Recd 2/22/95

REVISED: 07/19/94

PUBLICATION TRACKING FORM

(To Be Completed By Project Manager/Author)

Site: Certainteed
ID #: MOD980631162
Break: 22.1 TAT
Other: ZT3071

PROJECT TITLE/SITE NAME: Certain Teed / Maline Creek
JOB NO.:
PROJECT MANAGER/AUTHOR: Dave Kinroth
TDD/PAN: ~~T07-9412-016~~ 3-1-95 EMO0307SEA
PROJECT DIRECTOR/TATL: Joe Chandler, TATL
NATURE OF DOCUMENT: Site Assessment / Letter Report
TECHNICAL EDITOR: Dave Kinroth
WORD PROCESSOR: Dave Kinroth
PEER REVIEWER: Kevin Moore
GRAPHICS: Dave Kinroth
DUE DATE: ~~2-20-95~~ 3-01-95 D.K.

STEP	LIST ALL REVIEWERS/WORD PROCESSORS IN PREFERRED SEQUENCE (Instructions on back of form)	DATE SUBMITTED	DATE REQUIRED	REVIEWED BY/TYPED BY INITIALS	REVIEWED BY/TYPED BY DATE
1	Kevin Moore	2-17-95	2-17-95	KTM	2/17/95
2	Dave Kinroth	2-17-95	2-17-95	NDK	2-20-95
3	Joe Chandler, TATL	2-21-95			
4	Leslie Denton	2-23-95			
5					
6					
7					
8					
9					
10					

07KF 30290736 10.0
Superfund
0400 ES

PREFERRED FINAL APPROVAL STEPS

11	Proj. Dir./TATL approval			JCC	2/23/95
12	Word Processor/finalize/format/put on letterhead			LD	2/23/95
13	Proj. Dir./TATL sign-off (and gives to support staff to make copies)				

SPECIAL INSTRUCTIONS:

AOC description attached?: Yes - SEE Attached AOC - POR -

TATL/ATATL initials (draft AOC): Yes - to CB 2/23/95

Spell check? Date(s)? 2/23/95 LD

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Other instructions: Verbal OK - 2/24/95 - Sue J.

The following are instructions for use of the new Publication Tracking Form.

Prior to preparing a publication, it is the **responsibility of the project manager** to:

- Conduct a pre-publication integrated planning meeting to define roles and responsibilities of each person involved with the publication process. All information pertaining to the publication and names of key members should be filled-in on the top part of the form (see attached example).

- Define the routing of the publication and interim required dates to the best of the project manager's and key member's availability. This information should be filled-in on the middle part of the form BEFORE this form/report leaves the author's hand.

  IF STEPS CANNOT BE FOLLOWED IN SEQUENCE -- GO TO NEXT STEP. IF AUTHOR CANNOT SIGN-OFF -- GIVE TO HIEU VU OR JOE CHANDLER (for TAT reports); TO JOHN CAOILE OR JIM JACKSON (for commercial reports).

- Include any special instructions concerning formats and production of the publication (i.e. how many copies, table format, large-size maps, attachments, materials needed for binding/presentation purposes, etc.), or any other comments on the bottom section of the form.

ecology and environment

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International Specialists in the Environment

MEMORANDUM

TO: Roy Crossland, EPA/DPO

FROM: David Kinroth, E & E/TATM

THRU: Joe Chandler, E & E/TATL

DATE: February 23, 1995

SUBJECT: Site Assessment: CertainTeed/Maline Creek, Bellefontaine Neighbors, Missouri
SSID: KF
TDD: T07-9412-016
PAN: EMO0307SEA
EPA OSC: Don Hamera

INTRODUCTION

The Ecology & Environment, Inc. (E & E), Technical Assistance Team (TAT) was tasked by the U.S. Environmental Protection Agency (EPA) Region VII Emergency Planning and Response Branch (EP&R) under Technical Direction Document (TDD) T07-9412-016 to conduct a site assessment with asbestos sampling at the CertainTeed/Maline Creek site in Bellefontaine Neighbors, Missouri. This sampling effort was conducted as outlined in the Quality Assurance Sampling Plan (QASP) prepared under TDD T07-9410-078. Specific elements of this task included the collection of air and soil samples for asbestos analysis and documentation of site activities and conditions. A trip report detailing on-site activities and summarizing the data was requested upon receipt of the sample results. TAT member (TATM) David Kinroth was designated as the TAT project manager and Don Hamera the EPA on-scene coordinator (OSC).

BACKGROUND

The CertainTeed/Maline Creek site is located at 600 St. Cyr Road in Bellefontaine Neighbors, Missouri (Attachment A). Bellefontaine Neighbors is a suburban city in north St. Louis County. The geographic coordinates of the site are 38°44'03" N latitude and 90°13'12" W longitude. The site consists of the former CertainTeed Transite Pipe Plant property at 600 St. Cyr Road and the former GAF Transite Plant property at 9215 Riverview Boulevard, adjacent to the former CertainTeed property to the south-southeast. The area surrounding the site is

recycled paper

industrial and residential and is in the city limits of Bellefontaine Neighbors and Riverview, Missouri. Maline Creek flows south-southeast along the southern boundary and eventually empties into the Mississippi River approximately three-fourths of a mile downstream from the site. The area directly south-southeast of Maline Creek along the site is a residential subdivision and there is a nursing home 350 feet northwest of the site.

CertainTeed Corporation manufactured asbestos-cement (transite) pipe at this site from the mid 1920s until May 11, 1979, when manufacturing operations ceased. The neighboring GAF Transite Plant also ceased operation sometime in 1979. Up until that time, both facilities reportedly used the land between their plants as an open dump for scrap asbestos and settled solids from process wastewater. In February 1979, both companies hired the same consulting engineering firm, Reitz & Jens, to begin preparing closure plans for CertainTeed and GAF to minimize the potential for adverse environmental impact and to comply with Missouri Solid Waste Management Law. Subsequent plans approved by the Missouri Department of Natural Resources (MDNR) included reworking the material to an acceptable slope, applying an earthen cover of at least 12 inches, seeding the site to establish vegetative growth, and constructing a rip-rap rock cover on the creek slope to prevent erosion.

A site inspection conducted by MDNR on May 13, 1980, confirmed that the site was in basic conformance with the approved closure plans, however it was noted that broken pieces of asbestos-containing pipe were scattered along the undisturbed creek bank upstream of the rip-rap area, south of the former CertainTeed facility. This condition was not determined to pose a significant threat due to the wooded nature of the creek bank at that time. The CertainTeed Corporation sold the property to the current owner, P.G. Investments, in September 1981. P.G. Investments, owned and operated by Phillip and Gerald Kootman, subsequently opened Branch Metal Processing Company at the site. In January 1982, transite pipe material became visible along the creek bank after the Metropolitan St. Louis Sewer District (MSD) conducted tree and brush removal along the creek to facilitate future creek channelization efforts. This left the material subject to sloughing and weathering with stream flow fluctuations. MDNR recommended at that time that any removal and stabilization efforts be coordinated with MSD.

In May 1982, MSD proposed a cleanup of the creek bank. MDNR approved the plan with the condition that the waste be disposed at an approved sanitary landfill. The cleanup efforts began in August 1982. Several loads of scrap asbestos containing material were hauled to West Lake Sanitary Landfill in Bridgeton, Missouri. According to MDNR reports, when these efforts ceased there was still approximately 1000 square feet of scrap asbestos pipe visible along the upper portion of the creek bank.

The EPA Environmental Monitoring and Compliance Branch (EMCM) conducted inspections of the former CertainTeed and GAF facilities in May and June of 1988 respectively. Exposed transite pipe and board was observed along the creek bank and on the surface near the covered waste

piles at both facilities and transite pipe was observed in the creek bed along the CertainTeed property. Samples of the exposed materials collected during these inspections indicated the materials contained up to 25% chrysotile and 15% crocidolite asbestos. Followup site assessment activity was conducted at the site in March and September 1992, by the E & E/TAT following a congressional inquiry to EPA initiated by a citizen complaint. Further sampling was conducted and photographic and video documentation of the site was produced. Sample results from this effort indicated exposed insulation, transite pipe and sheeting materials containing up to 85% chrysotile and 15 % crocidolite asbestos. The exposed materials appeared to be weathering and becoming more friable and scrap materials were observed accumulating in the creek bed as the pieces were dislodged from the creek bank through erosional processes.

During the flood event in July and August of 1993, swelling of the Mississippi River caused a back up of Maline Creek, flooding the common area and parts of the subdivision just south of the site. Approximately 70 homes were flooded to varying degrees during the peak crest period. Approximately 20 of the affected homes were scheduled for buyout by the Federal Emergency Management Agency (FEMA) and were under demolition during this sampling effort. Additional homes were eligible for the buyout; however, the residents refused. This flood event potentially transported asbestos containing materials from the site, increasing the potential for contamination of the affected areas above and beyond that which may have been present prior to the flood.

A contractor hired by FEMA conducted soil sampling for asbestos in the buyout area in November, 1994. Thirty-one soil samples were collected during this effort with split samples provided to MDNR and EPA. TAT was tasked to procure a contract laboratory for analysis of these split samples by transmission electron microscopy (TEM). Of these 31 split samples, seven samples had chrysotile asbestos present at greater than one percent, 10 samples had chrysotile asbestos present at trace levels less than one percent, and 14 samples were reported as none detected. EPA defines material greater than one percent asbestos as asbestos containing material (ACM).

TAT was tasked with this sampling effort to provide an assessment of the potential threat from exposure to asbestos fibers to residents living in the subdivision near the site. The target population in this assessment were the residences near the FEMA buyout area and the areas affected by the flooding in 1993, including all residents in the subdivision southeast of the site. The sampling was conducted knowing that contamination by asbestos fibers at these residences may have occurred due to entrainment by air from the site prior to the flood event. TAT was tasked to perform this sampling in accordance with the QASP, "Quality Assurance Sampling Plan for the Collection of Air and Soil Samples From Residential Areas Near the CertainTeed/Maline Creek Site for Asbestos Analysis", prepared under TDD T07-9410-078. As specified in this QASP, TAT was tasked to subcontract the services of an Asbestos

Hazards Emergency Response Act (AHERA) certified air-monitoring technician to assist with the air sampling network design and sample collection.

SITE ACTIVITIES

On Wednesday January 4, 1995, TATM David Kinroth met at the site with EPA On-scene Coordinator (OSC) Don Hamera and Tom Kruse, Environmental Specialist with the MDNR Air Pollution Control Program, to discuss the final design of the air sampling network. Also present were Darren Wilhite and Matt Burcham from Environmental Options (EO), the subcontractor selected to provide the AHERA certified air monitoring technician to assist with the air sampling. A site tour was conducted and then all personnel proceeded to the Bellefontaine Neighbors City Hall to finalize the network design. The QASP directed the collection of a soil sample from each air sampling location, from additional locations in the flood zone, and at remote and background locations outside the flood zone. Following this meeting, OSC Don Hamera and Tom Kruse (MDNR) proceeded to the selected residential sampling locations to acquire access for sampling. Access to sample at the former CertainTeed property, in the FEMA buyout demolition area, and on the commons area south of Maline Creek along the subdivision had already been obtained.

The air sampling activities began at 0700 hours on Thursday January 5, 1995. The sampling team consisted of TATM David Kinroth, EPA/OSC Don Hamera, and initially two air sampling technicians from Environmental Options, Matt Burcham and Kyle Uber. The first task was to set up and start the air sampling pumps at all locations. TAT and the OSC drove light duty fence posts into the ground at each location while the air sampling technicians set up the personal sampling pumps at one meter above the ground, conducted the initial calibration of the pumps with a rotameter to approximately three liters per minute sampling rate, and started the samplers. The sample pumps were to run for approximately eight hours and to provide a minimum sample volume of 1200 liters. The collection medium for the air samples was a 25-mm diameter cassette with an open-faced 50-mm electrically conductive extension cowl and a 0.45 micrometer mixed cellulose ester filter membrane.

Once all the air sampling pumps had been initiated, Kinroth, Hamera, and Matt Burcham continued site activity with the collection of soil samples. Soil samples were collected at all 13 air sampling locations, as well as from nine additional locations within and beyond the perimeter of the flood affected area. All soil samples were surface grab samples collected by scraping the soil surface with a stainless steel spoon within a 625 square centimeter area. The samples were placed in an aluminum pie pan, homogenized, and then packaged in a 4-ounce glass jar for delivery to the lab. The soil sampling was conducted in level D personal protective equipment (PPE). In addition to the 22 surface soil bulk samples, the OSC included a bulk sample of demolition material from a home in the FEMA buyout area that had been collected by Tom Kruse (MDNR) the previous day.

At 1525 hours on January 5, 1995, the air monitoring technician, Matt Burcham (EO), began collecting the air sample cassettes from the sample pumps in the order in which they had been initiated. TAT and the OSC followed behind removing the fence posts and other associated hardware. At each location a final rotameter flow rate reading was taken of the sample pump with the sample cassette intact prior to its removal from the pump. This final flow rate was then averaged with the initial flow rate to provide an average rate over the sampling period. The average rate was then multiplied by the sample duration to calculate the final sample volume in liters. Sample volumes ranged from 1206 to 1416 liters. Two field blank air samples and one lab blank sample were also included for analysis along with the 13 field samples collected. TAT was provided with a comprehensive air sampling summary sheet upon completion of the days activity at 1730 hours. TAT took possession of all air and soil samples for delivery to the lab for asbestos analysis.

Kinroth delivered the samples to the selected contract lab, Environment & Energy Consultants, Inc., an affiliate of Industrial Testing Laboratories, Inc., in St. Louis, Missouri, on Friday January 6, 1995. Standard sample tagging, field sheet, and chain-of-custody procedures were followed. All air samples were submitted for transmission electron microscopy (TEM) asbestos analysis following AHERA protocol, which will detect asbestos structures less than five micrometers and potentially as small as 0.1 micrometers. For comparative purposes, two of the air samples were also submitted for analysis following both the NIOSH 7400 and 7402 methods. The NIOSH 7400 method is a phase contrast microscopy method which provides an index of airborne fibers used for estimating asbestos concentrations, although it does not differentiate between asbestos and other fiber types. The NIOSH 7402 method is an asbestos fiber specific TEM method intended to compliment the results obtained in method 7400. This method counts fibers greater than five micrometers in length, with a length-width aspect ratio greater than 3 to 1. All soil/bulk samples were submitted for TEM asbestos analysis using a modification of the Chatfield Method for the analysis of resilient floor tile, which can be modified slightly to analyze samples other than floor tiles. For comparative purposes two of the soil samples were also submitted for polarized light microscopy (PLM) asbestos analysis. Under 40 CFR Part 763 the EPA defines any sample or material containing greater than one percent asbestos as asbestos containing material (ACM).

FOLLOWUP ACTIVITIES

The sample results were received from Environment & Energy Consultants, Inc., on January 25, 1995. The results are summarized in attachment C to this report. A discussion of the results is presented below.

Asbestos structures were detected in only three of the air samples collected, MLC-006, MLC-007, and MLC-008, analyzed by the TEM AHERA method. Sample MLC-008 was collected from the backyard at 813 Lebon in the FEMA demolition area, sample MLC-007 was collected just north of the demolition area at the southeast end of the commons area, and sample MLC-006 was collected from the center of the commons area north of the demolition area. Refer to the air sample location map (Attachment C)

for the locations of these samples. The results were 35.8 structures/mm^2, 17.9 structures/mm^2, and 17.9 structures/mm^2, for samples MLC-006, MLC-007, and MLC-008 respectively. It should be noted that the wind was out of the south all day on the day of collection, and that demolition activities were taking place in the demolition area during the sampling period. Under the AHERA regulations, 70 structures/mm2 is the background level used for asbestos abatement in schools.

Of the 23 soil/bulk samples collected only two had chrysotile asbestos levels reported greater than one percent, and therefore would be considered asbestos containing material (ACM) by EPA. These samples were MLC-019, taken on the north bank of Maline Creek on the former CertainTeed property, and MLC-039, the sample of demolition material collected by Tom Kruse (MDNR) from the home at 9224 Lebon in the FEMA demolition area. It should be noted that pieces of transite were observed on the soil surface at the point of collection of sample MLC-019. The remaining soil samples had trace levels of chrysotile asbestos less than one percent in seven samples and 14 samples were reported as none detected. Refer to the soil/bulk sampling location map (Attachment C) for the sample locations. Comparison of the soil sampling results with the subdivision plat map showing the FEMA demolition area and other areas affected by flooding (Attachment B) does not reveal any discernible pattern of asbestos in soil associated with the flooding.

SUMMARY

The TAT was tasked by Region VII EPA/EP&R to provide technical assistance to the OSC during a site assessment at the CertainTeed/Maline Creek asbestos site in Bellefontaine Neighbors, Missouri. TAT subcontracted the services of an AHERA certified air monitoring technician to assist with the collection of 13 air samples for asbestos analysis and collected 23 soil/bulk samples for asbestos analysis during this effort in accordance with the QASP previously prepared under TDD T07-9410-078. The sampling was completed on January 5, 1995, and the sample results were received from the contract lab on January 25, 1995.

REFERENCES

Chatfield Technical Consulting Limited - Standard Operating Procedure SOP-1988-02 Rev. 1: Analysis of Resilient Floor Tile.

Ecology & Environment, Inc., Technical Assistance Team, May 8, 1992. CertainTeed Transite Pipe Site Assessment, TDD T07-9203-012, submitted to U.S. EPA Region VII Emergency Planning and Response Branch, Kansas City, Kansas.

Ecology & Environment, Inc., Technical Assistance Team, September 21, 1992. CertainTeed-Maline Creek Site Assessment, TDD T07-9209-003, submitted to U.S. EPA Region VII Emergency Planning and Response Branch, Kansas City, Kansas.

Ecology & Environment, Inc., Technical Assistance Team, March 14, 1994. Maline Creek Site Assessment, TDD T07-9402-015, submitted to U.S. EPA Region VII Emergency Planning and Response Branch, Kansas City, Kansas.

Missouri Department of Natural Resources, Waste Management Unit, August 28, 1984, Preliminary Assessment-Branch Metal Processing Company, 3012 Summary, Case 534.918.

U.S. Environmental Protection Agency, 1988, Environmental Monitoring and Compliance Branch, Inspection Report on the CertainTeed Transite Pipe Plant, St. Louis, Missouri.

U.S. Environmental Protection Agency, 1988, Environmental Monitoring and Compliance Branch, Inspection Report on the GAF Transite Plant, St. Louis, Missouri.

ATTACHMENTS

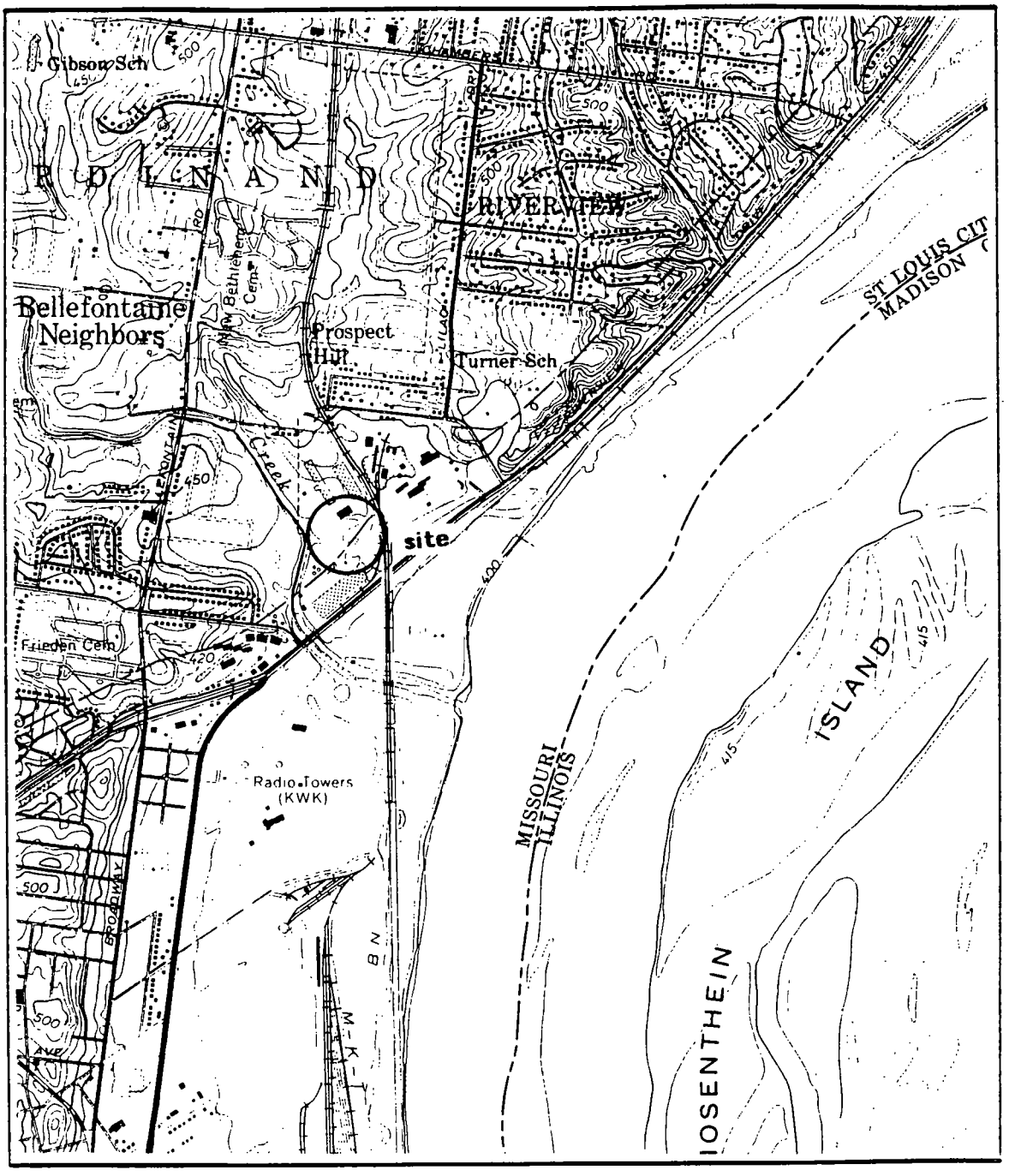
Attachment A - Site Location Map
Site Sketch Map

Attachment B - Site Aerial Photograph
Subdivision Plat Map; Areas Affected by Flood

Attachment C - Sample Data Summaries; Sample Location Maps; Shipping Records; Field Sheets

Attachment D - Photographic Record

ATTACHMENT A



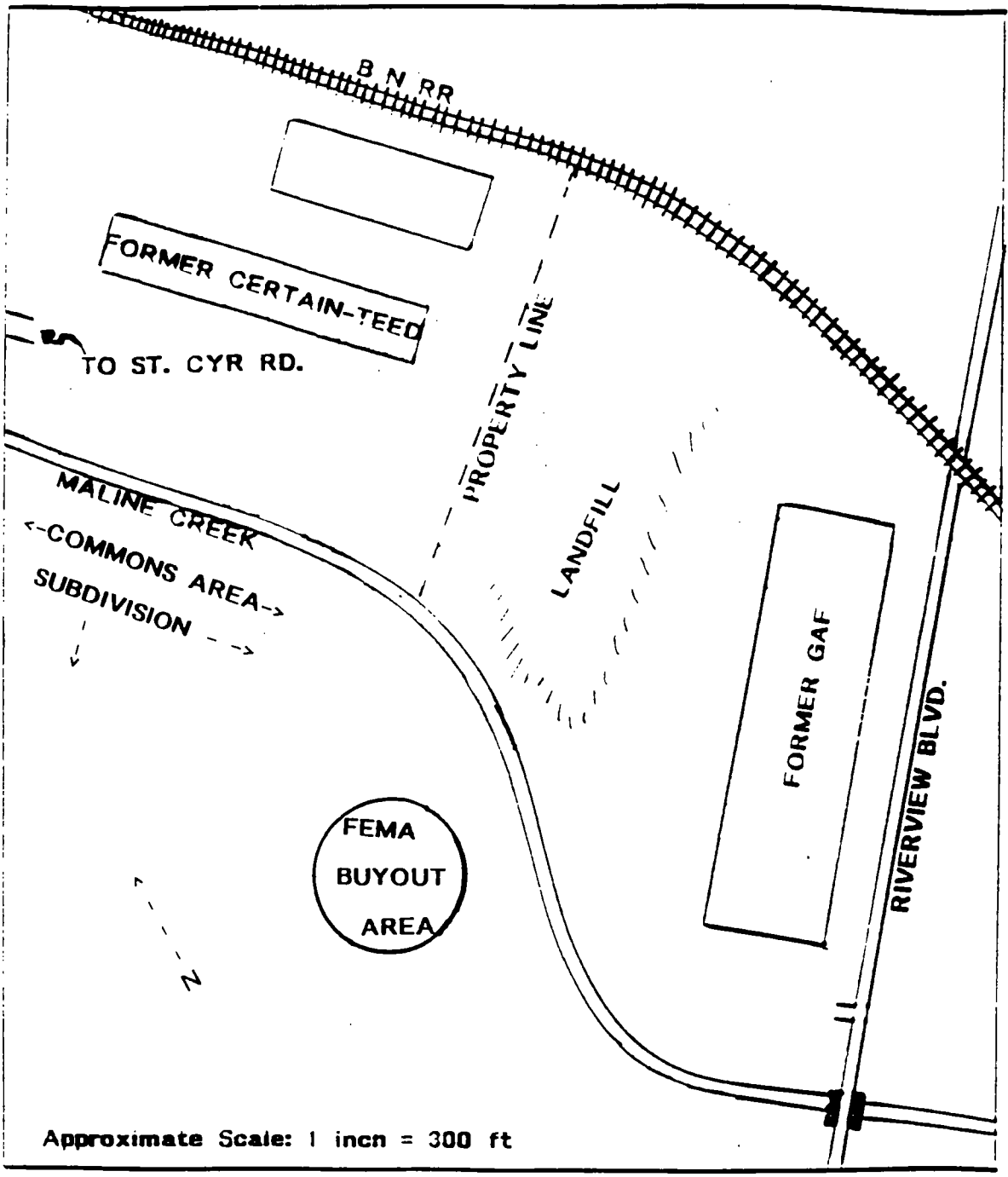
CERTAINTEED/MALINE CREEK SITE LOCATION MAP

BELLEFONTAINE NEIGHBORS, MISSOURI

TDD#: T07-9412-016

PAN#: EMO0307SEA

QUADRANGLE LOCATION



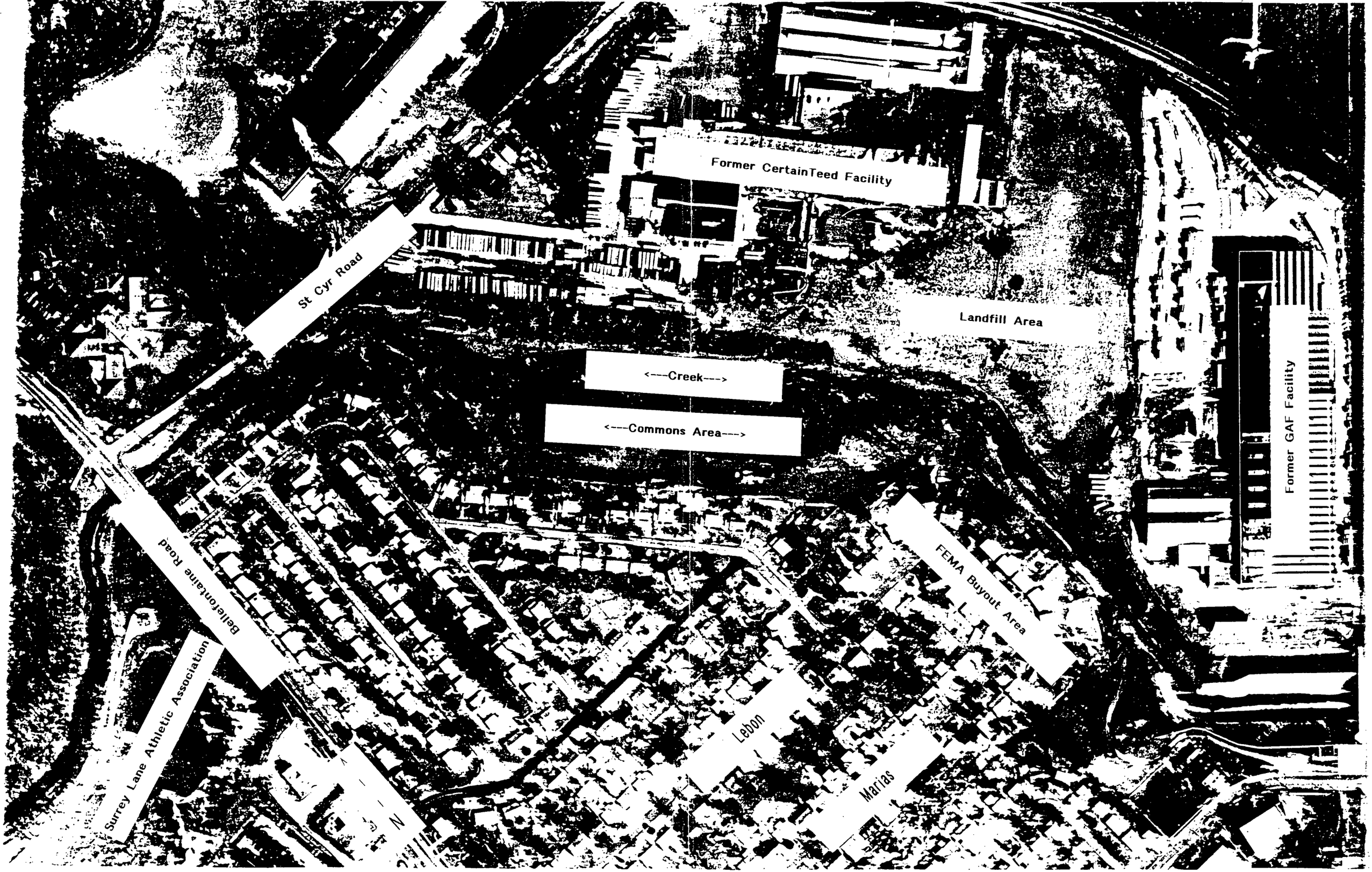
CERTAIN-TEED TRANSITE PIPE SITE (MALINE CREEK)

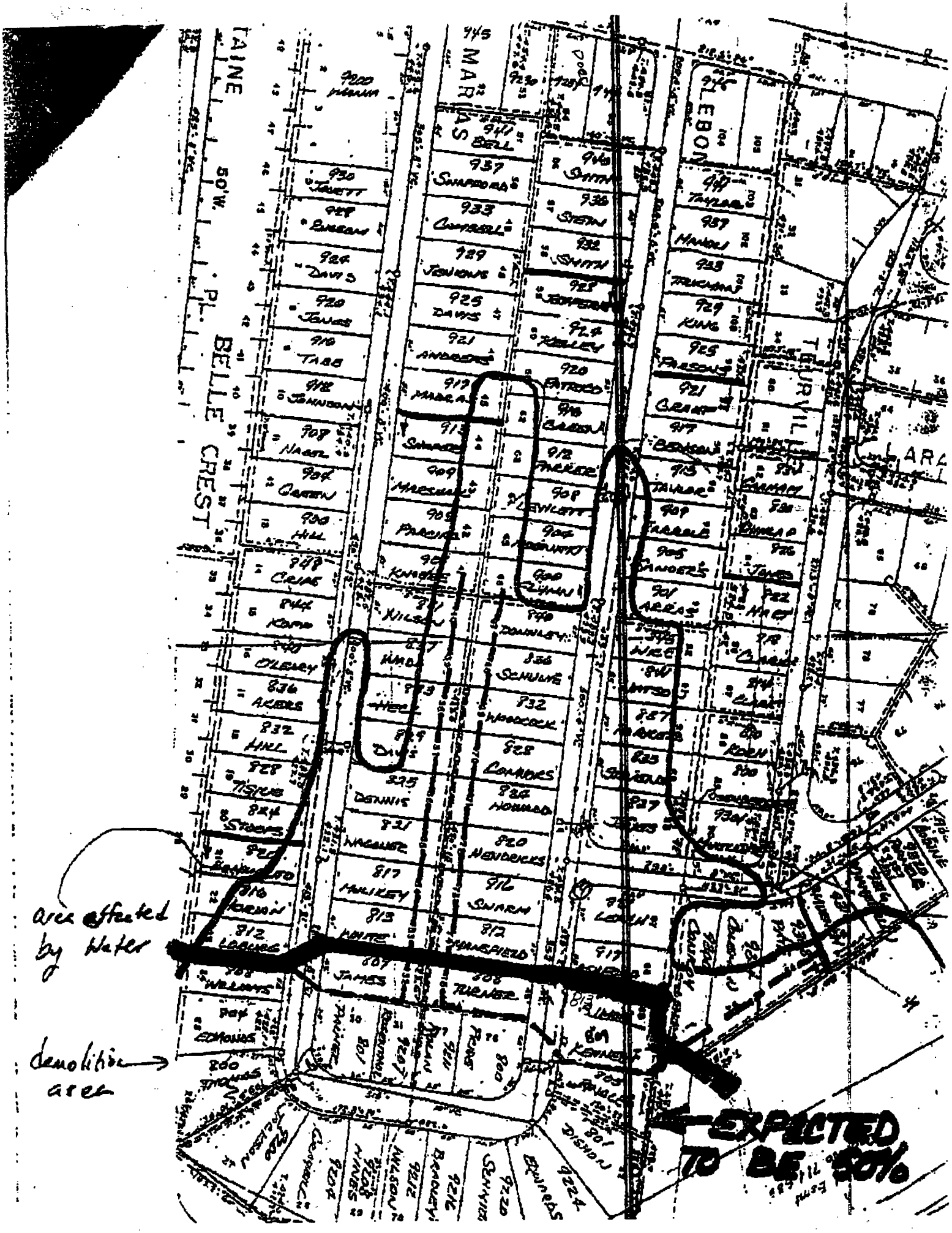
T07-9412-016

EMO0307SEA

SITE MAP

ATTACHMENT B


Former CertainTeed Facility
St Cyr Road
Landfill Area
<---Creek--->
<---Commons Area--->
Former GAF Facility
FEMA Buyout Area
Bellefontaine Road
Surrey Lane Athletic Association
Lebon
Marias


area affected by water
demolition area
EXPECTED TO BE 50%

ATTACHMENT C

AIR SAMPLE RESULTS SUMMARY

Sample #	Location/Description	Method	Results
MLC-001	Top of Landfill Area on site	TEM-AHERA	ND
MLC-002	Southeast End of Branch Metals on site below landfill	"	"
MLC-003	North Bank of Maline Creek on former CertainTeed property	"	"
MLC-004	Northwest End Commons Area south of site/Maline Creek	TEM-AHERA NIOSH 7400 PCM NIOSH 7402 TEM	ND <0.001 ND
MLC-005	Duplicate of MLC-004	TEM-AHERA	ND
MLC-006	Center of Commons Area along Maline Creek south of site	"	35.8
MLC-007	Southeast End of Commons Area near FEMA demolition area	"	17.9
MLC-008	813 Lebon-back yard in FEMA demolition area	"	17.9
MLC-009	941 Marias-back yard west of flood affected zone	"	ND
MLC-010	925 Marias-front yard west of flood affected zone	"	ND
MLC-011	Surrey Lane Athletic Assn. ball field #5 west of site	"	ND
MLC-012	Center of Bethlehem Cemetary ~4/10 mile north of site	"	ND
MLC-013	Field Blank #1	"	ND
MLC-014	Field Blank #2	"	ND
MLC-015	Lab Blank	"	ND
MLC-016	836 Lebon-front yard in flood affected zone west of FEMA demolition area	TEM-AHERA NIOSH 7400 PCM NIOSH 7402 TEM	ND 0.0018 ND

TEM-AHERA results reported in asbestos structures/mm2
NIOSH 7400 PCM results reported in fibers/cc, not asbestos specific
NIOSH 7402 TEM results reported in asbestos fibers/cc
ND=NONDETECT

ENVIRONMENTAL OPTIONS
187 BAKER AVENUE
SAINT LOUIS, MO 63119

DATE: 1/5/95
PROJECT NAME: Certain-Teed/Maline Creek **CLIENT** Ecology & Environment (EAT) **ANALYTICAL METHOD:**
PROJECT # 95-002-A **ADDRESS:** Earth City, MO
PROJECT LOCATION: St. Louis, MO

SAMPLE #	TYPE/ACT	PUMP #	SAMPLE LOCATION	TIME	ON	TIME	OFF	MIN.	FLWRATE	VOLUME	STRUCTURES/MM:	FIBERS/CC	RESULTS
001	BKG	5971	Top of Landfill	7	26	15	25	479	2.9	1389.0			
002	BKG	5976	SE. of Branch Metal	7	38	15	31	473	2.9	1372.0			
003	BKG	5972	SW Parking Lot	7	44	15	36	472	3.0	1416.0			
004	BKG	5975	West Enc Commons	8	5	15	43	458	2.8	1260.0			
005	BKG	5973	West Enc Commons	8	6	15	44	458	3.0	1374.0			
006	BKG	691791	Center of Commons	8	10	15	48	458	3.0	1374.0			
007	BKG	691793	SE Commons	8	16	15	54	458	3.0	1374.0			
008	BKG	691794	Demo Area 813 Lebon	8	19	15	55	456	3.0	1368.0			
009	BKG	691792	941 Marias Back Yd	8	31	16	5	454	3.0	1362.0			
010	BKG	PS-4	925 Marias Front Yd	8	35	16	8	453	3.0	1359.0			

COMMENTS:	SAMPLE Type	Activity	CALIBRATION Pump #	Begin	End	ROTOMETER # Mean	Corr	Flow Rate
	PER-Personal	PR-Site Prep	5971	3.0	2.8	2.9	0	2.9
	CLR-Clearance	GR-Gross Removal	5976	3.0	2.8	2.9	0	2.9
	I/A-Inside W/A	GB-Glovebag	5972	3.0	3.0	3.0	0	3.0
	O/A-Outside WA	CU-Clean Up	5975	3.0	2.8	2.9	0	2.9
	NEG-Negative Air	PA-Patch & Repair	5973	3.0	3.0	3.0	0	3.0
	F/BLK-Field Blank		691791	3.0	3.0	3.0	0	3.0
	BKG-Background		691793	3.0	3.0	3.0	0	3.0
	L/BLK-Lab Blank		691794	3.0	3.0	3.0	0	3.0
			691792	3.0	3.0	3.0	0	3.0
			PS-4	3.0	3.0	3.0	0	3.0

FIELD BLANK AVE:
LAB BLANK: ANALYTICAL METHOD: T.E.M. SAMPLED BY: Matthew Burcham
LOT NUMBER: GEOMETRIC MEAN (s/mm2)
FILTER AREA sq. mm: 385 GEOMETRIC MEAN (f/cc) ANALYZED BY:
FIELD AREA sq. mm: 0.0078
PORE SIZE: 0.45um REVIEWED BY:

ENVIRONMENTAL OPTIONS
187 BAKER AVENUE
SAINT LOUIS, MO 63119

DATE: 1/5/95

PROJECT NAME: Certain-Teed/Maline Creek CLIENT Ecology & Environment (TAT) ANALYTICAL METHOD:

PROJECT # 95-002-A ADDRESS: Earth City, MO

PROJECT LOCATION: St. Louis, MO

SAMPLE #	TYPE/ACT	PUMP #	SAMPLE LOCATION	TIME	ON	TIME	OFF	MIN.	FLW RATE	VOLUME	STRUCTURES/MM	FIBERS/CC	RESULTS
011	BKG	PS-3	Ball Field	8	45	16	8	443	3.0	1329.0			
012	BKG	PG-1	Cemetery	8	54	16	12	438	3.0	1314.0			
013	F/BLK	---	Field Blank	---	---	---	---	---	---	---			
014	F/BLK	---	Field Blank	---	---	---	---	---	---	---			
015	L/BLK	---	Lab Blank	---	---	---	---	---	---	---			
016	BKG	4735	836 Labon Front Yd	11	0	17	17	377	3.2	1206.0			

COMMENTS:	SAMPLE Type	Activity	CALIBRATION Pump #	Begin	End	ROTOMETER # Mean	Corr	Flow Rate
#1011 First Field 2nd Base	PEF-Personal	PR-Site Prep	PS-3	3.0	3.0	3.0	0	3.0
	CLR-Clearance	GR-Gross Removal	PG-1	3.0	3.0	3.0	0	3.0
	I/A-Inside W/A	GB-Glovebag	4735	3.4	3.0	3.2	0	3.2
	O/A-Outside WA	CU-Clean Up						
	NEG-Negative Air	PA-Patch & Repair						
	F/BLK-Field Blank							
	BKG-Background							
	L/BLK-Lab Blank							

FIELD BLANK AVE:

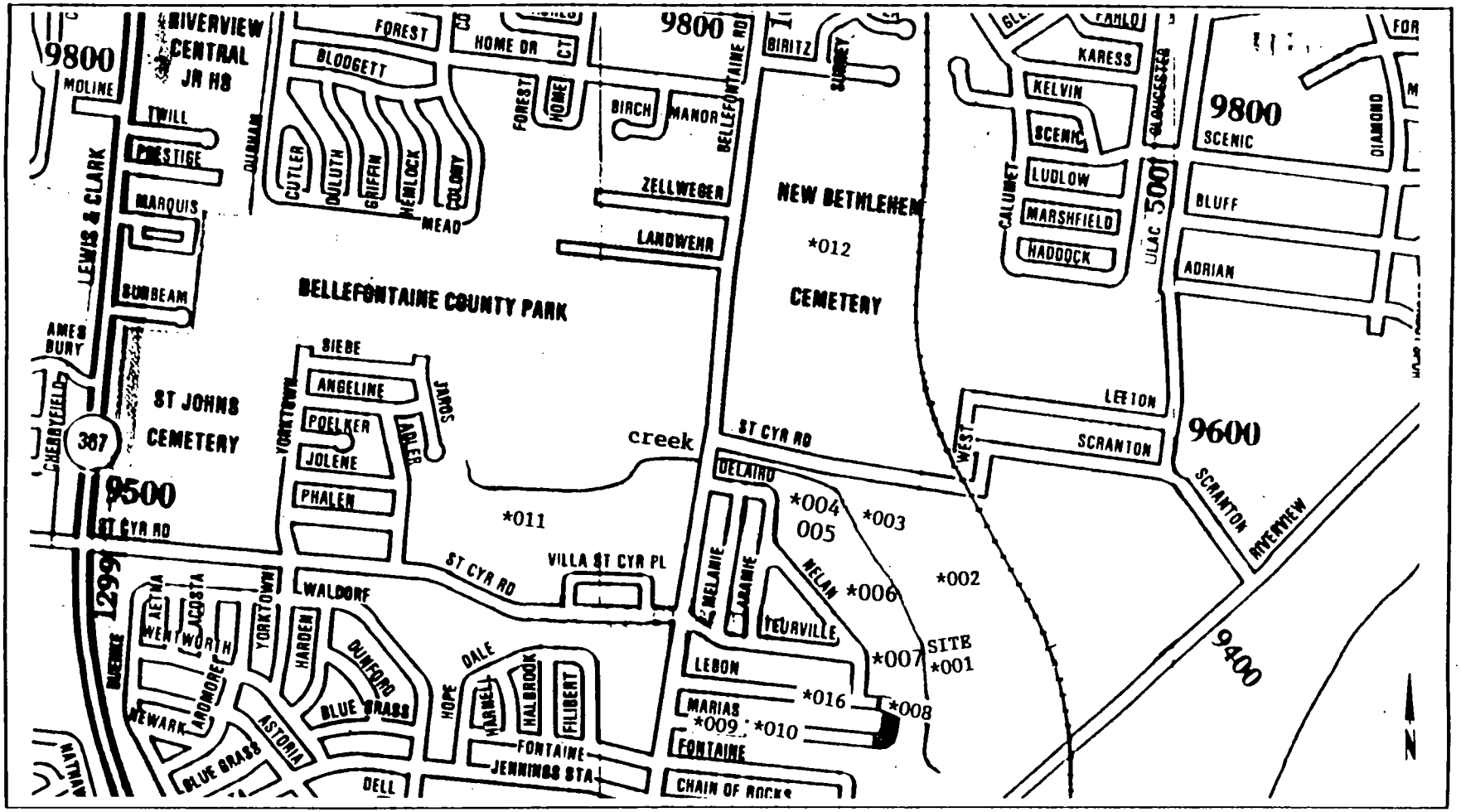
LAB BLANK: ANALYTICAL METHOD: T.E.M. SAMPLED BY: Matthew Burcham

LOT NUMBER: GEOMETRIC MEAN (s/mm2)

FILTER AREA sq. mm: 385 GEOMETRIC MEAN (f/cc) ANALYZED BY:

FIELD AREA sq. mm: 0.0078

PORE SIZE: 0.45um REVIEWED BY:



* = sample point/number
*013,014 = field blanks
*015 = lab blank

CertainTeed/Maline Creek Site Air Sampling Locations

(soil samples also collected at each of these locations)

TDD#: T07-9412-016

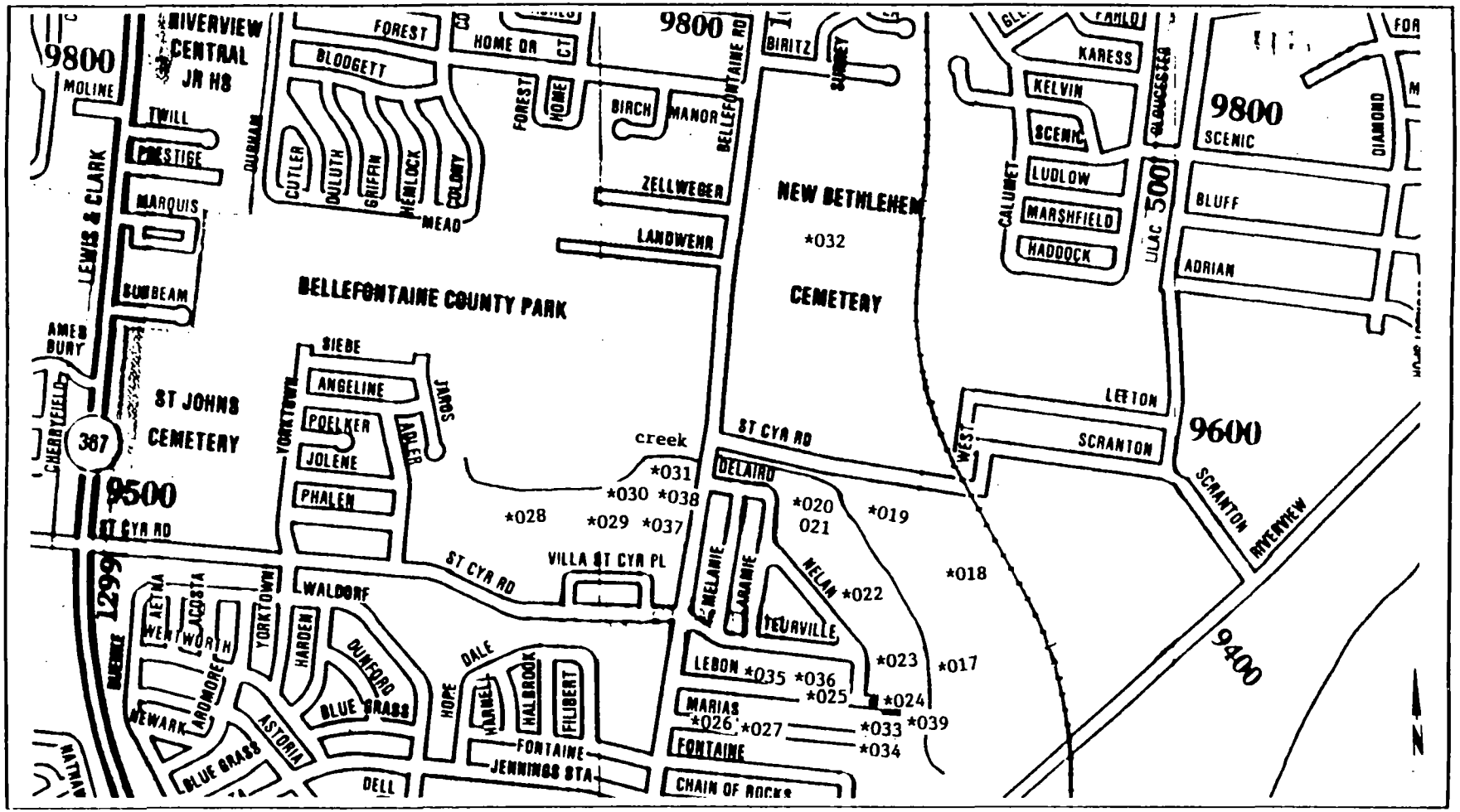
PAN#: EMO0307SEA

SOIL SAMPLE RESULTS SUMMARY

Sample #	Location/Description	Method	Results
MLC-017	Top of Landfill Area on site	TEM-Chatfield	ND <1% if present
MLC-018	Southeast End of Branch Metals on site below landfill	"	chrysotile trace <1%
MLC-019	North Bank of Maline Creek on former CertainTeed property	"	chrysotile greater than 1%
MLC-020	Northwest End Commons Area south of site/Maline Creek	TEM-Chatfield PLM-40 CFR 763	chrysotile trace <1% chrysotile trace <1%
MLC-021	Duplicate of MLC-020	TEM-Chatfield	ND <1% if present
MLC-022	Center of Commons Area along Maline Creek south of site	"	"
MLC-023	Southeast End of Commons Area near FEMA demolition area	"	"
MLC-024	813 Lebon-back yard in FEMA demolition area	"	chrysotile trace <1%
MLC-025	836 Lebon-front yard-flood affected zone west of FEMA demolition area	TEM-Chatfield PLM-40 CFR 763	chrysotile trace <1% ND <1% if present
MLC-026	941 Marias-back yard west of flood affected zone	TEM-Chatfield	chrysotile trace <1%
MLC-027	925 Marias-front yard west of flood affected zone	"	"
MLC-028	Surrey Lane Athletic Assn. edge of field #5 west of site	"	ND <1% if present
MLC-029	Surrey Lane Athletic Assn. left field area-field #7	"	"
MLC-030	Surrey Lane-deposit area along Maline Creek between field 6 & 8	"	"
MLC-031	Surrey Lane-along Maline Creek 50 yards north of circle drive	"	"

SOIL SAMPLE RESULTS SUMMARY CONTINUED

Sample #	Location/Description	Method	Results
MLC-032	Center of Bethlehem Cemetary ~4/10 mile north of site	TEM-Chatfield	ND <1% if present
MLC-033	813 Marias-back yard just west of FEMA demolition area	"	"
MLC-034	812 Marias-west side yard just west of demolition area	"	"
MLC-035	929 Lebon-front yard beyond west limit of flood zone	"	"
MLC-036	905 Lebon-front yard just at west limit of flood zone	"	chrysotile trace <1%
MLC-037	Surrey Lane Athletic Assn. field #8-short center field	"	ND <1% if present
MLC-038	Surrey Lane field #8 home plate	"	"
MLC-039	9224 Lebon-demolition material home in FEMA demolition area	"	chrysotile greater than 1%



* = sample point/number

samples 017-038 = soil samples
sample 039 = demolition material

CertainTeed/Maline Creek Site Soil/Bulk Samples

TDD#: T07-9412-016

PAN#: EMO0307SEA

Dave Kinroth - Ecology & Environment

CHAIN OF CUSTODY RECORD
ENVIRONMENTAL PROTECTION AGENCY REGION VII

ACTIVITY LEADER(Print)	NAME OF SURVEY OR ACTIVITY	DATE OF COLLECTION (DAY / MONTH / YEAR)	SHEET
Don Hamera - EPA	CertainTeed / Maline Creek	5 / 1 / 95	1 of 2

CONTENTS OF SHIPMENT

SAMPLE NUMBER	TYPE OF CONTAINERS: ~~CUBITAINER~~ CASSETTE	40Z BOTTLE	BOTTLE	BOTTLE	VOA SET (2 VIALS EA)	SAMPLED MEDIA: water	soil	sediment	dust	other X	RECEIVING LABORATORY REMARKS/OTHER INFORMATION (condition of samples upon receipt, other sample numbers, etc.)
	NUMBERS OF CONTAINERS PER SAMPLE NUMBER										Air
MLC-001	1										TEM AHERA Method only
MLC-002											
MLC-003											
* MLC-004											* TEM AHERA + 740Z Method
MLC-005											TEM AHERA Method Only
MLC-006											
MLC-007											
MLC-008											
MLC-009											
MLC-010											
MLC-011											
MLC-012											
MLC-013											
MLC-014											
MLC-015											
* MLC-016											* TEM AHERA + 740Z Method
MLC-017		1					X				TEM - Asbestos in Soil
MLC-018											
MLC-019											
* MLC-020											* TEM and PLM Asbestos in Soil
MLC-021											TEM - Asbestos in Soil
MLC-022											
MLC-023											
MLC-024											

Air

Soil

DESCRIPTION OF SHIPMENT

39 PIECE(S) CONSISTING OF 2 BOX(ES)

____ ICE CHEST(S); OTHER ____

MODE OF SHIPMENT

____ COMMERCIAL CARRIER ____

____ COURIER ____

X SAMPLER CONVEYED ____ (SHIPPING DOCUMENT NUMBER)

PERSONNEL CUSTODY RECORD

RELINQUISHED BY (SAMPLER)	DATE	TIME	RECEIVED BY	REASON FOR CHANGE OF CUSTODY
Dave Kinroth X SEALED UNSEALED	1-6-95	1410	William Lowry SEALED UNSEALED	Delivered to Lab for Analysis
RELINQUISHED BY SEALED UNSEALED	DATE	TIME	RECEIVED BY SEALED UNSEALED	REASON FOR CHANGE OF CUSTODY
RELINQUISHED BY SEALED UNSEALED	DATE	TIME	RECEIVED BY SEALED UNSEALED	REASON FOR CHANGE OF CUSTODY

7-EPA-9262(Revised 5/85)

Dave Kinroth - Ecology & Environment

CHAIN OF CUSTODY RECORD
ENVIRONMENTAL PROTECTION AGENCY REGION VII

ACTIVITY LEADER(Print)	NAME OF SURVEY OR ACTIVITY	DATE OF COLLECTION (DAY / MONTH / YEAR)	SHEET
Don Hamera - EPA	CertainTeed / Maline Creek	5 / 1 / 95	2 of 2

CONTENTS OF SHIPMENT

SAMPLE NUMBER	TYPE OF CONTAINERS: CUBITAINER	BOTTLE (403)	BOTTLE	BOTTLE	VOA SET (2 VIALS EA)	SAMPLED MEDIA: water	soil	sediment	dust	other	RECEIVING LABORATORY REMARKS OTHER INFORMATION (condition of samples upon receipt, other sample numbers, etc.)
	NUMBERS OF CONTAINERS PER SAMPLE NUMBER										
* MLC-025		1					X				* TEM and PLM Asbestos in Soil
MLC-026											TEM Asbestos in Soil
MLC-027											
MLC-028											
MLC-029											
MLC-030											
MLC-031											
MLC-032											
MLC-033											
MLC-034											
MLC-035											
MLC-036											
MLC-037											
MLC-038											
MLC-039											

END

DESCRIPTION OF SHIPMENT

39 PIECE(S) CONSISTING OF 2 BOX(ES)

_____ ICE CHEST(S). OTHER _____

MODE OF SHIPMENT

_____ COMMERCIAL CARRIER _____

_____ COURIER

X SAMPLER CONVEYED

(SHIPPING DOCUMENT NUMBER)

PERSONNEL CUSTODY RECORD

RELINQUISHED BY (SAMPLER)	DATE	TIME	RECEIVED BY	REASON FOR CHANGE OF CUSTODY
Dave Kinroth (X SEALED / UNSEALED)	1-6-95	1410	William Young (SEALED / UNSEALED)	Delivered to Lab for Analysis
RELINQUISHED BY (SEALED / UNSEALED)	DATE	TIME	RECEIVED BY (SEALED / UNSEALED)	REASON FOR CHANGE OF CUSTODY
RELINQUISHED BY (SEALED / UNSEALED)	DATE	TIME	RECEIVED BY (SEALED / UNSEALED)	REASON FOR CHANGE OF CUSTODY

7-EPA-9262(Revised 5/85)

FIELD SHEET
U.S. ENVIRONMENTAL PROTECTION AGENCY.REGION VII
ENVIRONMENTAL SERVICES DIV. 25 FUNSTON RD. KANSAS CITY. KS. 66115

Site Name: CertainTeed / Maline Creek
City/State: Bellefontaine Neighbors, Missouri
Superfund Site No:
Site Code:

Epa Number: MLC - 001
Contract Number: 68-WO-0037
Priority: 1 week
Medium: Air

Clean-up Area
Layer
Date Collected: 1-5-95
TIME: 1525

Team Leader:

Samplers: Matt Burcham
Sample Depth: — in.
No. Of Aliquots: —

COMMENTS:

Volume 1389.0 liters

Collected on top of landfill area between former CertainTeed property and former GAF property

SAMPLE CONTAINER	PRESERVATIVE	ANAL. REQ. REQUESTED
Cassette .45 μ mixed cellulose ester filter	None.	TEM AHERA Asbestos Analysis

FIELD SHEET
U.S. ENVIRONMENTAL PROTECTION AGENCY.REGION VII
ENVIRONMENTAL SERVICES DIV. 25 FUNSTON RD. KANSAS CITY. KS. 66115

Site Name: CertainTeed / Maline Creek
City/State: Bellefontaine Neighbors, Missouri
Superfund Site No:
Site Code:

Epa Number: MLC - 002
Contract Number: 68-WO-0037
Priority: 1 week
Medium: Air

Clean-up Area
Layer
Date Collected: 1-5-95
TIME: 1531
Team Leader:
Samplers: Matt Burcham
Sample Depth: — m.
No. Of Aliquots: —

COMMENTS:
Volume 1372.0 liters
East - ~~North~~ South D.K. East End of Branch Metals Building - below landfill area - former CertainTeed Property

SAMPLE CONTAINER	PRESERVATIVE	ANAL PT REQUESTED
Cassette .45 u mixed cellulose ester filter	None.	TEM AHERA Asbestos Analysis

FIELD SHEET
U.S. ENVIRONMENTAL PROTECTION AGENCY.REGION VII
ENVIRONMENTAL SERVICES DIV. 25 FUNSTON RD. KANSAS CITY. KS. 66115

Site Name: CertainTeed / Maline Creek
City/State: Bellefontaine Neighbors, Missouri
Superfund Site No:
Site Code:

Epa Number: MLC - 003
Contract Number: 68-WO-0037
Priority: 1 week
Medium: Air

Clean-up Area
Layer
Date Collected: 1-5-95
TIME: 1536
Team Leader:
Samplers: Matt Burcham
Sample Depth: — in.
No. Of Aliquots: —

COMMENTS:
Volume 1416.0 liters
Parking lot Area just south of entry drive to former CertainTeed property - Along Northern Bank of Maline Creek

SAMPLE CONTAINER	PRESERVATIVE	ANALYSIS REQUESTED
Cassette .45 u mixed cellulose ester filter	None	TEM AHERA Asbestos Analysis

FIELD SHEET
U.S. ENVIRONMENTAL PROTECTION AGENCY.REGION VII
ENVIRONMENTAL SERVICES DIV. 25 FUNSTON RD. KANSAS CITY. KS. 66115

Site Name: CertainTeed / Maline Creek
City/State: Bellefontaine Neighbors, Missouri
Superfund Site No:
Site Code:

Epa Number: MLC - 004
Contract Number: 68-WO-0037
Priority: 1 week
Medium: Air

Clean-up Area
Layer
Date Collected: 1-5-95
TIME: 1543
Team Leader:
Samplers: Matt Burcham
Sample Depth: — in.
No. Of Aliquots: —

COMMENTS: Volume 1260.0 liters
Northwest End of Commons Area behind subdivision along south bank of Maline Creek - southwest of former CertainTeed Property near transite outcrops along creek bank.

SAMPLE CONTAINER	PRESERVATIVE	ANALYSIS REQUESTED
Cassette .45 u mixed cellulose ester filter	None.	TEM AHERA Asbestos Analysis and 7400 7402 NIOSH Methods

FIELD SHEET
U.S. ENVIRONMENTAL PROTECTION AGENCY.REGION VII
ENVIRONMENTAL SERVICES DIV. 25 FUNSTON RD. KANSAS CITY. KS. 66115

Site Name: CertainTeed / Maline Creek
City/State: Bellefontaine Neighbors, Missouri
Superfund Site No:
Site Code:

Epa Number: MLC - 005
Contract Number: 68-WO-0037
Priority: 1 week
Medium: Air

Clean-up Area
Layer

Date Collected: 1-5-95
TIME: 1 5 4 4

Team Leader:

Samplers: Matt Burcham

Sample Depth: — in.

No. Of Aliquots: —

COMMENTS:

Volume 1374.0 liters

Collocated Duplicate of MLC-004

SAMPLE CONTAINER	PRESERVATIVE	ANAL SIS REQUESTED
Cassette .45 μ mixed cellulose ester filter	None	TEM AHERA Asbestos Analysis only

FIELD SHEET
U.S. ENVIRONMENTAL PROTECTION AGENCY.REGION VII
ENVIRONMENTAL SERVICES DIV. 25 FUNSTON RD. KANSAS CITY. KS. 66115

Site Name: CertainTeed / Maline Creek
City/State: Bellefontaine Neighbors, Missouri
Superfund Site No:
Site Code:

Epa Number: MLC - 006
Contract Number: 68-WO-0037
Priority: 1 week
Medium: Air

Clean-up Area
Layer
Date Collected: 1-5-95
TIME: 1548
Team Leader:
Samplers: Matt Burcham
Sample Depth: — in.
No. Of Aliquots: —

COMMENTS:

Volume 1374.0 liters

Center of Commons Area - South - ~~Southwest~~ D.K. of Former CertainTeed Property along South bank of Maline Creek

SAMPLE CONTAINER	PRESERVATIVE	ANAL SIS REQUESTED
Cassette .45 u mixed cellulose ester filter	None	TEM AHERA Asbestos Analysis

FIELD SHEET
U.S. ENVIRONMENTAL PROTECTION AGENCY.REGION VII
ENVIRONMENTAL SERVICES DIV. 25 FUNSTON RD. KANSAS CITY. KS. 66115

Site Name: CertainTeed / Maline Creek
City/State: Bellefontaine Neighbors, Missouri
Superfund Site No:
Site Code:

Epa Number: MLC - 007
Contract Number: 68-WO-0037
Priority: 1 week
Medium: Air

Clean-up Area
Layer
Date Collected: 1-5-95
TIME: 1554

Team Leader:

Samplers: Matt Burcham
Sample Depth: — m.
No. Of Aliquots: —

COMMENTS:

Volume 1374.0 liters

SouthEast End of Commons Area near Demolition Area South of former CertainTeed Property and transite landfill Area - on South Bank of Maline Creek

SAMPLE CONTAINER	PRESERVATIVE	ANALYSIS REQUESTED
Cassette .45 u mixed cellulose ester filter	None	TEM AHERA Asbestos Analysis

FIELD SHEET
U.S. ENVIRONMENTAL PROTECTION AGENCY.REGION VII
ENVIRONMENTAL SERVICES DIV. 25 FUNSTON RD. KANSAS CITY. KS. 66115

Site Name: CertainTeed / Maline Creek
City/State: Bellefontaine Neighbors, Missouri
Superfund Site No:
Site Code:

Epa Number: MLC - 008
Contract Number: 68-WO-0037
Priority: 1 week
Medium: Air

Clean-up Area
Layer
Date Collected: 1-5-95
TIME: 1 5 5 5

Team Leader:

Samplers: Matt Burcham
Sample Depth: — in.
No. Of Aliquots: —

COMMENTS:
Volume 1368.0 liters
Demolition Area - in backyard at 813 Lebon

SAMPLE CONTAINER	PRESERVATIVE	ANAL SIS REQUESTED
Cassette .45 u mixed cellulose ester filter	None.	TEM AHERA Asbestos Analysis

FIELD SHEET
U.S. ENVIRONMENTAL PROTECTION AGENCY.REGION VII
ENVIRONMENTAL SERVICES DIV. 25 FUNSTON RD. KANSAS CITY. KS. 66115

Site Name: CertainTeed / Maline Creek
City/State: Bellefontaine Neighbors, Missouri
Superfund Site No:
Site Code:

Epa Number: MLC - 009
Contract Number: 68-WO-0037
Priority: 1 week
Medium: Air

Clean-up Area
Layer
Date Collected: 1-5-95
TIME: 1605

Team Leader:

Samplers: Matt Burcham
Sample Depth: — in.
No. Of Aliquots: —

COMMENTS:
Volume 1362.0 liters

941 Marias - Backyard
~~South~~ D.K. of Flood Affected Zone
West

SAMPLE CONTAINER	PRESERVATIVE	ANALYSIS REQUESTED
Cassette .45 μ mixed cellulose ester filter	None	TEM AHERA Asbestos Analysis

FIELD SHEET
U.S. ENVIRONMENTAL PROTECTION AGENCY.REGION VII
ENVIRONMENTAL SERVICES DIV. 25 FUNSTON RD. KANSAS CITY. KS. 66115

Site Name: CertainTeed / Maline Creek
City/State: Bellefontaine Neighbors, Missouri
Superfund Site No:
Site Code:

Epa Number: MLC - 010
Contract Number: 68-WO-0037
Priority: 1 week
Medium: Air

Clean-up Area
Layer
Date Collected: 1-5-95
TIME: 1608

Team Leader:

Samplers: Matt Burcham
Sample Depth: — in.
No. Of Aliquots: —

COMMENTS:

Volume 1359.0 liters

925 Marias - Front yard

D.K. ~~South~~ West of Flood Affected Zone

SAMPLE CONTAINER	PRESERVATIVE	ANAL SIT REQUESTED
Cassette .45 μ mixed cellulose ester filter	None	TEM AHERA Asbestos Analysis

FIELD SHEET
U.S. ENVIRONMENTAL PROTECTION AGENCY.REGION VII
ENVIRONMENTAL SERVICES DIV. 25 FUNSTON RD. KANSAS CITY. KS. 66115

Site Name: CertainTeed / Maline Creek
City/State: Bellefontaine Neighbors, Missouri
Superfund Site No:
Site Code:

Epa Number: MLC - 011
Contract Number: 68-WO-0037
Priority: 1 week
Medium: Air

Clean-up Area
Layer
Date Collected: 1-5-95
TIME: 1608

Team Leader:

Samplers: Matt Burcham
Sample Depth: — in.
No. Of Aliquots: —

COMMENTS:

Volume 1329.0 liters

Collected on edge of Baseball Diamond #5
at Surrey Lane Athletic Association Fields
near intersection of Bellefontaine & St. Cyr Roads
~~East~~ D.K. of Site - Former CertainTeed Property
West

SAMPLE CONTAINER	PRESERVATIVE	ANAL SIS REQUESTED
Cassette .45 μ Mixed cellulose ester filter	None	TEM AHERA Asbestos Analysis

FIELD SHEET
U.S. ENVIRONMENTAL PROTECTION AGENCY.REGION VII
ENVIRONMENTAL SERVICES DIV. 25 FUNSTON RD. KANSAS CITY. KS. 66115

Site Name: CertainTeed / Maline Creek
City/State: Bellefontaine Neighbors, Missouri
Superfund Site No:
Site Code:

Epa Number: MLC - 012
Contract Number: 68-WO-0037
Priority: 1 week
Medium: Air

Clean-up Area
Layer
Date Collected: 1-5-95
TIME: 1612
Team Leader:
Samplers: Matt Burcham
Sample Depth: — in.
No. Of Aliquots: —

COMMENTS:

Volume 1314.0 liters

Collected from Bethlehem Cemetary due North from the site. - Approximately 4/10 mile from site

SAMPLE CONTAINER	PRESERVATIVE	ANALYSIS REQUESTED
Cassette .45 μ mixed cellulose ester filter	None	TEM AHERA Asbestos Analysis

FIELD SHEET
U.S. ENVIRONMENTAL PROTECTION AGENCY.REGION VII
ENVIRONMENTAL SERVICES DIV. 25 FUNSTON RD. KANSAS CITY. KS. 66115

Site Name: CertainTeed / Maline Creek
City/State: Bellefontaine Neighbors, Missouri
Superfund Site No:
Site Code:

Epa Number: MLC - 013
Contract Number: 68-WO-0037
Priority: 1 week
Medium: Air

Clean-up Area
Layer

Date Collected: 1-5-95

TIME: [illegible]

Team Leader:

Samplers: Matt Burcham

Sample Depth: — in.

No. Of Aliquots: —

COMMENTS:

Field Blank #1

SAMPLE CONTAINER	PRESERVATIVE	ANALYSIS REQUESTED
Cassette .45 μ mixed cellulose ester filter	None	TEM AHERA Asbestos Analysis

FIELD SHEET
U.S. ENVIRONMENTAL PROTECTION AGENCY.REGION VII
ENVIRONMENTAL SERVICES DIV. 25 FUNSTON RD. KANSAS CITY. KS. 66115

Site Name: CertainTeed / Maline Creek
City/State: Bellefontaine Neighbors, Missouri
Superfund Site No:
Site Code:

Epa Number: MLC - 014
Contract Number: 68-WO-0037
Priority: 1 week
Medium: Air

Clean-up Area
Layer
Date Collected: 1-5-95
TIME: — — — —

Team Leader:

Samplers: Matt Burcham
Sample Depth: — in.
No. Of Aliquots: —

COMMENTS:
Field Blank #2

SAMPLE CONTAINER	PRESERVATIVE	ANALYSIS REQUESTED
Cassette .45 u mixed cellulose ester filter	None	TEM AHERA Asbestos Analysis

FIELD SHEET
U.S. ENVIRONMENTAL PROTECTION AGENCY.REGION VII
ENVIRONMENTAL SERVICES DIV. 25 FUNSTON RD. KANSAS CITY. KS. 66115

Site Name: CertainTeed / Maline Creek
City/State: Bellefontaine Neighbors, Missouri
Superfund Site No:
Site Code:

Epa Number: MLC - 015
Contract Number: 68-WO-0037
Priority: 1 week
Medium: Air

Clean-up Area
Layer
Date Collected: 1-5-95
TIME: — — — —

Team Leader:

Samplers: Matt Burcham
Sample Depth: — in.
No. Of Aliquots: —

COMMENTS:

LAB Blank

SAMPLE CONTAINER	PRESERVATIVE	ANAL SIT REQUESTED
Cassette .45 u mixed cellulose ester filter	None	TEM AHERA Asbestos Analysis

FIELD SHEET
U.S. ENVIRONMENTAL PROTECTION AGENCY.REGION VII
ENVIRONMENTAL SERVICES DIV. 25 FUNSTON RD. KANSAS CITY. KS. 66115

Site Name: CertainTeed / Maline Creek
City/State: Bellefontaine Neighbors, Missouri
Superfund Site No:
Site Code:

Epa Number: MLC-016
Contract Number: 68-WO-0037
Priority: 1 week
Medium: Air

Clean-up Area
Layer
Date Collected: 1-5-95
TIME: 1717
Team Leader:
Samplers: Burcham
Sample Depth: — in.
No. Of Aliquots: —

COMMENTS:

Volume 1206.0 liters

836 Leben Front Yard
West of Demolition Area

SAMPLE CONTAINER	PRESERVATIVE	ANAL SIT REQUESTED
Cassette .45 μ mixed cellulose ester filter	None	TEM AHERA Asbestos Analysis and 7400 7402 NIOSH Methods

FIELD SHEET
U.S. ENVIRONMENTAL PROTECTION AGENCY.REGION VII
ENVIRONMENTAL SERVICES DIV. 25 FUNSTON RD. KANSAS CITY. KS. 66115

Site Name: CertainTeed / Maline Creek
City/State: Bellefontaine Neighbors, Missouri
Superfund Site No:
Site Code:

Epa Number: MLC - 017
Contract Number: 68-WO-0037
Priority: 1 week
Medium: Soil

Clean-up Area
Layer
Date Collected: 1-5-95
TIME: 1105

Team Leader:

Samplers: Kinroth

Sample Depth: 0-2 in.

No. Of Aliquots: 1

Collected from 625 cm^2 area

COMMENTS:

Soil collected on top of landfill Area between former CertainTeed property and former GAF property - associated with Air Sample MCC-001

SAMPLE CONTAINER	PRESERVATIVE	ANALYSIS REQUESTED
4oz. JAR	None	TEM Asbestos Analysis

FIELD SHEET
U.S. ENVIRONMENTAL PROTECTION AGENCY.REGION VII
ENVIRONMENTAL SERVICES DIV. 25 FUNSTON RD. KANSAS CITY. KS. 66115

Site Name: CertainTeed / Maline Creek
City/State: Bellefontaine Neighbors, Missouri
Superfund Site No:
Site Code:

Epa Number: MLC - 018
Contract Number: 68-WC-0037
Priority: 1 week
Medium: Soil

Clean-up Area
Laver

Date Collected: 1-5-95
TIME: 1126

Team Leader:

Samplers: Kinroth

Sample Depth: 0-2 in.

No. Of Aliquots: 1

Collected from 625 cm^2 area

COMMENTS:

Soil - east - ~~Northeast~~ South D.K. of Branch Metals building - below landfill Area - former CertainTeed Property - Associated with Air Sample MLC-002

SAMPLE CONTAINER	PRESERVATIVE	ANAL. REQUESTED
4oz. JAR	None	TEM Asbestos Analysis

FIELD SHEET
U.S. ENVIRONMENTAL PROTECTION AGENCY.REGION VII
ENVIRONMENTAL SERVICES DIV. 25 FUNSTON RD. KANSAS CITY. KS. 66115

Site Name: CertainTeed / Maline Creek
City/State: Bellefontaine Neighbors, Missouri
Superfund Site No:
Site Code:

Epa Number: MLC-019
Contract Number: 68-WC-0037
Priority: 1week
Medium: Soil

Clean-up Area
Layer

Date Collected: 1-5-95
TIME: 1140

Team Leader:

Samplers: Kinroth

Sample Depth: 0-2 in.

No. Of Aliquots: 1

Collected from 625 cm^2 area

COMMENTS:

Soil from lot area south of entry drive to former CertainTeed Property - Along Northern Bank of Maline Creek - Transite pieces were observed on the surface here - associated with Air Sample MLC-003

SAMPLE CONTAINER	PRESERVATIVE	ANAL SIS REQUESTED
4oz. JAR	None	TEM Asbestos Analysis

FIELD SHEET
U.S. ENVIRONMENTAL PROTECTION AGENCY.REGION VII
ENVIRONMENTAL SERVICES DIV. 25 FUNSTON RD. KANSAS CITY. KS. 66115

Site Name: CertainTeed / Maline Creek
City/State: Bellefontaine Neighbors, Missouri
Superfund Site No:
Site Code:

Epa Number: MLC - 020
Contract Number: 68-WO-0037
Priority: 1week
Medium: Soil

Clean-up Area
Layer
Date Collected: 1-5-95
TIME: 1155

Team Leader:

Samplers: Kinroth

Sample Depth: 0-2 in.

No. Of Aliquots: 1

Collected from 625 cm^2 area

COMMENTS:

Northwest End of Commons Area - Associated with Air sample MLC-004

SAMPLE CONTAINER	PRESERVATIVE	ANALYSIS REQUESTED
4oz. JAR	None	TEM Asbestos Analysis + PLM Asbestos Analysis

FIELD SHEET
U.S. ENVIRONMENTAL PROTECTION AGENCY.REGION VII
ENVIRONMENTAL SERVICES DIV. 25 FUNSTON RD. KANSAS CITY. KS. 66115

Site Name: CertainTeed / Maline Creek
City/State: Bellefontaine Neighbors, Missouri
Superfund Site No:
Site Code:

Epa Number: MLC - 021
Contract Number: 68-WC-0037
Priority: 1week
Medium: Soil

Clean-up Area
Layer
Date Collected: 1-5-95
TIME: 1155

Team Leader:

Samplers: Kinroth

Sample Depth: 0-2 in.

No. Of Aliquots: 1

Collected from 625 cm^2 area

COMMENTS:

Collocated Duplicate of MLC-020

SAMPLE CONTAINER	PRESERVATIVE	ANAL SIS REQUESTED
4oz. JAR	None	TEM Asbestos Analysis

FIELD SHEET
U.S. ENVIRONMENTAL PROTECTION AGENCY.REGION VII
ENVIRONMENTAL SERVICES DIV. 25 FUNSTON RD. KANSAS CITY. KS. 66115

Site Name: CertainTeed / Maline Creek
City/State: Bellefontaine Neighbors, Missouri
Superfund Site No:
Site Code:

Epa Number: MLC - 022
Contract Number: 68-WC-0037
Priority: 1week
Medium: Soil

Clean-up Area
Layer
Date Collected: 1-5-95
TIME: 1205

Team Leader:

Samplers: Kinroth

Sample Depth: 0-2 in.

No. Of Aliquots: 1

Collected from 625 cm^2 area

COMMENTS:

Center of Commons Area by Playground Area - associated with Air Sample MLC-006

SAMPLE CONTAINER	PRESERVATIVE	ANAL SIS REQUESTED
4oz. JAR	None	TEM Asbestos Analysis

FIELD SHEET
U.S. ENVIRONMENTAL PROTECTION AGENCY.REGION VII
ENVIRONMENTAL SERVICES DIV. 25 FUNSTON RD. KANSAS CITY. KS. 66115

Site Name: CertainTeed / Maline Creek
City/State: Bellefontaine Neighbors, Missouri
Superfund Site No:
Site Code:

Epa Number: MLC - 023
Contract Number: 68-WC-0037
Priority: 1 week
Medium: Soil

Clean-up Area
Layer
Date Collected: 1-5-95
TIME: 1210

Team Leader:

Samplers: Kinroth

Sample Depth: 0-2 in.

No. Of Aliquots: 1

Collected from 625 cm^2 area

COMMENTS:

Commons Area - East Southeast End - associated with Air Sample MLC-007

SAMPLE CONTAINER	PRESERVATIVE	ANAL. REQUESTED
4oz. JAR	None	TEM Asbestos Analysis

FIELD SHEET
U.S. ENVIRONMENTAL PROTECTION AGENCY.REGION VII
ENVIRONMENTAL SERVICES DIV. 25 FUNSTON RD. KANSAS CITY. KS. 66115

Site Name: CertainTeed / Maline Creek
City/State: Bellefontaine Neighbors, Missouri
Superfund Site No:
Site Code:

Epa Number: MLC - 024
Contract Number: 68-WC-0037
Priority: 1week
Medium: Soil

Clean-up Area
Layer
Date Collected: 1-5-95
TIME: 1215

Team Leader:

Samplers: Kinroth

Sample Depth: 0-2 in.

No. Of Aliquots: 1

Collected from 625 cm^2 area

COMMENTS:

Demolition Area. Backyard 813 Lebon - associated with Air Sample MLC-008

SAMPLE CONTAINER	PRESERVATIVE	ANAL SIS REQUESTED
4oz. JAR	None	TEM Asbestos Analysis

FIELD SHEET
U.S. ENVIRONMENTAL PROTECTION AGENCY.REGION VII
ENVIRONMENTAL SERVICES DIV. 25 FUNSTON RD. KANSAS CITY. KS. 66115

Site Name: CertainTeed / Maline Creek
City/State: Bellefontaine Neighbors, Missouri
Superfund Site No:
Site Code:

Epa Number: MLC - 025
Contract Number: 68-WC-0037
Priority: 1week
Medium: Soil

Clean-up Area
Layer
Date Collected: 1-5-95
TIME: 1224

Team Leader:

Samplers: Kinroth

Sample Depth: 0-2 in.

No. Of Aliquots: 1

Collected from 625 cm^2 area

COMMENTS:

Soil - 836 Lebon Front yard - associated with air sample MLC-016

SAMPLE CONTAINER	PRESERVATIVE	ANALYSIS REQUESTED
4oz. JAR	None	TEM Asbestos Analysis + PLM Asbestos Analysis

FIELD SHEET
U.S. ENVIRONMENTAL PROTECTION AGENCY.REGION VII
ENVIRONMENTAL SERVICES DIV. 25 FUNSTON RD. KANSAS CITY. KS. 66115

Site Name: CertainTeed / Maline Creek
City/State: Bellefontaine Neighbors, Missouri
Superfund Site No:
Site Code:

Epa Number: MLC - 026
Contract Number: 68-WO-0037
Priority: 1week
Medium: Soil

Clean-up Area
Layer
Date Collected: 1-5-95
TIME: 1324

Team Leader:

Samplers: Kinroth

Sample Depth: 0-2 in.

No. Of Aliquots: 1

Collected from 625 cm^2 area

COMMENTS:

Soil-941 Marias - Backyard - associated with Air Sample MLC-009

SAMPLE CONTAINER	PRESERVATIVE	ANAL SIS REQUESTED
4oz. JAR	None	TEM Asbestos Analysis

FIELD SHEET
U.S. ENVIRONMENTAL PROTECTION AGENCY.REGION VII
ENVIRONMENTAL SERVICES DIV. 25 FUNSTON RD. KANSAS CITY. KS. 66115

Site Name: CertainTeed / Maline Creek
City/State: Bellefontaine Neighbors, Missouri
Superfund Site No:
Site Code:

Epa Number: MLC - 027
Contract Number: 68-WC-0037
Priority: 1 week
Medium: Soil

Clean-up Area
Layer
Date Collected: 1-5-95
TIME: 1312
Team Leader:
Samplers: Kinroth
Sample Depth: 0-2 in.
No. Of Aliquots: 1
Collected from 625 cm² area

COMMENTS:

925 Marias - Front yard - Associated with Air Sample MLC-010

SAMPLE CONTAINER	PRESERVATIVE	ANALYSIS REQUESTED
4oz. JAR	None	TEM Asbestos Analysis

FIELD SHEET
U.S. ENVIRONMENTAL PROTECTION AGENCY.REGION VII
ENVIRONMENTAL SERVICES DIV. 25 FUNSTON RD. KANSAS CITY. KS. 66115

Site Name: CertainTeed / Maline Creek
City/State: Bellefontaine Neighbors, Missouri
Superfund Site No:
Site Code:

Epa Number: MLC - 028
Contract Number: 68-WC-0037
Priority: 1week
Medium: Soil

Clean-up Area
Layer

Date Collected: 1-5-95
TIME: 1334

Team Leader:

Samplers: Kinroth

Sample Depth: 0-2 in.

No. Of Aliquots: 1

Collected from 625 cm² area

COMMENTS:

Soil- Edge of field - left field on Baseball Diamond #5 Surrey Lane Athletic Association Fields near intersection of Bellefontaine & St. Cyr Roads - Associated with Air Sample MLC-011.

SAMPLE CONTAINER	PRESERVATIVE	ANALYSIS REQUESTED
4oz. JAR	None	TEM Asbestos Analysis

FIELD SHEET
U.S. ENVIRONMENTAL PROTECTION AGENCY.REGION VII
ENVIRONMENTAL SERVICES DIV. 25 FUNSTON RD. KANSAS CITY. KS. 66115

Site Name: CertainTeed / Maline Creek
City/State: Bellefontaine Neighbors, Missouri
Superfund Site No:
Site Code:

Epa Number: MLC - 029
Contract Number: 68-WC-0037
Priority: 1week
Medium: Soil

Clean-up Area
Layer
Date Collected: 1-5-95
TIME: 1348

Team Leader:

Samplers: Kinroth

Sample Depth: 0-2 in.

No. Of Aliquots: 1

Collected from 625 cm^2 area

COMMENTS:

Soil - East of Backstop #6 in left field of baseball field #7 at Surrey Lane Athletic Association Fields.

SAMPLE CONTAINER	PRESERVATIVE	ANALYSIS REQUESTED
4oz. JAR	None	TEM Asbestos Analysis

FIELD SHEET
U.S. ENVIRONMENTAL PROTECTION AGENCY.REGION VII
ENVIRONMENTAL SERVICES DIV. 25 FUNSTON RD. KANSAS CITY. KS. 66115

Site Name: CertainTeed / Maline Creek
City/State: Bellefontaine Neighbors, Missouri
Superfund Site No:
Site Code:

Epa Number: MLC - 030
Contract Number: 68-WC-0037
Priority: 1week
Medium: Soil

Clean-up Area
Layer
Date Collected: 1-5-95
TIME: 1400

Team Leader:

Samplers: Hamera

Sample Depth: 0-2 in.

No. Of Aliquots: 1

Collected from 625 cm² area

COMMENTS:

Along Maline Creek - South Bank - Sediment Deposit Area North of Driveway on bank by treeline between baseball fields #6 & #8 at Surrey Lane Athletic Association

SAMPLE CONTAINER	PRESERVATIVE	ANAL SIS REQUESTED
4oz. JAR	None	TEM Asbestos Analysis

FIELD SHEET
U.S. ENVIRONMENTAL PROTECTION AGENCY.REGION VII
ENVIRONMENTAL SERVICES DIV. 25 FUNSTON RD. KANSAS CITY. KS. 66115

Site Name: CertainTeed / Maline Creek
City/State: Bellefontaine Neighbors, Missouri
Superfund Site No:
Site Code:

Epa Number: MLC-031
Contract Number: 68-WO-0037
Priority: 1 week
Medium: Soil

Clean-up Area
Layer

Date Collected: 1-5-95
TIME: 1405

Team Leader:

Samplers: Hamesra

Sample Depth: 0-2 in.

No. Of Aliquots: 1

Collected from 625 cm² area

COMMENTS:

Soil- along South Creek bank - at Surrey Lane Athletic Association approximately 50 yards to North from Northeast end of Circle drive by baseball Field #8

SAMPLE CONTAINER	PRESERVATIVE	ANAL SIS REQUESTED
4oz. JAR	None	TEM Asbestos Analysis

FIELD SHEET
U.S. ENVIRONMENTAL PROTECTION AGENCY.REGION VII
ENVIRONMENTAL SERVICES DIV. 25 FUNSTON RD. KANSAS CITY. KS. 66115

Site Name: CertainTeed / Maline Creek
Superfund Site No:
City/State: Bellefontaine Neighbors, Missouri
Site Code:

Epa Number: MLC - 032
Priority: 1 week
Contract Number: 68-WO-0037
Medium: Soil

Clean-up Area
Layer
Date Collected: 1-5-95
TIME: 1332

Team Leader:

Samplers: Burcham

Sample Depth: 0-2 in.

No. Of Aliquots: 1

Collected from 625 cm^2 area

COMMENTS:

Soil- Bethlehem Cemetary - Due North of Site ~ 4/10 mile
associated with Air Sample MLC-012

SAMPLE CONTAINER	PRESERVATIVE	ANALYSIS REQUESTED
4oz. JAR	None	TEM Asbestos Analysis

FIELD SHEET
U.S. ENVIRONMENTAL PROTECTION AGENCY.REGION VII
ENVIRONMENTAL SERVICES DIV. 25 FUNSTON RD. KANSAS CITY. KS. 66115

Site Name: CertainTeed / Maline Creek
City/State: Bellefontaine Neighbors, Missouri
Superfund Site No:
Site Code:

Epa Number: MLC - 033
Contract Number: 68-WO-0037
Priority: 1week
Medium: Soil

Clean-up Area
Layer
Team Leader:
Samplers: Kincroth
Date Collected: 1-5-95
TIME: 1304
Sample Depth: 0-2 in.
No. Of Aliquots: 1
Collected from 625 cm^2 area

COMMENTS:

Soil - 813 Marias - backyard - Directly ~~South~~ West Dir. of Demolition Area

SAMPLE CONTAINER	PRESERVATIVE	ANAL SIS REQUESTED
4oz. JAR	None	TEM Asbestos Analysis

FIELD SHEET
U.S. ENVIRONMENTAL PROTECTION AGENCY.REGION VII
ENVIRONMENTAL SERVICES DIV. 25 FUNSTON RD. KANSAS CITY. KS. 66115

Site Name: CertainTeed / Maline Creek
City/State: Bellefontaine Neighbors, Missouri
Superfund Site No:
Site Code:

Epa Number: MLC - 034
Contract Number: 68-WO-0037
Priority: 1week
Medium: Soil

Clean-up Area
Layer
Date Collected: 1-5-95
TIME: 1311

Team Leader:

Samplers: Kinroth

Sample Depth: 0-2 in.

No. Of Aliquots: 1

Collected from 625 cm^2 area

COMMENTS:

Soil - 812 Marias - Front yard - side of House
just ~~South~~ West D.K. of Demolition Area

SAMPLE CONTAINER	PRESERVATIVE	ANALYSIS REQUESTED
4oz. JAR	None	TEM Asbestos Analysis

FIELD SHEET
U.S. ENVIRONMENTAL PROTECTION AGENCY.REGION VII
ENVIRONMENTAL SERVICES DIV. 25 FUNSTON RD. KANSAS CITY. KS. 66115

Site Name: CertainTeed / Maline Creek
City/State: Bellefontaine Neighbors, Missouri
Superfund Site No:
Site Code:

Epa Number: MLC - 035
Contract Number: 68-WO-0037
Priority: 1 week
Medium: Soil

Clean-up Area
Layer

Date Collected: 1-5-95
TIME: 1240

Team Leader:

Samplers: Kinroth

Sample Depth: 0-2 in.

No. Of Aliquots: 1

Collected from 625 cm^2 area

COMMENTS:

Soil- 929 Lebon Front yard - outside western (beyond) end of flood affected area

SAMPLE CONTAINER	PRESERVATIVE	ANAL RQT REQUESTED
4oz. JAR	None	TEM Asbestos Analysis

FIELD SHEET
U.S. ENVIRONMENTAL PROTECTION AGENCY.REGION VII
ENVIRONMENTAL SERVICES DIV. 25 FUNSTON RD. KANSAS CITY. KS. 66115

Site Name: CertainTeed / Maline Creek
City/State: Bellefontaine Neighbors, Missouri
Superfund Site No:
Site Code:

Epa Number: MLC - 036
Contract Number: 68-WO-0037
Priority: 1week
Medium: Soil

Clean-up Area
Layer
Date Collected: 1-5-95
TIME: 1249

Team Leader:

Samplers: Kinroth

Sample Depth: 0-2 in.

No. Of Aliquots: 1

Collected from 625 cm^2 area

COMMENTS:

Soil - 905 Lebon - Front yard by Street Curb - this front yard was affected by Flooding in 1993.

SAMPLE CONTAINER	PRESERVATIVE	ANAL SIS REQUESTED
4oz. JAR	None	TEM Asbestos Analysis

FIELD SHEET
U.S. ENVIRONMENTAL PROTECTION AGENCY.REGION VII
ENVIRONMENTAL SERVICES DIV. 25 FUNSTON RD. KANSAS CITY. KS. 66115

Site Name: CertainTeed / Maline Creek
City/State: Bellefontaine Neighbors, Missouri
Superfund Site No:
Site Code:

Epa Number: MLC - 037
Contract Number: 68-WO-0037
Priority: 1week
Medium: Soil

Clean-up Area
Layer
Date Collected: 1-5-95
TIME: 1415

Team Leader:

Samplers: Hamera

Sample Depth: 0-2 in.

No. Of Aliquots: 1

Collected from 625 cm^2 area

COMMENTS:

Surrey Lane Athletic Association - edge of infield in grass
Directly behind 2nd Base - Ball Field #8

SAMPLE CONTAINER	PRESERVATIVE	ANAL SIS REQUESTED
4oz. JAR	None	TEM Asbestos Analysis

FIELD SHEET
U.S. ENVIRONMENTAL PROTECTION AGENCY.REGION VII
ENVIRONMENTAL SERVICES DIV. 25 FUNSTON RD. KANSAS CITY. KS. 66115

Site Name: CertainTeed / Maline Creek
City/State: Bellefontaine Neighbors, Missouri
Superfund Site No:
Site Code:

Epa Number: MLC - 038
Contract Number: 68-WO-0037
Priority: 1week
Medium: Soil

Clean-up Area
Layer

Date Collected: 1-5-95
TIME: 1430

Team Leader:

Samplers: Hamera

Sample Depth: 0-2 in.

No. Of Aliquots: 1

Collected from 625 cm^2 area

COMMENTS:

Soil - directly next to home plate on Ball Field #8 at Surrey Lane Athletic Association

SAMPLE CONTAINER	PRESERVATIVE	ANALYSIS REQUESTED
4oz. JAR	None	TEM Asbestos Analysis

FIELD SHEET
U.S. ENVIRONMENTAL PROTECTION AGENCY.REGION VII
ENVIRONMENTAL SERVICES DIV. 25 FUNSTON RD. KANSAS CITY. KS. 66115

Site Name: CertainTeed / Maline Creek
City/State: Bellefontaine Neighbors, Missouri
Superfund Site No:
Site Code:

Epa Number: MLC - 009
Contract Number: 68-WO-0037
Priority: 1week
Medium: Soil/Solid

Clean-up Area
Layer

Date Collected: 1-~~5~~ 4-95 D.K.

TIME: 1515

Team Leader:

Samplers: Kruse

Sample Depth: 0-2 in.

No. Of Aliquots: 1

Collected from 625 cm^2 area

COMMENTS:

Demolition Material from home in Demolition Zone at 9224 Lebon.

SAMPLE CONTAINER	PRESERVATIVE	ANAL SIS REQUESTED
4oz. JAR	None	TEM Asbestos Analysis

ENVIRONMENT & ENERGY CONSULTANTS inc.

• INDUSTRIAL HYGIENE
• ENGINEERING
• MICROSCOPY
• CHEMISTRY
• SAFETY

Report No. 95-01-00043 January 18, 1995

Project: Certainteed / Maline Creek P. O. No. 99630
TDD #T07-9410-083

Determination of asbestos content by transmission electron microscopy on sixteen (16) air monitoring cassettes submitted on January 6, 1995.

Ecology & Environment, Inc.
Cloverleaf Bldg. 3, 6405 Metcalf
Overland Park, KS 66202 Attn: Ms. Audra Gier

TEST REPORT

The analytical results for the samples submitted are reported on the following pages. The table below contains a summary of results:

SUMMARY OF ANALYTICAL RESULTS:

Sample Identification	E.E.C. Lab No.	Sample Volume (liters)	Asbestos Structures (Struct./cc)	Asbestos Structures (Struct./mm^2)
MLC-001	7831	1389	*ND	0.0
MLC-002	7832	1372	*ND	0.0
MLC-003	7833	1416	*ND	0.0
MLC-004	7834	1260	*ND	0.0
MLC-005	7835	1374	*ND	0.0
MLC-006	7836	1374	**NSS	35.8
MLC-007	7837	1374	**NSS	17.9
MLC-008	7838	1368	**NSS	17.9
MLC-009	7839	1362	*ND	0.0
MLC-010	7840	1359	*ND	0.0
MLC-011	7841	1329	*ND	0.0
MLC-012	7842	1314	*ND	0.0
MLC-013	7843	N/A	*ND	0.0
MLC-014	7844	N/A	*ND	0.0
MLC-015	7845	N/A	*ND	0.0
MLC-016	7846	1206	*ND	0.0

* None Detected
** Not Statistically Significant (One to four asbestos structures detected)

ENVIRONMENT & ENERGY CONSULTANTS inc.

- INDUSTRIAL HYGIENE
- ENGINEERING
- MICROSCOPY
- CHEMISTRY
- SAFETY

Report No.: 95-01-00043

Sample Identification: MLC-001, Top Of Landfill

EEC Lab No.: 7831

ANALYTICAL INFORMATION:

Sample volume, liters:	1389
Filter type:	MCE, 0.45 micrometers
Total area analyzed, mm^2:	0.0558
Effective filter area, mm^2:	385
Average grid opening area, mm^2:	0.00930
No. of grid openings analyzed:	6
Asbestos concentration, structures/mm^2:	0.0
Analytical sensitivity structures/cc:	0.0050
Asbestos concentration, structures/cc:	*ND
95% confidence interval, structures/cc:	0 - 0.018

* None Detected

NOTE: When less than five (5) asbestos structures are detected, the airborne asbestos concentration is best represented by a range of possible values. Refer to the 95% confidence interval.

ANALYTICAL RESULTS:

	Number of structures of each type				
Structure Composition	Fibers	Bundles	Clusters	Matrices	Total
Chrysotile	0	0	0	0	0
Amphibole	0	0	0	0	0

	Length of asbestos structures	
Structure Composition	< 5 micrometers	>= 5 micrometers
Chrysotile	0	0
Amphibole	0	0

ENVIRONMENT & ENERGY CONSULTANTS inc.

- INDUSTRIAL HYGIENE
- ENGINEERING
- MICROSCOPY
- CHEMISTRY
- SAFETY

Report No.: 95-01-00043

Sample Identification: MLC-002, S.E. Of Branch Metals

EEC Lab No.: 7832

ANALYTICAL INFORMATION:

Sample volume, liters:	1372
Filter type:	MCE, 0.45 micrometers
Total area analyzed, mm^2:	0.0558
Effective filter area, mm^2:	385
Average grid opening area, mm^2:	0.00930
No. of grid openings analyzed:	6
Asbestos concentration, structures/mm^2:	0.0
Analytical sensitivity structures/cc:	0.0050
Asbestos concentration, structures/cc:	*ND
95% confidence interval, structures/cc:	0 - 0.019

* None Detected

NOTE: When less than five (5) asbestos structures are detected, the airborne asbestos concentration is best represented by a range of possible values. Refer to the 95% confidence interval.

ANALYTICAL RESULTS:

	Number of structures of each type				
Structure Composition	Fibers	Bundles	Clusters	Matrices	Total
Chrysotile	0	0	0	0	0
Amphibole	0	0	0	0	0

	Length of asbestos structures	
Structure Composition	< 5 micrometers	>= 5 micrometers
Chrysotile	0	0
Amphibole	0	0

ENVIRONMENT & ENERGY CONSULTANTS inc.

- INDUSTRIAL HYGIENE
- ENGINEERING
- MICROSCOPY
- CHEMISTRY
- SAFETY

Report No.: 95-01-00043

Sample Identification: MLC-003, SW Parking Lot

EEC Lab No.: 7833

ANALYTICAL INFORMATION:

Sample volume, liters:	1416
Filter type:	MCE, 0.45 micrometers
Total area analyzed, mm^2:	0.0558
Effective filter area, mm^2:	385
Average grid opening area, mm^2:	0.00930
No. of grid openings analyzed:	6
Asbestos concentration, structures/mm^2:	0.0
Analytical sensitivity structures/cc:	0.0049
Asbestos concentration, structures/cc:	*ND
95% confidence interval, structures/cc:	0 - 0.018

* None Detected

NOTE: When less than five (5) asbestos structures are detected, the airborne asbestos concentration is best represented by a range of possible values. Refer to the 95% confidence interval.

ANALYTICAL RESULTS:

	Number of structures of each type				
Structure Composition	Fibers	Bundles	Clusters	Matrices	Total
Chrysotile	0	0	0	0	0
Amphibole	0	0	0	0	0

	Length of asbestos structures	
Structure Composition	< 5 micrometers	>= 5 micrometers
Chrysotile	0	0
Amphibole	0	0

ENVIRONMENT & ENERGY CONSULTANTS inc.

• INDUSTRIAL HYGIENE
• ENGINEERING
• MICROSCOPY
• CHEMISTRY
• SAFETY

Report No.: 95-01-00043

Sample Identification: MLC-004, West Enc. Commons

EEC Lab No.: 7834

ANALYTICAL INFORMATION:

Sample volume, liters:	1260
Filter type:	MCE, 0.45 micrometers
Total area analyzed, mm^2:	0.0651
Effective filter area, mm^2:	385
Average grid opening area, mm^2:	0.00930
No. of grid openings analyzed:	7
Asbestos concentration, structures/mm^2:	0.0
Analytical sensitivity structures/cc:	0.0047
Asbestos concentration, structures/cc:	*ND
95% confidence interval, structures/cc:	0 - 0.017

* None Detected

NOTE: When less than five (5) asbestos structures are detected, the airborne asbestos concentration is best represented by a range of possible values. Refer to the 95% confidence interval.

ANALYTICAL RESULTS:

Structure Composition	Number of structures of each type: Fibers	Bundles	Clusters	Matrices	Total
Chrysotile	0	0	0	0	0
Amphibole	0	0	0	0	0

Structure Composition	Length of asbestos structures: < 5 micrometers	>= 5 micrometers
Chrysotile	0	0
Amphibole	0	0

ENVIRONMENT & ENERGY CONSULTANTS inc.

- INDUSTRIAL HYGIENE
- ENGINEERING
- MICROSCOPY
- CHEMISTRY
- SAFETY

Report No.: 95-01-00043

Sample Identification: MLC-005, West Enc. Commons

EEC Lab No.: 7835

ANALYTICAL INFORMATION:

Sample volume, liters:	1374
Filter type:	MCE, 0.45 micrometers
Total area analyzed, mm^2:	0.0558
Effective filter area, mm^2:	385
Average grid opening area, mm^2:	0.00930
No. of grid openings analyzed:	6
Asbestos concentration, structures/mm^2:	0.0
Analytical sensitivity structures/cc:	0.0050
Asbestos concentration, structures/cc:	*ND
95% confidence interval, structures/cc:	0 - 0.019

* None Detected

NOTE: When less than five (5) asbestos structures are detected, the airborne asbestos concentration is best represented by a range of possible values. Refer to the 95% confidence interval.

ANALYTICAL RESULTS:

Structure Composition	Number of structures of each type				
	Fibers	Bundles	Clusters	Matrices	Total
Chrysotile	0	0	0	0	0
Amphibole	0	0	0	0	0

Structure Composition	Length of asbestos structures	
	< 5 micrometers	>= 5 micrometers
Chrysotile	0	0
Amphibole	0	0

ENVIRONMENT & ENERGY CONSULTANTS inc.

- INDUSTRIAL HYGIENE
- ENGINEERING
- MICROSCOPY
- CHEMISTRY
- SAFETY

Report No.: 95-01-00043

Sample Identification: MLC-006, Center Of Commons

EEC Lab No.: 7836

ANALYTICAL INFORMATION:

Sample volume, liters:	1374
Filter type:	MCE, 0.45 micrometers
Total area analyzed, mm^2:	0.0558
Effective filter area, mm^2:	385
Average grid opening area, mm^2:	0.00930
No. of grid openings analyzed:	6
Asbestos concentration, structures/mm^2:	35.8
Analytical sensitivity structures/cc:	0.0050
Asbestos concentration, structures/cc:	**NSS
95% confidence interval, structures/cc:	0 - 0.036

** Not Statistically Significant (One to four structures detected)

NOTE: When less than five (5) asbestos structures are detected, the airborne asbestos concentration is best represented by a range of possible values. Refer to the 95% confidence interval.

ANALYTICAL RESULTS:

	Number of structures of each type				
Structure Composition	Fibers	Bundles	Clusters	Matrices	Total
Chrysotile	0	0	0	2	2
Amphibole	0	0	0	0	0

	Length of asbestos structures	
Structure Composition	< 5 micrometers	>= 5 micrometers
Chrysotile	2	0
Amphibole	0	0

ENVIRONMENT & ENERGY CONSULTANTS inc.

- INDUSTRIAL HYGIENE
- ENGINEERING
- MICROSCOPY
- CHEMISTRY
- SAFETY

Report No.: 95-01-00043

Sample Identification: MLC-007, NE Commons

EEC Lab No.: 7837

ANALYTICAL INFORMATION:

Sample volume, liters:	1374
Filter type:	MCE, 0.45 micrometers
Total area analyzed, mm^2:	0.0558
Effective filter area, mm^2:	385
Average grid opening area, mm^2:	0.00930
No. of grid openings analyzed:	6
Asbestos concentration, structures/mm^2:	17.9
Analytical sensitivity structures/cc:	0.0050
Asbestos concentration, structures/cc:	**NSS
95% confidence interval, structures/cc:	0 - 0.028

** Not Statistically Significant (One to four structures detected)

NOTE: When less than five (5) asbestos structures are detected, the airborne asbestos concentration is best represented by a range of possible values. Refer to the 95% confidence interval.

ANALYTICAL RESULTS:

Structure Composition	Number of structures of each type: Fibers	Bundles	Clusters	Matrices	Total
Chrysotile	0	0	0	1	1
Amphibole	0	0	0	0	0

Structure Composition	Length of asbestos structures: < 5 micrometers	>= 5 micrometers
Chrysotile	1	0
Amphibole	0	0

ENVIRONMENT & ENERGY CONSULTANTS inc.

- INDUSTRIAL HYGIENE
- ENGINEERING
- MICROSCOPY
- CHEMISTRY
- SAFETY

Report No.: 95-01-00043

Sample Identification: MLC-008, Demo Area

EEC Lab No.: 7838

ANALYTICAL INFORMATION:

Sample volume, liters:	1368
Filter type:	MCE, 0.45 micrometers
Total area analyzed, mm^2:	0.0558
Effective filter area, mm^2:	385
Average grid opening area, mm^2:	0.00930
No. of grid openings analyzed:	6
Asbestos concentration, structures/mm^2:	17.9
Analytical sensitivity structures/cc:	0.0050
Asbestos concentration, structures/cc:	**NSS
95% confidence interval, structures/cc:	0 - 0.028

** Not Statistically Significant (One to four structures detected)

NOTE: When less than five (5) asbestos structures are detected, the airborne asbestos concentration is best represented by a range of possible values. Refer to the 95% confidence interval.

ANALYTICAL RESULTS:

	Number of structures of each type				
Structure Composition	Fibers	Bundles	Clusters	Matrices	Total
Chrysotile	0	0	0	1	1
Amphibole	0	0	0	0	0

	Length of asbestos structures	
Structure Composition	< 5 micrometers	>= 5 micrometers
Chrysotile	1	0
Amphibole	0	0

ENVIRONMENT & ENERGY CONSULTANTS inc.

- INDUSTRIAL HYGIENE
- ENGINEERING
- MICROSCOPY
- CHEMISTRY
- SAFETY

Report No.: 95-01-00043

Sample Identification: MLC-009, 941 Marias Back Yd.

EEC Lab No.: 7839

ANALYTICAL INFORMATION:

Sample volume, liters:	1362
Filter type:	MCE, 0.45 micrometers
Total area analyzed, mm^2:	0.0651
Effective filter area, mm^2:	385
Average grid opening area, mm^2:	0.00930
No. of grid openings analyzed:	7
Asbestos concentration, structures/mm^2:	0.0
Analytical sensitivity structures/cc:	0.0043
Asbestos concentration, structures/cc:	*ND
95% confidence interval, structures/cc:	0 - 0.016

* None Detected

NOTE: When less than five (5) asbestos structures are detected, the airborne asbestos concentration is best represented by a range of possible values. Refer to the 95% confidence interval.

ANALYTICAL RESULTS:

Structure Composition	Number of structures of each type				
	Fibers	Bundles	Clusters	Matrices	Total
Chrysotile	0	0	0	0	0
Amphibole	0	0	0	0	0

Structure Composition	Length of asbestos structures	
	< 5 micrometers	>= 5 micrometers
Chrysotile	0	0
Amphibole	0	0

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- INDUSTRIAL HYGIENE
- ENGINEERING
- MICROSCOPY
- CHEMISTRY
- SAFETY

Report No.: 95-01-00043

Sample Identification: MLC-010, 925 Marias Front Yd.

EEC Lab No.: 7840

ANALYTICAL INFORMATION:

Sample volume, liters:	1359
Filter type:	MCE, 0.45 micrometers
Total area analyzed, mm^2:	0.0651
Effective filter area, mm^2:	385
Average grid opening area, mm^2:	0.00930
No. of grid openings analyzed:	7
Asbestos concentration, structures/mm^2:	0.0
Analytical sensitivity structures/cc:	0.0044
Asbestos concentration, structures/cc:	*ND
95% confidence interval, structures/cc:	0 - 0.016

* None Detected

NOTE: When less than five (5) asbestos structures are detected, the airborne asbestos concentration is best represented by a range of possible values. Refer to the 95% confidence interval.

ANALYTICAL RESULTS:

Structure Composition	Number of structures of each type: Fibers	Bundles	Clusters	Matrices	Total
Chrysotile	0	0	0	0	0
Amphibole	0	0	0	0	0

Structure Composition	Length of asbestos structures: < 5 micrometers	>= 5 micrometers
Chrysotile	0	0
Amphibole	0	0

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- ENGINEERING
- MICROSCOPY
- CHEMISTRY
- SAFETY

Report No.: 95-01-00043

Sample Identification: MLC-011, Ball Field

EEC Lab No.: 7841

ANALYTICAL INFORMATION:

Sample volume, liters:	1329
Filter type:	MCE, 0.45 micrometers
Total area analyzed, mm^2:	0.0651
Effective filter area, mm^2:	385
Average grid opening area, mm^2:	0.00930
No. of grid openings analyzed:	7
Asbestos concentration, structures/mm^2:	0.0
Analytical sensitivity structures/cc:	0.0044
Asbestos concentration, structures/cc:	*ND
95% confidence interval, structures/cc:	0 - 0.016

* None Detected

NOTE: When less than five (5) asbestos structures are detected, the airborne asbestos concentration is best represented by a range of possible values. Refer to the 95% confidence interval.

ANALYTICAL RESULTS:

Structure Composition	Number of structures of each type: Fibers	Bundles	Clusters	Matrices	Total
Chrysotile	0	0	0	0	0
Amphibole	0	0	0	0	0

Structure Composition	Length of asbestos structures: < 5 micrometers	>= 5 micrometers
Chrysotile	0	0
Amphibole	0	0

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- MICROSCOPY
- CHEMISTRY
- SAFETY

Report No.: 95-01-00043

Sample Identification: MLC-012, Cemetary

EEC Lab No.: 7842

ANALYTICAL INFORMATION:

Sample volume, liters:	1314
Filter type:	MCE, 0.45 micrometers
Total area analyzed, mm^2:	0.0651
Effective filter area, mm^2:	385
Average grid opening area, mm^2:	0.00930
No. of grid openings analyzed:	7
Asbestos concentration, structures/mm^2:	0.0
Analytical sensitivity structures/cc:	0.0045
Asbestos concentration, structures/cc:	*ND
95% confidence interval, structures/cc:	0 - 0.017

* None Detected

NOTE: When less than five (5) asbestos structures are detected, the airborne asbestos concentration is best represented by a range of possible values. Refer to the 95% confidence interval.

ANALYTICAL RESULTS:

	Number of structures of each type				
Structure Composition	Fibers	Bundles	Clusters	Matrices	Total
Chrysotile	0	0	0	0	0
Amphibole	0	0	0	0	0

	Length of asbestos structures	
Structure Composition	< 5 micrometers	>= 5 micrometers
Chrysotile	0	0
Amphibole	0	0

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- MICROSCOPY
- CHEMISTRY
- SAFETY

Report No.: 95-01-00043

Sample Identification: MLC-013, Field Blank

EEC Lab No.: 7843

ANALYTICAL INFORMATION:

Sample volume, liters:	N/A
Filter type:	MCE, 0.45 micrometers
Total area analyzed, mm^2:	0.0651
Effective filter area, mm^2:	385
Average grid opening area, mm^2:	0.00930
No. of grid openings analyzed:	7
Asbestos concentration, structures/mm^2:	0.0
Analytical sensitivity structures/cc:	N/A
Asbestos concentration, structures/cc:	*ND

* None Detected

NOTE: When less than five (5) asbestos structures are detected, the airborne asbestos concentration is best represented by a range of possible values. Refer to the 95% confidence interval.

ANALYTICAL RESULTS:

	Number of structures of each type				
Structure Composition	Fibers	Bundles	Clusters	Matrices	Total
Chrysotile	0	0	0	0	0
Amphibole	0	0	0	0	0

	Length of asbestos structures	
Structure Composition	< 5 micrometers	>= 5 micrometers
Chrysotile	0	0
Amphibole	0	0

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- CHEMISTRY
- SAFETY

Report No.: 95-01-00043

Sample Identification: MLC-014, Field Blank

EEC Lab No.: 7844

ANALYTICAL INFORMATION:

Sample volume, liters:	N/A
Filter type:	MCE, 0.45 micrometers
Total area analyzed, mm^2:	0.0651
Effective filter area, mm^2:	385
Average grid opening area, mm^2:	0.00930
No. of grid openings analyzed:	7
Asbestos concentration, structures/mm^2:	0.0
Analytical sensitivity structures/cc:	N/A
Asbestos concentration, structures/cc:	*ND

* None Detected

NOTE: When less than five (5) asbestos structures are detected, the airborne asbestos concentration is best represented by a range of possible values. Refer to the 95% confidence interval.

ANALYTICAL RESULTS:

	Number of structures of each type				
Structure Composition	Fibers	Bundles	Clusters	Matrices	Total
Chrysotile	0	0	0	0	0
Amphibole	0	0	0	0	0

	Length of asbestos structures	
Structure Composition	< 5 micrometers	>= 5 micrometers
Chrysotile	0	0
Amphibole	0	0

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Report No.: 95-01-00043

Sample Identification: MLC-015, Lab Blank

EEC Lab No.: 7845

ANALYTICAL INFORMATION:

Sample volume, liters:	N/A
Filter type:	MCE, 0.45 micrometers
Total area analyzed, mm^2:	0.0651
Effective filter area, mm^2:	385
Average grid opening area, mm^2:	0.00930
No. of grid openings analyzed:	7
Asbestos concentration, structures/mm^2:	0.0
Analytical sensitivity structures/cc:	N/A
Asbestos concentration, structures/cc:	*ND

* None Detected

NOTE: When less than five (5) asbestos structures are detected, the airborne asbestos concentration is best represented by a range of possible values. Refer to the 95% confidence interval.

ANALYTICAL RESULTS:

Number of structures of each type

Structure Composition	Fibers	Bundles	Clusters	Matrices	Total
Chrysotile	0	0	0	0	0
Amphibole	0	0	0	0	0

Length of asbestos structures

Structure Composition	< 5 micrometers	>= 5 micrometers
Chrysotile	0	0
Amphibole	0	0

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Report No.: 95-01-00043

Sample Identification: MLC-016, 836 Labon Front Yd.

EEC Lab No.: 7846

ANALYTICAL INFORMATION:

Sample volume, liters:	1206
Filter type:	MCE, 0.45 micrometers
Total area analyzed, mm^2:	0.0651
Effective filter area, mm^2:	385
Average grid opening area, mm^2:	0.00930
No. of grid openings analyzed:	7
Asbestos concentration, structures/mm^2:	0.0
Analytical sensitivity structures/cc:	0.0049
Asbestos concentration, structures/cc:	*ND
95% confidence interval, structures/cc:	0 - 0.018

* None Detected

NOTE: When less than five (5) asbestos structures are detected, the airborne asbestos concentration is best represented by a range of possible values. Refer to the 95% confidence interval.

ANALYTICAL RESULTS:

	Number of structures of each type				
Structure Composition	Fibers	Bundles	Clusters	Matrices	Total
Chrysotile	0	0	0	0	0
Amphibole	0	0	0	0	0

	Length of asbestos structures	
Structure Composition	< 5 micrometers	>= 5 micrometers
Chrysotile	0	0
Amphibole	0	0

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Report No.: 95-01-00043

METHOD:

The air monitoring cassettes submitted were prepared and analyzed for asbestos structure content in accordance with methods contained in 40 CFR Part 763, Appendix A to Subpart E. A transmission electron microscope equipped with an energy dispersive X-ray analysis unit (EDX) was used in the analysis. The asbestos structures were identified by their morphology, selected area electron diffraction pattern and/or EDX spectrum.

Environment & Energy Consultants, Inc. is accredited in the National Voluntary Laboratory Accreditation Program for Asbestos Fiber Analysis (Laboratory ID Number 1072).

This report may not be used to claim product endorsement by NVLAP or any agency of the U.S. Government.

Susan Barnes: _____
Electron Microscopist

Kelly Vaccaro: Kelly Vaccaro
Electron Microscopist

Date Completed: January 13, 1995

Respectfully submitted,

Roman J. Narconis Jr.

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Environment & Energy Consultants, Inc.
Electron Microscopy Lab

Report No. 95-01-00043

AIRBORNE SAMPLE COUNT SHEET

EEC Lab No. 7831 Filter: [Y] MCE [ ] PC Pore: 0.45 Analyst SK
Client ID No. MLC-001 Filter Area (mm²) 385 Date 11-1-95
Instrument ID P300#1 Grid ID's 219 F2, F4, F6 Volume 1389
Magnification 20,000X GO Area (mm²) 0.0093 Comments
Acc. Voltage (kV) 100 No. GO to be analyzed 6

Grid ID 219 F2 EDAX Disk No.

G.O.	Structure		Length (um)		SEAD Obs.		EDXA Observations		Classification			
					Row	Film		File	Asbestos			Non-
No.	No.	Type	<5	>=5	Dist.	No.	Elements Observed	No.	Chrys	Amph	Type	Asb.
1	NSD											
2	NSD											
3	NSD											

Grid ID 219 F4 EDAX Disk No.

G.O.	Structure		Length (um)		SEAD Obs.		EDXA Observations		Classification			
					Row	Film		File	Asbestos			Non-
No.	No.	Type	<5	>=5	Dist.	No.	Elements Observed	No.	Chrys	Amph	Type	Asb.
4	NSD											
5	NSD											
6	NSD											

Struct. Type: B = Bundle C = Cluster M = Matrix F = Fiber NSD = No Structures Detected NSS = Not Statistically Significant

Asbestos Concentration: 0.0 Structures/mm² NSD Structures/cc
Analytical Sensitivity: 0.0050 Structures/cc

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Electron Microscopy Lab

Report No. 95-01-00043

AIRBORNE SAMPLE COUNT SHEET

EEC Lab No. 7832 Filter: [4] MCE [ ] PC Pore: 0.45 Analyst SD
Client ID No. MLC-002 Filter Area (mm²) 385 Date 7/10/95
Instrument ID P300#1 Grid ID's 219 F8, F10, G1 Volume 1372
Magnification 20,000X GO Area (mm²) 0.0093 Comments
Acc. Voltage (kV) 100 No. GO to be analyzed 6

Grid ID 219 F8 EDAX Disk No.

G.O. No.	Structure No.	Structure Type	Length (um) <5	Length (um) >=5	SEAD Obs. Row Dist.	SEAD Obs. Film No.	EDXA Observations Elements Observed	File No.	Classification Asbestos Chrys	Asbestos Amph	Asbestos Type	Non-Asb.
1	NSD											
2	NSD											
3	NSD											

Grid ID 219 F10 EDAX Disk No.

G.O. No.	Structure No.	Structure Type	Length (um) <5	Length (um) >=5	SEAD Obs. Row Dist.	SEAD Obs. Film No.	EDXA Observations Elements Observed	File No.	Classification Asbestos Chrys	Asbestos Amph	Asbestos Type	Non-Asb.
4	NSD											
5	NSD											
6	NSD											

Struct. Type: B = Bundle C = Cluster M = Matrix F = Fiber NSD = No Structures Detected NSS = Not Statistically Significant

Asbestos Concentration: 0.0 Structures/mm² NSD Structures/cc
Analytical Sensitivity: 0.0050 Structures/cc

Environment & Energy Consultants, Inc.
Electron Microscopy Lab

Report No. 95-01-00043

AIRBORNE SAMPLE COUNT SHEET

EEC Lab No. 7833 Filter: | X | MCE | | PC Pore: 0.45 Analyst SB
Client ID No. MLC-003 Filter Area (mm²) 385 Date 1/10/95
Instrument ID P300#1 Grid ID's 219 G3, G5, G7 Volume 1416
Magnification 20,000 x GO Area (mm²) 0.0093 Comments
Acc. Voltage (kV) 100 No. GO to be analyzed 6

Grid ID 219 G3 EDAX Disk No.

G.O.	Structure		Length (um)		SEAD Obs.		EDXA Observations		Classification			
					Row	Film		File	Asbestos			Non-
No.	No.	Type	<5	>=5	Dist.	No.	Elements Observed	No.	Chrys	Amph	Type	Asb.
1	NSD											
2	NSD											
3	NSD											

Grid ID 219 G5 EDAX Disk No.

G.O.	Structure		Length (um)		SEAD Obs.		EDXA Observations		Classification			
					Row	Film		File	Asbestos			Non-
No.	No.	Type	<5	>=5	Dist.	No.	Elements Observed	No.	Chrys	Amph	Type	Asb.
4	NSD											
5	NSD											
6	NSD											

Struct. Type: B = Bundle C = Cluster M = Matrix F = Fiber NSD = No Structures Detected NSS = Not Statistically Significant

Asbestos Concentration: _____ Structures/mm² _____ Structures/cc
Analytical Sensitivity: _____ Structures/cc

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Electron Microscopy Lab

Report No. 95-01-00043

AIRBORNE SAMPLE COUNT SHEET

EEC Lab No. 7834 Filter: | | MCE | | PC Pore: 0.45 Analyst SB
Client ID No. MLC-004 Filter Area (mm²) 385 Date 1/10/95
Instrument ID P300#1 Grid ID's 219 G9, H2, H4 Volume 1260
Magnification 20,000X GO Area (mm²) 0.0093 Comments
Acc. Voltage (kV) 100 No. GO to be analyzed 7

Grid ID 219 G9 EDAX Disk No.

G.O.	Structure		Length (um)		SEAD Obs.		EDXA Observations		Classification			
					Row	Film		File	Asbestos			Non-
No.	No.	Type	<5	>=5	Dist.	No.	Elements Observed	No.	Chrys	Amph	Type	Asb.
1	NSD											
2	NSD											
3	NSD											

Grid ID 219 H2 EDAX Disk No.

G.O.	Structure		Length (um)		SEAD Obs.		EDXA Observations		Classification			
					Row	Film		File	Asbestos			Non-
No.	No.	Type	<5	>=5	Dist.	No.	Elements Observed	No.	Chrys	Amph	Type	Asb.
4	NSD											
5	NSD											
6	NSD											
7	NSD											

Struct. Type: B = Bundle C = Cluster M = Matrix F = Fiber NSD = No Structures Detected NSS = Not Statistically Significant

Asbestos Concentration: _____ Structures/mm² _____ Structures/cc
Analytical Sensitivity: _____ Structures/cc

Environment & Energy Consultants, Inc.
Electron Microscopy Lab

Report No. 95-01-00043

AIRBORNE SAMPLE COUNT SHEET

EEC Lab No. 7835 Filter: |✓| MCE | | PC Pore: 0.45 Analyst SB
Client ID No. MLC-005 Filter Area (mm²) 355 Date 1/12/95
Instrument ID P3C-H1 Grid ID's 219 H6, H8, H10 Volume 1374
Magnification 26,000X GO Area (mm²) 0.0093 Comments
Acc. Voltage (kV) 100 No. GO to be analyzed 6

Grid ID 219 H6 EDAX Disk No.

G.O.	Structure		Length (um)		SEAD Obs.		EDXA Observations		Classification			
					Row	Film		File	Asbestos			Non-
No.	No.	Type	<5	>=5	Dist.	No.	Elements Observed	No.	Chrys	Amph	Type	Asb.
1	NSD											
2	NSD											
3	NSD											

Grid ID 219 H8 EDAX Disk No.

G.O.	Structure		Length (um)		SEAD Obs.		EDXA Observations		Classification			
					Row	Film		File	Asbestos			Non-
No.	No.	Type	<5	>=5	Dist.	No.	Elements Observed	No.	Chrys	Amph	Type	Asb.
4	NSD											
5	NSD											
6	NSD											

Struct. B = Bundle M = Matrix NSD = No Structures Detected
Type: C = Cluster F = Fiber NSS = Not Statistically Significant

Asbestos Concentration: 0.0 Structures/mm² NSD Structures/cc
Analytical Sensitivity: Structures/cc

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Electron Microscopy Lab

Report No. 95-01-00043

AIRBORNE SAMPLE COUNT SHEET

EEC Lab No. 7836 Filter: |✓| MCE | | PC Pore: 0.45 Analyst SB
Client ID No. MLC-006 Filter Area (mm²) 385 Date 1/11/95
Instrument ID P300#1 Grid ID's 219 I1, I3, I5 Volume 1374
Magnification 2,000X GO Area (mm²) 0.0093 Comments
Acc. Voltage (kV) 100 No. GO to be analyzed 6

Grid ID 219 I1 EDAX Disk No.

G.O. No.	Structure No.	Structure Type	Length (um) <5	Length (um) >=5	SEAD Obs. Row Dist.	SEAD Obs. Film No.	EDXA Observations Elements Observed	File No.	Classification Asbestos Chrys	Asbestos Amph	Asbestos Type	Non-Asb.
1	NSD											
2	1	M	✓		5.3A				✓			
3	NSD											

Grid ID 219 I3 EDAX Disk No.

G.O. No.	Structure No.	Structure Type	Length (um) <5	Length (um) >=5	SEAD Obs. Row Dist.	SEAD Obs. Film No.	EDXA Observations Elements Observed	File No.	Classification Asbestos Chrys	Asbestos Amph	Asbestos Type	Non-Asb.
4	2	M	✓		5.3A				✓			
5	NSD											
6	NSD											

Struct. Type: B = Bundle, C = Cluster, M = Matrix, F = Fiber, NSD = No Structures Detected, NSS = Not Statistically Significant

Asbestos Concentration: 35.8 Structures/mm² _____ Structures/cc
Analytical Sensitivity: 0.0050 Structures/cc

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Report No. 95-01-00043

AIRBORNE SAMPLE COUNT SHEET

EEC Lab No. 7837 Filter: |H| MCE | | PC Pore 0.45 Analyst JB
Client ID No. MLC-007 Filter Area (mm²) 385 Date 1/11/95
Instrument ID P300#1 Grid ID's 219 J2, J4, J6 Volume 1374
Magnification 20,000x GO Area (mm²) 0.0093 Comments
Acc. Voltage (kV) 100 No. GO to be analyzed 6

Grid ID 219 J2 EDAX Disk No.

G.O. No.	Structure No.	Structure Type	Length (um) <5	Length (um) >=5	SEAD Obs. Row Dist.	SEAD Obs. Film No.	EDXA Observations Elements Observed	File No.	Classification Asbestos Chrys	Asbestos Amph	Asbestos Type	Non-Asb.
1	NSD											
2	NSD											
3	NSD											

Grid ID 219 J4 EDAX Disk No.

G.O. No.	Structure No.	Structure Type	Length (um) <5	Length (um) >=5	SEAD Obs. Row Dist.	SEAD Obs. Film No.	EDXA Observations Elements Observed	File No.	Classification Asbestos Chrys	Asbestos Amph	Asbestos Type	Non-Asb.
11	NSD											
5	NSD											
6	1	M	✓		5.31				✓			

Struct. Type: B = Bundle C = Cluster M = Matrix F = Fiber NSD = No Structures Detected NSS = Not Statistically Significant

Asbestos Concentration: 17.9 Structures/mm² NSS Structures/cc
Analytical Sensitivity: 0.0050 Structures/cc

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Electron Microscopy Lab

Report No. 95-01-00043

AIRBORNE SAMPLE COUNT SHEET

EEC Lab No. 7838 Filter: |4| MCE | | PC Pore: 0.45 Analyst SB
Client ID No. MLC-OCS Filter Area (mm²) 385 Date 1/11/95
Instrument ID P300#1 Grid ID's 219 J8, J10, K1 Volume 1368
Magnification 20,000X GO Area (mm²) 0.0093 Comments
Acc. Voltage (kV) 100 No. GO to be analyzed 6

Grid ID 219 J8 EDAX Disk No.

G.O. No.	Structure No.	Structure Type	Length (um) <5	Length (um) >=5	SEAD Obs. Row Dist.	SEAD Obs. Film No.	EDXA Observations Elements Observed	File No.	Classification Asbestos Chrys	Asbestos Amph	Asbestos Type	Non-Asb.
1	NSD											
2	NSD											
3	NSD											

Grid ID 219 J10 EDAX Disk No.

G.O. No.	Structure No.	Structure Type	Length (um) <5	Length (um) >=5	SEAD Obs. Row Dist.	SEAD Obs. Film No.	EDXA Observations Elements Observed	File No.	Classification Asbestos Chrys	Asbestos Amph	Asbestos Type	Non-Asb.
4	1	M			5.24							
5	NSD											
6	NSD											

Struct. Type: B = Bundle C = Cluster M = Matrix F = Fiber NSD = No Structures Detected NSS = Not Statistically Significant

Asbestos Concentration: 17.9 Structures/mm² NSS Structures/cc
Analytical Sensitivity: 0.0050 Structures/cc

Environment & Energy Consultants, Inc.
Electron Microscopy Lab

Report No. 95-01-00043

AIRBORNE SAMPLE COUNT SHEET

EEC Lab No. 7839 Filter: [M] MCE [ ] PC Pore: 0.45 Analyst SB
Client ID No. MLC-009 Filter Area (mm²) 385 Date 1/11/95
Instrument ID P300#1 Grid ID's 219 K4, K6, K8 Volume 1362
Magnification 20,000x GO Area (mm²) 0.0093 Comments
Acc. Voltage (kV) 100 No. GO to be analyzed 7

Grid ID 219 K4 EDAX Disk No.

G.O. No.	Structure No.	Structure Type	Length (um) <5	Length (um) >=5	SEAD Obs. Row Dist.	SEAD Obs. Film No.	EDXA Observations Elements Observed	EDXA Observations File No.	Classification Asbestos Chrys	Asbestos Amph	Asbestos Type	Non-Asb.
1	NSD											
2	NSD											
3	NSD											

Grid ID 219K6 EDAX Disk No.

G.O. No.	Structure No.	Structure Type	Length (um) <5	Length (um) >=5	SEAD Obs. Row Dist.	SEAD Obs. Film No.	EDXA Observations Elements Observed	EDXA Observations File No.	Classification Asbestos Chrys	Asbestos Amph	Asbestos Type	Non-Asb.
4	NSD											
5	NSD											
6	NSD											
7	NSD											

Struct. Type: B = Bundle C = Cluster M = Matrix F = Fiber NSD = No Structures Detected NSS = Not Statistically Significant

Asbestos Concentration: 0.0 Structures/mm² ND Structures/cc
Analytical Sensitivity: 0.0043 Structures/cc

Environment & Energy Consultants, Inc.
Electron Microscopy Lab

Report No. 95-01-00043

AIRBORNE SAMPLE COUNT SHEET

EEC Lab No. 7840 Filter: [X] MCE [ ] PC Pore: 0.45 Analyst KV
Client ID No. MLC-010 Filter Area (mm²) 385 Date 1/13/95
Instrument ID P300#2 Grid ID's 219 K10, L1, L3 Volume 1359
Magnification 20,000 GO Area (mm²) 0.0093 Comments
Acc. Voltage (kV) 100 No. GO to be analyzed 7

Grid ID 219 K10 EDAX Disk No.

G.O.	Structure		Length (um)		SEAD Obs.		EDXA Observations		Classification			
					Row	Film		File	Asbestos			Non-
No.	No.	Type	<5	>=5	Dist.	No.	Elements Observed	No.	Chrys	Amph	Type	Asb.
1		NSD										
2		NSD										
3		NSD										

Grid ID 219 L1 EDAX Disk No.

G.O.	Structure		Length (um)		SEAD Obs.		EDXA Observations		Classification			
					Row	Film		File	Asbestos			Non-
No.	No.	Type	<5	>=5	Dist.	No.	Elements Observed	No.	Chrys	Amph	Type	Asb.
4		NSD										
5		NSD										
6		NSD										
7		NSD										

Struct. Type: B = Bundle M = Matrix NSD = No Structures Detected
C = Cluster F = Fiber NSS = Not Statistically Significant

Asbestos Concentration: 0.0 Structures/mm² ND Structures/cc
Analytical Sensitivity: 0.0044 Structures/cc

Environment & Energy Consultants, Inc.
Electron Microscopy Lab

Report No. 95-01-00043

AIRBORNE SAMPLE COUNT SHEET

EEC Lab No. 7841 Filter: | ✓ MCE | | PC Pore: 0.45 Analyst KU
Client ID No. MLC-011 Filter Area (mm²) 385 Date 1/13/95
Instrument ID P300 #7 Grid ID's 219 L5 L7 L9 Volume 1329
Magnification 20,000 GO Area (mm²) 0.0093 Comments
Acc. Voltage (kV) 100 No. GO to be analyzed 6

Grid ID 219 L5 EDAX Disk No.

G.O. No.	Structure No.	Structure Type	Length (um) <5	Length (um) >=5	SEAD Obs. Row Dist.	SEAD Obs. Film No.	EDXA Observations Elements Observed	EDXA Observations File No.	Classification Asbestos Chrys	Asbestos Amph	Asbestos Type	Non-Asb.
1		NSD										
2		NSD										
3		NSD										

Grid ID 219 L7 EDAX Disk No.

G.O. No.	Structure No.	Structure Type	Length (um) <5	Length (um) >=5	SEAD Obs. Row Dist.	SEAD Obs. Film No.	EDXA Observations Elements Observed	EDXA Observations File No.	Classification Asbestos Chrys	Asbestos Amph	Asbestos Type	Non-Asb.
4		NSD										
5		NSD										
6		NSD										
7		NSD										

Struct. Type: B = Bundle M = Matrix NSD = No Structures Detected
C = Cluster F = Fiber NSS = Not Statistically Significant

Asbestos Concentration: NSD Structures/mm² NSD Structures/cc
Analytical Sensitivity: 0.0044 Structures/cc

Environment & Energy Consultants, Inc.
Electron Microscopy Lab

Report No. 95-01-00043

AIRBORNE SAMPLE COUNT SHEET

EEC Lab No. 7842 Filter: | ✓ | MCE | | PC Pore: .045 Analyst KV
Client ID No. MLC-012 Filter Area (mm²) 385 Date 1/13/95
Instrument ID P 300 #2 Grid ID's 219 M2, M4, M6 Volume 1314
Magnification 20,000 GO Area (mm²) 0.00093 Comments
Acc. Voltage (kV) 100 No. GO to be analyzed 6

Grid ID 219 M2 EDAX Disk No.

G.O. No.	Structure No.	Structure Type	Length (um) <5	Length (um) >=5	SEAD Obs. Row Dist.	SEAD Obs. Film No.	EDXA Observations Elements Observed	EDXA Observations File No.	Classification Asbestos Chrys	Asbestos Amph	Asbestos Type	Non-Asb.
1		NSD										
2		NSD										
3		NSD										

Grid ID 219 M4 EDAX Disk No.

G.O. No.	Structure No.	Structure Type	Length (um) <5	Length (um) >=5	SEAD Obs. Row Dist.	SEAD Obs. Film No.	EDXA Observations Elements Observed	EDXA Observations File No.	Classification Asbestos Chrys	Asbestos Amph	Asbestos Type	Non-Asb.
4		NSD										
5		NSD										
6		NSD										
7		NSD										

Struct. Type: B = Bundle M = Matrix NSD = No Structures Detected
C = Cluster F = Fiber NSS = Not Statistically Significant

Asbestos Concentration: _____ Structures/mm² _____ Structures/cc
Analytical Sensitivity: _____ Structures/cc

Environment & Energy Consultants, Inc.
Electron Microscopy Lab

Report No. 95-01-00043

AIRBORNE SAMPLE COUNT SHEET

EEC Lab No. 7843 Filter: | ✓ MCE | | PC Pore: 0.45 Analyst KV
Client ID No. MLC-013 Filter Area (mm²) 385 Date 1/13/94
Instrument ID P300#2 Grid ID's 219 M8, M10, N1 Volume NA
Magnification 20,000 GO Area (mm²) 0.0093 Comments
Acc. Voltage (kV) 100 No. GO to be analyzed 7 Field Blank

Grid ID 219 M8 EDAX Disk No.

G.O. No.	Structure No.	Structure Type	Length (um) <5	Length (um) >=5	SEAD Obs. Row Dist.	SEAD Obs. Film No.	EDXA Observations Elements Observed	EDXA Observations File No.	Classification Asbestos Chrys	Asbestos Amph	Asbestos Type	Non-Asb.
1		NSD										
2		NSD										
3		NSD										
4		NSD										

Grid ID 219 M10 EDAX Disk No.

G.O. No.	Structure No.	Structure Type	Length (um) <5	Length (um) >=5	SEAD Obs. Row Dist.	SEAD Obs. Film No.	EDXA Observations Elements Observed	EDXA Observations File No.	Classification Asbestos Chrys	Asbestos Amph	Asbestos Type	Non-Asb.
5		NSD										
6		NSD										
7		NSD										

Struct. Type: B = Bundle C = Cluster M = Matrix F = Fiber NSD = No Structures Detected NSS = Not Statistically Significant

Asbestos Concentration: _____ Structures/mm² _____ Structures/cc
Analytical Sensitivity: _____ Structures/cc

Environment & Energy Consultants, Inc.
Electron Microscopy Lab

Report No. 95-01-00043

AIRBORNE SAMPLE COUNT SHEET

EEC Lab No. 7844 Filter: [✓] MCE [ ] PC Pore: 0.45 Analyst SB
Client ID No. MLC-014 Filter Area (mm²) 385 Date 1/13/95
Instrument ID P300#1 Grid ID's 219 N7,N9,02 Volume NA
Magnification 20,000x GO Area (mm²) 0.0093 Comments
Acc. Voltage (kV) 100 No. GO to be analyzed 7 Field Blank

Grid ID 219 N7 EDAX Disk No.

G.O. No.	Structure No.	Structure Type	Length (um) <5	Length (um) >=5	SEAD Obs. Row Dist.	SEAD Obs. Film No.	EDXA Observations Elements Observed	File No.	Classification Asbestos Chrys	Asbestos Amph	Asbestos Type	Non-Asb.
1	NSD											
2	NSD											
3	NSD											
4	NSD											

Grid ID 219N9 EDAX Disk No.

G.O. No.	Structure No.	Structure Type	Length (um) <5	Length (um) >=5	SEAD Obs. Row Dist.	SEAD Obs. Film No.	EDXA Observations Elements Observed	File No.	Classification Asbestos Chrys	Asbestos Amph	Asbestos Type	Non-Asb.
5	NSD											
6	NSD											
7	NSD											

Struct. B = Bundle M = Matrix NSD = No Structures Detected
Type: C = Cluster F = Fiber NSS = Not Statistically Significant

Asbestos Concentration: _____ Structures/mm² _____ Structures/cc
Analytical Sensitivity: _____ Structures/cc

Environment & Energy Consultants, Inc.
Electron Microscopy Lab

Report No. 95-01-00043

AIRBORNE SAMPLE COUNT SHEET

EEC Lab No. 7845 Filter: | | MCE | ✓ | PC Pore: 0.45 Analyst KU
Client ID No. MLC-015 Filter Area (mm²) 385 Date 1/13/95
Instrument ID P300#2 Grid ID's 219 04,06,08 Volume NA
Magnification 20,000 GO Area (mm²) 0.0093 Comments
Acc. Voltage (kV) 100 No. GO to be analyzed 7 Lab Blank

Grid ID 219 04 EDAX Disk No.

G.O. No.	Structure No.	Structure Type	Length (um) <5	Length (um) >=5	SEAD Obs. Row Dist.	SEAD Obs. Film No.	EDXA Observations Elements Observed	EDXA Observations File No.	Classification Asbestos Chrys	Asbestos Amph	Asbestos Type	Non-Asb.
1		NSD										
2		NSD										
3		NSD										
4		NSD										

Grid ID 219 06 EDAX Disk No.

G.O. No.	Structure No.	Structure Type	Length (um) <5	Length (um) >=5	SEAD Obs. Row Dist.	SEAD Obs. Film No.	EDXA Observations Elements Observed	EDXA Observations File No.	Classification Asbestos Chrys	Asbestos Amph	Asbestos Type	Non-Asb.
5		NSD										
6		NSD										
7		NSD										

Struct. Type: B = Bundle C = Cluster M = Matrix F = Fiber NSD = No Structures Detected NSS = Not Statistically Significant

Asbestos Concentration: _____ Structures/mm² _____ Structures/cc
Analytical Sensitivity: _____ Structures/cc

Environment & Energy Consultants, Inc.
Electron Microscopy Lab

... Report No. 95-01-00043

AIRBORNE SAMPLE COUNT SHEET

EEC Lab No. 7846 Filter: 4 MCE 1 PC Pore 0.45 Analyst SB
Client ID No. MLC-016 Filter Area (mm²) 385 Date 1/13/95
Instrument ID P300 #1 Grid ID's 219 010, P1, P3 Volume 1206
Magnification 20,000X GO Area (mm²) 0.0093 Comments
Acc. Voltage (kV) 100 No. GO to be analyzed 7

Grid ID 219 010 EDAX Disk No.

G.O. No.	Structure No.	Structure Type	Length (um) <5	Length (um) >=5	SEAD Obs. Row Dist.	SEAD Obs. Film No.	EDXA Observations Elements Observed	File No.	Classification Asbestos Chrys	Asbestos Amph	Asbestos Type	Non-Asb.
1	NSD											
2	NSD											
3	NSD											
4	NSD											

Grid ID 219 P1 EDAX Disk No.

G.O. No.	Structure No.	Structure Type	Length (um) <5	Length (um) >=5	SEAD Obs. Row Dist.	SEAD Obs. Film No.	EDXA Observations Elements Observed	File No.	Classification Asbestos Chrys	Asbestos Amph	Asbestos Type	Non-Asb.
5	NSD											
6	NSD											
7	NSD											

Struct. Type: B = Bundle C = Cluster M = Matrix F = Fiber NSD = No Structures Detected NSS = Not Statistically Significant

Asbestos Concentration: _____ Structures/mm² _____ Structures/cc
Analytical Sensitivity: _____ Structures/cc

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Report No.: 95-01-00046

January 18, 1995
P. O. No. 99630
TDD #T07-9410-083

Determination of fiber content on two (2) air cassettes submitted.

Ecology & Environment, Inc.
Cloverleaf Bldg. 3, 6405 Metcalf
Overland Park, KS 66202

Attn: Ms. Audra Gier

Dear Ms. Gier,

Attached please find Test Report (ITL 95-01-00036) for samples submitted to Environment & Energy Consultants Inc. on January 6, 1995. The samples were submitted to Industrial Testing Laboratories, Inc. for analysis in accordance with NIOSH Method 7400, "Fibers", Revision #3, Mayn 1989.

If there are any questions, or need of additional information, please contact me at (314) 771-4436.

Respectfully submitted,

William J. Lowry

William J. Lowry, CIH
Vice President, Operations

WL/bjk

2350 S. SEVENTH STREET ST. LOUIS, MISSOURI 63104-4296 (314) 771-4436

INDUSTRIAL TESTING LABORATORIES inc.

Chemical Analysis
Materials Testing
Environmental Evaluation

2350 S. Seventh Street • St. Louis, Missouri 63104-4296

314/771-7111
314/771-9573 FAX

Report: 95-01-00036

January 11, 1995

P. O. No. 99630
TDD #T07-9410-083

Project: Certainteed/Maline Creek

Determination of the fiber content on two (2) air cassettes submitted.

Ms. Audra Gier
Ecology & Environment, Inc.
Cloverleaf Bldg. 3, 6405 Metcalf
Overland Park, KS 66202

TEST REPORT

ITL Number	Volume (Liters)	Fibers Counted	Fields Counted	Density (fibers/mm2)	Concentration (fibers/cc)
148998	1260	2.0	100	2.5	<0.0010
148999	1206	4.5	100	5.7	0.0018

Counting was performed at 400X using Phase Contrast Microscopy in accordance with NIOSH Method 7400, "Fibers", Revision #3, May 1989.

PCM provides an index of airborne fibers. The quantitative working range is 0.04 to 0.5 fibers/cc for a 1000-L air sample. The Limit of Detection depends on sample volume and the quantity of interfering dust, and is less than 0.01 fiber/cc for atmospheres free of interferences. PCM is primarily used for estimating asbestos concentrations, although it does not differentiate between asbestos and other fibers. Fibers less than approximately 0.25 micrometers will not be detected by this method.

Comparability of interlaboratory results can be approximated at 213% above and 49% below the count as the upper and lower confidence limits for fiber counts greater than 20.

Analyst: D-C

Analysis Completed: 1/10/95

Respectfully submitted,

William J Lowry

William J. Lowry, CIH
Industrial Hygiene Manager

165452

INDUSTRIAL TESTING LABORATORIES inc.

2350 S. Seventh Street • St. Louis, Missouri 63104-4296

Chemical Analysis

Materials Testing

Environmental Evaluation

314/771-7111
314/771-9573 FAX

Report: 95-01-00036

SAMPLE INDEX

ITL Number	Sample Identification
148998	MLC004, 1/5/95, West Enc. Commons, Background
148999	MLC-016, 1/5/95, 836 Laon Front Yd., Background

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Report No. 95-01-00043A

January 18, 1995

Project: Certainteed / Maline Creek

P.O. No. 99630
TDD #T07-9410-083

Determination of asbestos content by transmission electron microscopy on two (2) air monitoring cassettes submitted on January 6, 1995.

Ecology & Environment, Inc.
Cloverleaf Bldg. 3
6405 Metcalf
Overland Park, KS 66202

Attn: Ms. Audra Gier

TEST REPORT

A total of two (2) samples were collected using air monitoring cassettes with 0.80 micrometer pore size, mixed cellulose ester filters.

The analytical results for the samples submitted are reported on the following pages. The table below contains a summary of results:

SUMMARY OF ANALYTICAL RESULTS:

Sample Identification	E.E.C. Lab No.	Sample Volume (liters)	Asbestos Fibers (Counted)	Asbestos Ratio, %
MLC-004	7834	1260	0	0
MLC-016	7846	1206	0	0

Type Of Asbestos Found: None Detected

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Report No.: 95-01-0043A

Sample Identification: MLC-004, West End Commons

EEC Lab No.: 7834

ANALYTICAL INFORMATION:

NIOSH 7402 Method (Asbestos Fibers >5 um, 3:1 aspect ratio)

Sample volume, liters:	1260
Filter type:	MCE, 0.45 micrometers
Total area analyzed, mm^2:	0.3720
Effective filter area, mm^2:	385
Average grid opening area, mm^2:	0.00930
No. of grid openings analyzed:	40
Analytical sensitivity fibers/cc:	0.0008
Asbestos concentration, fibers/cc:	None Detected
Asbestos equivalency ratio, %:	0

ANALYTICAL RESULTS:

Number of fibers of each type

Chrysotile	Amphiboles	Non-Asbestos
0.0	0.0	9.5

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Report No.: 95-01-0043A

Sample Identification: MLC-016, 836 Labon Front Yd.

EEC Lab No.: 7846

ANALYTICAL INFORMATION:

NIOSH 7402 Method (Asbestos Fibers >5 um, 3:1 aspect ratio)

Sample volume, liters:	1206
Filter type:	MCE, 0.45 micrometers
Total area analyzed, mm^2:	0.3720
Effective filter area, mm^2:	385
Average grid opening area, mm^2:	0.00930
No. of grid openings analyzed:	40
Analytical sensitivity fibers/cc:	0.0008
Asbestos concentration, fibers/cc:	None Detected
Asbestos equivalency ratio, %:	0

ANALYTICAL RESULTS:

Number of fibers of each type

Chrysotile	Amphiboles	Non-Asbestos
0.0	0.0	1.0

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Report No.: 95-01-00043A

METHOD:

NIOSH 7402 - TEM

The air monitoring cassettes submitted were prepared and analyzed for asbestos structure content in accordance with methods contained in NIOSH Method 7402, NIOSH Manual of Analytical Methods (NMAM), Fourth Ed., 8/15/94. A transmission electron microscope equipped with an energy dispersive X-ray analysis unit (EDX) was used in the analysis. The asbestos structures were identified by their morphology, selected area electron diffraction pattern and/or EDX spectrum.

The analysis results are expressed in percent. This represents a ratio of asbestos fibers found to non-asbestos fibers found in the sample.

Environment & Energy Consultants, Inc. is accredited in the National Voluntary Laboratory Accreditation Program for Asbestos Fiber Analysis (Laboratory ID Number 1072).

This report may not be used to claim product endorsement by NVLAP or any agency of the U.S. Government.

Susan Barnes: Susan Barnes
Electron Microscopist

Kelly Vaccaro: Kelly Vaccaro
Electron Microscopist

Date Completed: January 13, 1995

Respectfully submitted,

Roman J. Narconis Jr.

Roman J. Narconis, Jr., Mgr.
Electron Microscopy Lab

2350 S. SEVENTH STREET ST. LOUIS, MISSOURI 63104-4296 (314) 771-4436

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1

NIOSH 7402
TEM SAMPLE COUNT SHEET

Report No. 95-01-00043
ITL Lab No. 7834
Client Sample No. MCC-004
Instrument I.D. EM 300R #2
Magnification 20,000/100
Acc. Voltage 100

Filter Type 0.45 MCA
Filter Area 385 mm²
Grid ID's 219 P9, Q2, Q4
GO Area 0.0093 mm²
No. GO to be Analyzed 40

Operator KU
Date 1/13/94
Volume

Grid ID

Disk No.

GO No.	Structure No.	Structure Type	Length < 10 um	Length >= 10 um	ED Observation Chrys.	Amph.	Nonasb.	Neg.	EDAX
219	P9								
1	NSD								
2	NSD								
3	NSD								
4	NSD								
5	1	F	20	0.15			✓		
6	1.5	M	15	2.5			✓		
7	NSD								
8	NSD								
9	NSD								
10	NSD								
11	NSD								
12	NSD								
13	NSD								
14	2.5	F	13.5	1			✓		
14	3.5	M	12.0	0.15			✓		
219	Q2								
15	NSD								
16	4.5	F	5.5	0.2			✓		
17	NSD								
18	NSD								
19	5.5	F	13.5	0.25			✓		
20	NSD								
21	NSD								
22	NSD								
23	NSD								
24	NSD								
25	NSD								
26	NSD								
27	7.5	F	3.5	0.4			✓		
28	6.5	F	5.5	0.5			✓		
28	NSD								

B = Bundle
C = Cluster
F = Fiber
M = Matrix

NSD = No structures detected
N = No diffraction obtained
GO = Grid Opening
Asbestos Concentration:

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(2)

NIOSH 7402
TEM SAMPLE COUNT SHEET

Report No. 95-01-00043
ITL Lab No. 7834
Client Sample No. MLC-004
Instrument I.D. EM 300R#2
Magnification 20,000/1,000
Acc. Voltage 100

Filter Type 0.45 MCE
Filter Area 385 mm²
Grid ID's 219 09 02 04
GO Area 0.0093 mm²
No. GO to be Analyzed 40

Operator KU
Date 1/13/95
Volume

Grid ID

Disk No.

GO No.	Structure No.	Structure Type	Length < 10 um	Length >= 10 um	ED Observation Chrys.	Amph.	Nonasb.	Neg.	EDAX
219	Q4								
29	7.0	M	11.0	1.2			✓		
30	8	F	8.0	0.25			✓		
31	NSD								
32	NSD								
33	NSD								
34	8.5	M	20.0	2.25			✓		
35	NSD								
36	NSD								
37	NSD								
38	NSD								
39	NSD								
40	9.0	M	15.0	0.2			✓		
40	9.5	M	19.0	2.0			✓		

B = Bundle
C = Cluster
F = Fiber
M = Matrix

NSD = No structures detected
N = No diffraction obtained
GO = Grid Opening
Asbestos Concentration: _____

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NIOSH 7402
TEM SAMPLE COUNT SHEET

Report No. 95-01-00043
ITL Lab No. 7846
Client Sample No. MLC-016
Instrument I.D. EM 300R #1
Magnification 1,000-20,000X
Acc. Voltage 100KV

Filter Type 0.45um MCE
Filter Area 385 mm²
Grid ID's 219Q6,Q8,Q10
GO Area 0.0073 mm²
No. GO to be Analyzed 40

Operator SB
Date 1/13/95
Volume 1200

Grid ID 219Q6,Q8,Q10

Disk No. _____

GO No.	Structure No.	Structure Type	Length < 10 um	Length >= 10 um	ED Observation Chrys.	Amph.	Nonasb.	Neg.	EDAX
219	Q6								
1	NSD								
2	NSD								
3	NSD								
4	NSD								
5	NSD								
6	NSD								
7	NSD								
8	NSD								
9	NSD								
10	NSD								
11	NSD								
12	NSD								
13	NSD								
14	NSD								
219	Q8								
15	NSD								
16	NSD								
17	NSD								
18	NSD								
19	NSD								
20	NSD								
21	NSD								
22	NSD								
23	NSD								
24	NSD								
25	.5	F	29.0	0.5			✓		
26	NSD								
27	NSD								
28	NSD								
29	NSD								
30	NSD								

= Bundle
= Cluster
= Fiber
= Matrix

NSD = No structures detected
N = No diffraction obtained
GO = Grid Opening
Asbestos Concentration: _____

INDUSTRIAL TESTING LABORATORIES inc.

NIOSH 7402

TEM SAMPLE COUNT SHEET

Report No. 95-01-00043 Cont'd

ITL Lab No. 7846 | Filter Type 0.45 Mm MCE | Operator SB

Client Sample No. MLC-016 | Filter Area 385 mm² | Date 11/13/95

Instrument I.D. EM 300R #1 | Grid ID's 219Q6,Q8,Q10 | VOLUME 12.0L

Magnification 1,000-20,000X | GO Area 0.0093 mm²

Acc. Voltage 100KV | No. GO to be Analyzed 40

Grid ID 219Q6,Q8,Q10 | Disk No. _____

GO No.	Structure No.	Structure Type	Length < 10 um	Length >= 10 um	ED Observation Chrys.	Amph.	Nonasb.	Neg.	EDAX
219	Q10								
31	NSD								
32	NSD								
33	NSD								
34	NSD								
35	NSD								
36	1.0	F	22.0	2.5			✓		
37	NSD								
38	NSD								
39	NSD								
40	NSD								

B = Bundle
C = Cluster
F = Fiber
M = Matrix

NSD = No structures detected
N = No diffraction obtained
GO = Grid Opening
Asbestos Concentration: _____

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Report No. 95-01-00044

January 18, 1995

Project: Certainteed / Maline Creek

P.O. No. 99630
TDD #T07-9410-083

Determination of asbestos content by transmission electron microscopy on twenty-three (23) bulk samples submitted on January 6, 1995.

Ecology & Environment, Inc.
Cloverleaf Bldg. 3
6405 Metcalf
Overland Park, KS 66202

Attn: Ms. Audra Gier

TEST REPORT

Sample Identification	E.E.C. Lab No.	Residue After Ashing	Residue After Acid Extraction	Asbestos Concentration
MLC-017	7847	84.4%	78.5%	None Detected, Less Than 1% If Present
MLC-018	7848	59.9%	51.6%	Chrysotile, Trace, Less Than 1%
MLC-019	7849	84.1%	52.9%	Chrysotile, Greater Than 1%
MLC-020	7850	84.2%	79.3%	Chrysotile, Trace Less Than 1%
MLC-021	7851	75.8%	69.5%	None Detected, Less Than 1% If Present

Sample Identification	E.E.C. Lab No.	Residue After Ashing	Residue After Acid Extraction	Asbestos Concentration
MLC-022	7852	92.9%	90.2%	None Detected, Less Than 1% If Present
MLC-023	7853	84.6%	80.5%	None Detected, Less Than 1% If Present
MLC-024	7854	50.2%	44.0%	Chrysotile, Trace Less Than 1%
MLC-025	7855	85.6%	81.0%	Chrysotile, Trace Less Than 1%
MLC-026	7856	93.6%	90.2%	Chrysotile, Trace Less Than 1%
MLC-027	7857	86.8%	84.0%	Chrysotile, Trace Less Than 1%
MLC-028	7858	96.3%	85.7%	None Detected, Less Than 1% If Present
MLC-029	7859	97.1%	94.6%	None Detected, Less Than 1% If Present

Sample Identification	E.E.C. Lab No.	Residue After Ashing	Residue After Acid Extraction	Asbestos Concentration
MLC-030	7860	95.0%	92.4%	None Detected, Less Than 1% If Present
MLC-031	7861	88.5%	86.4%	None Detected, Less Than 1% If Present
MLC-032	7862	84.8%	81.9%	None Detected, Less Than 1% If Present
MLC-033	7863	96.7%	84.2%	None Detected, Less Than 1% If Present
MLC-034	7864	92.1%	84.6%	None Detected, Less Than 1% If Present
MLC-035	7865	87.2%	81.9%	None Detected, Less Than 1% If Present
MLC-036	7866	84.4%	80.9%	Chrysotile, Trace Less Than 1%
MLC-037	7867	69.7%	63.7%	None Detected, Less Than 1% If Present

Sample Identification	E.E.C. Lab No.	Residue After Ashing	Residue After Acid Extraction	Asbestos Concentration
MLC-038	7868	98.8%	94.8%	None Detected, Less Than 1% If Present
MLC-039	7869	73.5%	42.3%	Chrysotile, Greater Than 1%

Analysis conducted in accordance with SOP-1988-02 Rev. 1; Analysis of Resilient Floor Tile by Eric J. Chatfield.

Susan Barnes: _____
Electron Microscopist

Roman J. Narconis: _____
Electron Microscopist

Kelly Vaccaro: _____
Electron Microscopist

Date Completed: January 12, 1995

Respectfully submitted,

Roman J. Narconis, Jr., Mgr.
Electron Microscopy Lab
Microanalytical Lab

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Report No. 95-01-00045

January 12, 1995

P.O. No. 99630
TDD #T07-9410-083

Ecology & Environment, Inc.
Cloverleaf Bldg. 3
6405 Metcalf
Overland Park, KS 66202

Attn: Ms. Audra Gier

Included in this report are test results obtained on two (2) bulk samples submitted on January 6, 1995.

The following information was provided by the client:

Project: Certainteed / Maline Creek

The results are presented as follows:

Exhibit A: Summary of material concentrations reported as a percentage of the entire sample submitted.

Exhibit B: Layer analysis reported separately with microscopist observations and comments

Exhibits A and B should be evaluated for each sample submitted to obtain a complete understanding of analysis performed.

The United States Environmental Protection Agency defines any sample containing greater than one (1) percent asbestos as an asbestos-containing material (ACM) (40 CFR Part 763). Samples determined to have asbestos concentrations greater than one (1) percent are identified in the test results as asbestos-containing materials.

Material content is determined using polarized light microscopy with dispersion staining in accordance with 40 CFR 763, Appendix A to Subpart F, "Interim Method of the Determination of Asbestos in Bulk Insulation Samples," and all current revisions.

2350 S. SEVENTH STREET ST. LOUIS, MISSOURI 63104-4296 (314) 771-4436

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Results reported as trace indicate constituents found at concentrations of less than one (1) percent.

Environment & Energy Consultants, Inc. is accredited in the National Voluntary Laboratory Accreditation Program for Asbestos Fiber Analysis (Laboratory ID Number 1072).

This report may not be used to claim product endorsement by NVLAP or any agency of the U.S. Government.

This test report relates only to the item tested.

Analysis By:

Sue Ferrario: Sue Ferrario
Microanalyst

Analysis Completed: January 11, 1995

Respectfully submitted,

William J. Lowry

William J. Lowry, CIH
Vice President, Operations

Lab No.: 7870 - 7871

SF/nm

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Section I of Two Sections
Summary

Analyst's Approval : [SF]

Client: Ecology & Environment, Inc.
Report Number: 95-01-00045

TEST REPORT

EEC Number	Sample Identification	
7870	MLC-020, 1/5/95, Soil	
	Asbestos,Chrysotile	Trace
	Cellulose	1-3%
	Mineral Wool	1-3%
	Unspecified Non-Fibrous Mat'l	Greater than 95%
7871	MLC-025, 1/5/95, Soil	
	No asbestos detected (less than 1% if present)	
	Cellulose	5-10%
	Mineral Wool	1-3%
	Unspecified Non-Fibrous Mat'l	80-90%

Section II of Two Sections
Individual Layer Analysis

Analysts's Approval: [SF]

Client: Ecology & Environment, Inc.
Report Number: 95-01-00045

EEC Number: 7870
Identification: MLC-020, 1/5/95, Soil
Dominant Color: Brown
Gross Sample Appearance: Homogeneous, Non-Fibrous
Sample Type: Dirt

Layer Number: 1 General Description: Powder
Percent of Total Sample: 100%

Material Content	
Asbestos,Chrysotile	Trace
Cellulose	1-3%
Mineral Wool	1-3%
Unspecified Non-Fibrous Material	Greater than 95%

Section II of Two Sections
Individual Layer Analysis

Analysts's Approval: [SF]

Client: Ecology & Environment, Inc.
Report Number: 95-01-00045

EEC Number: 7871
Identification: MLC-025, 1/5/95, Soil
Dominant Color: Brown
Gross Sample Appearance: Homogeneous, Non-Fibrous
Sample Type: Dirt

Layer Number: 1 General Description: Powder
Percent of Total Sample: 100%

Material Content	
No asbestos detected (less than 1% if present)	
Cellulose	5-10%
Mineral Wool	1-3%
Unspecified Non-Fibrous Material	80-90%

Observations & comments: A portion of the sample was ashed for analysis.

ATTACHMENT D

<<PHOTOLOG>>

Ecology and Environment, Inc.

Photographic Record

Client: U.S. EPA REGION VII
Camera Make: OLYMPUS OM77AF

E & E Job No.: ZT3071
Serial No. : 1047439

SITE NAME: CertainTeed/Maline Creek
SITE LOCATION: Bellefontaine Neighbors, Missouri
TDD/PAN No.: T07-9412-016/EMO0307SEA

Photographer: Kinroth
Date/Time : 01/05/95 16:32
Lens: Type: 50 mm
Serial No.: 1063023
Frame No. : 5
Direction : E
Comments :
FEMA demolition area SW of site at end of Marias and Lebon Streets

Photographer: Kinroth
Date/Time : 01/05/95 16:40
Lens: Type: 50 mm
Serial No.: 1063023
Frame No. : 6
Direction : S
Comments :
FEMA demolition area SW of site at end of Marias and Lebon Streets

ecology and environment
recycled paper

<<PHOTOLOG>>

Ecology and Environment, Inc.

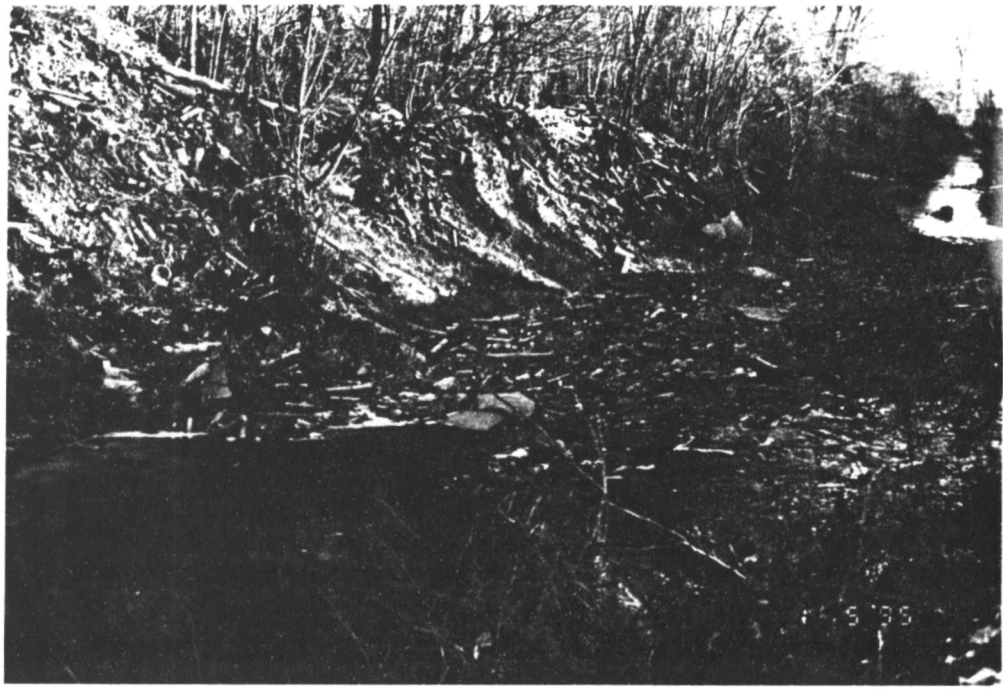
Photographic Record

Client: U.S. EPA REGION VII
Camera Make: OLYMPUS OM77AF

E & E Job No.: ZT3071
Serial No. : 1047439

SITE NAME: CertainTeed/Maline Creek
SITE LOCATION: Bellefontaine Neighbors, Missouri
TDD/PAN No.: T07-9412-016/EMO0307SEA

Photographer: Kinroth
Date/Time : 01/05/95 15:50
Lens: Type: 50 mm
Serial No.: 1063023
Frame No. : 3
Direction : ESE
Comments :
Transite pipe/material etc. eroding from Maline Creek-bank along the landfill area on former CertainTeed property



Photographer: Kinroth
Date/Time : 01/05/95 16:35
Lens: Type: 50 mm
Serial No.: 1063023
Frame No. : 4
Direction : NW
Comments :
Commons area along Maline Creek behind subdivision west of site

<<PHOTOLOG>>

Ecology and Environment, Inc.

Photographic Record

Client: U.S. EPA REGION VII
Camera Make: OLYMPUS OM77AF

E & E Job No.: ZT3071
Serial No. : 1047439

SITE NAME: CertainTeed/Maline Creek
SITE LOCATION: Bellefontaine Neighbors, Missouri
TDD/PAN No.: T07-9412-016/EMO0307SEA

Photographer: Kinroth
Date/Time : 01/05/95 08:36
Lens: Type: 50 mm
Serial No.: 1063023
Frame No. : 1
Direction : N
Comments :
Air monitoring technicians setting up sampling pump in front yard - 925 Marias

Photographer: Kinroth
Date/Time : 01/05/95 08:46
Lens: Type: 50 mm
Serial No.: 1063023
Frame No. : 2
Direction : W
Comments :
Air sampling pump set up/ configuration at field #5 Surrey Lane Athletic Assn.