

The Arizona Border Study

*An Extension of the
Arizona National Human Exposure Assessment Survey (NHEXAS) Study
Sponsored by the Environmental Health Workgroup of the Border XXI Program*

Quality Systems and Implementation Plan for Human Exposure Assessment

The University of Arizona
Tucson, Arizona 85721

Cooperative Agreement CR 824719

Standard Operating Procedure

SOP-UA-D-37.0

Title: Coding: Field Forms

Source: The University of Arizona

U.S. Environmental Protection Agency
Office of Research and Development
Human Exposure & Atmospheric Sciences Division
Exposure & Dose Research Branch

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NHEXAS Arizona Project

Title: CODING: FIELD FORMS

Document No. UA-D-37.0

APPROVALS

☒ Full SOP ^{ESG 7.10.97} ☒ Working SOP #pages ¹⁷ ₂

On Site Principal Investigator:

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Project QA Director:

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1 2 3 4 5 6

Coding: Field Forms

1.0 Purpose and Applicability

This procedure defines the coding strategy for selected field forms. Forms addressed here will be scanned into databases; databases are created because the forms contain critical values needed to calculate pollutant concentrations. Other forms not addressed by this protocol are records of collection and accompany the sample to the lab where it will be analyzed. Such forms will be copied prior to shipment and filed as a reference copy at the HRP site. These data will not be entered into databases and are not included here. All these forms were developed for use by NHEXAS, the Border Study and other Health and Environment projects. These forms are located in Figures 1 through 7.

2.0 Definitions

- 2.1 **BORDER STUDY** : An alias for "Total Human Exposure Arizona: A comparison of the border communities and the state" conducted in Arizona by the University of Arizona/Battelle/Illinois Institute of Technology consortium.
- 2.2 **CODE, GLOBAL**: A set of standard codes used in data within the project designating the status of a data field in three cases: datum refused, datum non-applicable, and datum missing.
- 2.3 **HEALTH AND ENVIRONMENT PROJECTS (or H & E)** : An umbrella title for all projects funded to M. D. Lebowitz and/or M.K. O'Rourke (or their designees) which examine purported or real relationships among environmental factors and any aspect of human health.
- 2.4 **HRP SITE**: The **H**ealth **R**elated **P**rofessions building, located at 1435 North Fremont Avenue; Tucson, AZ 85719. This is an annex of the Arizona Prevention Center and the primary site of NHEXAS Arizona.
- 2.5 **NHEXAS Arizona**: Acronym for National **H**uman **E**Xposure **A**ssessment **S**urvey, a research project conducted in Arizona by the University of Arizona/Battelle/Illinois Institute of Technology Consortium.

3.0 References

Teleform 5.0, Copyright 1991-1996 by Cardiff Software, Inc., San Marcos, CA.

4.0 Discussion

These field forms are all scanable. They were developed as primary data forms using the Teleform program package. This package has a dictionary feature and a feature that prints out the characteristics of each created form.

The overall coding scheme will follow SOP# UA-D-31.x: Global Coding for Scanned Forms. The data will be re-coded according to EPA's coding scheme when it is ready to be submitted to EPA.

The current Field Forms and a description of all fields and variables are presented in the attached Figures (1-7). Each figure contains the entire form.

Field Forms that are not scanned and accompany the samples include those for dermal samples, passive and active VOCs, water, food, beverage, blood and urine. A copy of the field form and chain of custody form will be retained and filed at the HRP site. Copies of the chain of custody forms will be mailed to EPA Cincinnati at the time of sample shipment.

Special Coding lists will be developed as needed to accommodate unanticipated responses. Such coding lists will be attached to each of the specified appendices as generated. At this time no special coding lists are needed.

5.0 Responsibilities

The Project Data Coordinator is responsible for creating the forms, defining the databases and writing the coding instructions for the Field forms.

6.0 Materials and Reagents

- 6.1 Codes are to be written with a black felt tip pen only.
- 6.2 Questionnaires are put into a batch once they are coded and recorded on the Batch Description and Custody Recorded.
- 6.3 Those coding lists that are not in the Coding Lists notebook can be found on line in the /rsc53/TrackNHEXAZ/codes/ directory.
- 6.4 Networked Computer Workstation that can access FoxPro.
- 6.5 Microsoft FoxPro Professional Edition version 2.6, Copyright 1989-1993 Microsoft Corporation.
- 6.6 Coding Program v1.0, developed in-house using FoxPro 2.6.

7.0 Procedural Steps for Coding of Field Forms

7.1 Criteria for Using Field-Dependent Global Codes

7.1.1 When to Code Data Field as Refused (Code = 055)

- (a) Subject has crossed out question or field technician has indicated that subject refused the question.
- (b) Other source(s) indicate(s) that the question, physical form, or questionnaire was refused.

7.1.2 When to Code Data Field as Non-Applicable (Code = 088)

- (a) Field technician has written "N/A" on the question, physical form, or questionnaire.
- (b) Sample cannot be taken due to the subject's particular situation. For example, no street name exists for a residence.

7.1.3 When to Code Data Field as Missing (Code = 099)

- (a) The sampler, questionnaire, or datum should have been taken, administered, or gathered according to the standard operating procedure, but was not.
- (b) The sampler or questionnaire was lost prior to data entry.
- (c) The sampling technique or question was determined to be irrevocably flawed.

7.2 Alpha-Numeric Fields

In all cases, the entire field on data entry screen is filled with X 's for refused, Y 's for non-applicable, or Z 's for missing.

7.3 Quality Control

The Project Data Coordinator ensures global coding consistency throughout all project working databases through the quality assurance checks outlined in SOP# UA-D-26.x.

7.4 Corrective Actions

Any discovered inconsistencies in global coding will be addressed and resolved by the Project Data Coordinator.

- 7.5 For coding lists that are computerized.
At this time no coding lists are needed.

8.0 Records

Include:

Figure 1. Floor Dust.

Figure 2. Soil Sampling.

Figure 3. P.I. D. Sampling (Photo-ionization Detector).

Figure 4. Sentinel Sampling Data Sheet.

Figure 5. PM Sampling (includes the URG).

Figure 6. Personal Air Sampling (includes Metals & Pesticides).

Figure 7. Surface Sampling.

Figure 1. Floor Dust.

Hermes study stage 3

FLOOR DUST SAMPLING

Form Type: 105	Study: <input type="radio"/> 1. NHXAS <input type="radio"/> 2. Border <input type="radio"/> 3. _____ <input type="radio"/> 4. _____ <input type="radio"/> 5. _____	Stage # 3	Collected By: <u>Tech ID</u> Init. _____	Tech ID _____ Init. _____	HHID <u>HHID</u>	F.S. <input type="checkbox"/>	Visit <input type="checkbox"/>
FORM UA-F-7.0-1.0		Collapsed? Y <input type="checkbox"/> N <input type="checkbox"/> 8 <input type="checkbox"/>	QC r By: <u>Qechk</u> Init. _____		Sampling Date <u>HHIDFS</u> MO <u>Evnt</u> DAY <u>date</u> YR _____		QC: <u>r</u> []

1. Vacuum ID: <u>Vac-ID</u>	3. Sample ID#: <u>71</u> <u>sampled</u>	QC r []
2. Vacuum Inlet: <u>Vac inlet</u>	4. QA Blank / Spike ID#: <u>71</u> <u>sampled</u> or N/A []	<u>Blank-ID</u>

ITEM	Loc. 1	Loc. 2	Loc. 3	Loc. 4	QC: <u>r</u>
Room	<u>Room 1</u>	<u>Room 2</u>	<u>Room 3</u>	<u>Room 4</u>	[]
RH%	<u>Rh1</u> %	<u>Rh2</u> %	<u>Rh3</u> %	<u>Rh4</u> %	[]
Dry Bulb	<u>Drybulb1</u> °C <u>TW15-1</u>	<u>Drybulb2</u> °C <u>TW15-2</u>	<u>Drybulb3</u> °C <u>TW15-3</u>	<u>Drybulb4</u> °C <u>TW15-4</u>	[]
Psy/Hyg ID	<u>Hyg1</u>	<u>Hyg2</u>	<u>Hyg3</u>	<u>Hyg4</u>	[]
Area Vacuumed	<u>Area vac 1</u> M ²	<u>Area vac 2</u> M ²	<u>Area vac 3</u> M ²	<u>Area vac 4</u> M ²	[]
Sample Time = 2 min/M ²	<u>Smptim1</u> Y <input type="checkbox"/> N <input type="checkbox"/> N/A <input type="checkbox"/>	<u>Smptim2</u> Y <input type="checkbox"/> N <input type="checkbox"/> N/A <input type="checkbox"/>	<u>Smptim3</u> Y <input type="checkbox"/> N <input type="checkbox"/> N/A <input type="checkbox"/>	<u>Smptim4</u> Y <input type="checkbox"/> N <input type="checkbox"/> N/A <input type="checkbox"/>	[]
Major Floor Type Surface Sampled	<u>Floor 1</u>	<u>Floor 2</u>	<u>Floor 3</u>	<u>Floor 4</u>	[]
Major Corner Surface Sampled	<u>Corner 1</u>	<u>Corner 2</u>	<u>Corner 3</u>	<u>Corner 4</u>	[]
Comments	<u>Loc 1 - com</u>	<u>Loc 2 - com</u>	<u>Loc 3 - com</u>	<u>Loc 4 - com</u>	[]
Total Area Vacuumed to Produce Sample	<u>Tot Area</u> M ²				Comments: _____ []

Formstat Office Use Only

Form Status: <input type="radio"/> 1. Cmp <input type="radio"/> 2. N Cmp <input type="radio"/> 3. P Cmp <input type="radio"/> 4. Re-col <input type="radio"/> 5. Ref <input type="radio"/> 7. Dest <input type="radio"/> 8. N/A <input type="radio"/> 9. Miss	QC: <u>QCBY</u> Init. <u>QABY</u>	MO <u>QDATE</u> DAY <u>QDATE</u> YR <u>QDATE</u>	DE: <u>DEBY</u> Init. <u>DEBY</u>	MO <u>DEDATE</u> DAY <u>DEDATE</u> YR <u>DEDATE</u>	DP Batch: <u>JPBATCH</u>	QXV: <u>FFLO1</u>
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Chain of custody initiated (sig.): _____

Consigned to packet on []: ____/____/____

Box UA G4-2.0

54911



Figure 2. Soil Sampling.

Hemnum Study

SOIL SAMPLING

Form Type: 104	Study: <input type="radio"/> 1. NHXAS <input type="radio"/> 2. Border <input type="radio"/> 3. _____ <input type="radio"/> 4. _____ <input type="radio"/> 5. _____	Stage Stage # <input type="text"/> Collapse Collapsed? <input type="text"/> Y <input type="radio"/> N <input type="radio"/> 8 <input type="radio"/>	Team Leader: <u>Tech ID</u> Init. <input type="text"/> Collected by: <u>Colby</u> Init. <input type="text"/>	Tech ID <input type="text"/>	HHID <u>HHID</u> <input type="text"/> Sample Date <u>HHIDFS</u> MO <input type="text"/> DAY <input type="text"/> YR <input type="text"/> QC: <u>r</u> <input type="text"/>
--------------------------	---	---	--	------------------------------	---

1. Collection Start Time: : St-time 2. Collection Stop Time: : End-time QC: r

Site #	Foundation Soil	qc:r	Comments	Yard Soil	qc:r	Comments
1	Found 1 <input type="radio"/> Y <input type="radio"/> N <input type="radio"/> N/A	<input type="text"/>	Fdcmnt1 <input type="text"/>	Yard 1 <input type="radio"/> Y <input type="radio"/> N <input type="radio"/> N/A	<input type="text"/>	Ydcmnt1 <input type="text"/>
2	Found 2 <input type="radio"/> Y <input type="radio"/> N <input type="radio"/> N/A	<input type="text"/>	Fdcmnt2 <input type="text"/>	Yard 2 <input type="radio"/> Y <input type="radio"/> N <input type="radio"/> N/A	<input type="text"/>	Ydcmnt2 <input type="text"/>
3	Found 3 <input type="radio"/> Y <input type="radio"/> N <input type="radio"/> N/A	<input type="text"/>	Fdcmnt3 <input type="text"/>	Yard 3 <input type="radio"/> Y <input type="radio"/> N <input type="radio"/> N/A	<input type="text"/>	Ydcmnt3 <input type="text"/>
4	Found 4 <input type="radio"/> Y <input type="radio"/> N <input type="radio"/> N/A	<input type="text"/>	Fdcmnt4 <input type="text"/>	Yard 4 <input type="radio"/> Y <input type="radio"/> N <input type="radio"/> N/A	<input type="text"/>	Ydcmnt4 <input type="text"/>
5	Found 5 <input type="radio"/> Y <input type="radio"/> N <input type="radio"/> N/A	<input type="text"/>	Fdcmnt5 <input type="text"/>	Yard 5 <input type="radio"/> Y <input type="radio"/> N <input type="radio"/> N/A	<input type="text"/>	Ydcmnt5 <input type="text"/>
6	Found 6 <input type="radio"/> Y <input type="radio"/> N <input type="radio"/> N/A	<input type="text"/>	Fdcmnt6 <input type="text"/>	Yard 6 <input type="radio"/> Y <input type="radio"/> N <input type="radio"/> N/A	<input type="text"/>	Ydcmnt6 <input type="text"/>
7	Found 7 <input type="radio"/> Y <input type="radio"/> N <input type="radio"/> N/A	<input type="text"/>	Fdcmnt7 <input type="text"/>	Yard 7 <input type="radio"/> Y <input type="radio"/> N <input type="radio"/> N/A	<input type="text"/>	Ydcmnt7 <input type="text"/>
8	Found 8 <input type="radio"/> Y <input type="radio"/> N <input type="radio"/> N/A	<input type="text"/>	Fdcmnt8 <input type="text"/>	Yard 8 <input type="radio"/> Y <input type="radio"/> N <input type="radio"/> N/A	<input type="text"/>	Ydcmnt8 <input type="text"/>
9	Found 9 <input type="radio"/> Y <input type="radio"/> N <input type="radio"/> N/A	<input type="text"/>	Fdcmnt9 <input type="text"/>	Yard 9 <input type="radio"/> Y <input type="radio"/> N <input type="radio"/> N/A	<input type="text"/>	Ydcmnt9 <input type="text"/>
10	Found 10 <input type="radio"/> Y <input type="radio"/> N <input type="radio"/> N/A	<input type="text"/>	Fdcmnt10 <input type="text"/>	Yard 10 <input type="radio"/> Y <input type="radio"/> N <input type="radio"/> N/A	<input type="text"/>	Ydcmnt10 <input type="text"/>

3. Foundation Soil Sample ID: 53 FdsampleID qc:r

4. Yard Soil Sample ID: 51 YdsampleID qc:r

QC By: Qechk Tech ID
 Init.

Comments:

Data Use Only:	0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F	G	H	I	J
	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>



Figure 2 (Continued). Soil Sampling.

PAGE 2
Soil Sampling


Thin Film

5. Thin Film Loc.: ☐ 1. curb ☐ 2. drive ☐ 3. mailbox ☐ 4. outer window sill ☐ N/A (def.)

6. Thin Film ID#: 59 TFsampleID

QC: ☒ []

Provide a rough birds-eye view of the residence and yards. Indicate sample sites by site #.



N

QC: ☒ []

Formstat

Office Use Only

Form Status: <input type="radio"/> 1.Cmp <input type="radio"/> 2.N Cmp <input type="radio"/> 3.P Cmp <input type="radio"/> 4.Re-col <input type="radio"/> 5.Ref <input type="radio"/> 7.Dest <input type="radio"/> 8.N/A <input type="radio"/> 9.Miss	QC: QCBY	Tech. ID	MO	DAY	YR	DE: DEBY	Tech. ID	MO	DAY	YR
	QA: QADY	<div style="border: 1px solid black; width: 40px; height: 20px;"></div>	<div style="border: 1px solid black; width: 40px; height: 20px;"></div>	<div style="border: 1px solid black; width: 40px; height: 20px;"></div>	<div style="border: 1px solid black; width: 40px; height: 20px;"></div>	<div style="border: 1px solid black; width: 40px; height: 20px;"></div>	<div style="border: 1px solid black; width: 40px; height: 20px;"></div>	<div style="border: 1px solid black; width: 40px; height: 20px;"></div>	<div style="border: 1px solid black; width: 40px; height: 20px;"></div>	<div style="border: 1px solid black; width: 40px; height: 20px;"></div>
	Init.	<div style="border: 1px solid black; width: 40px; height: 20px;"></div>	<div style="border: 1px solid black; width: 40px; height: 20px;"></div>	<div style="border: 1px solid black; width: 40px; height: 20px;"></div>	<div style="border: 1px solid black; width: 40px; height: 20px;"></div>	<div style="border: 1px solid black; width: 40px; height: 20px;"></div>	<div style="border: 1px solid black; width: 40px; height: 20px;"></div>	<div style="border: 1px solid black; width: 40px; height: 20px;"></div>	<div style="border: 1px solid black; width: 40px; height: 20px;"></div>	<div style="border: 1px solid black; width: 40px; height: 20px;"></div>
	DP Batch: DPBATH	<div style="border: 1px solid black; width: 40px; height: 20px;"></div>	<div style="border: 1px solid black; width: 40px; height: 20px;"></div>	<div style="border: 1px solid black; width: 40px; height: 20px;"></div>	<div style="border: 1px solid black; width: 40px; height: 20px;"></div>	<div style="border: 1px solid black; width: 40px; height: 20px;"></div>	QXV: QXV	<div style="border: 1px solid black; width: 40px; height: 20px;"></div>	<div style="border: 1px solid black; width: 40px; height: 20px;"></div>	<div style="border: 1px solid black; width: 40px; height: 20px;"></div>

Chain of custody initiated (sig.): _____

Consigned to packet on: [] ____/____/____ Box UA G4-2.0

Comments: _____



Figure 3. P.I. D. Sampling (Photo-ionization Detector).

[illegible]

Figure 3 (Continued). P. I. D. Sampling (Photo-ionization Detector).

.OC.	Sampling Sequence	ppm @ 1 foot	ppm \ 4-6	ppm @ >8 feet	In Field	Comments	Pod Field
Main		Main ppm 1	Main ppm 4	Main ppm 8	[]	Main cmnt	[]
Kitchen		Kit ppm 1	Kit ppm 4	Kit ppm 8	[]	Kit cmnt	[]
Master Bedroom		Mbed ppm 1	Mbed ppm 4	Mbed ppm 8	[]	Mbed cmnt	[]
Garage		Gar ppm 1	Gar ppm 4	Gar ppm 8	[]	Gar cmnt	[]
Storage Shed		Shed ppm 1	Shed ppm 4	Shed ppm 8	[]	Shed cmnt	[]
Other Location Codes	0th 1 ppm 1	0th 1 ppm 1	0th 1 ppm 4	0th 1 ppm 8	[]	0th 1 cmnt	[]
	0th 2 ppm 1	0th 2 ppm 1	0th 2 ppm 4	0th 2 ppm 8	[]	0th 2 cmnt	[]
	0th 3 ppm 1	0th 3 ppm 1	0th 3 ppm 4	0th 3 ppm 8	[]	0th 3 cmnt	[]
	0th 4 ppm 1	0th 4 ppm 1	0th 4 ppm 4	0th 4 ppm 8	[]	0th 4 cmnt	[]
Fireplace	Fire ppm 1	Fire ppm 1	N/A	N/A	[]	Fire cmnt	[]
N	N ppm 1	N ppm 1	N ppm 4	N ppm 8	[]	N cmnt	[]
S	S ppm 1	S ppm 1	S ppm 4	S ppm 8	[]	S cmnt	[]
E	E ppm 1	E ppm 1	E ppm 4	E ppm 8	[]	E cmnt	[]
W	W ppm 1	W ppm 1	W ppm 4	W ppm 8	[]	W cmnt	[]

PageLink QC: _____

Ind: _____

Data Use Only:

0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F	G	H	I	J

PAGE 2
P.I.D. Sampling

Figure 4. Sentinel Sampling Data Sheet.

SENTINEL SAMPLING

Form Type: <div style="border: 1px solid black; padding: 2px; display: inline-block;">107</div> Formnum FORM UA-F-10.0-1.0	Study: <input type="radio"/> 1. NHEXAS <input type="radio"/> 2. Border <input type="radio"/> 3. _____ <input type="radio"/> 4. _____ <input type="radio"/> 5. _____ <i>Study</i>	Stage Stage # <input type="checkbox"/> Collapsed? Y <input type="radio"/> N <input type="radio"/> 8 <i>collapse</i>	Team Leader: _____ Tech ID <input type="checkbox"/> Init. TECH ID _____	HHID <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> F.S. <input type="checkbox"/> Visit <input type="checkbox"/> Sampling Date <i>HHIDES VISIT</i> Event Date <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> MO DAY YR Set up QC: <input type="checkbox"/> <input type="checkbox"/> Take down QC: <input type="checkbox"/> <input type="checkbox"/>
--	--	---	--	---

1. Site Selection Criteria Met: ☐ Yes *Critmet* ☐ No ☐ N/A (def.)

2. Sentinel ID#: *Sent ID* ☐ ☐ ☐ ☐ ☐ ☐ Set up QC: ☐ ☐
Take down QC: ☐ ☐

If no, how and why: _____

3. Sample ID#: *Sample ID* ☐ ☐ ☐ ☐ ☐ ☐

ITEM	SET-UP	TEARDOWN	Set up QC:	Take down QC:
Date	<i>St-date</i> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> / <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> / <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> MO DAY YR	<i>End-date</i> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> / <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> / <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> MO DAY YR	<input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/>
Time	<i>St-time</i> <input type="checkbox"/> <input type="checkbox"/> : <input type="checkbox"/> <input type="checkbox"/> <i>St-time</i>	<i>End-time</i> <input type="checkbox"/> <input type="checkbox"/> : <input type="checkbox"/> <input type="checkbox"/> <i>End-time</i>	<input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/>
Temp.	<i>St-temp</i> <input type="radio"/> <i>St-tempun</i> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> °F <input type="radio"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> °F	<i>End-temp</i> <input type="radio"/> <i>End-tempun</i> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> °F <input type="radio"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> °F	<input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/>
RH %	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> % <i>St-Rh</i>	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> % <i>End-Rh</i>	<input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/>
PSY/HYG ID#	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <i>St-psy</i>	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <i>End-psy</i>	<input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/>
Flowmeter ID#	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <i>St-FWID</i>	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <i>EndFWID</i>	<input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/>
Flowmeter Cal. Date	<input type="checkbox"/> <input type="checkbox"/> / <i>St-Calib</i> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> / <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> MO DAY YR	<i>End-Calib</i> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> / <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> / <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> MO DAY YR	<input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/>
Flowmeter Accuracy	<input type="checkbox"/> <input type="checkbox"/> . <input type="checkbox"/> % <i>St-acc</i>	<input type="checkbox"/> <input type="checkbox"/> . <input type="checkbox"/> % <i>End-acc</i>	<input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/>
Flow Rate	<input type="checkbox"/> <input type="checkbox"/> . <input type="checkbox"/> <i>St-Flow</i> LPM	<input type="checkbox"/> <input type="checkbox"/> . <input type="checkbox"/> <i>End-Flow</i> LPM	<input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/>
T1 Timer	Start <i>St-T1</i> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> . <input type="checkbox"/>	Stop <i>End-T1</i> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> . <input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/>
Tech. ID:	Init. <i>St-tech 1</i> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	Init. <i>St-tech 2</i> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	Init. <i>Endtech 1</i> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	Init. <i>Endtech 2</i> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>

4. Sample Time = T1 Teardown _____ - T1 Setup _____ = *Tot-time* ☐ ☐ ☐ ☐ ☐ ☐ hour(s)

Data Use Only:	0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F	G	H	I	J
	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

21640

Figure 4 (Continued). Sentinel Sampling Data Sheet.

Format

Form Status:

- ☐ 1. Cmp
- ☐ 2. N Cmp
- ☐ 3. P Cmp
- ☐ 4. Re-col
- ☐ 5. Ref
- ☐ 7. Dest
- ☐ 8. N/A
- ☐ 9. Miss

Office Use Only

QC: ✓ []

Tech. ID **MO** **DAY** **YR**

QC: QCBY [] [] QDATE [] [] / [] []

Init. [] []

QA: QABY [] [] QDATE [] [] / [] []

Init. [] []

Tech. ID **MO** **DAY** **YR**

DE: DEBY [] [] DEDATE [] [] / [] []

Init. [] []

DP Batch: [] [] [] QXV: **FSEN1**

DPBATCH

Chain of custody initiated (sig.): _____

Consigned to packet on: [] ____ / ____ / ____ **Box UA G4-2.0**

PageLink QC:

Init: _____

Data Use Only:	0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F	G	H	I	J
	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

21640

Figure 5. PM Sampling (includes the URG).

PM SAMPLING

Itemnum

Form Type: <div style="border: 1px solid black; padding: 2px; display: inline-block;">102</div> FORM UA-F-3.0-1.0	Study: <input type="radio"/> 1. NHEXAS <input type="radio"/> 2. Border <input type="radio"/> 3. _____ <input type="radio"/> 4. _____ <input type="radio"/> 5. _____	Stage # <div style="border: 1px solid black; padding: 2px; display: inline-block;">stage</div> Collapsed? <input type="radio"/> <input type="radio"/> <input type="radio"/>	Team Leader: Init. _____ Tech ID <div style="border: 1px solid black; padding: 2px; display: inline-block;">Tech-ID</div>	HHID <div style="border: 1px solid black; padding: 2px; display: inline-block;">HHID</div> F.S. <input type="checkbox"/> Visit <input type="checkbox"/> Sampling Date <div style="border: 1px solid black; padding: 2px; display: inline-block;">Event date</div>	Set up QC: [] Take down QC: []
--	--	--	--	---	-------------------------------------

1. Sample Type: ☐ Real ☐ Replicate ☐ N/A *Sample type* Set up QC: []
 Take down QC: []

2. Site Criteria Met: ☐ Yes ☐ No ☐ N/A *Crit-met* If no, how and why: _____

3. Nearest Source = *Source* ft. Source Description: _____

4. PM Box Location: ☐ Indoors ☐ Outdoors ☐ N/A *Pmloc* 5. PM Box #: *Pmbox*

ITEM	START	STOP	Set up QC:	Take down QC:
Date	<i>Start date</i> MO DAY YR	<i>End date</i> MO DAY YR	[]	[]
Time	<i>Start time</i> : : MO DAY YR	<i>End time</i> : : MO DAY YR	[]	[]
Dial: Actual = Set	<input type="radio"/> Yes <input type="radio"/> No <input type="radio"/> N/A	<input type="radio"/> Yes <input type="radio"/> No <input type="radio"/> N/A	[]	[]
DVM ID #	<i>Start dvm</i>	<i>End dvm</i>	[]	[]
Flowmeter ID #	<i>Start flow</i>	<i>End flow</i>	[]	[]
Flowmeter Cal. Date	<i>Start cal</i> MO DAY YR	<i>End cal</i> MO DAY YR	[]	[]
Flowmeter Accuracy	<i>Start acc</i> %	<i>End acc</i> %	[]	[]
PSY/HYG ID#	<i>Start psy</i>	<i>End psy</i>	[]	[]
Temperature	<i>Start temp</i> °C °F <i>Start unit</i>	<i>End temp</i> °C °F <i>End unit</i>	[]	[]
RH%	<i>Start rh</i> %	<i>End rh</i> %	[]	[]

Comments: _____

Met. Sample ☐ Pest. Sample ☐ Blank Sample ☐

Met-com ☐ Pest-com ☐ BK-com ☐

36876

Data Use Only:	0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F	G	H	I	J
	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>



Figure 5 (Continued). PM Sampling (includes the URG).

PAGE 2
PM Sampling

ITEM	START	STOP	Set up QC:	Take down QC:
METALS				
Impactor ID #	<input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> Mstimp	<input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> Mstimp	<input type="checkbox"/>	<input type="checkbox"/>
Filter ID #	3 1 MstFilt	3 1 MstFilt	<input type="checkbox"/>	<input type="checkbox"/>
DVM: Actual = Set	+/- 5% <input type="radio"/> Y <input type="radio"/> N <input type="radio"/> N/A	+/- 10% <input type="radio"/> Y <input type="radio"/> N <input type="radio"/> N/A	<input type="checkbox"/>	<input type="checkbox"/>
Flow	<input type="text"/> <input type="text"/> <input type="text"/> MstFlow Lpm	<input type="text"/> <input type="text"/> <input type="text"/> MstFlow Lpm	<input type="checkbox"/>	<input type="checkbox"/>
PESTICIDES				
Impactor ID #	<input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> Pstimp	<input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> Pstimp	<input type="checkbox"/>	<input type="checkbox"/>
Filter/PUF ID #	3 2 PstFilt	3 2 PstFilt	<input type="checkbox"/>	<input type="checkbox"/>
DVM: Actual = Set	+/- 5% <input type="radio"/> Y <input type="radio"/> N <input type="radio"/> N/A	+/- 10% <input type="radio"/> Y <input type="radio"/> N <input type="radio"/> N/A	<input type="checkbox"/>	<input type="checkbox"/>
Flow	<input type="text"/> <input type="text"/> <input type="text"/> PstFlow Lpm	<input type="text"/> <input type="text"/> <input type="text"/> PstFlow Lpm	<input type="checkbox"/>	<input type="checkbox"/>
T1 Timer	T1start <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/>	T1end <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/>	<input type="checkbox"/>	<input type="checkbox"/>
T2 Timer	T2start <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/>	T2end <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/>	<input type="checkbox"/>	<input type="checkbox"/>
Tech. ID	Stech1 <input type="text"/> <input type="text"/> Stech2 <input type="text"/> <input type="text"/>	Endtech1 <input type="text"/> <input type="text"/> Endtech2 <input type="text"/> <input type="text"/>		
A). T1 Stop - T1 Start =	<input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/>	= Total Box Run Time	<input type="checkbox"/>	<input type="checkbox"/>
B). T2 Stop - T2 Start =	<input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/>	= Pesticide Sample Time	<input type="checkbox"/>	<input type="checkbox"/>
C). A - B =	<input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/>	= Metals Sample Time	<input type="checkbox"/>	<input type="checkbox"/>
Blank or Spike Assigned: <input type="radio"/> Yes <input type="radio"/> No <input type="radio"/> N/A Blank				
If yes: Impactor ID # <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> Blnkimp				
Filter ID # <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> BlnkFilt				
[] 25 microliter Vol. or [] N/A				

Formstat

Office Use Only

Form Status:	<input type="radio"/> 1. Cmp	Tech. ID	MO	DAY	YR	Tech. ID	MO	DAY	YR
	<input type="radio"/> 2. N Cmp	QC: QCBV	<input type="text"/>	<input type="text"/>	<input type="text"/>	DE: DEBY	<input type="text"/>	<input type="text"/>	<input type="text"/>
	<input type="radio"/> 3. P Cmp	Init.	<input type="text"/>	<input type="text"/>	<input type="text"/>	Init.	<input type="text"/>	<input type="text"/>	<input type="text"/>
	<input type="radio"/> 4. Re-col	QA: QABV	<input type="text"/>	<input type="text"/>	<input type="text"/>	DP Batch:	<input type="text"/>	QXY:	F P M A 1
<input type="radio"/> 5. Ref									
<input type="radio"/> 6. Dest									
<input type="radio"/> 7. N/A									
<input type="radio"/> 8. Miss									

Chain of custody initiated

Consigned to packet on []:

Box UA G4-2.0

Data Use Only:	0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F	G	H	I	J
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

36876

Figure 6. Personal Air Sampling (includes Metals & Pesticides).

PERSONAL AIR SAMPLING

Form Type: 108	Study: <input type="radio"/> 1. NHXAS <input type="radio"/> 2. Border <input type="radio"/> 3. _____ <input type="radio"/> 4. _____ <input type="radio"/> 5. _____ <i>Study</i>	Stage # <input type="text"/> <i>Stage</i> Collapsed? <input type="radio"/> Y <input type="radio"/> N <input type="radio"/> 8 <i>collapse</i>	Team Leader: Init. _____ Tech ID _____ <input type="text"/>	HHID <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> HHIDPS <i>HHID</i> IRN first name: _____	F.S. <input type="text"/>	IRN # <input type="text"/> <input type="text"/>	Visit <input type="text"/>
--------------------------	---	---	--	--	------------------------------	--	-------------------------------

FORM UA-F-14.0-1.0

1. Smoking home ☒ Yes ☐ No *N/A* If Yes, pump period = 360 min. If No, pump period = 480 min.

2. ☐ Metals or ☒ Pesticides *choice 13* *Sample type*

Item	Start	Stop	Set up QC:	Take down QC:
Date	<i>St date</i> <input type="text"/> <input type="text"/> / <input type="text"/> <input type="text"/> / <input type="text"/> <input type="text"/> MO DAY YR	<i>End date</i> <input type="text"/> <input type="text"/> / <input type="text"/> <input type="text"/> / <input type="text"/> <input type="text"/> MO DAY YR	[]	[]
Time	<i>St time</i> <input type="text"/> : <input type="text"/>	<i>End time</i> <input type="text"/> : <input type="text"/>	[]	[]
Pump ID#	<i>St pumpid</i> <input type="text"/> <input type="text"/> <input type="text"/>	<i>End pumpid</i> <input type="text"/> <input type="text"/> <input type="text"/>	[]	[]
Impactor ID#	<i>St-imp</i> <input type="text"/> <input type="text"/> <input type="text"/>	<i>End-imp</i> <input type="text"/> <input type="text"/> <input type="text"/>	[]	[]
Filter ID# or Filter/PUF ID#	<i>St-Filt</i> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/>	<i>End-Filt</i> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/>	[]	[]
Temperature	<i>St-temp</i> <i>St-pump</i> <input type="text"/> <input type="text"/> <input type="text"/> °C <input type="text"/> <input type="text"/> <input type="text"/> °F	<i>End-temp</i> <i>End-pump</i> <input type="text"/> <input type="text"/> <input type="text"/> °C <input type="text"/> <input type="text"/> <input type="text"/> °F	[]	[]
RH%	<i>St-RH</i> <input type="text"/> <input type="text"/> <input type="text"/> %	<i>End-RH</i> <input type="text"/> <input type="text"/> <input type="text"/> %	[]	[]
Flowmeter ID #	<i>St-Flwid</i> <input type="text"/> <input type="text"/> <input type="text"/>	<i>EndFlwid</i> <input type="text"/> <input type="text"/> <input type="text"/>	[]	[]
Flowmeter Cal. Date	<i>St-calib</i> <input type="text"/> <input type="text"/> / <input type="text"/> <input type="text"/> / <input type="text"/> <input type="text"/> MO DAY YR	<i>End-calib</i> <input type="text"/> <input type="text"/> / <input type="text"/> <input type="text"/> / <input type="text"/> <input type="text"/> MO DAY YR	[]	[]
Flowmeter Accuracy	<i>St-acc</i> <input type="text"/> <input type="text"/> . <input type="text"/> %	<i>End-acc</i> <input type="text"/> <input type="text"/> . <input type="text"/> %	[]	[]

Comments:

Real Samp. Rep. Samp. Blank Samp. Spike Samp.

Real-com Rep-com Blank-com Spike-com

Data Use Only:	0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F	G	H	I	J
	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

39409



Figure 6 (Continued). Personal Air Sampling (includes Metals & Pesticides).

PAGE 2
Personal Air Sampling

ITEM	Start	Stop	Set up QC:	Take down QC:
Flow	<input type="text"/> <input type="text"/> <input type="text"/> St-Flow Lpm	<input type="text"/> <input type="text"/> <input type="text"/> End-Flow Lpm	[]	[]
Cal. Time	<input type="text"/> <input type="text"/> <input type="text"/> St-ctime mins	<input type="text"/> <input type="text"/> <input type="text"/> End-ctime mins	[]	[]
Delayed Start	<input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> St-delay mins		[]	
Sample Period	<input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> St-samp mins	<input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> End-samp mins	[]	[]
Pump Period	<input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> St-pump mins	<input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> End-pump mins	[]	[]
Total Sample Time		<input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> Samptime mins		[]
Tech. ID	Tech ID St-tec1 <input type="text"/>	Tech ID St-tec2 <input type="text"/>	Tech ID End-tec1 <input type="text"/>	Tech ID End-tec2 <input type="text"/>
Replicate or N/A []				
Sample ID#	<input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> Rst-samp	<input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> Rend-samp	[]	[]
Impactor ID#	<input type="text"/> <input type="text"/> <input type="text"/> Rst-imp	<input type="text"/> <input type="text"/> <input type="text"/> Rend-imp	[]	[]
Flow	<input type="text"/> <input type="text"/> <input type="text"/> Rst-Flow Lpm	<input type="text"/> <input type="text"/> <input type="text"/> Rend-Flow Lpm	[]	[]
3. Blank Assigned? <input type="radio"/> Yes.... Continue <input type="radio"/> No..... Goto #4 Blank		4. Spike Assigned? <input type="radio"/> Yes..... Continue <input type="radio"/> No Stop spike		
Sample ID# <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> or N/A [] Blank-ID		Sample ID# <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> or N/A [] Spike-ID		
Impactor ID# <input type="text"/> <input type="text"/> <input type="text"/> or N/A [] Blank-imp		Impactor ID# <input type="text"/> <input type="text"/> <input type="text"/> or N/A [] Spike-imp		
		25 microliter Volume []		

Formstat

Office Use Only

Form Status: <input type="radio"/> 1. Cmp <input type="radio"/> 2. N Cmp <input type="radio"/> 3. P Cmp <input type="radio"/> 4. Re-cool <input type="radio"/> 5. Ref <input type="radio"/> 7. Dest <input type="radio"/> 8. N/A <input type="radio"/> 9. Miss	Tech. ID	MO	DAY	YR	Tech. ID	MO	DAY	YR
	QC: QCBY <input type="text"/>	QDATE <input type="text"/>	/	<input type="text"/>	DE: DEBY <input type="text"/>	DEDATE <input type="text"/>	/	<input type="text"/>
	QA: QABY <input type="text"/>	QDATE <input type="text"/>	/	<input type="text"/>	DP Batch: <input type="text"/>	QXV: FPER1		
					DPBATCH			

Chain of custody initiated (sig.): _____

Consigned to packet on []: ____/____/____

Box UA G4-2.0

Data Use Only:	0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F	G	H	I	J
	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

39409



PAGE 2
Surface
Sampling[illegible]