

## **NHEXAS PHASE I REGION 5 STUDY**

### **List of Available Documents: Protocols and Sops**

**1. QUALITY SYSTEMS AND IMPLEMENTATION PLAN**

<b>SOP Number</b>	<b>Entry ID</b>	<b>Title and Author</b>
RTI/5740/02-02QSIP	18440	"Quality Systems and Implementation Plan for Human Exposure Assessment Study," Research Triangle Institute, and Environmental and Occupational Health Sciences Institute, E. Pellizzari, Principal Investigator, May 1995.

**2. SAMPLE COLLECTION AND FIELD OPERATIONS PROTOCOLS AND SOPS**

<b>SOP Number</b>	<b>Entry ID</b>	<b>Title and Author</b>
RTI/ACS-AP-209-001	16860	"Procedure for Collection, Storage, and Shipment of Standing Tap Water Samples for Metals By EPA Method 200.8," Research Triangle Institute, M. Roberds and K. Thomas, June 1994.
RTI/ACS-AP-209-002	16879	"Procedure for Collection, Storage, and Shipment of Flush and Drinking Water or Drinking Water Samples for Metals by EPA Method 200.8," Research Triangle Institute, M. Roberds and K. Thomas, June 1994.
RTI/ACS-AP-209-003	16880	"Procedure for Collection, Storage, and Shipment of Drinking Water Samples for VOCs by EPA Method 524.2," Research Triangle Institute, M. Roberds and K. Thomas, June 1994.
RTI/ACS-AP-209-010	16882	"Personal, Indoor and Outdoor Air Sampling Procedures for Total Inspirable and PM10 Aerosols," Research Triangle Institute, C. Rodes, June 1994.
RTI/ACS-AP-209-011	16899	"NHEXAS Filter Handling, Weighing and Archiving Procedures for Aerosol Samples," Research Triangle Institute, C. Rodes, June 1994.
RTI/ACS-AP-209-012	16919	"Procedure for Collection, Storage, and Shipment of Samples for Volatile Organic Compounds in Personal, Indoor, Outdoor, and Occupational Air" Research Triangle Institute, K. Thomas, June 1994.
EOHSI-AP-209-020	16921	"Dust Sampling Workplan," Environmental and Occupational Health Sciences Institute, T. Wainman, June 1994.
EOHSI-AP-209-021	17948	"Soil/Street Sampling Workplan," Environmental and Occupational Health Sciences Institute, T. Wainman, June 1994.

<b>SOP Number</b>	<b>Entry ID</b>	<b>Title and Author</b>
RTI/ACS-AP-209-030	16959	"Procedure for Collection, Storage, and Shipment of Duplicate Diet Food and Beverage Samples," Research Triangle Institute, K. Thomas, June 1994.
EOHSI-AP-209-040	16979	"Human Biological Markers: Sample Collection and Analyses," Environmental and Occupational Health Sciences Institute, J. Waldman and Kent Thomas, June 1994.
RTI/ACS-AP-209-046	17019	"Procedure for Collection, Storage, and Shipment of Hair Samples for Trace Metals," Research Triangle Institute, K. Thomas, June 1994.
RTI/ACS-AP-209-070	17079	"Sample Coding, Labeling, and Tracking Procedures," Research Triangle Institute, K. Thomas, June 1994.
RTI/ACS-AP-209-071	17080	"Sample Custody Procedures," Research Triangle Institute, K. Thomas, June 1994.
RTI/ACS-AP-209-080	17099	"NHEXAS Pilot Field Study Scripting and Logistics," Research Triangle Institute, Kent Thomas, June 1994.
RTI/ACS-AP-209-081	17119	"Field Sample Storage Procedures," Research Triangle Institute, Kent Thomas, June 1994.
RTI/ACS-AP-209-082	17120	"Procedures for Field Checks of Equipment," Research Triangle Institute, Kent Thomas and Charles Rodes, work in progress.
RTI/ACS-AP-209-083	17139	"Sample Shipping Procedures," Research Triangle Institute, Kent Thomas, June 1994.
RTI/ACS-AP-209-084	17159	"Field Vehicle Operations and Maintenance Procedures," Research Triangle Institute, Kent Thomas, work in progress.
RTI/ACS-AP-209-085	17160	"Field Staff Safety and Decorum," Research Triangle Institute, Kent Thomas.
RTI/ACS-AP-209-086	17161	"Field Use of the Sample Collection and Custody Software," Research Triangle Institute, Kent Thomas, June 1994.
RTI/ACS-AP-209-087	17179	"Comprehensive Approach to Participant Training and Minimization of Burden," Research Triangle Institute, Kent Thomas and Harvey Zelon.
RTI/ACS-AP-209-090	17180	"Handling Quality Control Samples in the Field," Research Triangle Institute, Kent Thomas, June 1994.
RTI/ACS-AP-209-095	17181	"Field Staff Training," Research Triangle Institute, Kent Thomas, work in progress.

<b>SOP Number</b>	<b>Entry ID</b>	<b>Title and Author</b>
NHX-SOP-190-002	16859	"Standard Operating Procedure for Handling Human Blood and Other Body Fluids," Research Triangle Institute, C. Sparacino, May 1991.

### **3. SAMPLE ANALYSIS PROTOCOLS AND SOPS**

<b>SOP Number</b>	<b>Entry ID</b>	<b>Title and Author</b>
RTI/ACS-AP-209-111	17182	"Analysis of Teflon Filters Used in Personal Air Monitoring Samplers for Lead, Arsenic, Cadmium, and Chromium," Research Triangle Institute, R. Fernando, June 1994.
NHX-SOP-171-005	16820	"Standard Operating Procedure for the Calibration of Perkin Elmer (PE) Model 5100 ZL Atomic Absorption Spectrometer: Graphite Furnace," Research Triangle Institute, M. Lang, Revision 0, February 1992.
NHX-SOP-171-006	16839	"Standard Operating Procedure for Maintenance of Perkin Elmer (PE) Model ZL5100 PC Atomic Absorption Spectrometer, Research Triangle Institute, M. Lang, Revision 0, January 1992.
RTI/ACS-AP-209-112	17183	"Analysis of Volatile Organic Compounds from charcoal Badges by Gas Chromatography/Mass Spectrometry," Research Triangle Institute, J. Keever, June 1994.
NHX-SOP-184-001	16840	"Standard Operating Procedure for Maintenance of the Hewlett-Packard 5988A GC/MS System," Research Triangle Institute, J. Keever, October 1990.
NHX-SOP-184-002	16841	"Standard Operating Procedure for Tuning of the HP-5988A Mass Spectrometer," Research Triangle Institute, J. Keever, October 1990.
EOHSI-AP-209-120	17184	"Analysis of Dust and Soil for Lead, Cadmium, and Chromium" Environmental and Occupational Health Sciences Institute, B. Buckley, March 1994.
RTI/ACS-AP-209-121	17185	"Analysis of Wipes Used in Liroy-Wiesel Surface Samplers for Arsenic," Research Triangle Institute, R. Fernando, June 1994.
RTI/ACS-AP-209-122	17186	"Analysis of Carpet Dust for Arsenic," Research Triangle Institute, R. Fernando, March 1994.
RTI/ACS-AP-209-123	17187	"Analysis of Soil Samples for Arsenic," Research Triangle Institute, R. Fernando, March 1994.

<b>SOP Number</b>	<b>Entry ID</b>	<b>Title and Author</b>
EPA Compendium	17360	"Compendium of Methods for Analysis of Metals and VOCs in Water," U.S. Environmental Protection Agency, Environmental Monitoring Systems Laboratory, 1991-1994.
FDA Compendium	17361	"Compendium of Methods for Analysis of Trace Metals in Dietary Samples Using Total Diet Study Procedures," Food and Drug Administration, Total Diet Study Laboratory, November 1993.
CDC Compendium	17322	"Compendium of Method Summaries for Collection and Analysis of Metals and VOCs in Blood and Urine," Centers for Disease Control, National Center for Environmental Health, Division of Environmental Health Laboratory Sciences, July 1993.

#### **4. SOPs FOR RTI TRACE METALS FACILITY**

<b>SOP Number</b>	<b>Entry ID</b>	<b>Title and Author</b>
NHX/SOP-300-001	17279	"Standard Operating Procedure for Operation of PS Analytical Hydride Generation Atomic Fluorescence Spectrometer (HGAF)," Research Triangle Institute, R. Fernando, June 1994.
NHX/SOP-300-002	17280	"Standard Operating Procedure for Safety in the ACS Inorganic Clean Lab Facility," Research Triangle Institute, R. Fernando, June 1994.
NHX/SOP-300-003	17281	"Standard Operating Procedure for Purification of Reagents in the ACS Inorganic Clean Lab Facility for Trace/Ultratrace Metal Analysis," Research Triangle Institute, R. Fernando, June 1994.
NHX/SOP-300-004	17282	"Standard Operating Procedure for Monitoring and Maintenance of the Cleanliness of the ACS Inorganic Clean Lab Facility," Research Triangle Institute, R. Fernando, June 1994.
NHX/SOP-300-005	17283	"Standard Operating Procedure for the Maintenance of PSA (Excalibur) Hydride Generation-Atomic Fluorescence Spectrometer (HG-AFS)," Research Triangle Institute, R. Fernando, June 1994.
NHX/SOP-300-006	17284	"Standard Operating Procedure for the ACS Inorganic Class 100/10,000 Clean Lab Facility," Research Triangle Institute, M. Lang, June 1994.

<b>SOP Number</b>	<b>Entry ID</b>	<b>Title and Author</b>
NHX/SOP-300-007	17285	"Standard Operating Procedure for Cleaning Labware in the ACS Inorganic Class 100/10,000 Clean Lab Facility," Research Triangle Institute, M. Lang, June 1994.
NHX/SOP-300-008	17286	"Standard Operating Procedure for the Mettler AT 261 Analytical Balance," Research Triangle Institute, R. Fernando, June 1994.
NHX/SOP-300-009	17287	"Standard Operating Procedure for the Hydro 'Picosystem® Plus' Ultrapure Water System," Research Triangle Institute, R. Fernando, June 1994.

## 5. GENERAL LABORATORY SOPS

<b>SOP Number</b>	<b>Entry ID</b>	<b>Title and Author</b>
NHX-SOP-120-001	16679	"Standard Operating Procedure for Proper Use and Maintenance of Laboratory Notebooks," Research Triangle Institute, R. Handy and G. McNeill, Revision 2, August 1990.
NHX-SOP-120-002	16680	"Standard Operating Procedure for Proper Use and Maintenance of Instrument Log Notebooks," Research Triangle Institute, D. Smith, Revision 1, September 1990.
NHX-SOP-120-003	16699	"Standard Operating Procedure for Proper Use and Maintenance of Chemical Log Notebooks," Research Triangle Institute, D. Smith, Revision 1, August 1990.
NHX-SOP-150-001	16719	"Standard Operating Procedure for Cleaning Glassware/Plasticware," Research Triangle Institute, R. Handy, Revision 1, August 1990.
NHX-SOP-160-001	16739	"Standard Operating Procedure for Calibration of a Mettler PL1200 Balance," Research Triangle Institute, D. Smith, Revision 2, August 1990.
NHX-SOP-160-002	16740	"Standard Operating Procedure for Calibration of a Mettler M5 Analytical Balance," Research Triangle Institute, D. Smith, Revision 2, August 1990.
NHX-SOP-160-005	16741	"Standard Operating Procedure for Cahn 29 Electrobalance," Research Triangle Institute, G. McNeill and R. Reges, Revision 2, October 1992.

<b>SOP Number</b>	<b>Entry ID</b>	<b>Title and Author</b>
NHX-SOP-160-008	16759	"Standard Operating Procedure for Mettler AE 163 and AE 240 Electronic Balance," Research Triangle Institute, C. Sparacino, Revision 1, May 1992.
NHX-SOP-160-009	16779	"Standard Operating Procedure for Mettler AE 160 Electronic Balance," Research Triangle Institute, C. Sparacino, November 1990.
NHX-SOP-163-001	16799	"Refrigerators and Freezers," Research Triangle Institute, C. Sparacino, November 1990.
NHX-SOP-163-003	16819	"Standard Operating Procedure for Drying Ovens," Research Triangle Institute, C. Sparacino, November 1990.

## **6. QUALITY ASSURANCE SOPS**

<b>SOP Number</b>	<b>Entry ID</b>	<b>Title and Author</b>
NHX-SOP-100-001	16599	"Standard Operating Procedure for Preparation of a Standard Operating Procedure," Research Triangle Institute, D. Smith, June 1994.
NHX-SOP-100-002	16600	"Standard Operating Procedure for Revising Standard Operating Procedures," Research Triangle Institute, D. Smith, June 1994.
NHX-SOP-100-003	16601	"Standard Operating Procedure for Preparation of a Protocol," Research Triangle Institute, D. Smith, June 1994.
NHX-SOP-110-002	16619	"Standard Operating Procedure for RTI/EOHSI Quality Assurance Officer," Research Triangle Institute, D. Smith, June 1994.
NHX-SOP-810-002	17299	"Standard Operating Procedure for Preparation and Handling of Performance Evaluation Samples," Research Triangle Institute, D. Smith, June 1994.
NHX-SOP-815-001	17301	"Standard Operating Procedure for Conducting Systems Audits," Research Triangle Institute, D. Smith, June 1994.
NHX-SOP-815-002	17300	"Standard Operating Procedure for Conducting Laboratory Notebook Inspections," Research Triangle Institute, D. Smith, Revision 1, August, 1990.

<b>SOP Number</b>	<b>Entry ID</b>	<b>Title and Author</b>
NHX-SOP-815-003	17319	"Standard Operating Procedure for Conducting Instrument Log Notebook Inspections," Research Triangle Institute, D. Smith, Revision 1, August 1990.
NHX-SOP-815-004	17320	"Training File Inspections," Research Triangle Institute, D. Smith, June 1994.
NHX-SOP-820-001	17321	"Standard Operating Procedure for Certification of Standard Weights," Research Triangle Institute, G. McNeill, September 1993.

## **7. SURVEY OPERATIONS PROCEDURES**

<b>SOP Number</b>	<b>Entry ID</b>	<b>Title and Author</b>
EOHSI-AP-209-300	17197	"NHEXAS Time/Activity Diary Collection Protocol," Environmental and Occupational Health Sciences Institute, N. Freeman, July 1994.
EOHSI-AP-209-301	17198	"NHEXAS Time/Activity Diary Processing and Analysis Protocol," Environmental and Occupational Health Sciences Institute, N. Freeman, July 1994.

## **8. DATABASE MANAGEMENT**

<b>SOP Number</b>	<b>Entry ID</b>	<b>Title and Author</b>
RTI/ACS-AP-209-400	17262	"Procedure for Receipt, Processing, and Assembly of Analytical Results and Questionnaire Data into a Database," Research Triangle Institute, L.C. Michael, June 1994.

## **9. DATA ANALYSIS**

<b>SOP Number</b>	<b>Entry ID</b>	<b>Title and Author</b>
EOHSI-AP-209-600	17939	"Exposure and Dose Assessment Modeling and Evaluation," Environmental and Occupational Health Sciences Institute, P. Georgopoulos, March 1994.