SAMPLING OF INSULATION ON INTER-BUILDING OVERHEAD UTILITY PIPES FOR ASBESTOS CONTENT -- NOVEMBER 1986

Introduction

This plan describes the sampling effort to be conducted in November of 1986 for determining the amount of asbestos in insulation on pipes on overhead utilities at the WSCP.

Objective

This sampling effort will be performed to determine in a statistically valid manner whether insulation on individual sections of the inter-building overhead utility pipes at WSSRAP contain asbestos. The data collected in this sampling effort will be used by the Engineering Department in the preparation of bid specifications for the removal of the overhead inter-building utilities. Pipes in or on buildings will not be sampled during this sampling effort. The samples will be collected by the Environmental Safety and Health Department (ES&H).

Sampling Schedule

Samples will be collected on Monday and Tuesday November 17 and 18, 1986. Sampling may continue into the remainder of the week if necessary. Should differences in insulation composition be noted visually during the planned sampling effort, additional samples will be collected as necessary to further define the composition of the insulation.

Sampling Locations

Sampling locations have been selected to obtain samples from each

FILE NUMBER: _____

size and type of pipe. The rationale for selection of the sampling locations is based on a review of existing WSCP construction blue prints and a site survey of the WSCP facilities conducted on November 7, 1986. Construction drawings numbered 7500-5 to 7500-28 prepared by Blaw-Knox Company in 1955 and 1956 shown locations of the pipes and the pipe support numbers for these overhead utilities. Samples will be collected from each size and type of pipe (steam, ethylene glycol, raffinate, etc.) and type of insulation. Insulation will be sampled in straight sections and at joints in the pipe. The sampling locations are described in Table 1. Figure 1 shows the planned sampling locations. These sampling locations have been selected to maximize the number of samples which can be collected at each point where the manlift will be positioned.

Equipment

The following equipment will be available for use during sample collection.

Item	Usage
Knife	Cutting Insulation and Sheathing
Cork Borer	Cutting Insulation
Hack Saw	Cutting Sheathing
Screwdriver	Sheathing Removal
Hammer	Bending Metal Sheathing
Sample Bottles	Sample Shipping
Ziploc Bags	Sample Shipping
Water Sprayer	Tool Cleaning and Dust Control
Bucket of Water	Tool Cleaning
Duct Tape	Dust Control
Camera	Documentation of Sampling Location
Sample Labels	Documentation of Sampling Location
Field Data Sheets	Documentation of Sampling Location
Clipboard	Documentation of Sampling Location
Paint	Documentation of Sampling Location

SAMPLING OF INSULATION ON INTER-BUILDING OVERHEAD UTILITY PIPES FOR ASBESTOS CONTENT -- NOVEMBER 1986

Flagging Tape	Documentation of Sampling Location
Tape Measure	Documentation of Sampling Location
Respirator with HEPA Filters	Personal Protection
Disposable Coveralls	Personal Protection
Rubber Gloves	Personal Protection
Rubber Boots	Personal Protection
Safety Glasses	Personal Protection
Hard Hat	Personal Protection
Eye Wash	Personal Protection
Radiation Monitoring Equip.	Personal Protection
Carrying Case	Transportation of Equipment
Manlift	Access to Sampling Location

Training

Personnel involved in collection of asbestos samples shall receive training in the health and safety aspects of asbestos. They shall also be trained in the operation of any special equipment (i.e. hydraulic manlifts).

Sample Collection

Prior to collecting samples, a safety meeting will be conducted to familiarize personnel with equipment and procedures. A respirator is recommended, but is not required as sampling will not generate airborne concentrations above allowable levels. Once the sampling location is verified and access is established, samples will be collected as follows:

1. Start a field data sheet for the sample to be collected. Record the date, time, location, pipe type if known, pipe size, and any other relevant information on the field data sheet. An example field data sheet is presented in Figure 2.

2. Select two corresponding pre-labeled sample bottles for the sample to be collected at that location. Example labels are shown in Figure 3.

3. Open the sheathing using a knife, hack saw or screwdriver as

appropriate.

4. If the sheathing is not metal, place pieces of the removed sheathing in the sample containers.

5. Loosen a piece of insulation using a cork borer, knife, or other appropriate tool.

6. Split the piece of insulation in half. Ensure that both halves contain a complete cross section of the insulation.

7. Place the pieces of insulation in the sample bottles.

7. Close the sample bottle.

8. Complete and sign the field data sheet.

Radiation Monitoring

A member of the Health Physics Group shall measure the radiation levels of the individual samples prior to shipment of the samples off site. Sample collection personnel shall use radiation measurement equipment calibrated by the Health Physics Group to monitor levels in the work area during sample collection.

Chain of Custody

All samples will be kept in the custody of the sample collection personnel from the time of collection shipment. A chain of custody log sheet which lists each sample will be completed and signed by the sample collection personnel. The original of the chain of custody log sheet will be shipped with the samples to the laboratory. A copy of the chain of custody will be retained at WSSRAP by the ES&H Department. An example chain of custody form is presented in Figure 4.

SAMPLING OF INSULATION ON INTER-BUILDING OVERHEAD UTILITY PIPES FOR ASBESTOS CONTENT -- NOVEMBER 1986

Sample Analysis

Samples will be analyzed by polarized light microscopy. The selected laboratory shall be a participant in the EPA laboratory evaluation program.

Quality Control

Sample collection will be observed on a random basis by a representative of the WSSRAP ES&H Department. One in twenty of the split samples will be submitted for analysis. The remainder of the splits will be archived at the WSSRAP facility for verification by a separate laboratory if necessary. Once QC checks of the lab data are complete, the archived samples will be used in training WSSRAP personnel and subcontractors for future asbestos removal activities.

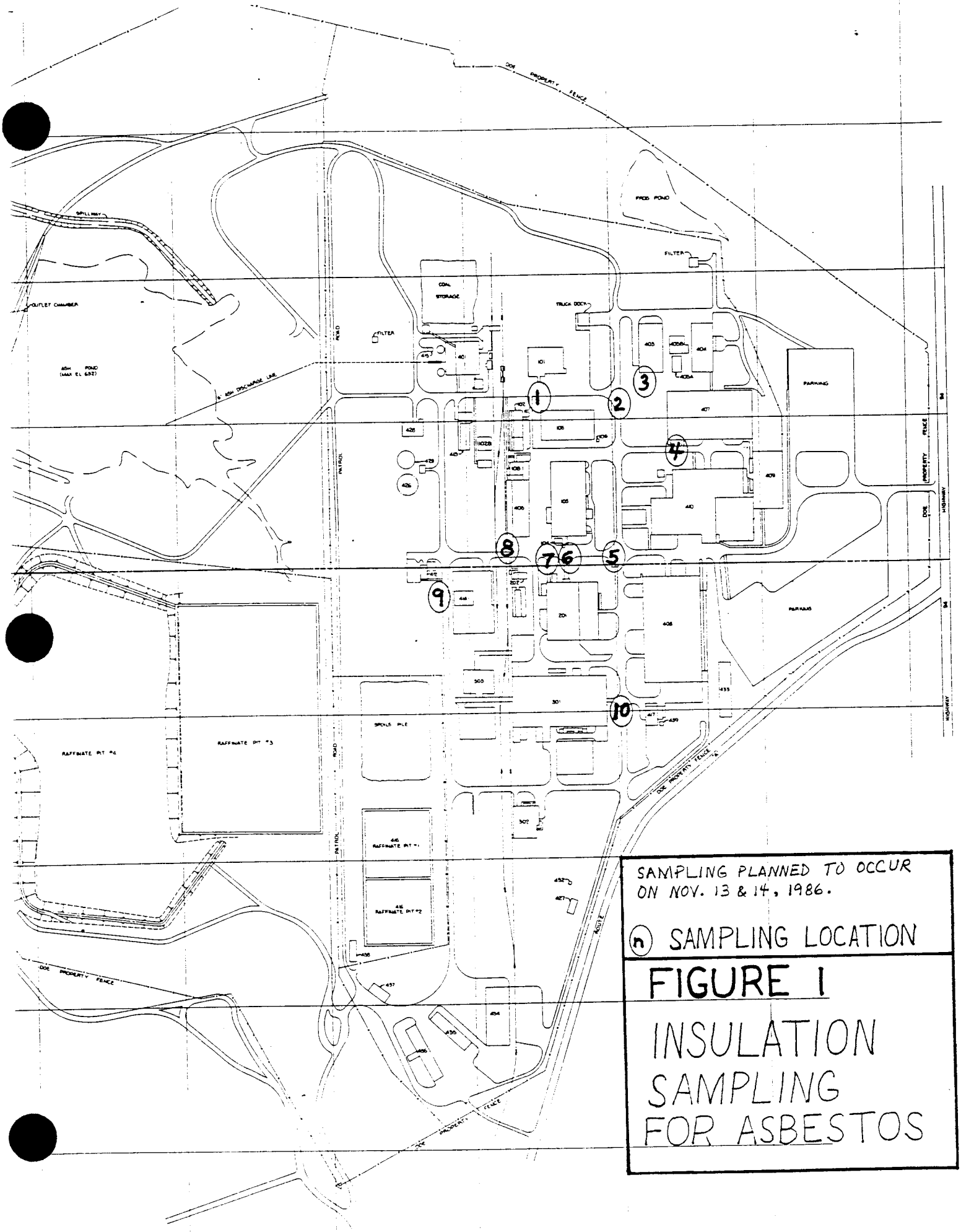
Reporting of Visual Observations

The sample collection crew will discuss with the Engineering Department observations regarding visible differences and/or similarities of the insulation at the various sampling locations.

Reporting of Analytical Results

The laboratory will report the concentration of asbestos in the sample. The lab data, field data and drawings showing the sampling locations will be incorporated in a final report by ES&H for submittal to the Engineering Department. This report will be completed within 7 days of receipt of the lab data.

SAMPLING OF INSULATION ON INTER-BUILDING OVERHEAD UTILITY PIPES FOR ASBESTOS CONTENT -- NOVEMBER 1986



SAMPLING PLANNED TO OCCUR ON NOV. 13 & 14, 1986.

(n) SAMPLING LOCATION

FIGURE 1

INSULATION SAMPLING FOR ASBESTOS

FIGURE 2

EXAMPLE FIELD DATA SHEET

WELDON SPRING SITE REMEDIAL ACTION PROJECT (WSSRAP)
Route 2, Highway 94, St. Charles, Missouri 63303
Phone (314) 441-8086 Telex (314) 447-0803

BULK MATERIAL SAMPLING FOR ASBESTOS - FIELD DATA

SAMPLE NUMBER: _____ Date: _____

SAMPLING LOCATION

Building Number _____

Floor _____

Room _____

Construction Drawing _____

Other _____

MATERIAL TYPE

____ Pipe Insulation
Pipe Diameter: _____ inches
Pipe Type: ____ Steam, ____ Ethylene Glycol, ____ Raffinate,
____ Other _____

____ Ceiling
____ Floor
____ Wall
____ Boiler Insulation
____ Other _____

COVER OVER MATERIAL

Fiber, Metal, Plaster, None, Other _____

DESCRIPTION OF MATERIAL

Color: _____

Hardness: ___ Fibrous (Friable), ____ Granular (Soft), or ____ Hard (Concrete-Like)

Thickness: _____ inches

COMMENTS _____

_____

_____

Radiation Level

____ Background Only
____ Above Background _____ cpm Instrument: _____

Sample Collection Personnel: _____ Company: _____

FIGURE 3

EXAMPLE SAMPLE LABEL

Weldon Spring Site Remedial Action Project (WSSRAP)
MK-FERGUSON COMPANY (PMC)
Rt. 2, Hwy 94, St. Charles, MO 63303
Phone (314) 441-8086

Sample Number IN-2000- 1

Location: WSCP (Pipe Support No.:_____)
Matrix: Pipe Insulation - Above Ground Utilities
Collected By: Kirk Meyer
Date: November ____ 1986

Table 1 -- Asbestos Sampling Locations, WSSRAP, Nov. 17-18, 1986
PLANNED

Location Number	Support Number	Description (Drawing No)	Insulation Samples To Be Collected Quant.	Pipe Type	Sheath	Size
1	508	NW Corner of Building 105 (7500-16)	1	Steam	Fiber	18 inches
			1	Steam	Fiber	10
			2	Ethylene Glycol	Fiber	6
			2	Unknown	Fiber	?
			1	Elbow (Steam)	Fiber	18
			1	Elbow (Steam)	Fiber	10
2	522	NE Corner of Building 105 (7500-17)	1	Steam	Fiber	8
			2	Ethylene Glycol	Fiber	6
			1	Unknown	Fiber	4
			1	Unknown	Fiber	2
			1	Unknown	Fiber	2
			1	Unknown	Fiber	1
3	71	NW Corner of Building 403 (7500-23)	1	Steam	Fiber	6
			2	Ethylene Glycol	Fiber	2
			1	D. S.	Fiber	2
			1	Steam	Fiber	8
			1	Unknown	Fiber	2
			1	Unknown	Fiber	2
4	731	From Building 407 to 410 (7500-28)	2	Ethylene Glycol	Fiber	4
			1	Unknown	Fiber	2
5	40	NE Corner of Building 201 (7500-19)	1	Steam	Fiber	18
			1	Raffinate	Fiber	3
			1	Elbow	Fiber	3
			1	Raffinate	Metal	3
			1	Elbow	Metal	3
6	562	North Center Building 201 (7500-24)	1	Steam	Fiber	6
			1	Raffinate	Fiber	3
			1	Raffinate	Metal	3
7	564	NE Corner of Building 201 (7500-24)	1	Raffinate	Unknown	3
8	Ground	SW Corner of Building 406 (N. A.)	1	Steam?	Fiber	1
9	764	West of Building 406 (7500-25)	1	Raffinate	Fiber	3
			1	Elbow	Fiber	3
			1	Raffinate	Metal	3
			1	Elbow	Metal	3
10	84	East Center Building 301 (7500-20)	1	Steam	Fiber	10
			1	Steam	Fiber	3
			1	Elbow (Steam)	Fiber	1
Total			42			

WELDON SPRING SITE REMEDIAL ACTION PROJECT (WSSRAP)
Route 2, Highway 94, St. Charles, Missouri 63303
Phone (314) 441-8086 Telex (314) 447-0803

ENVIRONMENTAL PROTECTION GROUP -- DOCUMENT REVIEW

Plan Title: PLAN FOR SAMPLING OF INSULATION ON INTER-BUILDING OVERHEAD UTILITY PIPES FOR ASBESTOS CONTENT — NOVEMBER 1986

Date Prepared: NOVEMBER 13, 1986 Author: KIRK MEYER Kirk Meyer

Draft Number: 2

Purpose of Transmittal:

- ____ For Approval
- ____ For Your Information
- ____ As Requested
- ____ Return of Loan to Us
- ____ Other ____
- ____ For Review and Comment
- ____ Review and Correct
- ____ Review and File
- ____ Returned for Corrections

~~To Be~~ Reviewed By:

Title	~~Signature~~ Name	Date
Others	N. Ed Hodson	Nov. 12, 1986
	Yusuf G. Noorani	Nov. 12, 1986
Environmental Manager	F. Keith Howard	Nov. 12, 1986
E S & H Manager	Roger A. Nelson	Nov. 12, 1986
Quality Manager		
Engineering Manager		
Project Manager		