



National Human Exposure Assessment Survey (NHEXAS)

Arizona Study

Quality Systems and Implementation Plan for Human Exposure Assessment

The University of Arizona Tucson, Arizona 85721

Cooperative Agreement CR 821560

Standard Operating Procedure

SOP-UA-D-24.0

Title: Cleaning: Arizona Lab Data

Source: The University of Arizona

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

Notice: The U.S. Environmental Protection Agency (EPA), through its Office of Research and Development (ORD), partially funded and collaborated in the research described here. This protocol is part of the Quality Systems Implementation Plan (QSIP) that was reviewed by the EPA and approved for use in this demonstration/scoping study. Mention of trade names or commercial products does not constitute endorsement or recommendation by EPA for use.

Cleaning: Arizona Lab Data

1.0 Purpose and Applicability

The purpose of this procedure is to define the particular steps involved in cleaning the electronic data generated from data entry of the Arizona Lab Data forms. It applies to electronic data corresponding to the Arizona Lab Data Forms that were scanned and verified by the Data Staff for NHEXAS Arizona, the Border Study, or other Health and the Environment projects.

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 DATA CLEANING: The process of locating and correcting data processing and field technician errors. They can be individual level errors in the electronic and physical data, or they can be system level errors in the data collection, packaging, coding, entry, and cleaning procedures themselves. This process is also referred to as "data validation."
- 2.3 DATA, ELECTRONIC: Data stored on some type of magnetic or optical medium (for example: floppy disk, hard disk).
- 2.4 DATA, ENTERED: Electronic data scanned into a data file using Teleform scanning software. Entered data are the product of "data entry."
- 2.5 DATA, VERIFIED: Electronic data that has cleared through the Teleform Verification process. In the Verification process Teleform reviews all of the entered data and displays any possible errors. These potential errors are reviewed by a Data Technician. Once all of the errors are fixed the data is saved to an ASCII file.
- DATA CLEANING BATCH: A collection of electronic data, along with their corresponding physical forms. Data cleaning batches are formed after one or more data processing batches (see DATA PROCESSING BATCH below) are scanned. The data cleaning batches are then cleaned (see DATA CLEANING) and appended to the master database (as described in UA-D-44.X). Each data cleaning batch is assigned a numeric descriptor of the form MMDDYY, where MM is the month the batch was created, DD is the day the batch was created, and YY is the year the batch was created. If more than one batch is created on the same day, each batch after the first is assigned a descriptor of the form MMDDYY_N, where N denotes the batch as being the Nth batch created that day.
- 2.7 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.
- HRP SITE: The Health Related Professions 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, the Border Study, or other Health and the Environment projects.

- 2.9 MASS DATA MASSAGE PROCESS (or MDM) = The data processing program used by NHEXAS Arizona, the Border Study, and other Health and Environment projects.
- 2.10 NHEXAS Arizona: Acronym for National Human EXposure Assessment Survey, a research project conducted in Arizona by the University of Arizona/Battelle/Illinois Institute of Technology consortium.

3.0 References

SOP UA-D-44.X (Operation Manual of the Mass Data Massage Program) (This Volume)

4.0 Discussion

A copy of the Arizona Lab Forms are given in Appendices A, B, C, D, E, F, G, H, and I. These copies have each variable labeled for easy reference. Questionnaires and Forms are reviewed for completeness and accuracy prior to being transferred to the data section of the project. These checks are designed to generate flawless forms and questionnaires prior to data entry. Once entered and verified the data is subject to logic checks through the application of Dictionaries and other projects. Dictionaries for the lab forms have not been generated. Once generated these dictionaries will define the files structures for the Arizona Lab Forms databases, as well as the logic and range checks that are performed on each field. For further reference, see SOP# UA-D-4.X.

Sometimes despite all best efforts, errors are found in data. These errors must be corrected to produce a valid database. At this time, all anticipated problems have been addressed. "Cleaning" protocols are developed concurrently with data entry to address the unanticipated problems. Specific corrections will be documented as outlined in SOP # UA-D-38.X.

5.0 Responsibilities

The Project Data Coordinator is responsible for writing the data cleaning instructions for the Arizona Lab Forms when data problems are found during the data entry process.

6.0 Materials and Reagents

- 6.1 Local Area Network
- 6.2 Purple Pen
- 6.3 Copy of Data Dictionary for specific form.

7.0 Procedure

- 7.1 Steps Followed
 - I. Data Technicians
 - A. Entering data

1. Scan and verify the form as described in UA-D-34.X.

B. Cleaning Data

- 1. Log into UNIX environment.
- 2. Type "data" to run the MDM.
- 3. Select form type:
 - a. The user will enter "2" for Lab Data
 - b. The MDM will then prompt the user for a specific form. The user will then enter:
 - i. "1" for 25mm and 37mm pre-weighing
 - aa. If this option is selected, the user will be prompted to select either the header or the detail groups. The user will enter "1" for the header, and "2" for the detail group.
 - ii. "2" for 25mm and 37mm post-weighing
 - aa. If this option is selected, the user will be prompted to select either the header or the detail groups. The user will enter "1" for the header, and "2" for the detail group.
 - iii. "3" for Sentinel filter pre-weighing
 - aa. If this option is selected, the user will be prompted to select either the header or the detail groups. The user will enter "1" for the header, and "2" for the detail group.
 - iv. "4" for Sentinel filter post-weighing
 - aa. If this option is selected, the user will be prompted to select either the header or the detail groups. The user will enter "1" for the header, and "2" for the detail group.
 - v. "5" for XRF analysis
 - vi. "6" for Soil characterization
 - vii. "7" Vacuum Dust characterization
 - viii. "8" for 24-Hour Food Diary Check
 - aa. If this option is selected, the user will be prompted to select either the header, the detail groups, the second page, or the supplement. The user will enter "1" for the header, "2" for the detail group, "3" for the second page, or "4" for the supplement.
 - ix. "9" for Vacuum filter pre-weighing
 - aa. If this option is selected, the user will be prompted to select

either the header or the detail groups. The user will enter "1" for the header, and "2" for the detail group.

- x. "0" to return to the previous menu
- 4. The MDM shall prompt the user for an action. The user then selects an operation from a given list. Operations include:
 - a. Create a new batch
 - b. Clean existing batch
 - c. QA an existing batch
 - d. [Examine Descriptive Master Database]
- 5. If the user selects the <u>Clean existing batch</u> option:
 - a. The MDM will list all possible batches to clean.
 - b. If there are no batches, the program will inform the user, and prompt the user to press the <enter> key, which will return the user to the previous menu.
 - c. If there are batches to be cleaned, the user will be prompted for a specific batch.
 - d. Once a batch is selected, it is preprocessed (checking for errors) for cleaning, and the user is given information regarding the status of the preprocessing.
 - e. If no errors are found within in the data, the MDM will send mail to the Data Coordinator informing him of the newly cleaned batch.
 - f. If errors are found in the data, the user is informed as to the number of errors found within the batch.
 - i. For each error found in the batch, the user will be shown the key variables to locate the record containing the error, which is displayed between dashed lines.
 - ii. The user is then prompted for an action, the action being either the changing the erroneous value, the skipping of the error, a manual change to a different variable in the current record, a manual change to any variable in any record, or the user may quit.
 - g. If the user wishes to change the erroneous value:
 - i. Then "C" must be entered.
 - ii. The variable name is then displayed, and the MDM prompts for a new value.
 - Once a new value is given, the user is given the option to accept the value given, to accept a value formatted by the *MDM*, or to abort the operation.
 - iv. If the operation is not aborted, the user is prompted for a reason for the change. Once a reason is given, the update is completed.
 - h. If the user wishes to skip the error:
 - i. He/she must enter "S".
 - ii. This will cause the MDM to skip the current error, but not the current

record.

- i. If the user wishes to change the value of a different variable in the current record:
 - i. He/she must enter "M".
 - ii. The user will then be prompted for the number of changes to be made.
 - iii. Once this number is entered, the MDM will then prompt for the variable to be changed.
 - iv. Once a valid variable is specified, the user is prompted for the new value
 - v. Once a new value is given, the user is given the following options:
 - aa. Accept the value given
 - bb. Accept a value formatted by the MDM
 - cc. Abort the operation.
 - vi. If the operation is not aborted, the user is prompted for a reason for the change. Once a reason is given, the update is completed.
- j. If the user wishes to change the value of a variable in a different record:
 - i. He/she must enter "R".
 - ii. The user will then be prompted for the number of changes to be made.
 - iii. Once this number is entered, the MDM will then prompt for the key variable values of the record to be modified.
 - iv. Once valid values are given, the MDM prompts the user for the variable to be changed.
 - v. Once a valid variable is specified, the user is prompted for the new value.
 - vi. Once a new value is given, the user is given the following options:
 - aa. Accept the value given
 - bb. Accept a value formatted by the MDM,
 - cc. Abort the operation.
 - vii. If the operation is not aborted, the user is prompted for a reason for the change.
 - viii. Once a reason is given, the update is completed.
- k. If the user wishes to quit, he/she must hit the "Q" key. The user is then returned to the menu defined in I.B.4.

8.0 Records

- 8.1 All records are automatically generated by the MDM.
- 8.2 Records of all the forms in a cleaning batch are printed out when the batch is created. This list

is then attached to the cleaning batch.

8.3 Records of the changes made to the data are located in the following directory tarred with their associated batch: /rsc53/NHEXAZdata/master/labaz/<Specific Form>.

Records of the cleaning batches which have been appended to the master data base are located in the following directory: /rsc53/NHEXAZdata/master/labaz/<Specific Form>. The list is kept in the file "read.me".

8.5 All changes to the hard copy of the form must be dated and completed in purple or red ink.

Inclusions:

Appendix A: Food Diary Check Form (2 pages)

Appendix B: Sentinel Filter Pre-Weighing Form (1 page)

Appendix C: Sentinel Filter Post-Weighing Form (1 page)

Appendix D: Teflo Filter Pre-Weighing Form (1 page)

Appendix E: Teflo Filter Post-Weighing Form (1 page)

Appendix F: Vacuum Filter Pre-Weighing Form (1 page)

Appendix G: Vacuum Dust Characterization (1 page)

Appendix H: Soil Characterization (1 page)

Appendix I: XRF Analysis (2 pages)

Appendix A: Food Diary Check Form

	2	24-HOUR	FOOD	DIARY	CHECK				
1	Form Type 1 2 7 LMNUM FORM: UA-L-13.0-1.0	Tech: Init. AE 163 (UA ID AE 166 (UA ID #V-1200 (ID# N/A (Default co	0# A195535) S 0# A201335) S 50090339)	Start Date: Free Sample ID#:	vntdate / Status	He	IID: HH	HI-	F.S.
Ĺ.,	All Weights Are Recorded in Grams (g).								
	Weight (g)	Volume (ml)	Item Descript	ion	Coe		In Diary	Compr.	QC
Α.				ar (esta)			Y N N/A O O O	O N	Ĺ
8.				Jata			Y N N/A	0 C	
C.			100	Cro			Y N N/A	0 C	[]
D.			X 00				Y N N/A	0 N	ĺ
E.							Y N N/A	0 C	Ú
F.							Y N N/A	0 C	[]
G.							Y N N/A	0 C	[]
Н.							Y N N/A O O O	0 C	[]
1.							Y N N/A	0 C	[]
J.							Y N N/A	0 C	[]
Κ.							Y N N/A	0 C	[]
L.							Y N N/A	0 C	[]
М.							Y N N/A	0 C	[]
N.							Y N N/A	0 C	[]



PAGE 2 24-Hr Food Diary Check Start Date: EVN+do F.S. Sample ID#: HHID: HHID Status hig-stat lig_ID 1. Liquid Sample ID#: Status でして大型 2. Total Volume: QC: [] Alcsmell Accidianu 3. Alcohol N N/A (def.) N N/A (def.) B. Diary: O A. Smell: O COMMENTS: 0 Comments: Office Use Only Tech. ID MO DAY Tech. ID ○ 1.Cmp O 2.N Cmp ○ 3.P Cmp DE: O 4.Re-col QXV: LFOD ○ 5.Ref DP Batch: 7.Dest O 8.N/A O 9.Miss Chain of custody initiated (sig.):_ Box UA G4-2.0 Consigned to packet on []:



Appendix B: Sentinel Filter Pre-Weighing Form

SENTINEL I	FILTER	PR	E-WI	EIGHING	BACK-UP	FORM	
Form Type: 122 FORM UA-L-9.0-3.0	Technician: 1	_	ech. ID	Equilibration Sta		tate [_] e
Pre-Weighing Date: Pre-Weighing Time:	1 Pre	plat.	1	Post-Weighing	Fechnician:		
3.Temperature:	Temp			ample ID#	Weight	Status Q	c
4. Relative Humidity: HW	midisty	1.		Sam	ples		·
5. FILE NAME:		2.					()
6. Scale: Scale		3.					()
○ AE 163 (UA ID#, ○ AE 166 (UA ID#, ○ #V-1200 (ID# 500	A201335)	4.					, []
O N/A (def.)		5.					()
COMMENTS:		6.					()
		7.					, []
		8.					()
		9.					<u>'</u>
		10.					()
COMMENT CODES:		ndard	(Sta)	-101	Stolyage	A Josta	可 []
Course out	me we	ight	[37d]	_VDZ	. Stolyg	nt 2 Stasta	スチ []
Formstat		ffi		se Only	<u> </u>		
1.Cmp 2.N Cmp 3.P Cmp 3.P Cmp 4.Re-col 5.Ref 7.Dest 4.S.N/A 9.Miss QAQABA Init.	QHDATE]/[DAY /	DE: DE Bato	th: QXV		YR
Chain of cu	stody initiate	d (sig	.):			26686	
Consigned t	o packet on: [1	1	, Box	UA G4-2.0		

Appendix C: Sentinel Filter Post-Weighing Form

SENTINEL FILTER	PC	ST-1	WEIGHING	BACK-U	JP FORM
Form Type: 123 Technician:	وب	Tech. ID	Equilibration Sta	art Date:	totate,
FORM UA-L-9.0-4.0	lnit.		Equilibration Sta	art Time:	: Evnttin
1. Post-Weighing Date:	10		Post-Weighing ⁻	rechnician:	Postlech
2. Post-Weighing Time:	Hin	re ;	All Weights Are F	Recorded In Gran	nit. Tech. ID ns (g)
3. Temperature:			ample ID#	Weight	Status QC
4. Relative Humidity: Humidity	1.		Dan	TP!ET	
5. FILE NAME:	2.				
6. Scale: Scale	3.				
○ AE 163 (UA ID# A195535)○ AE 166 (UA ID# A201335)○ #V-1200 (ID# 50090339)	4.				
ONA (def.)	5.				
COMMENTS:	6.				
	7.				
	8.				
	9.				
	10.				
COMMENT CODES A 3Star		Std.	-IPI	Stoyent	Staslast
Towns punt wei	ght	Ad	IPZ	Stolingto	Slosof
0.0	ffic		se Only		
1.Cmp 2.N Cmp 2.N Cmp 3.P Cmp	,	DAY	DE: DE:	Tech. ID MO	DAY YR
9.Miss Init.	<i> </i>	/	DP Batch		V: LSPO1
Chain of custody initia		sig.):			12986
Consigned to packet on: []// Box UA G4-2.0					

Appendix D: Teflo Filter Pre-Weighing Form

25mm and 37mm TEFLO FILTER PRE-WEIGHING BACK-UP FORM Form Type: 120 Tech. ID kvntdate Equilibration Start Date: Technician: Eunttin Initech 1D **Equilibration Start Time:** FORM UA-L-9.0-1.0 Post-WeighingTechnician: 1. Pre-Weighing Date: All Weights Are Recorded In Grams (g) 2. Pre-Weighing Time: Status QC Weight Sample ID# 3. Temperature: [] 4. Relative Humidity: 2. 5. FILE NAME: [] 3. [] Scale 6. Scale: O AE 163 (ŬA ID# A195535) 1 4. [] O AE 166 (UA ID# A201335) O #V-1200 (ID# 50090339) ○ N/A (def.) 5. [] 1 COMMENTS: -[] 6. 1 [] 7. 1 [] 8. 9. [] 10. [] ²Standard COMMENT CODES: 1 Weight 374-1102 Use Only Office ormstat YR Tech. ID ○ 1.Cmp Tech. ID O 2.N Cmp ○ 3.P Cmp ○ 4.Re-col ○ 5.Ref PPR1 QXV: O 7.Dest DP Batch; O 8.N/A 9.Miss Chain of custody initiated (sig.): -

Consigned to packet on: []

Box UA G4-2.0

Appendix E: Teflo Filter Post-Weighing Form

25mm and 37mm Ti	EFLO	FIL	TER PC	ST-WEIGHI	NG BACK-UP F	ORM	
Form Type: 121 Hemnum FORM UA-L-9.0-2.0 Technic	ian:	ii. Tec	Tech. ID	EV N+0 Equilibration S Equilibration S	tart Date:/	<u>' </u>	
1. Post-Weighing Date:	<u>/</u>]/[Post-Weighin		nit. Tech. ID	
2. Post-Weighing Time:			A	II Weights Are I	Recorded In Grams	s (g)	
3. Temperature:	_{'F}		Sa	mple ID#	Weight	Status	QC
Humidity I	% ^	1.					[]
5. FILE NAME:		2.					[]
6. Scale: Scale	(v. 4)	3 .					
AE 163 (UA ID# A19553AE 166 (UA ID# A20133	35)	4.					
#V-1200 (ID# 50090339N/A (def.))) (+	5.					[]
COMMENTS:		6.					[]
		7.					[]
	▼.	8.					[]
		9.					[]
		10.					[]
COMMENT CODES:		indard	3+0	171P1	Stoward		tact:
comment Commenter	43	eight	Sld	7177	Stdught	2 510	AQ. → Z []
Cormstat	0	ffi	ce U	se Only			
1.Cmp 2.N Cmp 3.P Cmp 3.P Cmp 4.Re-col E. 0.5.Ref 0.7.Dest 6.8.N/A QA: 0.4.BV	MO Q	GPA		DE:	Tech. ID MO	PATE	YR
5.Ref 7.Dest 8.N/A 9.Miss Data Control Control	Q P	/ DAT	1	DP Batc	h: QXI	/: LPP	0 1
Chain of custody	Chain of custody initiated (sig.):				1		
Consigned to pack	Consigned to packet on: []/_ / Box UA G4-2.0						

Appendix F: Vacuum Filter Pre-Weighing Form

VACUUM FI	LTER PRE-WEIG	HING BACK-U	JP FORM			
FORM UA-L-9.0-5.0		Evet date Evet to Equilibration Start Date Event to Date Description Start Times	te: / / /			
1. Pre-Weighing Date:	date 	Pre-WeighingTechnic	Init. Tech. ID	ch		
TEND	Sample ID#	Filter Weight	Tie Weight	Status QC		
3.Temperature: Hvmid, #4 4. Relative Humidity: %	1. Sanf-1V	F. It- ugh t	Tic-Want	Status []		
5. FILE NAME:	2.					
6. Scale: Scale	3.					
 AE 163 (UA ID# A195535) AE 166 (UA ID# A201335) #V-1200 (ID# 50090339) 						
O N/A (def.)	5.					
COMMENT	6.					
	7.					
	8.					
	9.					
	10.	5+ 121	5+w9h+1	Stastat		
COMMENT CODES:	Standard Weight	5+-102	St Web + 2			
				\$\frac{1}{2} \rightarrow \frac{1}{2} \rightarrow \frac		
FOCMStat		se Only	ID., MO DE DAY	YR		
Sin O 2.N Cmp 1 3.P Cmp O 4.Re-col QC:	GBY GG DATE	DE:	By JEDAN			
E ○ 5.Ref ○ 7.Dest ○ 8.N/A ○ 9.Miss QA:	RABY QAPATT	DP Batch:	PBATCH QX	PR2		
Chain of cus	tody initiated (sig.):		F	324		
Consigned to	Consigned to packet on: [] / / Box UA G4-2.0					

Appendix G: Vacuum Dust Characterization

Itemn	WACUUM DUST CH	IARACTERIZATIO	N_
Form Type 1 2 6 FORM: UA-L-12.0-1.0	Tech:	Sampia HHI	D: UMID F.S. HHIDE
1. TOTAL	L SAMPLE: All Weights Are Reco		QC
Total wt. #4	g - Filtwt 1 g Totalwt 2 Dirty filter + Tie wt. #6	Sample wt. #7	een Set: []
	FiltwtZ g	- Sampling Arc	nive Code: []
1	JOTS: <u>Pesticides:</u>		
Sample ID#:	Pest D Status Split wt. #8 Pest Split wt. #8 Metals:	Weighing paper wt. #10 Pestic	ide sample wt. #12
XRF For	Met_ID Status Split wt. #9 Metsplit Hetstot	Weighing paper wt. #11 Metals Metals Metals XRF Cup #:	sample wt. #13 . Netwt g []
> 10 Screen w	g - Weighing paper wt. #18	> 10 Sample wt. #16	Tot-scru Screened Wt. #20
4. STAN	DARD WEIGHTS: ID# TISKOND	Weights	
То	tal Sample:	Total - Ust	[]
Ali	quots: Hig-17	Nig-wt a	[1]
	her fractions:	- July	[]
5. QC CI	·) * 100 =	Dust Loss
Formsta	d Office I	Use Only	
1.Cmp 2.N Cn 3.P Cr 3.P Cr 4.Re-ca 5.Ref 7.Dest 4.N/A 9.Miss	QC.Q.C.BY QC.Q.C.BY QA.Q.A.BY QA.Q.BY QA	YR Tech. ID N	DAY YR DAYE / DUS 1
	Chain of custody initiated (sig.):		14199
	Consigned to packet on://	Box UA G4-2.0	

Appendix H: Soil Characterization

SOIL CHARACTERIZATION
Itemnum Tech ID Evntdate
Form Type Tech. ID Analysis Date: Analysis Date:
1. Pesticide Split: Aliquot ID#: Vest-io: Status Pestat [1]
2. Drying Time Start: Date:/ []
Finish Date: / []
3. pH and Conductivity:
A. Status: Masstat D. pH: Tech ID: Init. Scale: PH_+====================================
B. Weight: g E. Conductivity: uniohs O AE 183 (UA 10st A196535) []
C. H2O Added: H1D d G y ml F. Color:
4. Particle Size:
Weights Tech ID:
Total wt. 10 wt Pan wt. Sample wt. Scale: Scale: Scale: 13 - 10 AE 163 (UA IDW A196535) []
10-230 #4
(<230
#7 . 1101 g #8
Scale: O AE 163 (UA ID# A195535) O AE 166 (UA ID# A201335) O #V-1200 (ID# 50090339) O N/A (def.) XVF_SCAL Total Seived Weight []
5. Fine Fraction Split: Metals Aliquot ID#: #10 XRF Cup #: XRF Form header completed Y[] N[]
ART Cup # And Tolin leader completed T() IV()
6. Standard Weight: Weight: Weight:
ID#: Weight: . 5000 g []
formstat Office Use Only
O 1.Cmp Tech. ID MO DAY YR Tech. ID MO DAY YR
O 3.P Cmp QC: QCD DE: DEBY DEDATE / DE: DEBY
S
Chain of custody initiated (sig.):
Consigned to packet on:// Box UA G4-2.0

Appendix I: XRF Analysis

- Iter	mum Techid XRF ANALYSIS	
FORM: UA-L-10	Tech: Analysis Date: /	HHID: F.S. HOWLE HHID HHIDFS Header: QC: []
i	sec. Fe-time Cd-109: Sec. 1 d. time	Application: 0 1. Thin Film 0 2. Soils 0 88. N/A (def.) XRF Cup #:
Element	READING ·	STANDARD DEVIATION
Pb	. Po-read	Po-sta
As	Ab_read	Mb-std
Cd	Ch-read	[CA + Sto
Ni	Mi-read	Mitshd .
Cr	Cyread . Chread	Cresta III
Ва	ba-vepa	Ba-sta
Mn	Mntread	Mursta III
Se	Se-repd	Se-sto
V	The state of the s	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
Cu	. Cu-read	Ch-5+d
Zn	Zn-read	[].[Zh-3td]]
К	M-rept	[].[K-5+d]

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

Data Use Only:

Element	READING	STANDARD DEVIATION
Ca	. Carread	Carsto
Со	. Gotread	[Co-540]
Fe	Fe treat	Fe stall
Мо	Motread.	Mo Ho
TI	M-read	TI-Hd
Ag	Ravead	Majsta I
Sr	Sr-repo	5v+8fd
U		. W-sto
Th	Thread	Th-std
Sn	. Sn-read	Sh-shd
w	Description . The second secon	W-sta
Ti	. Ti-read	(C + T - T - T - T - T - T - T - T - T - T
Rb	. Vorvedo	Rb-3d
lr .	- V-read	
Hg	Hgread	Ha-std
	ntal Office Use Onl	У
Form Status	1.Cmp 2.N Cmp 3.P Cmp 3.P Cmp 4.Re-col 5.Ref 7.Dest 8.N/A 9.Miss Tech. ID MO DAY YR DE: DE: DE: DP Ba	Init.
	Chain of custody initiated (sig.):	Box UA G4-2 0
	Data Use 0 1 2 3 4 5 6 7 8 9 A B C D	E F G H I J