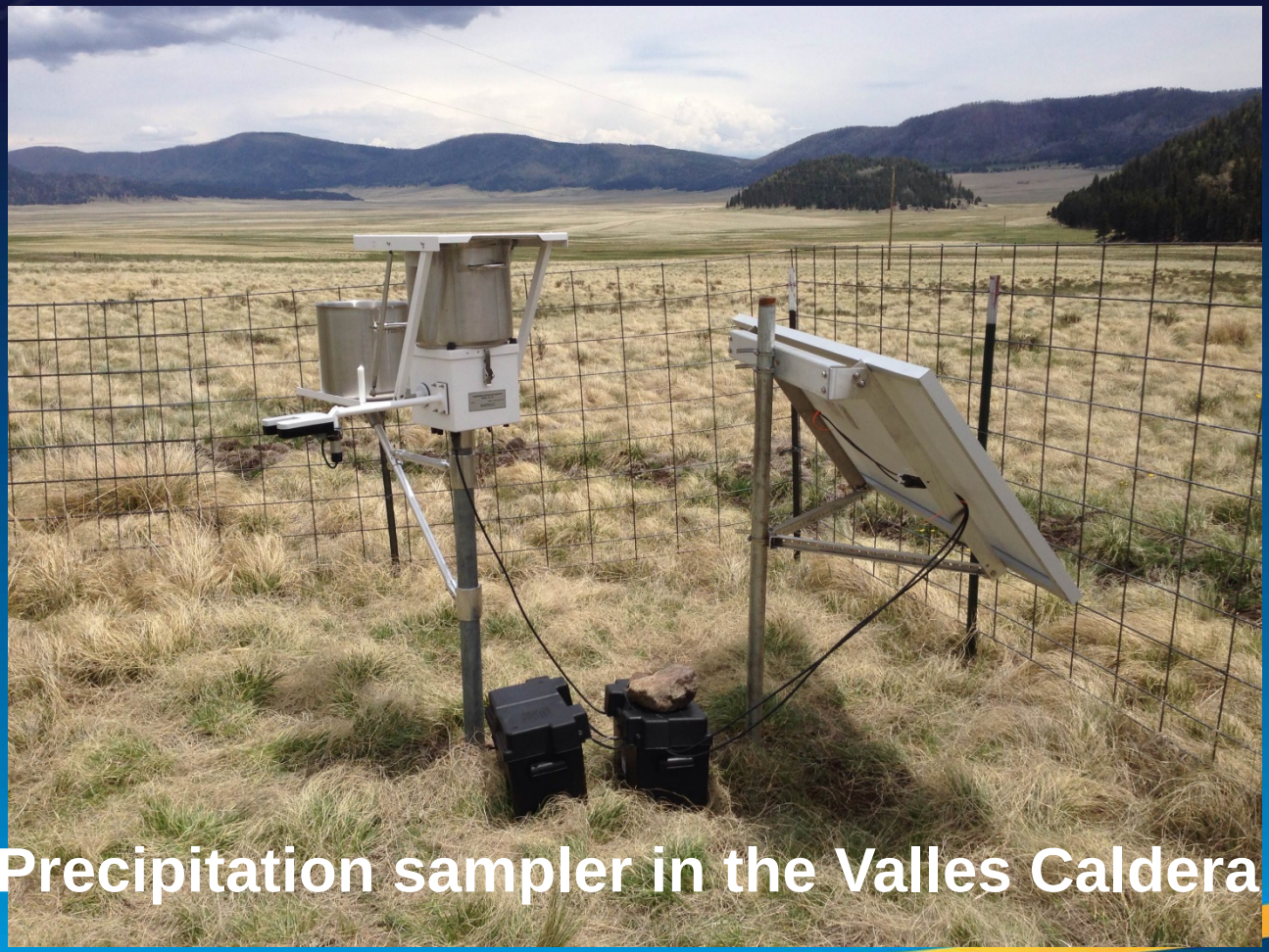
Planned future work

- Additional urban monitoring
- Data will be used to evaluate compliance related to NPDES permits
- All data are available online through Intellus New Mexico (intellusnmdata.com)

DOE OB Precipitation Monitoring

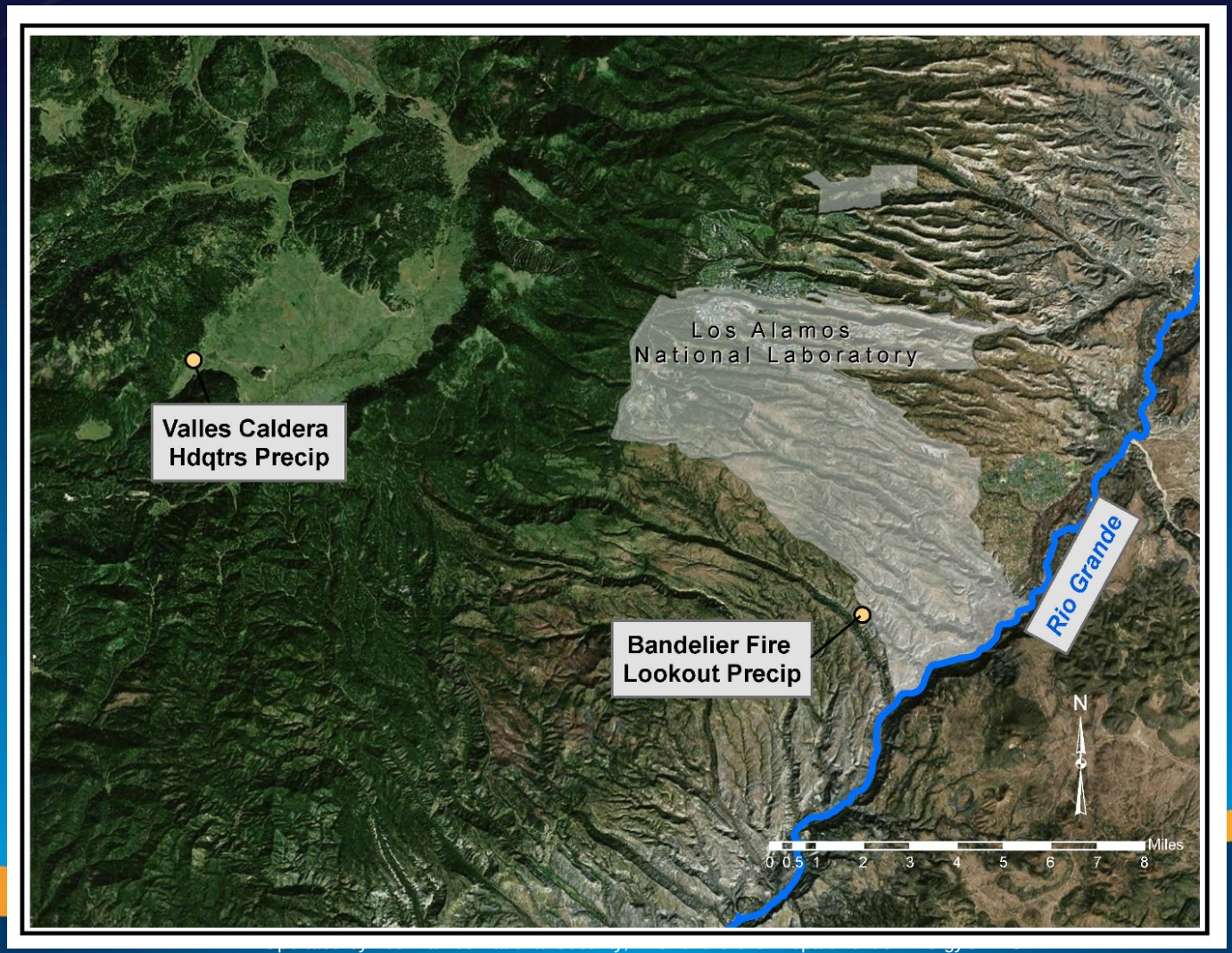
- Goal: To evaluate Metals and Total PCB concentrations in wet (precipitation) and dry atmospheric deposition around Los Alamos/Pajarito Plateau in order to quantify atmospheric deposition
- Collect & analyze precipitation (rain, snow, sleet, etc) and dry atmospheric deposition (dust, particulates) for metals and PCBs

DOE OB Precipitation Monitoring



Precipitation sampler in the Valles Caldera

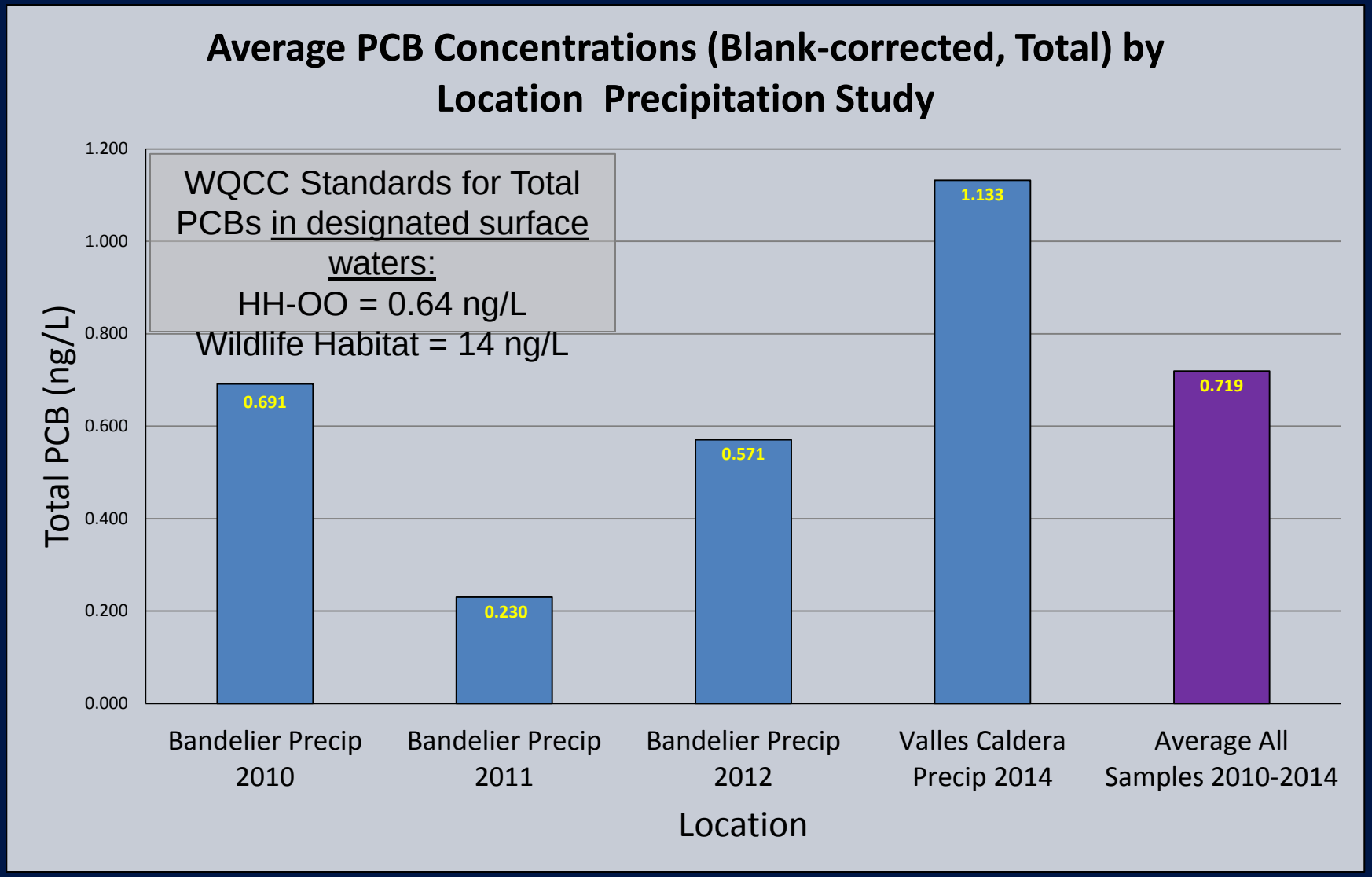
DOE OB Precipitation Sampling Locations



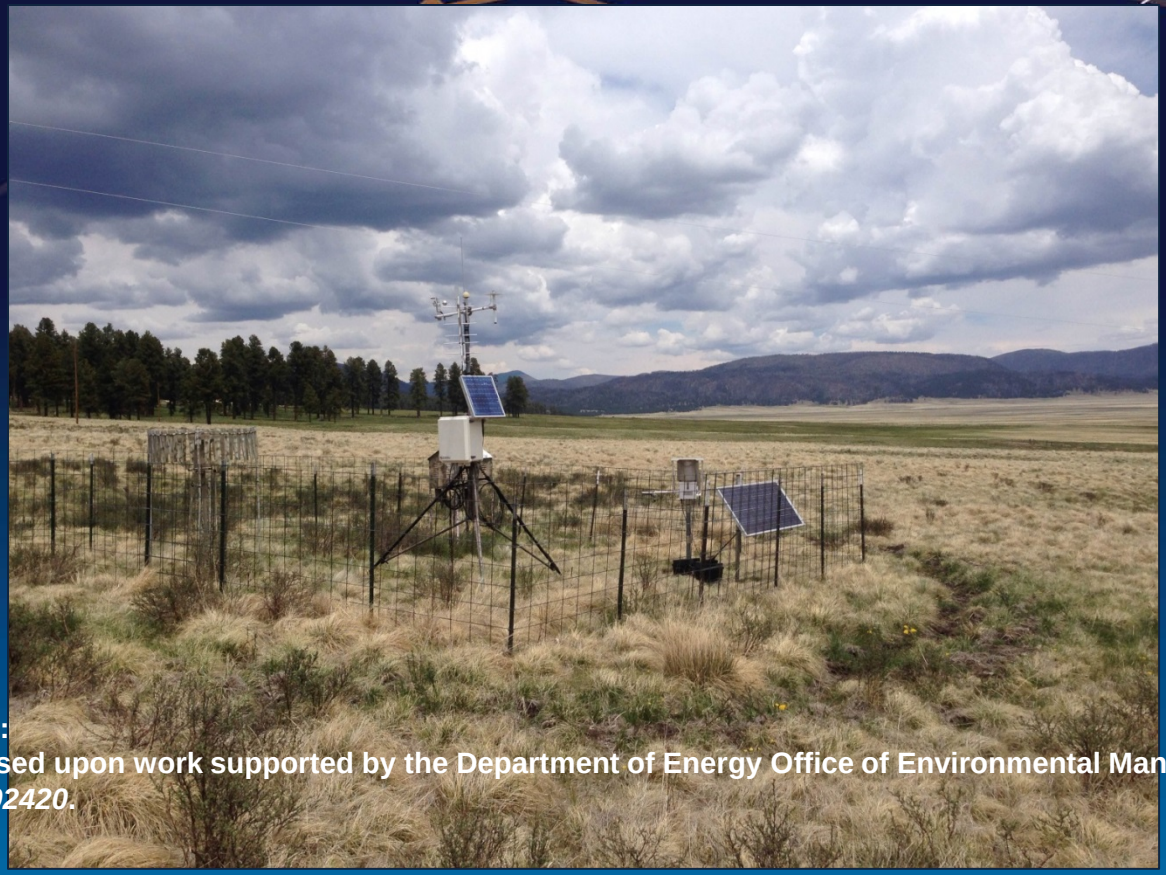
DOE OB Precipitation Monitoring

Precipitation sampler at Bandelier National Monument in dry and wet conditions

DOE OB Precipitation Monitoring



Questions?



Acknowledgement:
This material is based upon work supported by the Department of Energy Office of Environmental Management under Award Number *DE-EM0002420*.

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Individual Permit Renewal Process

Terrill Lemke

April 28, 2015

Permit Status

- Current IP now in its 6th year
- The current permit was effective April 1, 2009 and expired March 31, 2014
- LANL submitted a permit reapplication to EPA on March 27, 2014
- Existing permit coverage continues until new permit is issued (Administrative Continuance)

Recent Actions

- LANL, NMED and CCW jointly held a series of technical meetings (Sept 2014 – Jan 2015)
  - Discussion of issues/concerns, challenges & limitations with current permit language, opportunities for improvement
  - Meetings held with the encouragement of EPA
  - Focus was on providing mutually agreed upon language to EPA for the draft permit
- Draft language sent to EPA by LANL - Nov 2014
- LANL, NMED, CCW comments on draft language sent to EPA by NMED - Feb 2015

Current & Future Status

- Draft IP issued by EPA March 27, 2015
- EPA Public comment period open until May 26, 2015 (See EPA website for details)
  - Continuing efforts with NMED and CCW
  - Joint comments to EPA
- EPA process:
  - Respond to comments
  - Potential modification to permit language
  - Issuance of final permit

Draft IP Highlights

1. Encourages LANL and NMED to work on representative sampling issues
2. No permit mod required to move sampler locations
   - Greater flexibility for sampler location adjustments
3. Incorporate watershed-specific hardness values
4. Permittees can collect partial samples and do not have to wait 15 days between sampling events
   - Will facilitate collection of more storm water samples

Draft IP Highlights

5. NMED-HWB Certificate of Completion (COC) no longer a Corrective Action option
6. Modified corrective action option to include retention of a 3-yr, 24-hr storm event
7. Process for a Site Contributing Evaluation
   - To evaluate if the Site is the TAL exceedance source
8. Encourages watershed protection features
9. No significant changes to:
   - Inspections, reporting, public involvement

What's Next?

- EPA public meeting on May 6th (Los Alamos)
- Continuation of joint effort (LANL, NMED, CCW) during public comment period
- EPA will respond to comments
  - Potential modification of permit language
- EPA will issue final permit
- Implementation of new permit