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-33.0**

Title: Light Pen Operation and Verification of Scanned Bar Codes

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: **LIGHT PEN OPERATION & VERIFICATION OF SCANNED BAR CODES**

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Form TP-1

Light Pen Operation and Verification of Scanned Bar Codes

1.0 Purpose and Applicability

This procedure defines the steps needed to operate the light pens, and verify the values produced by light pens that will be used in NHEXAS, the Border Study and other Health and 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 LIGHT PEN: Input device which, when used with bar code reading software, allows the reading of bar codes.

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 **N**ational **H**uman **EX**posure **A**ssessment **S**urvey, a research project conducted in Arizona by the University of Arizona/Battelle/Illinois Institute of Technology Consortium.

2.6 TS: Acronym for the **T**racking **S**ystem, a program written in FoxPro 2.6 for the express purpose of maintaining an electronic custody record for samples used in the NHEXAS project (see overviews Figures 2 and 3).

3.0 References

Anonymous (1994), Scan One: User's Guide, Vertical Technologies, Inc., Salt Lake City, 52pp.

4.0 Discussion

Light pens are used to read bar codes into the Tracking System (see UA-D-28.x). A user may choose to manually type a Sample ID number into the TS. However, users are encouraged to use the light pen to scan the bar code.

Bar codes are useful for representing complex, constant codes, and allow a faster, more accurate alternative to hand-entry of data. To ensure data validity it is necessary to check the value read is indeed the code appearing on the bar code.

The light pens themselves are attached via a serial connection to COM1 or COM2 of a computer. The pen is powered up when the computer is turned on. Should the pen fail to come on then it needs to be replaced by simply connecting another light pen into the same serial port.

5.0 Responsibilities

N/A

6.0 Materials and Reagents

Light Pen: Hewlett-Packard HBSC-A300

7.0 Procedural Steps for Coding of Field Forms

1. When prompted to enter a Sample ID number simply run light pen over bar code.
2. Repeat step 1 until code appears in the data entry field of the TS.
3. Compare code on screen with number above bar code. If the code is correct continue, else press the escape key to erase the number and repeat steps 1 through 3.