

# Attachment 1, NADP Joint Sub-committee minutes, Fall 2002



NADP (NRSP-3) Executive Committee Meeting  
September, 2002, Seattle, WA  
Prepared by Karen Harlin, Director  
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## Central Analytical Laboratory (CAL) Report

Updated from last report to NOS/Executive Committee Fall, 2001

### *Site Operations*

- NTN = **246** active sites as of 09/6/02 (includes 2 collocated sites 02OR and 98WI)
  - 15 sites or 106.5% increase since last report August, 2001
- AIRMoN = **10** active sites
- CAL inventory required to maintain site sampling supplies is now **290** buckets, lids, and 1-liter bottles/wk CAL is meeting those deadlines
- Site Operator Training Course
  - 32nd Site Operation Training Course was held at CAL on April 9-11, 2002. This year special sessions for MDN and AIRMoN operator training were included. This year's participants represented 28 sites; 6 of these sites became active since May of 2001, and 2 sites are scheduled to start in 2002. Pictures are available at <http://nadp.sws.uiuc.edu/cal> in What's New or Training. The Central Analytical Laboratory has held Operations Training Courses since 1979. As of April 2002, 745 people have attended training at the CAL and 257 sites have been represented.
  - 33<sup>rd</sup> Site Operations Training Course is scheduled for **April 8-10, 2003**.
- NTN Lid Seal Change: scheduled June 4, 2002. As of July 88 % returned. New instructional labeling added.
- 2003 CALendar, focus is 20-yr anniversary sites. Distributed at Fall Technical meeting and in September mailings.

### *Laboratory Operations*

- Automated pH & specific conductance data transfer.  
Oct., 2001 (AIRMoN) and Feb., 2002 (NTN)--Began use of the automated transfer of pH, specific conductance, lab comments, and contamination codes into NTN & AIRMoN databases via a custom designed laboratory information management system (LIMS). New technology (such as touch sensitive monitors) are incorporated into the system. Intensive in-house input and testing was involved in the design of this system which eliminates double-entry of manually recorded results into the databases.
- New instrumentation is under review to replace the 10 year old AAS for major cations (Na, K, Mg, Ca). Targeting reduced volume (now need 8 mL) and elimination or automated addition of modifier solutions which may contaminate the samples.
- NADP Archive Samples: NTN active archive and current (special) samples approved at the Fall 2001 and Spring 2002 meetings were shipped to researchers. An ad hoc committee of NOS is reviewing cost recovery for archive sample handling and archive policies. They will report to NOS at the spring 2003 meeting. (See Program Office report for details).

# Attachment 2, NADP Joint Sub-committee minutes, Fall 2002

## HAL Staff Update

**Meghann Clark, MDN Technician, Bottle Washing/Rec**  
B.S. Environmental Science  
University Of Washington. Hired April 1, 2002.

**Gerard Van Der Jagt, MDN Project Manager/Analyst**  
B.S. Oceanography  
University of Washington. August 15, 2002.

**Dan Leemon – Assistant Site Liaison - Leaving Program**

**Currently Hiring For Site Liaison And Lab Tech**  
Currently 5.5 FTE with goal to have 7 FTE's by Dec 2002

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## HAL MDN Data Status

- HAL Transmitted Final 1<sup>st</sup> Qtr 2002 To PO: Sept 09, 2002
- HAL To Transmit Final 2<sup>nd</sup> Qtr 2002 To PO: Sept 27, 2002
- MDN 3<sup>rd</sup> Qtr Preliminary Data Report to sponsors: Oct 25, 2002
- MDN Sponsor 3<sup>rd</sup> Qtr Preliminary Data Review: Nov 10, 2002
- HAL to Transmit Final 3<sup>rd</sup> Qtr 2002 To PO: Nov 25, 2002

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## HAL Capacity

- HAL has analyzed ~12864 Total Hg Samples to date
- 2 New MDN Employees – Project Manager, BW
- Preparing for 8 additional sites
- Two Additional Total Hg Analyzers dedicated to MDN

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## MDN MMHg Data – May 2002

- MN MMHg Composites: (1996 – 2001)
- WI MMHg Composites: (1997-2001)
- FL MMHg Composites: (1998 & 2001)
- GA MMHg Composites: (1998)
- ON MMHg Composites: (1997 – 1998)
- ME MMHg Splits: (07/04/00 – 06/28/01)
- LA MMHg Splits: (1998 – 1999)
- IN MMHg Splits: (2000)

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## New Facilities At The HAL

- New 700 sq ft operations area
- 2 dedicated Total and Methyl Hg Analyzers
- New Sample Receiving Area
- New MDN dedicated Bottle Washing Room
- New MDN dedicated MDN Lab

Tours Of HAL On Wednesday Sept 11, 2002

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## MDN Methyl Hg Data – Nov 2002

- MN MMHg Composites: (1/2002 – 6/2002)
- WI MMHg Composites: (1/2002 – 6/2002)
- FL MMHg Composites: (1/2001 – 6/2002)
- IN MMHg Splits: (2001- 6/2002)
- LA MMHg Splits: (2001 – 6/2002)
- NS01 MMHg Splits: (2001 – 06/2002)

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## HAL/PO New Initiatives

### Trace Metals (In addition to Mercury):

- Increasing number of MDN and Non MDN sponsor interest.
- HAL redesigned the ACM in order to utilize the second chimney.
- HAL designed a trace metals sample.
- HAL WA18 Trace Metals Study – 3 years
- PO Initiative To Include As Part Of MDN

### Trace-Metals Dry Deposition:

NM10 Study To Continue Through 2002

Mesa Verde National Park Dry Dep Hg Study 2002-2--3

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## HAL Field QA

### HAL Field QA Studies:

- >MDN Co-located ACM Study to continue at IL11 by PO  
Move to another cooperative site?
- >MDN Co-located ACM/NCON/MICB at IL11 - Completed
- >HAL Co-located ACM/NCON/MICB @ HAL- Oct 2002
- >Next Round Of System Blanks To Be Sent To MDN Sites –  
September 2002

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## HAL Quality Assurance

### 2001 HAL Annual QA Report:

- > Waiting for final system blanks - Copies will be available on web site.

### 2002 Quarterly Laboratory QA Reports:

- > Will continue to be sent with each MDN Preliminary Quarterly Data Report

### 2002 HAL Interlaboratory Comparison Studies:

- >Interlab Comparison Study:- Completion Date October 2002

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## HAL 2002-3 Audit

Copies Of HAL Response To 2001 Audit Available

Next HAL Audit 2003

- MDN HAL Sample Archival Program
- External Review Of HAL QA Report
- MDN External Blind Audit Program

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## HAL Audits/Certifications

### Frontier/HAL Laboratory Audits 2002:

- >State of New Jersey Dept. of Env. Conservation – Feb 2002
- >U.S. DOE/US EPA – Rocky Mountain Arsenal –Feb 2002
- >South Florida Water Management Dist – Sept 5, 2002
- >U.S. Bureau Of Reclamation – Sept 4, 2002

### Upcoming Audits:

- >Washington State Dept. Of Ecology – Oct 2002
- >New York Dept. Of Env. Conservation – Surprise Nov 2002
- >U.S. DOE/US EPA – Rocky Mountain Arsenal – Nov 2002

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## MDN Site Start-Up/Audit Program

### Initial Site Visit/Start and Operator Training by HAL in 2001

- 7 Site Start-Ups with 2 Existing MDN Sites Visited
- Est. 16 Site Operators and Back-Up Operators Trained

### Initial Site Visit/Start and Operator Training by HAL/PO 6/2001

- 9 Site Start-Ups with 1 existing site visited
- Total of 17 Site Operators and Back-Up Operators Trained

### ATS Field QA Program:

- > MDN sites to be Audited on a 3 year cycle

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## MDN Site Start-Ups

- CO99 – Mesa Verde NP – 01/01/02
- WI32 – Menominee IT – 01/29/02
- TN11 – Elkmont – 02/05/02
- WY07 – Yellowstone NP – 02/12/02
- M046 – Ming0 NWR – 04/02/02
- TN12 – Clingman’s Dome – 05/07/02
- GA22 – Jefferson – 06/18/02
- KY10 – Mammoth Cave – 09/05/02

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## ATS MDN Site Audits

<u>May – July 2002</u>	<u>Sept -Dec 2002</u>
CA72	KY10
IL11	PA00
W199	PA72
ME09	
ME98	
NB02	
NF09	
NS01	

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## MDN Site Closures/ Re-Start

- CO99 Mesa Verde – (01/01 – 07/23/02)  
Forest Fire – Total Loss Of Equip  
Re-Start – 08/27/02
- NH00 Laconia (5/98) – End Date 06/25/02  
Funding issues – Will Re-start
- NH05 – New Castle (10/97) – End Date 07/02/02  
Funding Issues – Stopped Indefinitely
- NM10 – Potential Funding Issues 2003
- NB02 – Funding For 2002

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## HAL Mini NED Update

- 10 Of Each Replacement Part
- Belfort Clock Change-Out Frequency
- 11 grid sensor issues – change-out
- Proposed to purchase bar code system
- Software similar to NED for MDN NED

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## MDN Site Moves

- CA97 Site Move to Englenook, CA
  - > 120 miles South West of original site
  - > Currently a National Weather Service Site
  - > Local Community College Professor Operating site
  - > 3 miles inland from Fort Bragg California
  - > Good offshore flow most of the year
  - > Expected site move July 2002

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## HAL Site Liaison Activities

- Supplied each MDN Site w/Belfort Cal. Check Weights
- Pending Quarterly Belfort Calibration Checks
- MDN ACM Chimney Cap – Retrofit Design Work
- Network Wide Lid Seal Change – Nov 2002
- MDN Training Video – Production Fall/Winter 2002
- Spring 2003 HAL Site Op Training – Seattle

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## NADP Quality Assurance Program: Status Report

Chris Lehmann

2002 Technical Committee Meeting  
Joint Session



## NADP Quality Assurance Report

- Establishing Data Quality Objectives for the NADP
- Quality Assurance Advisory Group
- Preparation of Quality Assurance Documents
- Quality Assurance Activities

## Quality Data?

What do we mean when we say:

*"NADP provides quality assured data and information in support of research...."*

—————> **Data Quality Objectives**

## What are Data Quality Objectives?

Data Quality Objectives (DQOs) are qualitative and quantitative statements that:

1. clarify technical and quality objectives
2. define the appropriate type of data
3. specify tolerable levels of decision errors

American Society of Quality Control, 1994

## Process to Define Data Quality Objectives

### Key elements:

1. Concisely define the problem
2. Identify decisions to be made from the data
3. Identify key inputs to the decisions
4. Define boundaries of study
5. Develop decision rules
6. Specify tolerable limits on errors
7. Optimize design for obtaining data

## Development of DQOs for the NADP

- Coordinated by Quality Assurance (QA) Advisory Group
- Require input from standing subcommittees to identify needs of research community and data users
- Identify how NADP QA activities support DQOs
  - HAL/CAL Internal QA Programs
  - USGS QA Programs (site collocation, field blanks, etc.)
  - EPA Site Systems & Performance Surveys

# Attachment 3, NADP Joint Sub-committee minutes, Fall 2002

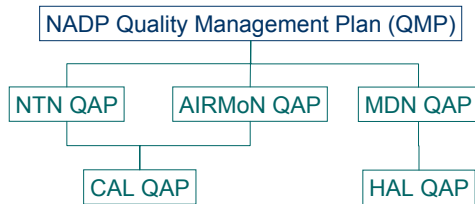
## Quality Assurance Advisory Group

- First met at Interim Subcommittee Meeting in May 2002
- Permanent group approved at July 2002 Executive Committee meeting
- Group Members
  - Coordinated by the NADP QA Manager
  - QA representatives of the CAL and HAL
  - QA representatives from the USGS and U.S. EPA
  - State agency QA representative

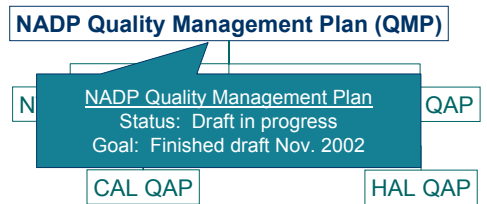
## Charges of Quality Assurance Advisory Group

- Review and update NADP quality system documentation
- Review QA documents and reports prepared by the QA manager
- Advise the QA manager in implementing quality assurance programs
- Coordinate and arbitrate QA matters referred to it by the Executive Committee
- Suggest areas of QA research to the Executive Committee

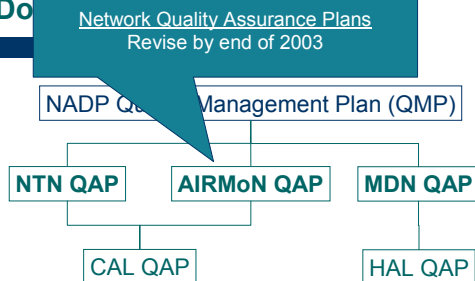
## NADP Quality System Documentation



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## NADP Quality System Documentation



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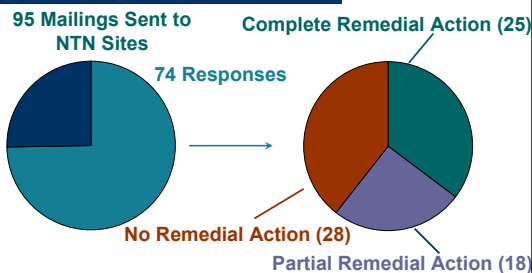
## Quality Assurance Activities

- Site Remedial Actions–Compliance with Siting Criteria
- Notifying Data Users of Sites Deviating from NADP Siting Criteria
- Data Minimum Reporting Levels
- Data Systems Audits
- Quality Assurance Web Page

## Site Remedial Actions Compliance with Siting Criteria

- Remedial actions initiated based on 1998-2001 Site Systems & Performance Surveys of NTN sites
- Addressed criteria within 30m of collector
  - Vegetation height > 0.6m
  - Objects > 1m within 5m of collector
  - 45 degrees "clear to sky" from collector
- Poster presentation of results 1998-2001 surveys of NTN & MDN sites

## Site Remedial Actions Compliance with Siting Criteria



## Remedial Actions Database

Network: NTN Site ID: AF183 Date Reviewed: 7/13/2001 Record Number: 8

Person for Mailing: ATC 59-01 Date: 7/13/2001

Mailed to Site Operator: Operator: Pamela Beckwith Date: 7/13/2001

Mailed to Site Super: Super: Jim Patterson Date: 6/7/2001

Mailed to Site Funder: Funder: CDE/WRM Date: 6/7/2001

Mailed to Site Funder: Funder: JIM PATTERSON Date: 6/7/2001

Mailing Sent from Program Office: Letter sent Email sent

Sketch Mailed: Date of Sketch: 12/6/1999 Dashboard Mailed:

Custom Text for Mailing: [General 45m letter sent]

Notes:

Responses: Date Response from Operator: 6/7/2001

Response Text: Received from operator 6/16/2001. Mailing done about tree in violation as per by CDE. No changes noted on sketch or dashboard. (Email from Scott D. 5/6/02 Corps of engineers may cut trees, one cherry tree they won't cut down in DW quadrant of sketch. Phone Log 12/17/99. Corps won't cut cherry tree, reembrace angle, perhaps move collector for rear area move)

Comments:  Reviewed and agree with sketch  Reviewed and corrected sketch

Followup Notes: Sent acknowledgement letter (record 93)

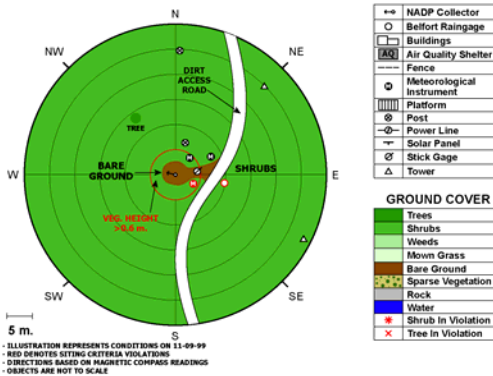
Violations Before Mailing:  5 meter  Vegetation  Fence  45 deg  Other  None

Violations After Response:  5 meter  Vegetation  Fence  45 deg  Other  None  Violations reduced because of mailing?

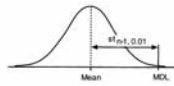
## Notifying Data Users of Sites Deviating from NADP Siting Criteria

- Motion passed during NOS meeting at 2002 Subcommittee Meeting
- Database under development
  - Possible inconsistencies noted in data from repeat site visits
  - Will verify data with site photographs, plan views, and other site records
  - Will review data on site-by-site basis as it comes available from 2002 round of ATS audits
  - Information verified with site operators & supervisors

## Plan View of NTN Site - XXXX



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## Data Minimum Reporting Levels

- Evaluation of data Minimum Reporting Levels (MRL) for chemical concentrations
  - MRL defines the smallest measured concentration of a particular compound that can be reliably reported using a given analytical method
- Include variability due to field operations?
- Poster Presentation / DMAS meeting

## Data System Audits

- CAL data system audited in 1999
- Evaluate laboratory data systems
  - Field sample report forms
  - Data provided to Program Office
  - Data released to public on NADP web site
- Discussed further at DMAS meeting

## NADP QA Web Page

A screenshot of a web browser window showing the NADP QA web page. The browser title is 'Quality Assurance Support for the NADP/NTN - Microsoft Internet Explorer'. The address bar shows 'http://nadp.sws.uiuc.edu/qa.htm'. The page content includes a navigation menu with 'Home', 'About Us', 'Data', 'QA', 'Sponsors', 'Overview', and 'Contacts'. The main heading is 'National Atmospheric Deposition Program' followed by 'Quality Assurance Support for the NADP'. A 'Background:' section follows, containing text about the low concentrations of dissolved substances in precipitation and the need for quality assurance and quality control procedures.

## NADP QA Web Page

- <http://nadp.sws.uiuc.edu/QA>
- QA/QC issues data users should be aware of
- QA/QC documentation
- QA reports
- Links to external QA activities (USGS/EPA)
- Other QA information