Site: Martha
ID #: MD980633369
Break: 1.8
Other: 2/4/87
748D

E7 Martha C. Rose Chemical Company Site

Final Draft HRS Scoring Package

February 4, 1987

WA No. 69-748D.0

40024108
SUPERFUND RECORDS

REM IV

Remedial Planning Activities at Selected Uncontrolled Hazardous Waste Sites–Zone II

Environmental Protection Agency
Hazardous Site Control Division
Contract No. 68-01-7251

CH2M HILL

Black & Veatch
ICF
PRC
Ecology and Environment

E7

BLACK & VEATCH
ENGINEERS-ARCHITECTS

TEL. (913) 339-2000

1500 MEADOW LAKE PARKWAY
MAILING ADDRESS P.O. BOX NO. 8405
KANSAS CITY, MISSOURI 64114

CH2M HILL/EPA
REM IV
Martha C. Rose Chemical Company Site

B&V Project 64580
B&V File 3050
February 4, 1987

U.S. EPA Region VII
726 Minnesota Avenue
Kansas City, Kansas 66101

Re: HRS Scoring

Attention: Mr. Steven Kinser
Remedial Project Manager

Gentlemen:

Enclosed is one copy of the FINAL DRAFT HRS Scoring Package for the Martha C. Rose Chemical Company Site. The package incorporates the Agency review comments on our draft package submitted October 22, 1986. Scoresheets and supporting documentation are included. The package is ready for review by the Agency. The package is submitted loose-leaf bound at your request.

Attached to this letter is a copy of the Agency review comments to which we have added alpha numeric sequencing in the left margin. Attached to your comments are the responses labeled in a corresponding sequence.

Please call should you have any questions concerning the FINAL DRAFT HRS Scoring Package.

Very truly yours,

BLACK & VEATCH

FOIA Exemption 4

[redacted]

Site Manager

jdb
Enclosure

cc: Ms. Vicki Kohonoski, EPA Zone II, CH2M HILL (w/enclosure)
Mr. Mike Thompson, RM/RTL, CH2M HILL
Mr. John Edwards, AFDPM, B&V
Project File (w/enclosure)

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION VII
726 MINNESOTA AVENUE
KANSAS CITY, KANSAS 66101

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DEC 22 1986

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MEMORANDUM

SUBJECT: Draft HRS for Martha C. Rose Chemical Company Site

FROM: Shelley M. Brodie, TECH

TO: Steven Kinser, SCOM

THRU: Kerry Herndon, Chief, TECH
Craig Smith, Chief, SCOM

FOIA Exemption 4

Enclosed are my comments on the Draft HRS Scoring Package for the Martha C. Rose Chemical Company Site. I understand that the field notes written during the air sampling have been provided to [redacted] of Black and Veatch and he is rescoring the air route on the HRS. I will evaluate the air route after his revisions.

Please call me if you have any questions regarding my comments.

Attachment

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Item I GROUND WATER ROUTE

1. Observed Release

Was ground water sampling conducted? If not change wording to "no analysis conducted" or "none documented."

2. Route Characteristics

Depth to Aquifer of Concern

The geology in the area needs to be defined. First, you need to add the section, township, and range coordinates along the margin of your map. (These were left off when the topographic map was copied).

Define the aquifer of concern. There is no documentation to support that the Cherokee Group is being used for drinking water.

Reference #1 shows a bedrock formation. Is the Missouri Series present above the Des Moines Series? If there are continuous layers present, they need to be evaluated for permeability. If they are not present, the Cherokee Group (if continuous layers are present) varies greatly in permeability, per Reference #1, depending on relative amounts of shale and sandstone.

Well logs should be located on a sketch to help define the geology. Some well logs were finished in the Cherokee Group, some in the Marmaton Group, and others were simply designated as being in the Pennsylvanian System.

Are there any confining layers present? Some of the well logs are old (they date from 1944-1973), but they can be used to help define the geology even if they can't be used to define use of aquifer.

You need to determine:

1. Which formations are present throughout the area and which are missing?

2. Based on #1, assign a permeability value considering the least permeable continuous layer.

The depths on the well logs varied from 175 feet total depth to 490 feet total depth. When you have defined the aquifer, I will evaluate the depth to the highest seasonal water level.

On depth to lowest point of waste disposal, put "0" if no depth because the waste is on the surface.

I will evaluate net precipitation when the sites is located on a regional (state) map.

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Regarding permeability, see #2 above.

Physical State

For both References #3 and #6, please highlight the sentences that refer to physical state.

3. Containment

Cite page numbers on references and highlight the specific sentences.

4. Waste Characteristics

Reference #3 describes photos and a photocopy of a report sent to EPA (p. 1&2). Do you have these? If so, please provide a copy.

Toxicity and Persistence

Cite page numbers on references, and highlight the specific sentences.

Hazardous Waste Quantity

Count all hazardous substances that do not have a containment value of zero and make sure that they can be released to the particular pathway.

Cite the specific analytical results to show that the contents of the tanks and drums were hazardous.

On Reference 24, cite the page numbers from References #3 and #6 that provided the quantity information.

5. Targets

Ground Water Use

There is no documentation cited to support the use of the aquifer.

Distance to nearest well

Information for this category is missing from the HRS package.

Population Served

See previous comment. HOw was a matrix score for this item calculated without "distance to the nearest well" information?

Computation of land area

Regarding Reference #8, we need an accurate count of the acreage irrigated. This belongs in the surface water pathway if the pond is within one mile downstream from the hazardous substance, or is in the migration pathway. If the farm pond is fed by ground water, this needs to be documented if you are including this in the ground water route.

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Total Population

The population served by ground water is not documented sufficiently.

Warrensburg is not located on the 4 mile radius map. I assume it is greater than 3 miles from the hazardous substance? (Is the Johnson County Rural Water District #2 well, located southeast of Warrensburg, outside the 3 mile radius?)

We need to verify use of the 2 private wells for drinking water. If use is verified, we also need to verify that "no municipal water from alternate unthreatened sources are presently available" to justify a ground water use score of 3. Each word in this sentence describing ground water use is a key item and must be verified and documented.

In the surface water route you stated that the rural population uses private ground water wells. Can you document this use?

I have enclosed sheets from the Federal Reporting Data System and from the Census of Missouri Public Water Supplies for your use. You may want to check where the well (cited for Holden) is located and in which aquifer.

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tem II SURFACE WATER ROUTE

II.A 1. Observed Release

II.A.1 Do not include "route characteristics" and "containment" information if there is an observed release.

II.A.2 Cite page numbers for each reference.

II.A.3 Are the sample results depicted on sampling map (May 19, 1986) the same as those on the data sheet? For instance, sample BKJ8D001 is listed as 69.0 ppm; is this the total PCB measurement consisting of PCB 1241, 1254, and 1260? If so, why is sample BKJ8D005 listed on the sampling map as 2.13 ppm and not the total PCB measuremeent of 145 ppm? It is listed as an "M" value on the datasheet.

II.A.4 The copy of the sampling map is not clear, could you please locate sample point #1 on the map?

II.A.5 Please explain the matrix code "oil" for samples BKJ8D001 and 002. Was this oil floating in the creek?

II.B 4. Waste Characteristics

II.B.1 Toxicity and Persistence

Please cite page numbers in references. Were you citing Attachment 1 of Reference 6 (inventory)? Please cite the HRS Manual also (compound with the highest score) because PCB's are listed in the manual toxicity/ persistent table.

Hazardous Waste Quantity

II.B.2 Regarding Reference 24, a summary of the wastes can be used if you clearly designate how the summary was calculated. I added the wastes on the inventory sheet (Attachment 1 of Reference 6) and could not get the same total that you did. Please cite the specific pages and the specific amounts used in the calculations.

II.B.3 Regarding the basis of estimating quantity, please show calculations or cite your summary (Reference 24). Reference 6 is listed in the documentation records as a site inspection report. However, Reference 6 in your package is a Statement of Work.

II.B.4 Regarding the inventory done by Mr. Ramsey, did each drum contain PCB's or only some of the drums? How did Mr. Ramsey verify this?

II.B.5 I have consulted with members of the QA review team at MITRE and they require that a representative sample of the transformers and capacitors be sampled to document that they contain PCB's. Did the plant manager or someone else) verify the contents?

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II.B.6 I will evaluate the quantity when the actual amounts used to calculate the score are provided.

II.C 5. Targets

II.C.1 Please include the score for population served by surface water.

II.C.2 Regarding irrigation, please put the score and cite the topo map to show the pond is upgradient from the site.

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Item III GENERAL COMMENTS

III.A.1 On all calculations, do not round off except for the last calculation on each page of the scoresheet.

III.A.2 After the package has passed the Quality Assurance (QA) review by MITRE, please remove all "draft" stamps.

III.A.3 Cite page numbers for every reference used and please highlight the relevant sections if the reference is lengthy.

III.A.4 Please do not send the documentation records and score sheets in a bound folder. These have to be copied several times.

III.A.5 Reference 3 cites numerous photos and a photocopy of a report to EPA. Do you have copies of these photos and the report, and if so, please send a copy.

III.A.6 The copy of the topographic map did not show the site in relation to its location in the state. This is needed to get the necessary information from the tables in the HRS manual.

III.A.7 I need the section, township, and range guidelines on the margins of the topographic map (Reference 11) to verify the well log locations.

MARTHA C. ROSE SITE
HRS SCORING

Review Comment Response

Item I. Ground Water Route

Item I. The ground water route was deleted from the scoring as discussed with Steve Kinser, EPA. The detailed data required to score this route was not available and therefor not scored. There is very little impact to the Overall HRS score when this route is deleted.

Item II. Surface Water Route

II.A.1 "Route characteristics" and "contaminant" information has been deleted.

II.A.2 Page numbers for each reference have been added.

II.A.3 Sample results depicted on the sampling map (May 19, 1986) correlate to the summation of PCB concentrations (Total PCB's) and includes all "M" coded data. Note, data is reported in laboratory summary in "ppb", while the map reports data as "ppm".

II.A.4 Sample point #1 is located at the facility outfall adjacent to sample point #8.

II.A.5 The field sheets associated with samples BKJ3D-001 and -002 describe the samples as oil from creek.

II.B.1 Page numbers added to reference. The HRS reference was added.

II.B.2 Reference 3, Attachment 1 (formerly Reference 6) sums total oils volume as 322,140 gallons. The summary of wastes included in this HRS rounds the amount to 322,000 gallons.

II.B.3 Reference and page numbers were added to the waste quantity calculations.

II.B.4 Details of Mr. Ramsey survey methodology were not reported in this reference. It is assumed Mr. Ramsey and his professional survey associates determined that the drum did indeed contain PCB's.

II.B.5 Attachment 1 to Reference 3, lists tankage and a description of contents. We assume that this description is based upon the PRP consultants, O.H. Materials and/or Clean Sites, have performed analysis to make this determination.

II.B.6 The amounts are given in References 2 and 3.

II.C.1 Population score was added for the surface water route.

II.C.2 Irrigation score and topographic map referenced added.

Item III. General Comments

III.A.1 Number rounding has been revised accordingly.

III.A.2 Draft stamps will be deleted.

III.A.3 Reference page numbers have been cited.

III.A.4 The package has been loose-leaf bound.

III.A.5 No photos were available.

III.A.6 Site location within state has been added.

III.A.7 The topographic map has been revised.

CONTENTS

HRS Work Sheets

Documentation Records for Hazard Ranking System

Documentation Support

Facility name: Martha C. Rose-Chemical Company Site

Location: 500 W. McKissock, Holden, Missouri

EPA Region: Seven

Person(s) in charge of the facility: W.C. Carolan

6350 Wenoga Rd.

Mission Hills, Kansas 66208

Name of Reviewer: [redacted], Black & Veatch Date: 2/4/87

General description of the facility:

(For example: landfill, surface impoundment, pile, container; types of hazardous substances; location of the facility; contamination route of major concern; types of information needed for rating; agency action, etc.)

Martha C. Rose Chemical Company formerly (as of 3/86) processed waste PCB oils and capacitors. An estimated 3095 tons of contaminated oils and wastes are stored on-site in warehouses. Waste oils containing PCB's have been spilled and released to an adjacent stream. Air monitors located around the site parameter have also detected PCB's.

Scores: S_M = 30.89 S_{gw} = --- S_{sw} = 10.95 S_a = 52.31

S_{FE} = --

S_{DC} = --

FIGURE 1
HRS COVER SHEET

Ground Water Route Work Sheet					NOT SCORED
Rating Factor	Assigned Value (Circle One)	Multi-plier	Score	Max. Score	Ref. (Section)
1 Observed Release	0 45	1		45	3.1
If observed release is given a score of 45, proceed to line 4. If observed release is given a score of 0, proceed to line 2.					
2 Route Characteristics					3.2
Depth to Aquifer of Concern	0 1 2 3	2		6	
Net Precipitation	0 1 2 3	1		3	
Permeability of the Unsaturated Zone	0 1 2 3	1		3	
Physical State	0 1 2 3	1		3	
	Total Route Characteristics Score			15	
3 Containment	0 1 2 3	1		3	3.3
4 Waste Characteristics					3.4
Toxicity/Persistence	0 3 6 9 12 15 18	1		18	
Hazardous Waste Quantity	0 1 2 3 4 5 6 7 8	1		8	
	Total Waste Characteristics Score			26	
5 Targets					3.5
Ground Water Use	0 1 2 3	3		9	
Distance to Nearest Well/Population Served	0 4 6 8 10 12 16 18 20 24 30 32 35 40	1		40	
	Total Targets Score			49	
6 If line 1 is 45, multiply 1 x 4 x 5 If line 1 is 0, multiply 2 x 3 x 4 x 5				57,330	
7 Divide line 6 by 57,330 and multiply by 100		S_{gw} = --			

FIGURE 2
GROUND WATER ROUTE WORK SHEET

Surface Water Route Work Sheet					
Rating Factor	Assigned Value (Circle One)	Multi-plier	Score	Max. Score	Ref. (Section)
1 Observed Release	0 (45)	1	45	45	4.1
If observed release is given a value of 45, proceed to line 4. If observed release is given a value of 0, proceed to line 2.					
2 Route Characteristics					4.2
Facility Slope and Intervening Terrain	0 1 2 3	1		3	
1-yr. 24-hr. Rainfall	0 1 2 3	1		3	
Distance to Nearest Surface Water	0 1 2 3	2		6	
Physical State	0 1 2 3	1		3	
	Total Route Characteristics Score			15	
3 Containment	0 1 2 3	1		3	4.3
4 Waste Characteristics					4.4
Toxicity/Persistence	0 3 6 9 12 15 (18)	1	18	18	
Hazardous Waste Quantity	0 1 2 3 4 5 6 7 (8)	1	8	8	
	Total Waste Characteristics Score		26	26	
5 Targets					4.5
Surface Water Use	0 1 (2) 3	3	6	9	
Distance to a Sensitive Environment	(0) 1 2 3	2	0	6	
Population Served/Distance to Water Intake Downstream	(0) 4 6 8 10 / 12 16 18 20 / 24 30 32 35 40	1	0	40	
	Total Targets Score		6	55	
6 If line 1 is 45, multiply 1 x 4 x 5 / If line 1 is 0, multiply 2 x 3 x 4 x 5			7020	64 350	
7 Divide line 6 by 64,350 and multiply by 100		S_{sw} =	10.909		

FIGURE 7
SURFACE WATER ROUTE WORK SHEET

Air Route Work Sheet					
Rating Factor	Assigned Value (Circle One)	Multi-plier	Score	Max. Score	Ref. (Section)
1 Observed Release	0 (45)	1	45	45	5.1
Date and Location:	September 6, 1986 - Facility parameter				
Sampling Protocol:	Personal air samplers with florisil tube, 1/L for 1 hour				
If line 1 is 0, the S_a = 0. Enter on line 5. If line 1 is 45, then proceed to line 2.					
2 Waste Characteristics					5.2
Reactivity and Incompatibility	(0) 1 2 3	1	0	3	
Toxicity	0 1 2 (3)	3	9	9	
Hazardous Waste Quantity	0 1 2 3 4 5 6 7 (8)	1	8	8	
	Total Waste Characteristics Score		17	20	
3 Targets					5.3
Population Within 4-Mile Radius	0 9 12 15 18 / (21) 24 27 30	1	21	30	
Distance to Sensitive Environment	(0) 1 2 3	2	0	6	
Land Use	0 1 2 (3)	1	3	3	
	Total Targets Score		24	39	
4 Multiply 1 x 2 x 3			18360	35.100	
5 Divide line 4 by 35.100 and multiply by 100		S_a = 52.307			

FIGURE 9
AIR ROUTE WORK SHEET

	S	S^2
Groundwater Route Score (S_{gw})	---	---
Surface Water Route Score (S_{sw})	10.909	119.008
Air Route Score (S_a)	52.307	2736.094
$S_{gw}^2 + S_{sw}^2 + S_a^2$		2855.102
$\sqrt{S_{gw}^2 + S_{sw}^2 + S_a^2}$		53.433
$\sqrt{S_{gw}^2 + S_{sw}^2 + S_a^2} / 1.73 = S_M =$		30.89

FIGURE 10
WORKSHEET FOR COMPUTING S_M

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DOCUMENTATION RECORDS FOR HAZARD RANKING SYSTEM

INSTRUCTIONS: As briefly as possible summarize the information you used to assign the score for each factor (e.g., "Waste quantity = 4,230 drums plus 800 cubic yards of sludges"). The source of information should be provided for each entry and should be a bibliographic-type reference. Include the location of the document.

FACILITY NAME: Martha C. Rose Chemical Company Site

LOCATION: Holden, Missouri

DATE SCORED: February 4, 1987

PERSON SCORING: [redacted], Black & Veatch

PRIMARY SOURCE(S) OF INFORMATION (e.g., EPA region, state, FIT, etc):

U.S. Environmental Protection Agency Region VII files

FACTORS NOT SCORED DUE TO INSUFFICIENT INFORMATION:

Ground Water Route was not scored.

COMMENTS OR QUALIFICATIONS:

Surface and Air Route Releases were documented.

GROUND WATER ROUTE

NOT SCORED

1 OBSERVED RELEASE

Contaminants detected (5 maximum):

Rationale for attributing the contaminants to the facility:

* * *

2 ROUTE CHARACTERISTICS

Depth to Aquifer of Concern

Name/description of aquifer(s) of concern:

Depth(s) from the ground surface to the highest seasonal level of the saturated zone [water table(s)] of the aquifer of concern:

Depth from the ground surface to the lowest point of waste disposal/storage:

Net Precipitation

Mean annual or seasonal precipitation (list months for seasonal):

Mean annual lake or seasonal evaporation (list months for seasonal):

Net precipitation (subtract the above figures):

Permeability of Unsaturated Zone

Soil type in unsaturated zone:

Permeability associated with soil type:

Physical State

Physical state of substances at time of disposal (or at present time for generated gases):

* * *

3 CONTAINMENT

Containment

Method(s) of waste or leachate containment evaluated:

Method with highest score:

4 WASTE CHARACTERISTICS

Toxicity and Persistence

Compound(s) evaluated:

Compound with highest score:

Hazardous Waste Quantity

Total quantity of hazardous substances at the facility, excluding those with a containment score of 0 (Give a reasonable estimate even if quantity is above maximum):

Basis of estimating and/or computing waste quantity:

* * *

5 TARGETS

Ground Water Use

Use(s) of aquifer(s) of concern within a 3-mile radius of the facility:

Distance to Nearest Well

Location of nearest well drawing from aquifer of concern or occupied building not served by a public water supply:

Distance to above well or building:

Population Served by Ground Water Wells Within a 3-Mile Radius

Identified water-supply well(s) drawing from aquifer(s) of concern within a 3-mile radius and populations served by each:

Computation of land area irrigated by supply well(s) drawing from aquifer(s) of concern within a 3-mile radius, and conversion to population (1.5 people per acre):

Total population served by ground water within a 3-mile radius:

SURFACE WATER ROUTE

1 OBSERVED RELEASE — Score: 45

Contaminants detected in surface water at the facility or downhill from it (5 maximum):

		BKJ8D-001	BKJ8D-002	BKJ8D-009
Stream Sediments:	PCB 1242 -	30,000 µg/kg	30,000 µg/kg	Undetected
	PCB 1254 -	18,000 µg/kg	13,000 µg/kg	Undetected
	PCB 1260 -	21,000 µg/kg	16,000 µg/kg	Undetected

Rationale for attributing the contaminants to the facility:

Sample BKJ8D-009, collected upstream of facility outfall, was found to be free of PCB's, while downstream samples BKJ8D-001 and BKJ8D-002 contained PCB contamination. REF 1, Data Transmittal

* * *

2 ROUTE CHARACTERISTICS — Not Evaluated

Facility Slope and Intervening Terrain

Average slope of facility in percent:

Name/description of nearest downslope surface water:

Average slope of terrain between facility and above-cited surface water body in percent:

Is the facility located either totally or partially in surface water?

Is the facility completely surrounded by areas of higher elevation?

1-Year 24-Hour Rainfall in Inches

Distance to Nearest Downslope Surface Water

Physical State of Waste

* * *

3 CONTAINMENT Not Evaluated

Containment

Method(s) of waste or leachate containment evaluated:

Method with highest score:

4 WASTE CHARACTERISTICS

Toxicity and Persistence Score: 18

Compound(s) evaluated:

Polychlorinated biphenyls, NOS REF: 2, p. 1-2
REF: 16, Summary

Compound with highest score:

Polychlorinated biphenyls, NOS - High toxicity, High persistance REF. 4
REF. 5, p. 20

Hazardous Waste Quantity Score: 8

Total quantity of hazardous substances at the facility, excluding those with a containment score of 0 (Give a reasonable estimate even if quantity is above maximum): Approximately 3095 ton. REF. 6

- 322,000 gallon bulk PCB contaminated oil
- 5,000 55-gallon drums PCB contaminated waste
- 400 transformers (drained and undrained) - Assume 200 full at 100 gallon each
- 5,700 cubic feet of capacitor cores in steel bin
- 1.3 million pounds of capacitor cores in fifty pound paper bags.

Basis of estimating and/or computing waste quantity:

- Preliminary tank inventory REF 2, p.2
- Site inspection report REF 3, p. Attachment

* * *

5 TARGETS

Surface Water Use Score: 2

Use(s) of surface water within 3 miles downstream of the hazardous substance:

Recreational uses - fishing REF 7

Is there tidal influence?

Not applicable

Distance to a Sensitive Environment Score: 0

Distance to 5-acre (minimum) coastal wetland, if 2 miles or less:

Not applicable

Distance to 5-acre (minimum) fresh-water wetland, if 1 mile or less:

There is no 5-acre fresh-water wetland within one mile of the facility — REF 8, REF 9, REF 10

Distance to critical habitat of an endangered species or national wildlife refuge, if 1 mile or less:

There is no critical habitat within one mile of facility — REF 8, REF 9, REF 10

Population Served by Surface Water Score: 0

Location(s) of water-supply intake(s) within 3 miles (free-flowing bodies) or 1 mile (static water bodies) downstream of the hazardous substance and population served by each intake:

The public water supply of Holden, Missouri is derived from a water supply lake located approximately 0.5 miles northeast of Kingsville, MO. This lake is fed by a watershed that is upgradient of the Martha C. Rose facility. Rural population uses the Johnson County Rural Water District water supply on private ground water wells. — REF 11, REF 12, REF 13

Computation of land area irrigated by above-cited intake(s) and conversion to population (1.5 people per acre):

The only irrigation supplied by surface water near Holden, MO is located approximately 1.25 miles south of facility. Irrigation water derived from private pond. Water shed of pond is upgradient of Martha C. Rose site in Sec. 15, Township 45 N, Range 27 W — REF 8, REF 14, REF 15

Total population served:

There is no irrigation supplied by surface water downgradient of the Martha C. Rose site. Only known irrigation using surface water is located upgradient of Martha C. Rose. — REF 14, REF 15

Name/description of nearest of above water bodies:

Not applicable

Distance to above-cited intakes, measured in stream miles.

City of Holden uses a water supply lake located 4 miles west of the Martha C. Rose site. This lake is replenished by surface water from a watershed upgradient of the site. — REF 8, REF 11

AIR ROUTE

1 OBSERVED RELEASE — Score: 45

Contaminants detected: PCB 1242 and PCB 1260 — REF 16, Laboratory Results

- Sample No. 4092-61: 1.97 ug/m^3
- Sample No. 4092-66: 17.14 ug/m^3 — REF 17
- Sample No. 4092-67: 131.20 ug/m^3 — REF 18, REF 19

Date and location of detection of contaminants:

Air samples collected on September 6, 1986, along property fence line at 7 locations. — REF 16, Summary; REF 19

Methods used to detect the contaminants:

Personal air samplers equipped with florisil tubes at a rate of one liter per minute for 60 to 90 minutes. Samplers pointed into wind and were positioned 4-feet above the ground. — REF 17

Rationale for attributing the contaminants to the site:

- No other known source of contaminant near site — REF 16
- Samples collected near drum storage were positive for PCB, while samples collected upwind (southwest) were negative.

* * *

2 WASTE CHARACTERISTICS

Reactivity and Incompatibility — Score: 0

Most reactive compound:

Polychlorinated biphenyls, NOS - non-reactive — REF 20; REF 5, p. 43

Most incompatible pair of compounds:

Polychlorinated biphenyls — REF 2, p. 2

Toxicity Score: 3

Most toxic compound:

Polychlorinated biphenyl, NOS REF 4
REF 5, p. 20

Hazardous Waste quantity Score: 8

Total quantity of hazardous waste: Approximately 3095 ton REF 6
- 322,000 gallon tulk PCB contaminated oils
- 5,000 55-gallon drums PCB contaminated waste
- 400 transformers (drained and undrained) - Assume 200 full at 100 gallons/transformer
- 5,700 cubic feet of capacitor cores in steel bin
- 1.3 million pounds capacitor cores in fifty pound paper bags.

Basis of estimating and/or computing waste quantity:

- PCB Inspection Report, February 26 and 27, 1986 REF 2, p. 2
- Preliminary tank inventory REF 3, Attachment 1

* * *

3 TARGETS

Population Within 4-Mile Radius Score: 21

Circle radius used, give population, and indicate how determined:

(Score: 18)	(Score: 18)		(Score: 21)
0 to 4 mi	0 to 1 mi	0 to 1/2 mi	0 to 1/4 mi
3392 persons	2518 persons		House Count: 612 persons

REF 8
REF 21
REF 22
REF 23

Distance to a Sensitive Environment Score: 0

Distance to 5-acre (minimum) coastal wetland, if 2 miles or less:

Not applicable

Distance to 5-acre (minimum) fresh-water wetland, if 1 mile or less:

There are no 5-acre freshwater wetlands within one mile of the Martha C. Rose site. REF 8
REF 9
REF 10

Distance to critical habitat of an endangered species, if 1 mile or less:

There are no critical habitats of endangered species within one mile of the Martha C. Rose site.	REF 9 REF 10

Land Use Score: 3

Distance to commercial/industrial area, if 1 mile or less:

There are businesses located approximately 200 feet east of the facility and 100 feet south of the facility.	REF 8 REF 22

Distance to national or state park, forest, or wildlife reserve, if 2 miles or less:

There are no national or state parks, forests, are wildlife reserves within 2 miles of the Martha C. Rose site.	REF 9 REF 10

Distance to residential area, if 2 miles or less:

There is a residential area approximately 100 feet east of the facility	REF 7 REF 8

Distance to agricultural land in production within past 5 years, if 1 mile or less:

There is farmland currently in use directly adjacent to the facility on the north and west edges.	REF 8 REF 22

Distance to prime agricultural land in production within past 5 years, if 2 miles or less:

As above	REF 8 REF 21

Is a historic or landmark site (National Register or Historic Places and National Natural Landmarks) within the view of the site?

There are no historic sites or landmarks within view of the site.	REF 24

HRS DOCUMENTATION LOG SHEET

SITE NAME Martha C. Rose Chemical Company Site
CITY Holden STATE Missouri
IDENTIFICATION NUMBER

REFERENCE NUMBER	DESCRIPTION OF THE REFERENCE
1	Investigation of PCB Spill at Rose Chemical, Holden, Missouri, Michael G. Clemans, Region VII TATM, Sample Series BKJ8D, January 17, 1986.
2	PCB Inspection Report, Martha C. Rose Chemicals, Inc., Inspection No. 022686178101, Docket No. 07-86-T-384, February 26 and 27, 1986.
3	Rose Chemicals, Schiff Harden and Waite, Letter to J.G. Pemberton, USEPA from Sheldon A. Zabel, with attachments September 26 and 27, 1986.
4	Dangerous Properties of Industrial Materials, N.I. Sax, 5th Edition, Von Nostrand Rheinhold Company, New York, 1979.
5	Uncontrolled Hazardous Waste Site Ranking System, A User's Manual, K.W. Barrett, et. al., The Mitre Corporation, McClean, Virginia, August 1982.
6	Calculation of Hazardous Waste Quantity, Martha C. Rose Chemical Company Site, Holden, Missouri, H.L. Wieland, Black & Veatch Engineers.
7	Conversation with Mr. Don McCoy, 100 N. Buffalo Street, Holden, Missouri, September 30, 1986.
8	Topographic Map, 7.5 Minute Series, Pittsville, Kingsville, Elm and Holden Quadrangles; Johnson County, Missouri, U.S. Geological Survey, 1954.
9	Letter from Joe Tieger, Field Supervisor, U.S. Fish and Wildlife Service, Ecological Services, Columbia, Missouri, October 1, 1986.
10	Letter from Dan F. Dickneite, Environmental Services Officer, Missouri Department of Conservation, Jefferson City, Missouri, October 3, 1986.
11	Telephone Conversations with Mr. Toni Larda, Supervisor, Holden Water Department, Holden, Missouri, (816) 732-6343, September 18 and 26, 1986.

12 Telephone Conversation with Ron Brockhouse, Johnson County Missouri, Rural Water District No. 2, Holden, Missouri, (816) 732-6658, September 18, 1986.

13 Census of Population and Housing, 1986 - Summary Tape File 3A, Madisen Township, Johnson County, Missouri, Page 5935-E.

14 Telephone Conversation with Bob Hagedon, Soil Conservationist, Johnson County Soil Conservation Service, Warrensburg, Missouri, (816) 747-8400, September 29, 1986.

15 Telephone Conversation with Mrs. Herb Thomason, Holden, Missouri, (816) 732-4584, September 29, 1986.

16 Preliminary Sampling/Analytical Survey, Rose Chemicals Company Site, Holden, Missouri, Harry V. Drushel, DRU-TEK, September 11, 1986.

17 Letter from Mike A. Edelbrock, O.H. Materials Co., to Roger Van Zele, Clean Sites Inc., October 20, 1986.

18 Letter from Roger L. Van Zele, Clean Sites, Inc. to J.L. Robinson, Illinois Power Company, October 22, 1986.

19 Letter from Clifford W. Kline, Clean Sites Inc., to J.S. Pemberton, USEPA, with Attachments, November 24, 1986.

20 Chris Hazardous Chemical Data, Commandment Instruction M.16465.12A, Polychlorinated biphenyls, June 1985.

21 Census of Population and Housing, 1980 - Summary Tape File 3A, Madison Township, Holden, Missouri, p. 5939-A.

22 Aeral Plate Photos, Johnson County, Missouri, State Tax Commission of Missouri, Section 10, Township 45 North, Range 28 West, Scale 1" = 100', November 1980.

23 Calculations of Population within 4-mile radius of Martha C. Rose Facility, Holden, Missouri, by H.L. Wieland, Black & Veatch Engineers.

24 Telephone Conversation with Geneva Salsbury, Johnson County Historical Society, Warrensburg, Missouri, (816) 747-6438, October 14, 1986.

WESTON · SPER
Suite 306, Gateway Centre II
4th & State Avenue, Kansas City, KS 66101 • (913) 621-6240

TECHNICAL ASSISTANCE TEAM FOR EMERGENCY RESPONSE REMOVAL AND PREVENTION
EPA CONTRACT 68-01-6669

TO:	Ron McCutcheon, EP&R/ENSV	January 17, 1986
THRU:	Robert L. Sholar, Region VII TATL	TAT-07-F-01334
FROM:	Michael G. Clemons, Region VII TATM	TDD #07-8601-05
SUBJECT:	Investigation of PCB Spill at Rose Chemical, Holden, Missouri	PCS #5146

At 1348 hours on January 6, 1986, the Region VII Technical Assistance Team (TAT) member Mike Clemons was tasked to accompany EP&R to Holden, Missouri to investigate a reported PCB spill. Earlier in the day, the Mayor of the City of Holden had called Bill Landis at the EPA Regional Office to report a suspected PCB containing oil leaking from a tanker truck on the property of the PCB Division of Rose Chemicals and requested an investigation.

Mac Castor, EPA/EP&R, and Mike Clemons (TAT) arrived at the Rose Chemical facility in Holden, Missouri at 1548 hours. Upon arrival at the scene, the responders viewed excavation cleanup activity occurring in the south parking lot. Upon entering the facility property, the plant management was sought. Conversations with Executive Vice President James Carolan, Director of Research and Development Dwight Thomas, and Plant Manager Pat Perrin revealed the following scenario of the spill situation:

> A tanker truck containing PCB contaminated transformer oil had been emptied (the Rose Chemical Company has a process to detoxify PCB contaminated oil). After the tanker truck had been off-loaded, the empty tanker was parked in the graveled south parking lot. Sometime over the weekend of January 4-5, 1986, the belly drain valve on the tank truck apparently cracked, allowing the residual oil contained in the drain system to leak onto the frozen ground. When the leak was noticed on Monday morning, the tanker was transported to the dike protected off-loading bays and the cleanup of the spill area was instituted. Approximately 10-15 gallons were spilled. None of the material had reached the nearby creek on the west boundary of the plant property. Mr. Thomas anticipated excavating approximately 24 cubic yards of earth during the cleanup and either transporting the material to U.S. Ecology or ESI for disposal. Total PCBs in the oil was 126 ppm, of which 118 ppm were Arochlor 1260 and 9 ppm were Arochlor 1242.

After being satisfied that the cleanup was proceeding smoothly and effectively, and there was neither a threat to the public or the environment, Castor granted Channel 4 News, Kansas City, Missouri NBC affiliate, an

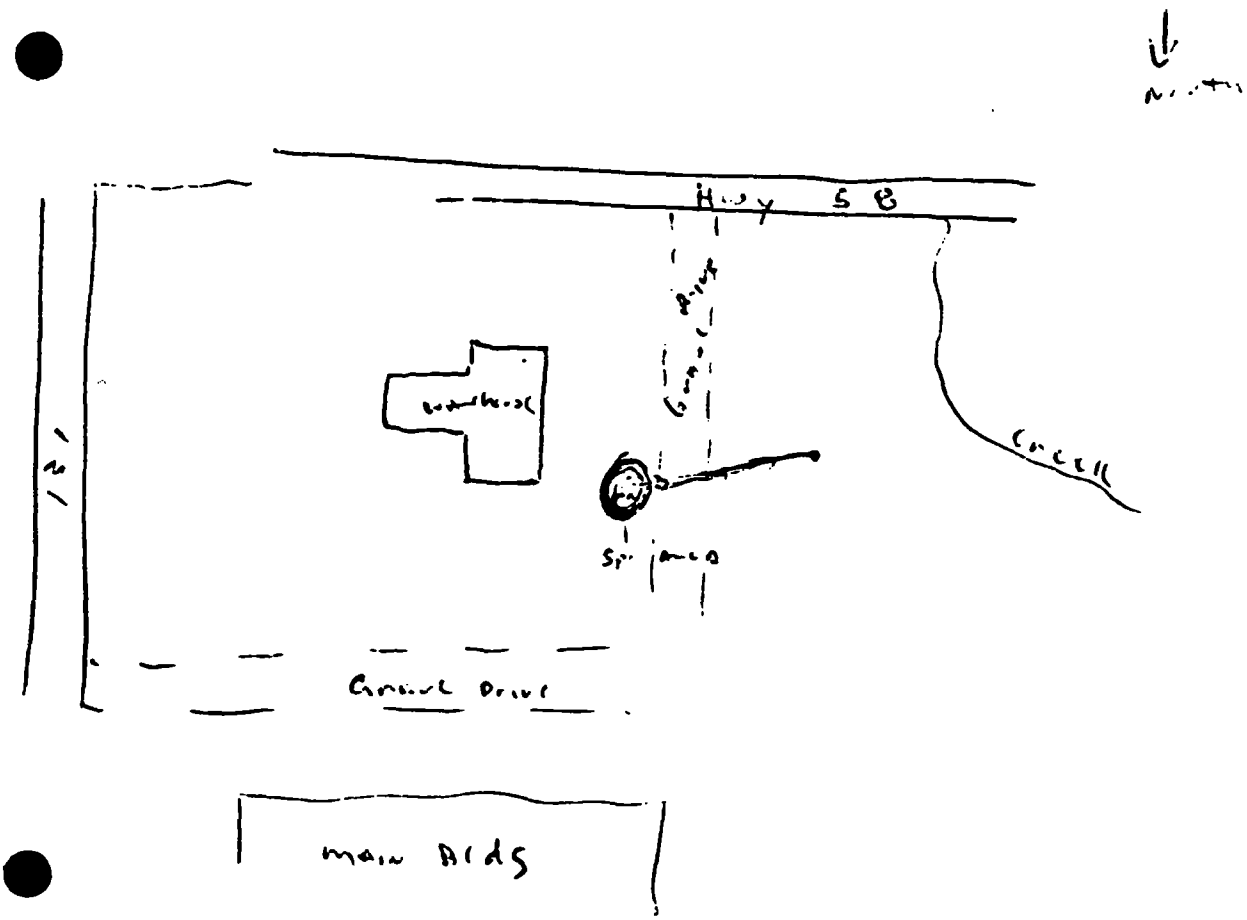
interview. The TAT recommended a certification sampling plan for the area after the excavation was completed. Excavation depth ranged from 6-12 inches over the spill area, and there was no evidence of the spill entering into the creek. The reportable quantity (RQ) for PCBs as listed in 40 CFR 302.4 is 10 pounds. The spill of 10-15 gallons of oil contaminated at 127 ppm did not approach the RQ. The responders left the scene at 1708 hours.

On January 7, 1986, Rose Chemicals was informed that the required cleanup level was 2 ppm, after conferring with the Toxics and Pesticides (TOPE) branch of EPA. Rose Chemicals reported on January 8, 1986 that their analysis after excavation revealed no levels greater than 0.7 ppm.

Michael G. Clemons

MICHAEL G. CLEMONS
Region VII TATM

MGC/cm



TO: File
FROM: Steven R. Kay
DATE: May 19, 1986
Subject: Oil Spill at Rose Chemicals Site

Spill first reported to ETI on Tuesday May 13 at approximately 1430 hours by Pat Perrin to Ken Kulinowski. Apparently some 200-300 gallons of treated oil had leaked onto the ground from a tank trailer parked at the loading dock in bay area #1. The torrential rain which had been falling over the previous three days had washed the oil into the berm area immediately below the dock area which encompasses all of the dock area tankage.

First indications were that all spillage and surface runoff were contained within the berm and thus first line efforts were to contain all materials within said berm. A drain line leading from the berm was leaking slightly therefore a sump was created at the point of leakage and a sump pump installed to pump any liquids directly back into the berm area. Again at this time there was no evidence of any spillage outside the berm area.

On Wednesday, May 14, all liquids in the berm area was pumped into tankage, samples were taken from the leaking tanker as well as the berm area. The following results were attained:

Tanker -	front compartment	14ppm
	middle compartment	39ppm
	back compartment	14ppm
Berm -	Top	107ppm
	Bottom Sludge	362ppm

It rained again on Wednesday Evening, and Thurday Morning, the berm area was pumped again on Thursday into tankage. No additional sampling was done.

Following another substantial rainfall on Thursday Night, Friday Morning a significant amount of oil was discovered in Pinoak Creek by local residents and reported to Missouri Department of Natural Resources who in turn reproted same to the United States Environmental Protection Agency,Region VII. ETI was notified at approximately 1600 hrs by Mr.Walter Carolan. Steven Kay and Donald Seymour arived on-scene at approximately 1700 hrs. to view the situation and meet with Missouri DNR personnel, and EPA's

Technical Assistance Team Contractors Roy F. Weston representatives. Mr. Carolan was contacted and the green light was given to continue cleanup operations which had begun earlier under the supervision of Mr. Perrin from American Steel Inc., a co-tenant of the Rose Chemicals Facility, and former employee of Rose Chemical. Oil absorbent which had been placed in the stream were left in place. Containment/Absorbent booms of straw were placed in two locations in the stream.

The oil had apparently been flushed from a storm sewer line which it had apparently entered on Tuesday, thus the storm line to Pinoak Creek was broken and diverted to the lower lagoon on the Rose Chemicals Property. The above accomplished, the site was secured at 2100 hrs. for the night.

Saturday Morning, May 17, 1986 ETI representatives arrived on site to continue efforts to cleanup the contamination and prevent recurrence fo same. The lower berm area was reinforced and expanded, the storm sewer drain at the entrance to the property was blanked off and the run on water diverted away from the storm drain in an attempt to cut back on the amount of water requiring containment on treatment. A berm was built to contain and divert any runoff from the loading dock area to the primary containment berm, and the suspect manhole was isolated. A sample taken directly from Pinoak Creek was analyzed at approximately 96 ppm.

On Sunday, May 18, 1986 the run on diversion swale was upgraded to accomodate traffic while still serving its primary purpose. A new run on diversion berm was built to divert surface waters around the secondary containment berm. Both the run-on swale and the diversion berm were read with a transit to determine their viability. ETI's Emergency Response Trailer arrived on site, along with Foreman - Gary Sondersted and Equipment Operator Donald McMahon. Operations Supervisor - Gerald Baryza and two laborers are en route. Health and Safety Officer -EMT- Fred Niles, and Technical Supervior Michael Brady are standing by to be on-site as soon as necessary.

PLANNED CONTINUED ACTION:

1. Monday, May 19, 1986 -
   ETI Foreman - Gary Sondersted and Equipment Operator Don McMahon will remove any and all oil soaked or otherwise contaminated vegetation, debris and any other material which appears contaminated. All material removed will be double bagged and placed in open drums for future removal and disposal.

Martha Rose Chemical

Sampling Map - June 16, 1986

Purpose: Split samples with American Steel after completion of their "clean-up".

Sample: AMJ8D001 - 011 (11 samples)

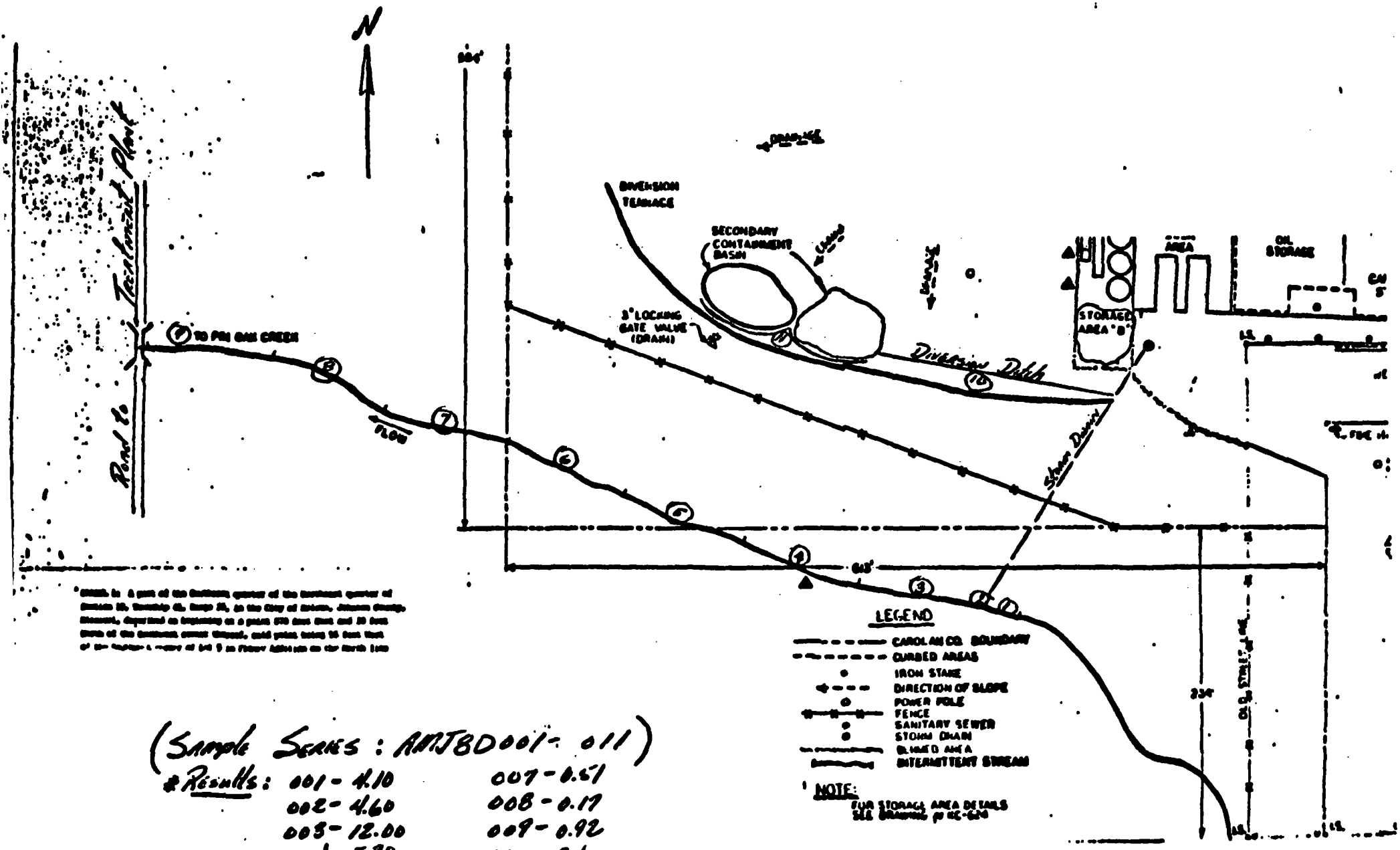
Summary of Results: This sampling indicates that PCBs are still present at levels over the 2 parts per million (ppm) action level for approximately 500-600 feet downstream of the discharge point. Also, the diverson ditch to intercept the storm sewer is contaminated with PCBs at 3.40 ppm and PCB-contaminated oil has been allowed to reach the storm-water retention ponds (secondary containment basin).

NOTE: These are split samples obtained by American Steel. On July 3, 1986, [redacted] (American Steel) indicated their corresponding samples had not been analyzed yet.

FOIA Exemption 4

SAMPLING MAP

(Samples taken June 16, 1986)



(Sample Series : AMJBD001 - 011)

# Results:	001 - 4.10	007 - 0.51
	002 - 4.60	008 - 0.17
	003 - 12.00	009 - 0.92
	004 - 5.30	010 - 3.40
	005 - 3.75	011 - 1.40
	006 - 0.46	

Total PCB Concentration in ppm

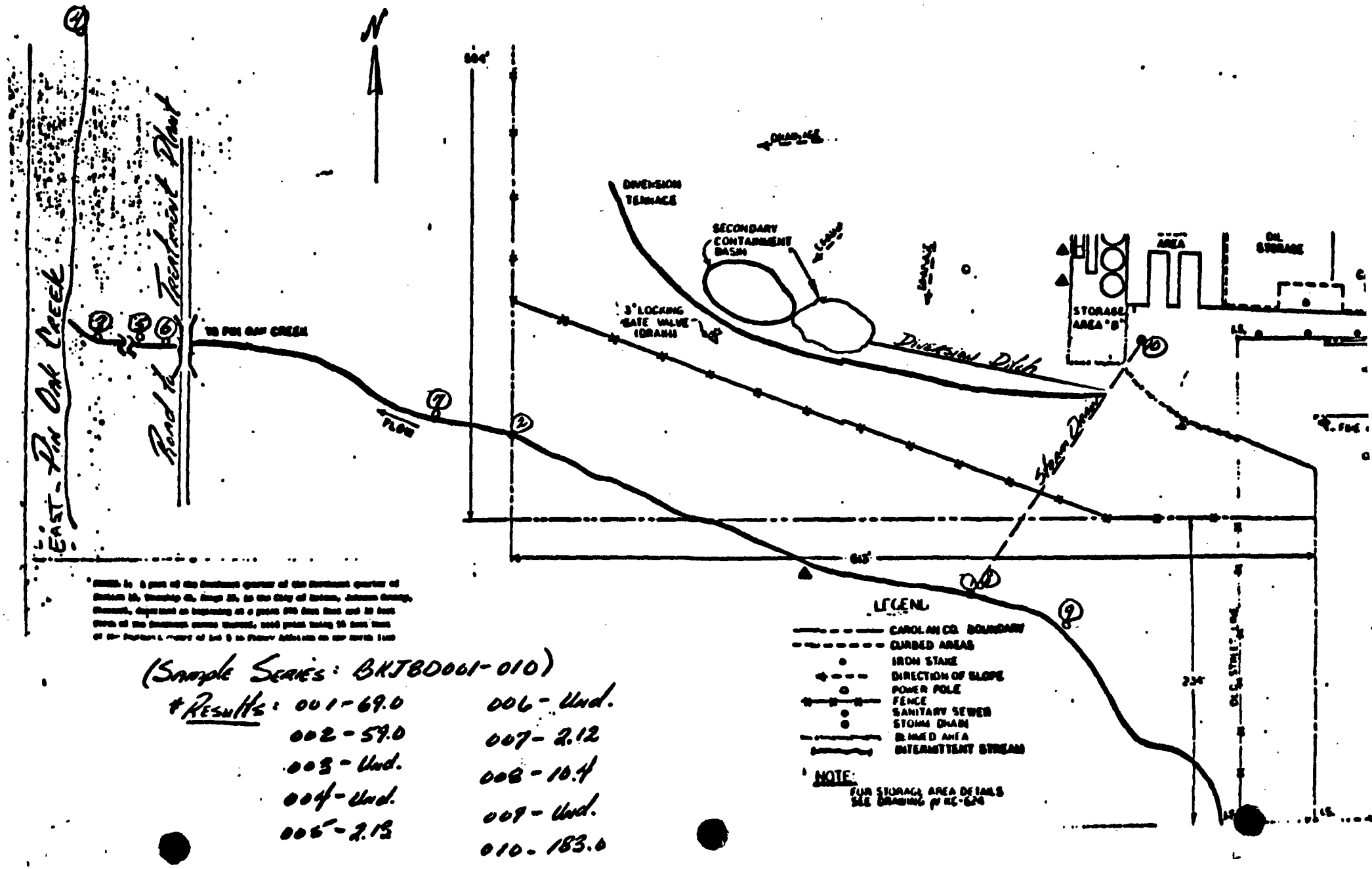
Martha Rose Chemical

Sampling Map - May 19, 1986

Purpose:	Initial sampling to assess the spill situation
Sample Series:	BKJ8D001 through 010 (10 samples)
Summary of results:	The oil which spilled from the tanker contained PCB-contaminated oil over 50 parts per million (ppm), 59 and 69 ppm. The unnamed tributary had contaminated sediment over 2 ppm but less than 10.4 ppm. The receiving stream (East Pin Oak Creek) from the unnamed tributary is undetected for PCBs.

Sampling Map

(Samples taken May 19, 1986)



(Sample Series: BKJ8D001-010)

# Results: 001 - 69.0	006 - Und.
002 - 59.0	007 - 2.12
003 - Und.	008 - 10.4
004 - Und.	009 - Und.
005 - 2.13	010 - 183.0

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

DATE 5/27/86

SUBJECT Transmittal of Laboratory Data

FROM Robert D. Kleopfer, Ph. D. RDK
Chief, Laboratory Branch, ENSV

TO Hensley

Analyses have been completed for the following activities and the data results are attached.

Activity No.	Description
BKJ8D	Holden, MO
	(Partial Transmittal;
	PCB data for sample
	010 still needed)

Attachments

cc: Data Files

EPA Form 1320-6 (Rev. 3-76)

EPA REGION VII
DATA QUALIFICATION CODES

U - Compound was not detected.

M - Compound was qualitatively identified; however, quantitative value is less than contract required detection limits (CLP data); or value is less than limit of quantitation (EPA data).

J - Compound was qualitatively identified; however, compound failed to meet all QA criteria and therefore is only an estimated value.

I - Analysis attempted, but no results can be reported.

O - Sample lost or not analyzed.

L - Value known to be higher than value reported.

FIELD SHEET

ENVIRONMENTAL PROTECTION AGENCY — REGION VII

SURVEILLANCE AND ANALYSIS DIVISION, 25 FUNSTON ROAD, KANSAS CITY, KANSAS 65115

STATION IDENTIFICATION

SURVEY NO _____ SURVEY LEADER Robert L. Fine II STORET NO _____

DESCRIPTION PCB oil from creek near Rose Chemical in Holden, Mo.

GRAB SAMPLE DATA

FLOW	TEMP °C		PH	DO	FECAL COLI	OIL & GREASE	OTHER	OTHER
☐ 00059 (GPM) ☐ 00061 (CFS)	AIR 00020	WATER 00010						

COLLECTION DATE YR 84 MO 16 DAY May TIME 1800 SAMPLER NAME CODE Fine LAB NO BKJ8D-001

00400

COLLECTION DATE YR 84 MO 16 DAY May TIME 1815 SAMPLER NAME CODE Fine LAB NO BKJ8D-002

COLLECTION DATE YR ____ MO ____ DAY ____ TIME ____ SAMPLER NAME CODE ____ LAB NO ____

COLLECTION DATE YR ____ MO ____ DAY ____ TIME ____ SAMPLER NAME CODE ____ LAB NO ____

COMPOSITE SAMPLE DATA

BEGIN DATE YR ____ MO ____ DAY ____ TIME ____ LAB NO ____

END DATE YR ____ MO ____ DAY ____ TIME ____ EQUIPMENT CODE ____

FLOW RATE ____ 50050 MGD ____ 50052 1000's OF GAL DURING COMPOSITE PERIOD SAMPLER NAME CODE ____

WATER CHEMISTRY

LAB NO ____

SAMPLE CONTAINER	TAG COLOR	PRESERVATIVE	LABORATORY MOBILE	LABORATORY REGION	ANALYSES
4 oz. Jar		None		7	~~Priority~~ PCB

CONTACT Robert Fine / TAT SAMPLE ☐ YES SPLIT ☒ NO

REMARKS

7 EPA 9261-16-75 GSA-KC-78-3695

FIELD SHEET

ENVIRONMENTAL PROTECTION AGENCY — REGION VII

SURVEILLANCE AND ANALYSIS DIVISION, 25 FUNSTON ROAD, KANSAS CITY, KANSAS 65115

STATION IDENTIFICATION

SURVEY NO _____ SURVEY LEADER George HESS STORET NO _____

DESCRIPTION Holden, Mo. Rose Chemical

GRAB SAMPLE DATA

FLOW	TEMP °C		PH	DO	FECAL COLI	OIL & GREASE	OTHER	OTHER
☐ 00059 (GPM) ☐ 00061 (CFS)	AIR 00020	WATER 00010						

COLLECTION DATE YR 86 19 DAY May TIME 1345 SAMPLER NAME CODE Hess LAB NO BKJ8D003

			00400					

COLLECTION DATE YR ____ MO ____ DAY ____ TIME ____ SAMPLER NAME CODE ____ LAB NO ____

COLLECTION DATE YR ____ MO ____ DAY ____ TIME ____ SAMPLER NAME CODE ____ LAB NO ____

COLLECTION DATE YR ____ MO ____ DAY ____ TIME ____ SAMPLER NAME CODE ____ LAB NO ____

COMPOSITE SAMPLE DATA

BEGIN DATE YR ____ MO ____ DAY ____ TIME ____ LAB NO ____

END DATE YR ____ MO ____ DAY ____ TIME ____ EQUIPMENT CODE ____

FLOW RATE ____ 50050 MGD ____ 50052 1000's OF GAL DURING COMPOSITE PERIOD SAMPLER NAME CODE ____

WATER CHEMISTRY

LAB NO ____

SAMPLE CONTAINER	TAG COLOR	PRESERVATIVE	LABORATORY MOBILE	LABORATORY REGION	ANALYSES
8 oz. Jar		None		✓	PCB

CONTACT _____ SAMPLE ☐ YES SPLIT ☒ NO

REMARKS Water Sample - 30' ft. upstream of major creek intersection

7 EPA 9263 - 6 75 GSA-KC-78 1695

FIELD SHEET

ENVIRONMENTAL PROTECTION AGENCY – REGION VII

SURVEILLANCE AND ANALYSIS DIVISION, 25 FUNSTON ROAD, KANSAS CITY, KANSAS 65115

STATION IDENTIFICATION

SURVEY NO _____ SURVEY LEADER George Hess STORET NO _____

DESCRIPTION Holden, Mo. Rose Chemical

GRAB SAMPLE DATA

FLOW	TEMP °C		PH	DO	FECAL COLI	OIL & GREASE	OTHER	OTHER
☐ 00059 (GPM) ☐ 00061 (CFS)	AIR 00020	WATER 00010						

COLLECTION DATE YR 86 MO 79 DAY May TIME 1350 SAMPLER NAME CODE Hess LAB NO BKJBD004

			00400					

COLLECTION DATE YR ____ MO ____ DAY ____ TIME ____ SAMPLER NAME CODE ____ LAB NO ____

COLLECTION DATE YR ____ MO ____ DAY ____ TIME ____ SAMPLER NAME CODE ____ LAB NO ____

COLLECTION DATE YR ____ MO ____ DAY ____ TIME ____ SAMPLER NAME CODE ____ LAB NO ____

COMPOSITE SAMPLE DATA

BEGIN DATE YR ____ MO ____ DAY ____ TIME ____ LAB NO ____

END DATE YR ____ MO ____ DAY ____ TIME ____ EQUIPMENT CODE ____

FLOW RATE ____ 50050 MGD ____ 50052 1000's OF GAL DURING COMPOSITE PERIOD SAMPLER NAME CODE ____

WATER CHEMISTRY

LAB NO ____

SAMPLE CONTAINER	TAG COLOR	PRESERVATIVE	LABORATORY MOBILE	LABORATORY REGION	ANALYSES
8 oz Jar		None		✓	PCB

CONTACT _____ SAMPLE ☐ YES SPLIT ☒ NO

REMARKS Water Sample – 10' upstream of treatment plant discharge pipe in creek

7 EPA 9281-16-75 GSA-KC 78 3695

FIELD SHEET
ENVIRONMENTAL PROTECTION AGENCY — REGION VII
SURVEILLANCE AND ANALYSIS DIVISION, 25 FUNSTON ROAD, KANSAS CITY, KANSAS 65115

STATION IDENTIFICATION

SURVEY NO. _____ SURVEY LEADER George Hess STORET NO. _____

DESCRIPTION Holden, Mo. Rose Chemical

GRAB SAMPLE DATA

FLOW	TEMP °C		PH	DO	FECAL COLI	OIL & GREASE	OTHER	OTHER
☐ 00059 (GPM) ☐ 00061 (CFS)	AIR 00020	WATER 00010						

COLLECTION DATE YR 84 MO 19 DAY May TIME 1350 SAMPLER NAME CODE Hess LAB NO BKJ8D005

00400

COLLECTION DATE YR ____ MO ____ DAY ____ TIME ____ SAMPLER NAME CODE ____ LAB NO ____

COLLECTION DATE YR ____ MO ____ DAY ____ TIME ____ SAMPLER NAME CODE ____ LAB NO ____

COLLECTION DATE YR ____ MO ____ DAY ____ TIME ____ SAMPLER NAME CODE ____ LAB NO ____

COMPOSITE SAMPLE DATA

BEGIN DATE YR ____ MO ____ DAY ____ TIME ____ LAB NO ____

END DATE YR ____ MO ____ DAY ____ TIME ____ EQUIPMENT CODE ____

FLOW RATE ____ 50050 MGD ____ 50052 1000 s OF GAL DURING COMPOSITE PERIOD SAMPLER NAME CODE ____

WATER CHEMISTRY

LAB NO ____

SAMPLE CONTAINER	TAG COLOR	PRESERVATIVE	LABORATORY MOBILE	LABORATORY REGION	ANALYSES
8 oz Jar		None		✓	PCB

CONTACT _____ SAMPLE ☐ YES SPLIT ☒ NO

REMARKS Soil Sample: ~80' E of creek confluence

7 EPA 9261-6-75 GSA KL 78 1695

FIELD SHEET

ENVIRONMENTAL PROTECTION AGENCY — REGION VII

SURVEILLANCE AND ANALYSIS DIVISION, 25 FUNSTON ROAD, KANSAS CITY, KANSAS 65115

STATION IDENTIFICATION

SURVEY NO _____ SURVEY LEADER George Hess STORET NO _____

DESCRIPTION Holden, Mo. Rose Chemical

GRAB SAMPLE DATA

FLOW	TEMP °C		PH	DO	FECAL COLI	OIL & GREASE	OTHER	OTHER
☐ 00059 (GPM) ☐ 00061 (CFS)	AIR 00020	WATER 00010						

COLLECTION DATE YR 86 19 DAY May TIME 1352 SAMPLER NAME CODE Hess LAB NO BrJBD006

00400

COLLECTION DATE YR ____ MO ____ DAY ____ TIME ____ SAMPLER NAME CODE ____ LAB NO ____

COLLECTION DATE YR ____ MO ____ DAY ____ TIME ____ SAMPLER NAME CODE ____ LAB NO ____

COLLECTION DATE YR ____ MO ____ DAY ____ TIME ____ SAMPLER NAME CODE ____ LAB NO ____

COMPOSITE SAMPLE DATA

BEGIN DATE YR ____ MO ____ DAY ____ TIME ____ LAB NO ____

END DATE YR ____ MO ____ DAY ____ TIME ____ EQUIPMENT CODE ____

FLOW RATE ____ 50050 MGD ____ 50052 1000's OF GAL DURING COMPOSITE PERIOD SAMPLER NAME CODE ____

WATER CHEMISTRY

LAB NO ____

SAMPLE CONTAINER	TAG COLOR	PRESERVATIVE	LABORATORY MOBILE	LABORATORY REGION	ANALYSES
8 oz Jar		None		✓	PCB

CONTACT _____ SAMPLE ☐ YES SPLIT ☒ NO

REMARKS Soil Sample - W. side of WWTP bridge near water line.

7 EPA 9261 (6 75) GSA-KC 78 1695

FIELD SHEET

ENVIRONMENTAL PROTECTION AGENCY — REGION VII

SURVEILLANCE AND ANALYSIS DIVISION, 25 FUNSTON ROAD, KANSAS CITY, KANSAS 65115

STATION IDENTIFICATION

SURVEY NO _____ SURVEY LEADER George Hess STORET NO _____

DESCRIPTION Holden, Mo. Rose Chemical

GRAB SAMPLE DATA

FLOW	TEMP °C		PH	DO	FECAL COLI	OIL & GREASE	OTHER	OTHER
☐ 00059 (GPM) ☐ 00061 (CFS)	AIR 00020	WATER 00010						

COLLECTION DATE YR 84 19 DAY May TIME 1445 SAMPLER NAME CODE Hess LAB NO 3KJTBD007

00400

COLLECTION DATE YR ____ MO ____ DAY ____ TIME ____ SAMPLER NAME CODE ____ LAB NO ____

COLLECTION DATE YR ____ MO ____ DAY ____ TIME ____ SAMPLER NAME CODE ____ LAB NO ____

COLLECTION DATE YR ____ MO ____ DAY ____ TIME ____ SAMPLER NAME CODE ____ LAB NO ____

COMPOSITE SAMPLE DATA

BEGIN DATE YR ____ MO ____ DAY ____ TIME ____ LAB NO ____

END DATE YR ____ MO ____ DAY ____ TIME ____ EQUIPMENT CODE ____

FLOW RATE ____ 50050 MGD ____ 50052 1000's OF GAL DURING COMPOSITE PERIOD SAMPLER NAME CODE ____

WATER CHEMISTRY

LAB NO ____

SAMPLE CONTAINER	TAG COLOR	PRESERVATIVE	LABORATORY MOBILE	LABORATORY REGION	ANALYSES
8 oz Jar		None		✓	PCB

CONTACT _____ SAMPLE ☐ YES SPLIT ☒ NO

REMARKS Soil Sample: 30' W. of property line fence on Metta Anderson's property

7 EPA 9263 6 75 GSA-KC 78-1695

FIELD SHEET

ENVIRONMENTAL PROTECTION AGENCY — REGION VII

SURVEILLANCE AND ANALYSIS DIVISION, 25 FUNSTON ROAD, KANSAS CITY, KANSAS 65115

STATION IDENTIFICATION

SURVEY NO _____ SURVEY LEADER George Hess STORET NO _____

DESCRIPTION Holden, Mo. Rose Chemical

GRAB SAMPLE DATA

FLOW	TEMP °C		PH	DO	FECAL COLI	OIL & GREASE	OTHER	OTHER
☐ 00059 (GPM) ☐ 00061 (CFS)	AIR 00020	WATER 00010						
COLLECTION DATE YR 86 MO 79 DAY May TIME _____ SAMPLER NAME CODE Hess LAB NO BKJ8100B								
			00400					
COLLECTION DATE YR _____ MO _____ DAY _____ TIME _____ SAMPLER NAME CODE _____ LAB NO _____								
COLLECTION DATE YR _____ MO _____ DAY _____ TIME _____ SAMPLER NAME CODE _____ LAB NO _____								
COLLECTION DATE YR _____ MO _____ DAY _____ TIME _____ SAMPLER NAME CODE _____ LAB NO _____								

COMPOSITE SAMPLE DATA

BEGIN DATE YR _____ MO _____ DAY _____ TIME _____ LAB NO _____

END DATE YR _____ MO _____ DAY _____ TIME _____ EQUIPMENT CODE _____

FLOW RATE _____ (50050) MGD _____ (50052) 1000's OF GAL DURING COMPOSITE PERIOD SAMPLER NAME CODE _____

WATER CHEMISTRY

LAB NO _____

SAMPLE CONTAINER	TAG COLOR	PRESERVATIVE	LABORATORY MOBILE	LABORATORY REGION	ANALYSES
8 oz Jar		None		✓	PCB

CONTACT _____ SAMPLE ☐ YES SPLIT ☒ NO

REMARKS Soil Sample: Immediately beneath discharge pipe leading to creek.

7 EPA 9263 6 75 GSA-KC 78 3695

FIELD SHEET

ENVIRONMENTAL PROTECTION AGENCY — REGION VII

SURVEILLANCE AND ANALYSIS DIVISION, 25 FUNSTON ROAD, KANSAS CITY, KANSAS 65115

STATION IDENTIFICATION

SURVEY NO _____ SURVEY LEADER George Hess STORET NO _____

DESCRIPTION Holden, Mo. Rose Chemical

GRAB SAMPLE DATA

FLOW	TEMP °C		PH	DO	FECAL COLI	OIL & GREASE	OTHER	OTHER
☐ 00059 (GPM) ☐ 00061 (CFS)	AIR 00020	WATER 00010						

COLLECTION DATE YR 86 19 DAY May TIME _____ SAMPLER NAME CODE Hess LAB NO _____

00400

COLLECTION DATE YR _____ MO _____ DAY _____ TIME _____ SAMPLER NAME CODE _____ LAB NO BKJB0009

COLLECTION DATE YR _____ MO _____ DAY _____ TIME _____ SAMPLER NAME CODE _____ LAB NO _____

COLLECTION DATE YR _____ MO _____ DAY _____ TIME _____ SAMPLER NAME CODE _____ LAB NO _____

COMPOSITE SAMPLE DATA

BEGIN DATE YR _____ MO _____ DAY _____ TIME _____ LAB NO _____

END DATE YR _____ MO _____ DAY _____ TIME _____ EQUIPMENT CODE _____

FLOW RATE _____ 50050 MGD _____ 50052 1000's OF GAL DURING COMPOSITE PERIOD SAMPLER NAME CODE _____

WATER CHEMISTRY

LAB NO _____

SAMPLE CONTAINER	TAG COLOR	PRESERVATIVE	LABORATORY MOBILE	LABORATORY REGION	ANALYSES
8 oz Jar		None		✓	PCB

CONTACT _____ SAMPLE ☐ YES SPLIT ☒ NO

REMARKS Soil Sample ~100' upstream of where discharge pipe empties into creek. (Sample taken from creek bank)

7 EPA 9261 (6 75) GSA-KC 78 1695

FIELD SHEET

ENVIRONMENTAL PROTECTION AGENCY – REGION VII

SURVEILLANCE AND ANALYSIS DIVISION, 25 FUNSTON ROAD, KANSAS CITY, KANSAS 65115

STATION IDENTIFICATION

SURVEY NO _____ SURVEY LEADER George Hess STORET NO -

DESCRIPTION _____

GRAB SAMPLE DATA

FLOW	TEMP °C AIR	TEMP °C WATER	PH	DO	FECAL COLI	OIL & GREASE	OTHER	OTHER
☐ 00059 (GPM) ☐ 00061 (CFS)	00020	00010						

COLLECTION DATE YR 86 19 DAY May TIME _____ SAMPLER NAME CODE Hess LAB NO BKJBD010

00400

COLLECTION DATE YR _____ MO _____ DAY _____ TIME _____ SAMPLER NAME CODE _____ LAB NO _____

COLLECTION DATE YR _____ MO _____ DAY _____ TIME _____ SAMPLER NAME CODE _____ LAB NO _____

COLLECTION DATE YR _____ MO _____ DAY _____ TIME _____ SAMPLER NAME CODE _____ LAB NO _____

COMPOSITE SAMPLE DATA

BEGIN DATE YR _____ MO _____ DAY _____ TIME _____ LAB NO _____

END DATE YR _____ MO _____ DAY _____ TIME _____ EQUIPMENT CODE _____

FLOW RATE _____ 50050 MGD _____ 50052 1000's OF GAL DURING COMPOSITE PERIOD SAMPLER NAME CODE _____

WATER CHEMISTRY

LAB NO _____

SAMPLE CONTAINER	TAG COLOR	PRESERVATIVE	LABORATORY MOBILE	LABORATORY REGION	ANALYSES
8 oz Jar		None		✓	PCB

CONTACT _____ SAMPLE ☐ YES SPLIT ☒ NO

REMARKS Sample of 'oil dry' and soil taken from manhole cover near tanker truck where spill occured.

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

DATE August 20, 1986

SUBJECT Transmittal of Laboratory Data

FROM Robert D. Kleopfer, Ph. D. HB Brown for
Chief, Laboratory Branch, ENSV

TO Charley Henaley

Analyses have been completed for the following activities and the data results are attached.

Activity No.	Description
AMJ8D	Rose Chemical
	(Complete transmittal)

Attachments

cc: Data Files

EPA Form 1320-6 (Rev. 3-76)

ANALYSIS TYPE: PCB DATA

TITLE: ROSE CHEMICAL
LAB: EPA 7
SAMPLE PREP:_____ ANALYST/ENTRY: IRR

MATRIX: SEDIMENT
METHOD: 7221S00
REVIEWER: _____

UNITS: UG/KG
CASE:
DATE: 08/14/86

SAMPLE NUMBERS

COMPOUND	AMJ8D001		AMJ8D002		AMJ8D003		AMJ8D004	
PCB1221	630	U	630	U	2500.	U	500	U
PCB1232	250	U	250	U	1000.	U	200	U
PCB1016	750	U	750	U	3000.	U	600	U
PCB1242	750	U	750	U	3000.	U	600	U
PCB1248	1700.		1900.		1300.	M	1900.	
PCB1254	1000.		1200.		3500.	U	1400.	
PCB1260	1400.		1500.		12000.		2000.	

ANALYSIS TYPE: PCB DATA

TITLE: ROSE CHEMICAL
LAB: EPA 7
SAMPLE PREP:_____ ANALYST/ENTRY: IRR

MATRIX: SEDIMENT
METHOD: 7221800
REVIEWER: _____

UNITS: UG/KG
CASE:
DATE: 08/14/86

SAMPLE NUMBERS

COMPOUND	AMJ8D005		AMJ8D006		AMJ8D007		AMJ8D008	
PCB1221	630	U	50.0	U	50.0	U	25.0	U
PCB1232	250	U	20.0	U	20.0	U	10.0	U
PCB1016	750	U	60.0	U	60.0	U	30.0	U
PCB1242	750	U	60.0	U	60.0	U	30.0	U
PCB1248	1800.		190		220		85.0	
PCB1254	950		130		110		43.0	
PCB1260	1000.		140		180		41.0	

ANALYSIS TYPE: PCB DATA

TITLE: ROSE CHEMICAL
LAB: EPA 7
SAMPLE PREP:_____ ANALYST/ENTRY: IRR

MATRIX: SEDIMENT
METHOD: 7221S00
REVIEWER: _____

UNITS: UG/KG
CASE:
DATE: 08/14/86

SAMPLE NUMBERS

COMPOUND	AMJBD009		AMJBD010		AMJBD011	
PCB1221	130	U	630	U	630	U
PCB1232	50.0	U	250	U	250	U
PCB1016	150	U	750	U	750	U
PCB1242	150	U	750	U	750	U
PCB1248	360		690	M	530	M
PCB1254	240		880	U	740	M
PCB1260	320		3400.		1400.	

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

DATE 5/29/86

SUBJECT Transmittal of Laboratory Data

FROM Robert D. Kleopfer, Ph. D. RDK
Chief, Laboratory Branch, ENSV

TO Hensley

Analyses have been completed for the following activities and the data results are attached.

Activity No.	Description
BKJ8D	Holden, MO
	(completes transmittal
	of 5/27/86)

Attachments

cc: Data Files

EPA Form 1320-6 (Rev. 3-76)

ANALYSIS TYPE: PCB'S

TITLE: BKJBD (OILS)
LAB: EPA 7
SAMPLE PREP:_____ ANALYST/ENTRY: IRR

MATRIX: ~~SEDIMENT~~ OIL
METHOD: DB04H70
REVIEWER: _____

UNITS: UG/KG
CASE:
DATE: 05/19/86

SAMPLE NUMBERS

COMPOUND	BKJBD001		BKJBD002	
PCB 1242	30000.		30000.	
PCB 1254	18000.		13000.	M
PCB 1221	25.0	U	25.0	U
PCB 1232	10.0	U	10.0	U
PCB 1248	30.0	U	30.0	U
PCB 1260	21000.		16000.	
PCB 1016	30.0	U	30.0	U

ANALYSIS TYPE: PCB'S

TLE: PCB DATA
AB: EPA 7
MPLE PREP:_____ ANALYST/ENTRY: SXR SK

MATRIX: WATER
METHOD: 6081W00
REVIEWER: ___CMA___

UNITS: UG/L
CASE:
DATE: 05/21/86

SAMPLE NUMBERS

COMPOUND	BKJBD003		BKJBD004	
CB 1242	0.35	U	0.35	U
CB 1254	0.4	U	0.4	U
CB 1221	0.3	U	0.3	U
CB 1232	0.1	U	0.1	U
CB 1248	0.35	U	0.35	U
CB 1260	0.1	U	0.1	U
CB 1016	0.35	U	0.35	U

ANALYSIS TYPE: PCB'S

TLE: HOLDEN
B[redacted]EPA 7
MPLE PREP:_____ ANALYST/ENTRY: SXR

MATRIX: SEDIMENT
METHOD: IFB,MED
REVIEWER: _____

UNITS: UG/KG
CASE:
DATE: 05/23/86

SAMPLE NUMBERS

COMPOUND	BKJBD005		BKJBD006		BKJBD007		BKJBD008	
CB 1242	750	U	750	U	750	U	3700.	
CB 1254	550	M	880	U	590	M	2800.	
CB 1221	630	U	630	U	630	U	630	U
CB 1232	250	U	250	U	250	U	250	U
CB 1248	900	M	750	U	980	M	730	U
CB 1260	680		250	U	550		3900.	
CB 1016	750	U	750	U	750	U	750	U

ANALYSIS TYPE: PCB'S

ITLE: HOLDEN
AB: EPA 7
AMPLE PREP:_____ ANALYST/ENTRY: SXR

MATRIX: SEDIMENT
METHOD: IFB,MED
REVIEWER: _____

UNITS: UG/KG
CASE:
DATE: 05/23/86

SAMPLE NUMBERS

BKJS0009

COMPOUND		
PCB 1242	750	U
PCB 1254	880	U
PCB 1221	630	U
PCB 1232	250	U
PCB 1248	750	U
PCB 1260	250	U
PCB 1016	750	U

ANALYSIS TYPE: PCB'S

TLE: PCB DATA
B: EPA 7
MPLE PREP:_____ ANALYST/ENTRY: SXR

SR

MATRIX: SEDIMENT
METHOD: IFB,MED
REVIEWER: _____

UNITS: UG/KG
CASE:
DATE: 05/28/86

SAMPLE NUMBERS

BKJ8D010

COMPOUND		
CB 1242	57000.	
CB 1254	73000.	
CB 1221	16000.	U
CB 1232	6300.	U
CB 1248	19000.	U
CB 1260	53000.	
CB 1016	19000.	U

EPA REGION VII
DATA QUALIFICATION CODES

U - Compound was not detected.

M - Compound was qualitatively identified; however, quantitative value is less than contract required detection limits (CLP data); or value is less than limit of quantitation (EPA data).

J - Compound was qualitatively identified; however, compound failed to meet all QA criteria and therefore is only an estimated value.

I - Analysis attempted, but no results can be reported.

O - Sample lost or not analyzed.

L - Value known to be higher than value reported.

FIELD SHEET

ENVIRONMENTAL PROTECTION AGENCY — REGION VII

SURVEILLANCE AND ANALYSIS DIVISION, 25 FUNSTON ROAD, KANSAS CITY, KANSAS 65115

STATION IDENTIFICATION

SURVEY NO _____ SURVEY LEADER Robert Fine STORET NO _____

DESCRIPTION Holden, Mo. Rose Chemical

GRAB SAMPLE DATA

FLOW	TEMP °C AIR	TEMP °C WATER	PH	DO	FECAL COLI	OIL & GREASE	OTHER	OTHER
☐ 00059 (GPM) ☐ 00061 (CFS)	00020	00010						

COLLECTION DATE YR 86 Jun DAY 16 TIME 1115 SAMPLER NAME CODE _____ LAB NO AMJ8D001

00400

COLLECTION DATE YR _____ MO _____ DAY _____ TIME _____ SAMPLER NAME CODE _____ LAB NO _____

COLLECTION DATE YR _____ MO _____ DAY _____ TIME _____ SAMPLER NAME CODE _____ LAB NO _____

COLLECTION DATE YR _____ MO _____ DAY _____ TIME _____ SAMPLER NAME CODE _____ LAB NO _____

COMPOSITE SAMPLE DATA

BEGIN DATE YR _____ MO _____ DAY _____ TIME _____ LAB NO _____

END DATE YR _____ MO _____ DAY _____ TIME _____ EQUIPMENT CODE _____

FLOW RATE _____ 50050 MGD _____ 50052 1000's OF GAL DURING COMPOSITE PERIOD SAMPLER NAME CODE _____

WATER CHEMISTRY

LAB NO AMJ8D001

SAMPLE CONTAINER	TAG COLOR	PRESERVATIVE	LABORATORY MOBILE	LABORATORY REGION	ANALYSES
8 oz Jar	Blue	None		✓	PCB

CONTACT Robert Fine 913/621-1240 SAMPLE ☒ YES SPLIT ☐ NO

REMARKS 10 Aliquots from sewer discharge line to 35 feet east

From creek tributary

7 EPA 9763 (6-75) GSA-KC 78-2696

FIELD SHEET

ENVIRONMENTAL PROTECTION AGENCY — REGION VII

SURVEILLANCE AND ANALYSIS DIVISION, 25 FUNSTON ROAD, KANSAS CITY, KANSAS 65115

STATION IDENTIFICATION

SURVEY NO _____ SURVEY LEADER Robert Fine STORET NO _____

DESCRIPTION Holden, Mo. Rose Chemical

GRAB SAMPLE DATA

FLOW	TEMP °C		PH	DO	FECAL COLI	OIL & GREASE	OTHER	OTHER
☐ 00059 (GPM) ☐ 00061 (CFS)	AIR 00020	WATER 00010						

COLLECTION DATE YR 86 Jun DAY 16 TIME 1100 SAMPLER NAME CODE _____ LAB NO RMJ8D002

			00400					

COLLECTION DATE YR _____ MO _____ DAY _____ TIME _____ SAMPLER NAME CODE _____ LAB NO _____

COLLECTION DATE YR _____ MO _____ DAY _____ TIME _____ SAMPLER NAME CODE _____ LAB NO _____

COLLECTION DATE YR _____ MO _____ DAY _____ TIME _____ SAMPLER NAME CODE _____ LAB NO _____

COMPOSITE SAMPLE DATA

BEGIN DATE YR _____ MO _____ DAY _____ TIME _____ LAB NO _____

END DATE YR _____ MO _____ DAY _____ TIME _____ EQUIPMENT CODE _____

FLOW RATE _____ 50050 MGD _____ 50052 1000's OF GAL DURING COMPOSITE PERIOD SAMPLER NAME CODE _____

WATER CHEMISTRY LAB NO RMJ8D002

SAMPLE CONTAINER	TAG COLOR	PRESERVATIVE	LABORATORY MOBILE	LABORATORY REGION	ANALYSES
8 oz Jar	Blue	None		✓	PCB

CONTACT Robert Fine 913/621-6240 SAMPLE ☒ YES SPLIT ☐ NO

REMARKS 10 Aliquots (7 from ponded area below sewer discharge line & 3 from along section to creek)
from creek tributary

7 EPA 9263 (6 75) OSA-KC-78 3696

FIELD SHEET

ENVIRONMENTAL PROTECTION AGENCY – REGION VII

SURVEILLANCE AND ANALYSIS DIVISION, 25 FUNSTON ROAD, KANSAS CITY, KANSAS 65115

STATION IDENTIFICATION

SURVEY NO _____ SURVEY LEADER Robert Fine STORET NO _____

DESCRIPTION Holden, Mo. Rose Chemical

GRAB SAMPLE DATA

FLOW	TEMP °C		PH	DO	FECAL COLI	OIL & GREASE	OTHER	OTHER
☐ 00059 (GPM) ☐ 00061 (CFS)	AIR 00020	WATER 00010						

COLLECTION DATE YR 86 Jun 16 DAY 16 TIME 1115 SAMPLER NAME CODE _____ LAB NO AMJ 8D003

			00400					

COLLECTION DATE YR _____ MO _____ DAY _____ TIME _____ SAMPLER NAME CODE _____ LAB NO _____

COLLECTION DATE YR _____ MO _____ DAY _____ TIME _____ SAMPLER NAME CODE _____ LAB NO _____

COLLECTION DATE YR _____ MO _____ DAY _____ TIME _____ SAMPLER NAME CODE _____ LAB NO _____

COMPOSITE SAMPLE DATA

BEGIN DATE YR _____ MO _____ DAY _____ TIME _____ LAB NO _____

END DATE YR _____ MO _____ DAY _____ TIME _____ EQUIPMENT CODE _____

FLOW RATE _____ 50050 MGD _____ 50052 1000's OF GAL DURING COMPOSITE PERIOD SAMPLER NAME CODE _____

WATER CHEMISTRY

LAB NO AMJ 8D003

SAMPLE CONTAINER	TAG COLOR	PRESERVATIVE	LABORATORY MOBILE	LABORATORY REGION	ANALYSES
8 oz JAR	Blue	None		✓	PCB

CONTACT Robert Fine 913/621-6240 SAMPLE ☒ YES SPLIT ☐ NO

REMARKS 20 Aliquots taken from sewer discharge line to 100 feet west along creek tributary

7 EPA 9261 (6-75) GSA-KC-78-1695

FIELD SHEET

ENVIRONMENTAL PROTECTION AGENCY — REGION VII

SURVEILLANCE AND ANALYSIS DIVISION, 25 FUNSTON ROAD, KANSAS CITY, KANSAS 65115

STATION IDENTIFICATION

SURVEY NO _____ SURVEY LEADER Robert Fine STORET NO _____

DESCRIPTION Holden, Mo. - Rose Channel

GRAB SAMPLE DATA

FLOW	TEMP °C AIR	TEMP °C WATER	PH	DO	FECAL COLI	OIL & GREASE	OTHER	OTHER
☐ 00059 (GPM) ☐ 00061 (CFS)	00020	00010						

COLLECTION DATE YR 81 June DAY 16 TIME _____ SAMPLER NAME CODE _____ LAB NO AM3T8D004

00400

COLLECTION DATE YR _____ MO _____ DAY _____ TIME _____ SAMPLER NAME CODE _____ LAB NO _____

COLLECTION DATE YR _____ MO _____ DAY _____ TIME _____ SAMPLER NAME CODE _____ LAB NO _____

COLLECTION DATE YR _____ MO _____ DAY _____ TIME _____ SAMPLER NAME CODE _____ LAB NO _____

COMPOSITE SAMPLE DATA

BEGIN DATE YR _____ MO _____ DAY _____ TIME _____ LAB NO AM3T8D004

END DATE YR _____ MO _____ DAY _____ TIME _____ EQUIPMENT CODE _____

FLOW RATE _____ 50050 MGD _____ 50052 1000's OF GAL DURING COMPOSITE PERIOD SAMPLER NAME CODE _____

WATER CHEMISTRY LAB NO AM3T8D004

SAMPLE CONTAINER	TAG COLOR	PRESERVATIVE	LABORATORY MOBILE	LABORATORY REGION	ANALYSES
8 oz. Jar	Blue	None		✓	PCB

CONTACT Robert Fine 913/621-6240 SAMPLE ☒ YES SPLIT ☐ NO

REMARKS 20 Aliquots taken between 200 and 300 feet west of sewer discharge line along wide tributary

7 FPA 9.61 (6 75) GSA-KC-78-1695

FIELD SHEET

ENVIRONMENTAL PROTECTION AGENCY – REGION VII

SURVEILLANCE AND ANALYSIS DIVISION, 25 FUNSTON ROAD, KANSAS CITY, KANSAS 65115

STATION IDENTIFICATION

SURVEY NO _____ SURVEY LEADER Robert Fine STORET NO _____

DESCRIPTION Holden, Mo. Rose Chemical

GRAB SAMPLE DATA

FLOW	TEMP °C AIR	TEMP °C WATER	PH	DO	FECAL COLI	OIL & GREASE	OTHER	OTHER
☐ 00059 (GPM) ☐ 00061 (CFS)	00020	00010						

COLLECTION DATE YR 81 June DAY 16 TIME _____ SAMPLER NAME CODE _____ LAB NO AMJ 8D005

			00400					

COLLECTION DATE YR _____ MO _____ DAY _____ TIME _____ SAMPLER NAME CODE _____ LAB NO _____

COLLECTION DATE YR _____ MO _____ DAY _____ TIME _____ SAMPLER NAME CODE _____ LAB NO _____

COLLECTION DATE YR _____ MO _____ DAY _____ TIME _____ SAMPLER NAME CODE _____ LAB NO _____

COMPOSITE SAMPLE DATA

BEGIN DATE YR _____ MO _____ DAY _____ TIME _____ LAB NO _____

END DATE YR _____ MO _____ DAY _____ TIME _____ EQUIPMENT CODE _____

FLOW RATE _____ 50050 MGD _____ 50052 1000's OF GAL DURING COMPOSITE PERIOD SAMPLER NAME CODE _____

WATER CHEMISTRY

LAB NO AMJ 8D005

SAMPLE CONTAINER	TAG COLOR	PRESERVATIVE	LABORATORY MOBILE	LABORATORY REGION	ANALYSES
8 oz Jar	Blue	None		✓	PCB

CONTACT Robert Fine 913/621-2240 SAMPLE ☒ YES SPLIT ☐ NO

REMARKS 20 Aliquots taken between 300 and 400 feet west of sewer discharge line along creek tributary

7 EPA 926 (8-75) GSA KC-78 1695

FIELD SHEET

ENVIRONMENTAL PROTECTION AGENCY — REGION VII

SURVEILLANCE AND ANALYSIS DIVISION, 25 FUNSTON ROAD, KANSAS CITY, KANSAS 65115

STATION IDENTIFICATION

SURVEY NO _____ SURVEY LEADER Robert Fine STORET NO _____

DESCRIPTION Holden, Mo. - Rose Chemical

GRAB SAMPLE DATA

FLOW	TEMP °C		PH	DO	FECAL COLI	OIL & GREASE	OTHER	OTHER
☐ 00059 (GPM) ☐ 00061 (CFS)	AIR 00020	WATER 00010						

COLLECTION DATE YR 86 June 26 DAY 26 TIME _____ SAMPLER NAME CODE _____ LAB NO AMJED006

			00400					

COLLECTION DATE YR _____ MO _____ DAY _____ TIME _____ SAMPLER NAME CODE _____ LAB NO _____

COLLECTION DATE YR _____ MO _____ DAY _____ TIME _____ SAMPLER NAME CODE _____ LAB NO _____

COLLECTION DATE YR _____ MO _____ DAY _____ TIME _____ SAMPLER NAME CODE _____ LAB NO _____

COMPOSITE SAMPLE DATA

BEGIN DATE YR _____ MO _____ DAY _____ TIME _____ LAB NO _____

END DATE YR _____ MO _____ DAY _____ TIME _____ EQUIPMENT CODE _____

FLOW RATE _____ 50050 MGD _____ 50052 1000's OF GAL DURING COMPOSITE PERIOD SAMPLER NAME CODE _____

WATER CHEMISTRY

LAB NO AMJED006

SAMPLE CONTAINER	TAG COLOR	PRESERVATIVE	LABORATORY MOBILE	LABORATORY REGION	ANALYSES
8 oz. JAR	Blue	None		✓	PLB

CONTACT Robert Fine 913/621-6240 SAMPLE ☒ YES SPLIT ☐ NO

REMARKS 20 Aliquots taken between 400 and 500 feet west of sewer discharge line along rock tributary

7 EPA 4261 6 75 GSA KC 78-1696

FIELD SHEET

ENVIRONMENTAL PROTECTION AGENCY — REGION VII

SURVEILLANCE AND ANALYSIS DIVISION, 25 FUNSTON ROAD, KANSAS CITY, KANSAS 65115

STATION IDENTIFICATION

SURVEY NO _____ SURVEY LEADER Robert Fine STORET NO _____

DESCRIPTION Holden, Mo. - Rose Chemical

GRAB SAMPLE DATA

FLOW	TEMP °C		PH	DO	FECAL COLI	OIL & GREASE	OTHER	OTHER
☐ 00059 (GPM) ☐ 00061 (CFS)	AIR 00020	WATER 00010						

COLLECTION DATE YR 86 June DAY 16 TIME _____ SAMPLER NAME CODE _____ LAB NO AMJ8D007

			00400					

COLLECTION DATE YR _____ MO _____ DAY _____ TIME _____ SAMPLER NAME CODE _____ LAB NO _____

COLLECTION DATE YR _____ MO _____ DAY _____ TIME _____ SAMPLER NAME CODE _____ LAB NO _____

COLLECTION DATE YR _____ MO _____ DAY _____ TIME _____ SAMPLER NAME CODE _____ LAB NO _____

COMPOSITE SAMPLE DATA

BEGIN DATE YR _____ MO _____ DAY _____ TIME _____ LAB NO _____

END DATE YR _____ MO _____ DAY _____ TIME _____ EQUIPMENT CODE _____

FLOW RATE _____ 50050 MGD _____ 50052 1000 s OF GAL DURING COMPOSITE PERIOD SAMPLER NAME CODE _____

WATER CHEMISTRY LAB NO AMJ8D007

SAMPLE CONTAINER	TAG COLOR	PRESERVATIVE	LABORATORY MOBILE	LABORATORY REGION	ANALYSES
8 oz Jar	Blue	None		✓	PCB

CONTACT Robert Fine 913/621-624-0 SAMPLE ☑ YES SPLIT ☐ NO

REMARKS 20 Aliquots taken between 500 and 600 feet west of sewer discharge line along unk tributary

7 EPA 9762 (6 75) GSA-KC-78-3695

FIELD SHEET

ENVIRONMENTAL PROTECTION AGENCY — REGION VII

SURVEILLANCE AND ANALYSIS DIVISION, 25 FUNSTON ROAD, KANSAS CITY, KANSAS 65115

STATION IDENTIFICATION

SURVEY NO _____ SURVEY LEADER Robert Fine STORET NO _____

DESCRIPTION Holden, Mo - Rose Chemical

GRAB SAMPLE DATA

FLOW	TEMP °C		PH	DO	FECAL COLI	OIL & GREASE	OTHER	OTHER
☐ 00059 (GPM) ☐ 00061 (CFS)	AIR 00020	WATER 00010						

COLLECTION DATE YR 86 June DAY 16 TIME _____ SAMPLER NAME CODE _____ LAB NO AMJ8D008

00400

COLLECTION DATE YR _____ MO _____ DAY _____ TIME _____ SAMPLER NAME CODE _____ LAB NO _____

COLLECTION DATE YR _____ MO _____ DAY _____ TIME _____ SAMPLER NAME CODE _____ LAB NO _____

COLLECTION DATE YR _____ MO _____ DAY _____ TIME _____ SAMPLER NAME CODE _____ LAB NO _____

COMPOSITE SAMPLE DATA

BEGIN DATE YR _____ MO _____ DAY _____ TIME _____ LAB NO _____

END DATE YR _____ MO _____ DAY _____ TIME _____ EQUIPMENT CODE _____

FLOW RATE _____ 50050 MGD _____ 50052 1000's OF GAL DURING COMPOSITE PERIOD SAMPLER NAME CODE _____

WATER CHEMISTRY

LAB NO AMJ8D008

SAMPLE CONTAINER	TAG COLOR	PRESERVATIVE	LABORATORY MOBILE	LABORATORY REGION	ANALYSES
8 oz. JAR	Blue	None		✓	PCB

CONTACT Robert Fine 913/621-2240 SAMPLE ☒ YES SPLIT ☐ NO

REMARKS 20 Aliquots taken between 600 and 700 feet west of sewer discharge line along creek tributary

7 EPA 9261 6 75 GSA-KC-78 1695

FIELD SHEET

ENVIRONMENTAL PROTECTION AGENCY — REGION VII

SURVEILLANCE AND ANALYSIS DIVISION, 25 FUNSTON ROAD, KANSAS CITY, KANSAS 65115

STATION IDENTIFICATION

SURVEY NO _____ SURVEY LEADER Robert Finn STORET NO _____

DESCRIPTION Holden, Mo. - Rose Chemical

GRAB SAMPLE DATA

FLOW	TEMP °C AIR 00020	TEMP °C WATER 00010	PH	DO	FECAL COLI	OIL & GREASE	OTHER	OTHER
☐ 00059 (GPM) ☐ 00061 (CFS)								

COLLECTION DATE YR 86 MO June DAY 11 TIME _____ SAMPLER NAME CODE _____ LAB NO AMJ8D009

00400

COLLECTION DATE YR _____ MO _____ DAY _____ TIME _____ SAMPLER NAME CODE _____ LAB NO _____

COLLECTION DATE YR _____ MO _____ DAY _____ TIME _____ SAMPLER NAME CODE _____ LAB NO _____

COLLECTION DATE YR _____ MO _____ DAY _____ TIME _____ SAMPLER NAME CODE _____ LAB NO _____

COMPOSITE SAMPLE DATA

BEGIN DATE YR _____ MO _____ DAY _____ TIME _____ LAB NO _____

END DATE YR _____ MO _____ DAY _____ TIME _____ EQUIPMENT CODE _____

FLOW RATE _____ 50050 MGD _____ 50052 1000's OF GAL DURING COMPOSITE PERIOD SAMPLER NAME CODE _____

WATER CHEMISTRY

LAB NO AMJ8D009

SAMPLE CONTAINER	TAG COLOR	PRESERVATIVE	LABORATORY MOBILE	LABORATORY REGION	ANALYSES
8 oz. Jar	Blue	None		✓	PCB

CONTACT Robert Finn 913/621-6248 SAMPLE ☒ YES SPLIT ☐ NO _____

REMARKS 20 Aliquots taken between 700 and 800 feet West of sewer discharge line along creek tributary.

EPA 9/2 (10 75) GSA KC/70 1095

FIELD SHEET

ENVIRONMENTAL PROTECTION AGENCY — REGION VII

SURVEILLANCE AND ANALYSIS DIVISION, 25 FUNSTON ROAD, KANSAS CITY, KANSAS 65115

STATION IDENTIFICATION

SURVEY NO _____ SURVEY LEADER Robert Fine STORET NO _____

DESCRIPTION Holden, Mo - Rose Chemical

GRAB SAMPLE DATA

FLOW	TEMP °C AIR	TEMP °C WATER	PH	DO	FECAL COLI	OIL & GREASE	OTHER	OTHER
☐ 00059 (GPM) ☐ 00061 (CFS)	00020	00010						

COLLECTION DATE YR 86 Jun DAY 16 TIME _____ SAMPLER NAME CODE _____ LAB NO AMJ8D010

			00400					

COLLECTION DATE YR _____ MO _____ DAY _____ TIME _____ SAMPLER NAME CODE _____ LAB NO _____

COLLECTION DATE YR _____ MO _____ DAY _____ TIME _____ SAMPLER NAME CODE _____ LAB NO _____

COLLECTION DATE YR _____ MO _____ DAY _____ TIME _____ SAMPLER NAME CODE _____ LAB NO _____

COMPOSITE SAMPLE DATA

BEGIN DATE YR _____ MO _____ DAY _____ TIME _____ LAB NO _____

END DATE YR _____ MO _____ DAY _____ TIME _____ EQUIPMENT CODE _____

FLOW RATE _____ 50050 MGD _____ 50052 1000's OF GAL DURING COMPOSITE PERIOD SAMPLER NAME CODE _____

WATER CHEMISTRY LAB NO AMJ8D010

SAMPLE CONTAINER	TAG COLOR	PRESERVATIVE	LABORATORY MOBILE	LABORATORY REGION	ANALYSES
8 oz. Jar	Blue	None		✓	PCB

CONTACT Robert Fine 913/621-6240 SAMPLE ☒ YES SPLIT ☐ NO

REMARKS 20 Aliquots from the intersection w/ the sewer line to the containment ponds inside the diversion ditch.

7 EPA 9263 (6-75) OSA KC-78-1696

FIELD SHEET

ENVIRONMENTAL PROTECTION AGENCY — REGION VII

SURVEILLANCE AND ANALYSIS DIVISION, 25 FUNSTON ROAD, KANSAS CITY, KANSAS 65115

STATION IDENTIFICATION

SURVEY NO _____ SURVEY LEADER Robert Fine STORET NO _____

DESCRIPTION Holden, Mo. - Rose Chemical

GRAB SAMPLE DATA

FLOW	TEMP °C		PH	DO	FECAL COLI	OIL & GREASE	OTHER	OTHER
☐ 00059 (GPM) ☐ 00061 (CFS)	AIR 00020	WATER 00010						

COLLECTION DATE YR 86 MO June DAY 16 TIME _____ SAMPLER NAME CODE _____ LAB NO AMJ 9D011

			00400					

COLLECTION DATE YR _____ MO _____ DAY _____ TIME _____ SAMPLER NAME CODE _____ LAB NO _____

COLLECTION DATE YR _____ MO _____ DAY _____ TIME _____ SAMPLER NAME CODE _____ LAB NO _____

COLLECTION DATE YR _____ MO _____ DAY _____ TIME _____ SAMPLER NAME CODE _____ LAB NO _____

COMPOSITE SAMPLE DATA

BEGIN DATE YR _____ MO _____ DAY _____ TIME _____ LAB NO _____

END DATE YR _____ MO _____ DAY _____ TIME _____ EQUIPMENT CODE _____

FLOW RATE _____ 50050 MGD _____ 50052 1000's OF GAL DURING COMPOSITE PERIOD SAMPLER NAME CODE _____

WATER CHEMISTRY LAB NO AMJ 9D011

SAMPLE CONTAINER	TAG COLOR	PRESERVATIVE	LABORATORY MOBILE	LABORATORY REGION	ANALYSES
8 oz. JAR	Blue	None		✓	PCB

CONTACT Robert Fine 913/621-8240 SAMPLE ☒ YES SPLIT ☐ NO

REMARKS 20 Aliquots taken from around the containment paid walls

EPA 9261 16 75 QSA-KC-78-1696

FIELD SHEET

ENVIRONMENTAL PROTECTION AGENCY – REGION VII

SURVEILLANCE AND ANALYSIS DIVISION, 25 FUNSTON ROAD, KANSAS CITY, KANSAS 65115

STATION IDENTIFICATION

SURVEY NO _____ SURVEY LEADER Robert Fine STORET NO _____

DESCRIPTION Holden, Mo. - Rose Chemical

GRAB SAMPLE DATA

FLOW	TEMP °C AIR	TEMP °C WATER	PH	DO	FECAL COLI	OIL & GREASE	OTHER	OTHER
☐ 00059 (GPM) ☐ 00061 (CFS)	00020	00010						

COLLECTION DATE YR 86 June DAY 16 TIME _____ SAMPLER NAME CODE _____ LAB NO AMJ 9D011

00400

COLLECTION DATE YR _____ MO _____ DAY _____ TIME _____ SAMPLER NAME CODE _____ LAB NO _____

COLLECTION DATE YR _____ MO _____ DAY _____ TIME _____ SAMPLER NAME CODE _____ LAB NO _____

COLLECTION DATE YR _____ MO _____ DAY _____ TIME _____ SAMPLER NAME CODE _____ LAB NO _____

COMPOSITE SAMPLE DATA

BEGIN DATE YR _____ MO _____ DAY _____ TIME _____ LAB NO _____

END DATE YR _____ MO _____ DAY _____ TIME _____ EQUIPMENT CODE _____

FLOW RATE _____ 50050 MGD _____ 50052 1000 s OF GAL DURING COMPOSITE PERIOD SAMPLER NAME CODE _____

WATER CHEMISTRY LAB NO AMJ 9D011

SAMPLE CONTAINER	TAG COLOR	PRESERVATIVE	LABORATORY MOBILE	LABORATORY REGION	ANALYSES
8 oz. JAR	Blue	None		✓	PCB

CONTACT Robert Fine 913/621-6240 SAMPLE ☒ YES SPLIT ☐ NO

REMARKS 20 Aliquots taken from around the containment pond walls

7 EPA 9261 (6-75) GSA-KC-78 1696

PCB INSPECTION REPORT
(FIRST VISIT UNDER THIS DOCKET NUMBER)

Martha C. Rose Chemicals, Inc.
PCB Division
500 W. McKissock
Holden, Missouri 64040

Date: February 26 and 27, 1986
Docket No. 07-86-T-384
Inspection No. 022686178101

Introduction

An inspection to monitor the above-named company's activities concerning PCBs was to begin on February 26, 1986, and continue, with repeated visits, through March 16, 1986. The purpose was to assure the firm's compliance with the PCB Rule, 40 C.F.R. Part 761.

Summary of Observations

I arrived at Holden, Missouri on February 26, 1986, at approximately 10:30 a.m. and parked at four different locations which provided a view of the facility. I observed people and vehicles entering and leaving the plant until about 12:40 p.m. At 12:45 p.m. I entered the facility and presented my credentials to Dwight Thomas, Director of R and D. I explained to Mr. Thomas that I was issuing a Notice of Inspection and Confidentiality Notice which would be good through March 16, 1986, and would allow repeated visits during that time period. He understood my intent and signed both Notices (attached). Mr. Thomas called in Patrick E. Perrin, Plant Manager, and Esco Taylor, Production Coordinator. The gentlemen told me they were having a staff meeting at 1:00 p.m. to tell their employees that everyone would be terminated at 4:30 p.m., Friday, February 28, 1986. Employees were given the opportunity of leaving after the meeting, if they wished.

Mr. Thomas explained that the plant would not be able to comply with the regulatory letters issued to them by the EPA on February 13, 1986. He said the site would probably require Superfund clean-up. Mr. Perrin said he and Sharon Hays would start working for another Carolan company, American Steel, which is adjacent to the PCB Division. Mr. Thomas said he would continue working for Rose Chemicals, in Kansas City. The mood of the employees at the facility was depression and anger.

Messrs. Thomas and Taylor accompanied me on a tour of the facility. Mr. Taylor showed me what had been done by the company since my January 7 inspection to get into compliance. A new door had been created to allow entry to the capacitor core room and 60 drums of cores in paper bags had been removed and packed for shipment (Photos 6 - 10). He said the drums had been dated by reviewing records and determining when cores were probably put in the room. He told me that RST #6 had been pumped out and that oil processed. He showed me a new label on the tank. He said that WST #3 had also been pumped out, but when we looked at that tank it still was dated 11-9-84. He observed three drums of material in the northwest corner of the air compressor room (Photos 1-5). Mr. Taylor said they contained a mixture of oil and water and he did not know what they would do with them. All were dated 6-5-84. The few employees working in the plant were sweeping the floor.

We looked at the area around the reactor preheat tank where the 2-14-86 spill occurred and Mr. Perrin provided two photocopies of the report that was sent to EPA (attached). I issued Mr. Perrin a receipt for those documents (attached).

On February 27, at 7:45 a.m., I returned to the facility. I visited with Mr. Thomas and Mr. Perrin. I requested and received a photocopy of the records showing how much fluid had been removed from RST #6 (attached) I also asked for an inventory of the PCB items in the plant. Mr. Perrin said they did not have an inventory but would have a record for each item. I told them I would like to go through the plant again, take photos, and count some of the items. They said for me to go ahead -- they did not see any reason to accompany me.

I toured the plant by myself and collected photos 11-64 (attached). Several employees were working unloading trucks, logging transformers, sweeping floors, and generally cleaning up the work areas. I counted the following items:

(1) 3,844/55 gallon drums containing miscellaneous solid waste, capacitor core paper, capacitor cores, oil, and capacitor oil,

(2) 492/64 cu. ft. wooden crates containing miscellaneous solid waste, capacitors, and capacitor cores,

(3) 10 paper bags of lab vials, etc.,

(4) 100 contaminated transformers (mixed drained and not drained),

(5) 300 PCB transformers (mixed drained and not drained), some as high as 400,000 ppm,

(6) 1 steel capacitor core bin (approximately 5,760 cu. ft.); full, and

(7) 1 capacitor core room that was previously estimated to contain 26,250/50 pound paper bags of capacitor cores for a total of about 1,312,500 pounds (60 drums had been filled from this room and were on hand).

I estimated there were probably another 1000 drums, 100 crates, and 100 transformers which I did not count. Other items include numerous storage tanks (as supposedly listed in the permit applications), numerous "empty" drums in the south warehouse, trucks, forklifts, pallets, and various tools and machinery.

I issued Mr. Thomas a receipt for the photos and RST #6 records. He requested a copy of my photos and I agreed to send them at a later date. I again asked Mr. Thomas and Mr. Perrin what the plans were for the facility and they said those decisions would be made by owners of the company. I pointed

out that this was only my first visit under this Notice of Inspection and that I might return at anytime prior to March 16. They understood that and said I was welcome but there might not be anyone present.

David A. Ramsey
Consumer Safety Officer

2/28/86
Date

Attachments: Notice of Inspection
Confidentiality Notice
Receipt for Samples (2)
Photos (64)
Photocopy of spill report (2)
RST #6 records (4 pp)

(FATES form not completed because inspection is ongoing).

SCHIFF HARDIN & WAITE
A Partnership Including Professional Corporations

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1101 Connecticut Avenue, N.W., Washington, D.C. 20036
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September 23, 1986

FEDERAL EXPRESS

J. Scott Pemberton, Esq.
U. S. Environmental
Protection Agency
Region VII
726 Minnesota Avenue
Kansas City, Kansas 66101

Re: Rose Chemicals

Dear Scott:

Following our meeting yesterday, I am enclosing a copy of the latest draft of the Statement of Work approved by the Technical Subcommittee. The revisions from the prior draft attempt to follow the comments received from the Region and the suggestions of Mr. Hess. I am sure you will want Mr. Hess to review this. I am also enclosing for your information a copy of CSI's progress report.

I meant to inquire yesterday, but it slipped my mind, on the status of our request (my letter of September 15) to obtain copies of data from USEPA. If there is some problem in making this information available please let me know.

Very truly yours,

Sheldon A. Zabel

SAZ/mab
Enclosures

STATEMENT OF WORK - INITIAL PHASE

ROSE CHEMICALS SITE, HOLDEN, MO.

The PRPs, through their Contractor * and with the oversight and assistance of Clean Sites Inc. (CSI), will perform the following initial response activities in connection with the stabilization and assessment of the Rose Chemicals Site.

1. Spill Assessment and Containment

The site shall be examined to determine the location and extent of any release or threatened release of PCBs or other hazardous materials which may pose an immediate danger to human health or welfare or the environment. With respect to any releases so identified, Contractor shall contain the release. This containment shall include, but not necessarily be limited to, the following:

(a) remove and containerize all free-flowing liquids resulting from the release;

(b) excavate and containerize any visually contaminated soils or other materials which have been contaminated as a result of the release, and which continue to pose an immediate danger;

(c) isolate the site from the external environment, as required, to prevent migration of contaminants off site (e.g. isolate and secure sewer drains and surface runoff).

2. Site Stabilization

The site shall be stabilized to reduce the risk of future threats to human health or welfare or the environment. To achieve said site stabilization, Contractor shall undertake the following activities:

---

* It is possible that more than one contractor will be involved in the work. The use of the term "Contractor" herein is generic, and refers to the specific contractor for the element of the work.

(a) Any drums, tanks, tanker trucks, or other containers which provided a source for a release identified pursuant to Paragraph 1 above or which provide an imminent threat of such a release shall be drained into a secure tank truck or other approved container(s);

(b) All tractor, trailer, and tanker trucks and any other unsecured tankage presently containing PCB or other contaminated oil located on the site shall be located inside an impermeable bermed area of sufficient capacity to contain the total capacity of all tankage so located, with a minimum freeboard of twelve (12) inches;

(c) Any other materials stored at the site which present an acute fire or explosion hazard shall be removed from the site and disposed of in accordance with all applicable Federal, state and local laws and regulations or secured in such a manner as to render the hazard non-acute.

3. Site Security

Measures shall be taken as necessary to restrict access and provide security to the site. These measures shall include the following:

(a) establishment of twenty-four (24) hour security onsite with the presence of trained security personnel at all times;

(b) the posting of warning signs adequate to warn the public of the presence of PCBs and other hazardous wastes, if any;

(c) establishment of warning and notification systems adequate to immediately warn local, state and federal authorities of any fire, spill or other release at the Holden facility; and

(d) construction of a complete chain link security fence surrounding the Holden facility.

4. Review of Existing Data

CSI, with assistance of Contractor, will assemble existing reports, studies, manifests, trip tickets, and other information available to initially characterize the Rose facility. Contractor will prepare a facility plan showing the location and character of any drains or other conduits of any description that could serve to transport contaminated liquids from the facility to the surrounding environment. To the extent possible, with available information, CSI with assistance of Contractor will determine the nature and amounts of contaminated materials within the facility boundaries. CSI with assistance of Contractor will evaluate the data and identify any additional information required to effect cleanup actions.

5. Site Survey (Inventory, S/A)

To the extent additional information on site conditions is determined to be necessary pursuant to Paragraph 4, studies shall be performed to determine the nature and extent of the problem at the site and to gather data necessary to determine and support final response activities. Related activities will include the further development of a site inventory as well as sampling and analysis needed to characterize the facility. Any activities undertaken pursuant to this paragraph shall be performed in accordance with the work plans described in Paragraph 6.

6. Work Plans

Plans will be developed by Contractor and will be reviewed by Clean Sites, Inc. These plans will guide activities conducted pursuant to this Statement of Work and will include the following:

(a) Health and Safety: Before any work is performed at the site, Contractor will prepare site-specific Health and Safety Plan. The plan will include, at a minimum:

(i) a designation of areas of contamination, decontamination, and project management;

(ii) types of protective clothing;

(iii) safe working practices;

(iv) contingency planning;

This plan will be consistent with any relevant guidance provided by the U.S. EPA documents "Guidance for Remedial Investigations under Superfund", and "The Interim Standard Operating Safety Guides" (September 1982 revision) and with applicable NIOSH/OSHA guidelines.

(b) Quality Assurance/Quality Control (QA/QC): Before any sampling or analytical work is performed pursuant to this Statement of Work, Contractor will prepare a plan describing the measures to be taken to assure the quality of any sampling and analysis of materials at the site. Similarly, before any materials are removed from the site for disposal, pursuant to this Statement of Work Section 2-(c), Contractor shall prepare a plan which shall describe the measures to be taken to ensure the proper destruction and/or other final disposition of said materials, if any. These plans will be consistent with guidance provided by relevant U.S. EPA guidance documents.

(c) Sampling/Analysis: Contractor will develop a plan describing procedures to be followed in the site survey and the characterization of the materials at the facility performed pursuant to this Statement of Work. The plan will describe the location of the samples, the reason for selecting this location and type of sample, the methods for obtaining and storing the samples, chain-of-custody procedures and the manner by which the results will be reported. This plan shall provide for a sampling and analysis program whereby the extent and magnitude of any PCB contamination of soils, sediments, surface or subsurface waters, or other portions of the environment, resulting from the release [as defined by 42 U.S.C. 9601(22)] of PCBs at or from the facility, will be determined.

(d) Inventory: Contractor will prepare a plan to conduct an inventory of all PCBs and PCB items presently located at the Rose Chemicals Site. This inventory shall include the identification of each PCB container and the contents of each container.

7. Reports, Notifications and Inspections

EPA shall have the right to inspect and observe any work performed in accordance with this Statement of Work. Within fourteen (14) days after completion of all work set forth in this Statement of Work, Respondents shall submit in writing to EPA certification of the completion of all activities called for by this Statement of Work.

During the performance of the work described in this Statement of Work, the Respondents shall provide periodic status reports to the EPA. These reports shall be provided monthly, or as otherwise agreed among the parties, until the completion of all work called for by this Statement of Work. These reports shall include descriptions of the work performed during the immediately previous reporting period and of the work planned for the following reporting period, and shall also include summaries of manifests and destruction reports.

Additionally, subsequent to completion of the activities called for in Paragraphs 4 and 5, Respondents shall submit to EPA a report summarizing the known site conditions. This report will provide a description of the site, including the total area of the site, the general nature of the facility and its contents, and the nature and extent of the problem. The report will include a site map showing all buildings, utilities, drains, paved areas, tanks, and other features. The map will be of sufficient accurancy and detail to locate and report all existing and future work at the site.

8. Schedule

Within fifteen (15) working days of the execution of this Consent Order, PRPs shall submit to EPA all Work Plans developed pursuant to Section 6 above for review and approval. Work Plans for inventory and for sampling/analysis shall each contain a schedule for implementation of all elements of the respective plan. Once EPA has approved said schedules, all work elements shall be completed within the approved schedule.

PROGRESS REPORT NO. 1

ROSE CHEMICALS SITE - HOLDEN, MISSOURI
THROUGH SEPTEMBER 12, 1986

A number of activities related to the security, stabilization, and characterization of the Rose Chemicals site at Holden, Missouri were undertaken by CSI and its contractors during the period September 2-12, 1986. This report describes these activities and additionally addresses activities anticipated during the rest of September.

In summary, the following activities took place during the period of this report:

- CSI and O.H. Materials (OHM) mobilized at site for initial project activities, and OHM has now demobilized since their work has been completed
- reactives were secured and removals are being arranged by OHM
- surveying of the site has been completed and the security perimeter fence is under construction by other contractors
- OHM has drained several pits of liquids within the main building of standing water and the contents have been containerized, and the pits patched to reduce or prevent future inflow of water
- miscellaneous drums and debris scattered around the site have been collected and staged inside the main building by OHM
- preliminary surface soil, sludge, and air sampling efforts on site, in the creek and at the city sewage plant have been completed by OHM under EPA and CSI oversight, and all analytical results are due during the week of September 15
- a number of other site safety and security measures have been completed
- proposals have been received from contractors bidding for work to be done under the Consent Order being developed, and CSI's bid review is in progress.

Each of these items is explained in more detail in the following pages.

CSI/OH Materials/EPA Onsite

A contract was executed between OHM and Clean Sites Inc. (CSI) in order to accomplish a number of the activities described in this report. OHM began mobilizing at site on September 2, and was fully demobilized on September 10. At peak, a work crew of eight OHM employees and a number of equipment pieces were active onsite. CSI project management representatives also were resident at site throughout the activities there, and CSI continues to maintain an office trailer at the site (PO Box 216, Phone 816-732-5529. Additionally, the EPA On-scene Coordinator (OSC) and a representative of the EPA TATS contractor, Roy F. Weston, were at site during sampling operations.

Reactives Secured/Removal Being Pursued

Reactive chemicals, previously identified onsite, were consolidated within a separate area inside the main warehouse building by OHM. The materials were segregated by type to minimize the risk of reactions, and all drums were placed on pallets and covered with plastic sheeting. There are 95 drums of miscellaneous materials including lab packs containing the materials previously located in the laboratory, as well as 102 empty sodium drums and one partially-full drum. The former appear to include acids, bases, organics, and three gas cylinders (one freon and two carbon disulfide). Additionally, two five-gallon buckets and two one-gallon cans of sodium metal were secured in a locked metal locker in the same area. All containers of sodium metal were marked with warning stickers and/or highly-visible fluorescent paint.

OHM has submitted drum samples for all materials except the sodium to the laboratory for compatibility analysis prior to arranging for disposal of these materials. Results are expected during the week of September 15. OHM also will be arranging for proper disposal in parallel with efforts by the PRPs to obtain proper legal authority to be able to remove these materials from the site. OHM estimates 4-10 weeks will be required to arrange for disposal of any materials which must go to a RCRA site.

CSI has arranged for one of the sodium vendors who had supplied sodium to Rose to prepare a plan/proposal for removing the sodium drums and containers of sodium metal from the site for reclaiming and reprocessing of the residual sodium once the proper legal authority to do so has been obtained. It is expected that this proposal will be submitted to CSI during the week of September 15. This vendor visited the site on September 10 to gather the information needed to prepare the proposal. During this visit, the safety precautions taken to protect the sodium were reviewed with the vendor, and it was agreed that, short of removal, largely all had been done that could be done to minimize risks.

Security Fence Around Site

The site was surveyed in preparation for the installation of a perimeter security fence to be built to standard EPA specifications (i.e., six-foot, chain link, 3-strands of barbed wire). This work which was done by Sherman & Bowers Survey Co., Harrisonville, MO, under contract to CSI, indicated the existing fenceline to be within 2-3 feet of the property line with only one significant exception. That exception is the extreme southwest corner of the property, which the survey shows to be approximately 175 feet south of the existing fence cornerpost.

It was decided that the new fence generally would follow the existing fenceline. The new fence will not be run to the southwest corner in order to avoid "bridging" the creek.

On the north and west edges of the property where the survey indicates the existing fence to be slightly outside the property line, the new fence will be built on the property line. Conversely, the fence immediately adjacent to Route 58 on the southside will be moved out slightly to the property line. On the east side, where the property line is 2-3 feet beyond the existing fence, the new fence will be built on the existing fenceline.

Brown Fence Co. was selected by CSI through competitive bidding to build the fence. Seven area contractors were asked to bid on a unit rate basis, and all provided proposals.

By September 12, all posts for the new fence had been set, and the fence fabric will be installed commencing September 15. Completion is expected later in the week.

Sumps Drained/Liquids Containerized

The pit in the process room was drained by OHM of the 22,000 gallons of water it contained, and the water was pumped into tanks onsite with available capacity. It appeared that the water had entered through a small sump located in a corner of the pit. OHM poured concrete into this sump to seal it. Conditions in the pit will be monitored to determine if any additional leakage occurs, and action will be taken to drain and seal the pit if it does.

Two smaller pits (sumps) full of water in the adjoining room also were pumped out by OHM, and the contents stored in the same tankage. A hole which appeared to allow water to enter the pits was sealed by OHM.

Tanks Patched/Inventoried

Tank No. DST-5 (OHM numbered this tank T-005) near the catwalk outside the rear of the building was found to have a hole in the top. Liquid was pumped from this tank by OHM to a nearby unnumbered tank (OHM tank numbering T-011) to provide approximately one foot of freeboard, and the hole was patched and sealed. Also, the hole in the bottom of the silver-colored tank truck sitting on the loading dock was patched and sealed by OHM.

OHM also visually examined all tanks on the site, both indoors and outdoors, for leakage and to assess capacity, volume of contents, and both phase and appearance of the contents. No additional leakage or potential sources of leakage were observed. The details of OHM's tankage survey are provided in Attachment 1 to this report.

In summary, OHM estimates that the 56 tanks identified contain approximately 320,000 gallons of materials, primarily liquids. This is more than 90% of the total tank capacity of approximately 350,000 gallons identified onsite.

Drums/Debris Contained

Nine drums and miscellaneous debris were removed from the creek and brought into the main warehouse. Also, open drums of liquids, apparently used to collect liquids dripping from the tank truck which caused the release in May (now repaired), were sealed and staged in the warehouse.

Sampling/Analysis

OHM, working with CSI's analytical consultant and the EPA's OSC, took a total of 72 solid and liquid samples from the Rose site and the nearby city sewage treatment plant. The sampling plan implemented by OHM was developed with CSI and was reviewed with the EPA OSC and the TAT representative prior to implementation and edited as they requested. Splits of certain of the samples taken were provided to the OSC as directed by him.

The samples taken by OHM include (1) surface soil and sediment samples from the site, the creek, the sewerlines, the sludge drying beds at the sewer plant, and various "background" locations; (2) core samples from the creek, (3) samples from the sludge tank at the sewer plant (largely liquid), and (4) samples of the sewer plant influent and effluent. Additionally, eight air samples were taken at points on the site's perimeter.

Some preliminary, and as yet unvalidated, analytical reults for some samples have been received by phone from Langston Laboratories indicating low levels of PCBs. The complete data from the laboratories are expected to be reported early during the week of September 15. A full report on the results will then be issued by CSI based on the OHM and the Langston reports to CSI.

Other Site Safety and Security Measures

A number of other measures were taken during the subject period to enhance site safety and security. These included the following:

- temporary power was run to the existing external security lights onsite. These lights now illuminate the site from dusk-to-dawn

- CSI purchased a used tractor with a "brush-hog" and a snow plow attachment to be kept on site throughout the project for maintenance work. It was used by OHM to mow the "waist-high" weeds covering the site, which were beginning to present a fire hazard. This vegetation will continue to be cut back as necessary

- the 24-hour security-guard coverage at the site was increased to have two guards onsite at all times during

the period when the fence is under construction. Once the new fence is fully secure, double-coverage will be provided from 10 p.m. to 6 a.m. only

- OHM, working with CSI and the site security service onsite supervisor, assessed the security of the buildings onsite and took certain measures to make improper entry more difficult. Additional chains and locks were installed on doors, as needed, and abandoned equipment and a lean-to were moved away from the building to eliminate easy access to roof openings

- two abandoned vehicles and numerous railroad ties scattered around the site were collected and moved to the rear of the site into the area where an abandoned truck trailer and other debris were already located.

Contracting for AOC Work

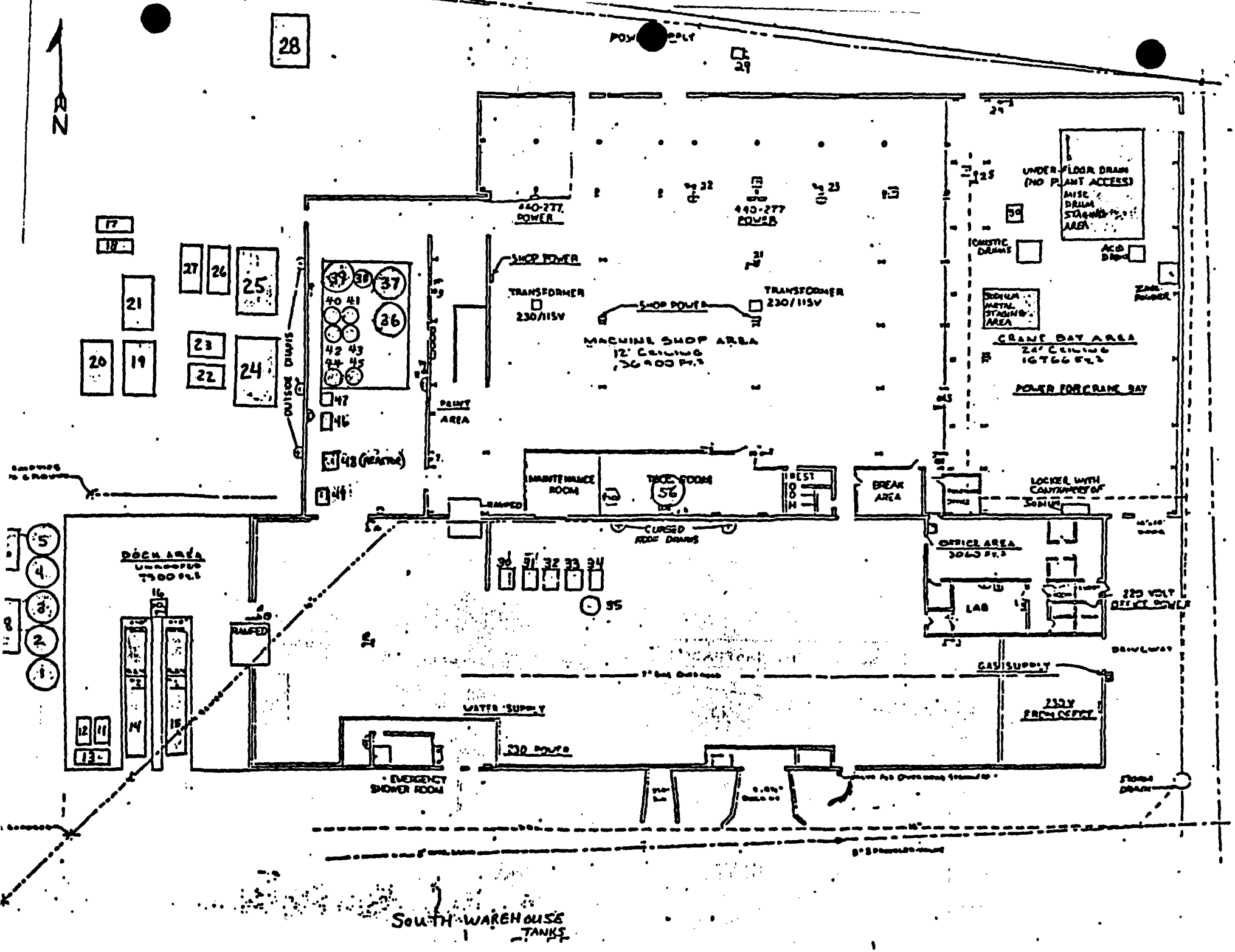
On September 8, proposals were received from contractors bidding for the security, stabilization and characterization work remaining to be done at the Rose Chemicals site. This work is expected to include considerably more site stabilization work, an inventory of materials at site, and more comprehensive sampling and analysis of site conditions. A review of the commercial, technical and project execution aspects of the proposals is underway by CSI. It is intended that CSI will be in a position to award the contract for this work, and have its selected contractor mobilize at the site, soon after an Administrative Order on Consent (AOC) is executed between the EPA and the PRPs.

ATTACHMENT 1

PRELIMINARY TANKAGE INVENTORY
ROSE CHEMICALS SITE - HOLDEN, MISSOURI

TANK NO. (1)	DESCRIPTION ON TANK	APPROXIMATE DIMENSIONS DIAMETER (Ft.)	LENGTH (Ft.)	VOLUME (Gal.)	CONTENTS OF TANKS (APPROXIMATE) % FILLED	VOLUME (Gal.)	VISUAL DESCRIPTION (2)
T-001	DST-1 <10000 PCB	10	17	10000	100	10000	yellow
T-002	DST-2 <10000 PCB	10	17	10000	100	10000	yellow/3" black
T-003	DST-3 <10000 PCB	10	17	10000	100	10000	yellow
T-004	DST-4 <10000 PCB	10	17	10000	100	10000	yellow
T-005	DST-5 <10000 PCB	10	17	10000	100 (3)	9400	yellow/2" black
T-006	DST-6 <10000 PCB	8	27	10000	100	10000	yellow
T-007	DST-7 >10000 PCB	8	27	10000	100	10000	black
T-008	DST-8 <10000 PCB	8	27	10000	80	8000	yellowish brown/12" black
T-009	DST-9 <10000 PCB	6	14	2800	100	2800	yellowish brown/12" black
T-010	DST-10 <10000 PCB	6	14	2800	100	2800	yellowish brown/12" black
T-011		6	14	2800	60 (4)	1800	yellow/black
T-012		8	21	7700	0	0	empty (holes in bottom)
T-013		6	14	2800	100 (5)	2800	yellow/6" black
T-014	Tank trailer:325-A/T461	5	36.5	3200			light brown
T-015	Tank trailer:MO-003/350-1605	5	36.5	3200	0	0	empty
T-016		2.75	2.75	260	100	260	yellow
T-017		6	14	2800	100 (6)	2800	clear
T-018		5	14	2300	100 (6)	2300	clear
T-019	9 >10000 PCB	10.5	24	14000	100	14000	yellow/12" brown
T-020	10 <10000 PCB	10.5	24	14000	100	14000	yellow/brown/24" water
T-021	8 >10000 PCB	10.5	24	14000	100	14000	dark brown
T-022	RST 3 <10000 PCB	8	16	5900	100	5900	yellow/12" brown
T-023	RST 4 <10000 PCB	8	16	5900	90	5310	yellow
T-024	RST < 50 PCB	10	28	16500	100 (7)	16500	dark brown
T-025	RST 2 <10000 PCB	10	28	16500	100	16500	dark brown
T-026	RST 5 <10000 PCB	5	24	4000	100	4000	yellow/12" brown
T-027	RST 6 <10000 PCB	5	24	4000	100	4000	yellow
T-028	RST 7 <10000 PCB	10	17	10000	100 (8)	10000	light brown 12"/clear
T-029		2	7.5	500	0	0	empty
T-030	WHST 1 <10000	6	29	5000	100	5000	dark brown
T-031	WHST 2 <10000	6	29	5000	100	5000	reddish brown
T-032	WHST 3 <10000	6	29	5000	100	5000	reddish brown
T-033	WHST 4 <10000	9	21	9000	100	9000	light brown
T-034	WHST 5 <10000	8	16	6000	100	6000	dark brown
T-035	WHST 6 <10000	6	14	2500	0	0	yellowish brown
T-036	PST 3 <10000	10	27	15000	67	10050	greenish brown
T-037	PST 1 >10000	10	29	15000	67	10050	greenish brown
T-038	PST 4 <10000	7	15	3000	100	3000	yellowish brown
T-039	PST 2 <10000	7	15	3000	100	3000	yellow/6" black
T-040	PST 6 <10000	7	15	3000	100	3000	yellow
T-041	PST	7	15	3000	100	3000	yellow/3" brown
T-042	PST 5 <10000	7	15	3000	100	3000	yellow
T-043	PST	7	15	3000	100	3000	yellow/12" black/red residue
T-044		5	6	1000	67	670	clear yellowish
T-045		5	5	800	25	200	yellow
T-046	(part of reactor)	5	6	1000	100	1000	yellowish brown
T-047	(part of reactor)	5	6	1000	100	1000	yellowish brown
T-048	(reactor)	5	6	1000			yellowish brown
T-049	(gas tank)			20			yellowish brown
T-050		3	6	500			clear
T-051	SBST 1 <10000 PCB	10	20	12000	100	12000	yellow
T-052	SBST 2 >10000 PCB	10	20	12000	100	12000	light brown
T-053	SBST 3 >10000 PCB	10	15	9000	100	9000	black
T-054	SBST 4 <10000 PCB	10	15	9000	100	9000	black
T-055	SBST 5 <10000 PCB	10	17	10000	100	10000	black
T-056				2000	100	2000	clear
TOTAL				355780		322140	

NOTES: (1) G.H. Materials numbering system (see layout diagram attached)
(2) From top to bottom of tank
(3) Approx. 600 gallons transferred to T-011
(4) Approx. 600 gallons transferred from T-005
(5) Was empty; now filled with 2800 gal. water from sump


N
440-277 POWER
440-277 POWER
SHOP POWER
TRANSFORMER 230/115V
SHOP POWER
TRANSFORMER 230/115V
MACHINE SHOP AREA
12' CEILING
PAINT AREA
OUTSIDE DRUMS
UNDER-FLOOR DRAIN (NO PLANT ACCESS)
CAUSTIC DRUMS
ACID DRUM
SODIUM METAL STORAGE AREA
CRANE BAY AREA
24' CEILING
POWER FOR CRANE BAY
MAINTENANCE ROOM
TOOL ROOM
BREAK AREA
LOCKER WITH CONTAINMENT OF SODIUM
CURBED FOR DRUMS
OFFICE AREA
LAB
220 VOLT OFFICE POWER
DOCK AREA
RAMPED
GAS SUPPLY
WATER SUPPLY
230 POWER
EMERGENCY SHOWER ROOM
230V FROM OFFICE
STORM DRAIN
SOUTH WAREHOUSE TANKS

Reference 4

CIVIL
DIV.
T55.3
.H3S3

Dangerous Properties of Industrial Materials

Sixth Edition

N. IRVING SAX

Assisted by:

Benjamin Feiner/Joseph J. Fitzgerald/Thomas J. Haley/Elizabeth K. Weisburger

VAN NOSTRAND REINHOLD COMPANY
New York

Products of combustion of polyamide-6 in furnace maintained at 800 degrees centigrade (APFRAD 35,461,77)

TOXICITY DATA: 3 CODEN:
ihl-mus LC50:23 mg/m3/10M APFRAD 35,461,77

Reported in EPA TSCA Inventory, 1980.
THR: HIGH ihl.

POLYAMINE D

NIOSH #: TQ 0525000

TOXICITY DATA: 2 CODEN:
skn-rbt 500 mg open MLD UCDS** 4/1/64
eye-rbt 50 mg SEV UCDS** 4/1/64
orl-rat LD50:2590 mg/kg UCDS** 4/1/64
skn-rbt LD50:880 mg/kg UCDS** 4/1/64

THR: MOD orl, skn. Skn and eye irr.
Disaster Hazard: When heated to decomp it emits tox fumes of NO_x.

POLYAMINE T

NIOSH #: TQ 0600000

TOXICITY DATA: 3-1 CODEN:
skn-rbt 500 mg open MLD UCDS** 7/16/65
orl-rat LD50:7460 mg/kg UCDS** 7/16/65
skn-rbt LD50:20 mg/kg UCDS** 7/16/65

THR: HIGH skn; LOW orl. A skn irr.
Disaster Hazard: When heated to decomp it emits tox fumes of NO_x.

beta-POLY(1,3-BUTADIENE)STYRENE, COPOLYMER

CAS RN: 9003558 NIOSH #: WL 6000000

SYN: KOPOLYMER BUTADIEN STYRENOVY (CZECH)

TOXICITY DATA: 2 CODEN:
eye-rbt 500 mg/24H MOD 28ZPAK -,257,72

Reported in EPA TSCA Inventory, 1980.
THR: An eye irr.
Disaster Hazard: When heated to decomp it emits acrid smoke and fumes.

POLYCHLORINATED BIPHENYLS

CAS RN: 1336363 NIOSH #: TQ 1350000

Bp: 340°-375°, flash p: 383°F (COC), d: 1.44 @ 30°. For toxicity information, see individual mixtures below. A series of technical mixtures consisting of many isomers and compounds that vary from mobile oily liquids to white crystalline solids and hard noncrystalline resins. Technical products vary in composition, in the degree of chlorination and possibly according to batch (IARC** 7,262,74).

SYNS:
AROCLOR
CHLOPHEN
CHLORINATED BIPHENYL
CHLORINATED DIPHENYL
CHLORINATED DIPHENYLENE
CHLOREXTOL
CHLORO BIPHENYL
CHLORO-1,1-BIPHENYL
CLOPHEN
KANECHLOR S
NOFLAMOL
PCBS
PHENOCHLOR
POLYCHLORINATED BIPHENYL
POLYCHLOROBIPHENYL
PYRALENE
PYRANOL
SANTOTHERM
THERMINOL FR-1

TOXICITY DATA:
Carcinogenic Determination: Human Suspected IARC** 18,43,78. *Toxicology Review:* EVHPAZ 1,105,72; JOCMA7 18,109,76; FEPRA7 34,1675,75; ARVPAX 14,139,74; ARPAAQ 94,125,72; CHRYAQ 49(4), 14,76; STEVA8 2(4),305,74; BISNAS 20,958,70; 27ZTAP 3,34,69. Occupational Exposure to Polychlorinated Biphenyls recm std: Air: TWA 1.0 ug/m3 NTIS**. "NIOSH Manual of Analytical Methods" VOL 1 244,253, VOL 2 S121, VOL 4 S120*. NIOSH Current Intelligence Bulletin 7, 1975. Reported in EPA TSCA Inventory, 1980. EPA TSCA 8E No: 07780209-Followup Reply Received as of April, 1979.
THR: A susp hmn CARC. HIGH-MOD acute orl, ihl, skn. Also causes a chloracne. Like the chlorinated naphthalenes, the chlorinated diphenyls have two distinct actions on the body, namely, a skn effect and a toxic action on the liver. The lesion produced in the liver is an acute yellow atrophy. This hepato toxic action of the chlorinated diphenyls appears to be increased if there is exposure to carbon tetrachloride at the same time. The higher the chlorine content of the diphenyl compound, the more toxic is it liable to be. Oxides of chlorinated diphenyls are more tox than the unoxidized materials. The skin lesion is known as chloracne, and consists of small pimples and dark pigmentation of the exposed areas, initially. Later, comedones and pustules develop. In persons who have suffered systematic intoxication, the usual signs and symptoms are nausea, vomiting, loss of weight, jaundice, edema and abdominal pain. Where the liver damage has been severe the patient may pass into coma and die.
Fire Hazard: Slight, when exposed to heat or flame.
Disaster Hazard: Dangerous; when heated to decomp, they emit highly tox fumes.
For further information see PCB's, Vol. 3, No. 4 of *DPIM Report.*

POLYCHLORINATED BIPHENYL (AROCLOR 1221)

CAS RN: 11104282 NIOSH #: TQ 1352000

SYNS:
AROCHLOR 1221
CHLORODIPHENYL (21% Cl)

TOXICITY DATA: 2 CODEN:
orl-rbt LD50:3980 mg/kg ARVPAX 14,139,74
skn-rbt LDLo:3169 mg/kg ARVPAX 14,139,74

Carcinogenic Determination: Human Suspected IARC** 18,43,78. *Toxicology Review:* ARVPAX 14,139,74; RREVAH 44,1,73; STEVA8 2(4),305,74; BISNAS 20,958,70. Occupational Exposure to Polychlorinated Biphenyls recm Std: Air: TWA 1.0 ug/m3 NTIS**.
THR: MOD orl, skn. Susp hmn CARC. See also PCB's.
Disaster Hazard: When heated to decomp it emits tox fumes of Cl^-.

POLYCHLORINATED BIPHENYL (AROCLOR 1232)

CAS RN: 11141165 NIOSH #: TQ 1354000

SYNS:
AROCLOR 1232
CHLORODIPHENYL (32% Cl)

TOXICITY DATA: 2-1 CODEN:
orl-rat LD50:4470 mg/kg ARVPAX 14,139,74
skn-rbt LDLo:2000 mg/kg ARVPAX 14,139,74

Carcinogenic Determination: Human Suspected IARC** 18,43,78. *Toxicology Review:* ARVPAX 14,139,74; STEVA8 2(4),305,74. Occupational Exposure to Polychlorinated Biphenyls recm Std: Air: TWA 1.0 ug/m3 NTIS**.

THR: Susp hmn CARC. MOD skn; LOW orl. See also PCB's.

Disaster Hazard: When heated to decomp it emits tox fumes of Cl^-.

POLYCHLORINATED BIPHENYL (AROCLOR 1242)

CAS RN: 53469219 NIOSH #: TQ 1356000

SYNS:
AROCHLOR 1242
AROCLOR 1242
CHLORIERTE BIPHENYLE, CHLORGEHALT 42% (GERMAN)
CHLORODIPHENYL (42% Cl)
CLORODIFENILI, CLORO 42% (ITALIAN)
DIPHENYLE CHLORE, 42% DE CHLORE (FRENCH)
GECHLOREERDEDIFENYL (DUTCH)

TOXICITY DATA: 3-2 CODEN:
ihl-hmn TCLo:10 mg/m3:IRR 85CYAB 2,153,59
orl-rat LD50:4250 mg/kg TXAPA9 24,434,73
scu-gpg LDLo:345 mg/kg PHRPA6 59,1085,44

Carcinogenic Determination: Human Suspected IARC** 18,43,78. *TLV:* Air: 1 mg/m3 (skin) DTLVS* 4,88,80. *Toxicology Review:* EVHPAZ 1,105,72; ARVPAX 14,139,74; RREVAH 44,1,73; STEVA8 2(4),305,74; BISNAS 20,958,70. OSHA Standard: Air: TWA 1 mg/m3 (skin) (SCP-I) FEREAC 39,23540,74. Occupational Exposure to Polychlorinated Biphenyls recm Std: Air: TWA 1.0 ug/m3 NTIS**. "NIOSH Manual of Analytical Methods" VOL 4 S120*.

THR: Susp hmn CARC; A hmn ihl IRR. HIGH scu; MOD orl; see also PCB's.

Disaster Hazard: When heated to decomp it emits tox fumes of Cl^-.

For further information see Chlorinated Diphenys, Vol. 1, No. 3 of *DPIM Report.*

POLYCHLORINATED BIPHENYL (AROCLOR 1248)

CAS RN: 12672296 NIOSH #: TQ 1358000

SYNS:
AROCLOR 1248
CHLORODIPHENYL (48% Cl)

TOXICITY DATA: 3 CODEN:
orl-mky TDLo:455 mg/kg FEPRAT 34,338,75
orl-mky TDLo:33 mg/kg/(1-166D preg):TER TXCYAC 6,331,76
orl-rat LD50:11 gm/kg ARVPAX 14,139,74
skn-rbt LDLo:1269 mg/kg ARVPAX 14,139,74

Carcinogenic Determination: Human Suspected IARC** 18,43,78. *Toxicology Review:* ARVPAX 14,139,74; STEVA8 2(4),305,74. Occupational Exposure to Polychlorinated Biphenyls recm Std: Air: TWA 1.0 ug/m3 NTIS**.

THR: An exper TER. A susp hmn CARC. MOD skn; LOW orl. See also PCB's.

Disaster Hazard: When heated to decomp it emits tox fumes of Cl^-.

For further information see Chlorinated Diphenyls, Vol. 1, No. 3 of *DPIM Report.*

POLYCHLORINATED BIPHENYL (AROCLOR 1254)

CAS RN: 11097691 NIOSH #: TQ 1360000

Composed of 11% tetra-, 49% penta-, 34% hexa- and 6% heptachlorobiphenyls (FCTXAV 12,63,74)

SYNS:
AROCHLOR 1254
AROCLOR 1254
CHLORIERTE BIPHENYLE, CHLORGEHALT 54% (GERMAN)
CHLORODIPHENYL (54% Cl)
CLORODIFENILI, CLORO 54% (ITALIAN)
DIPHENYLE CHLORE, 54% DE CHLORE (FRENCH)
NCI-C02664

TOXICITY DATA: 3 CODEN:
orl-rat TDLo:188 mg/kg (MGN) FCTXAV 12,63,74
orl-rat TDLo:645 mg/kg (MGN) FCTXAV 12,63,74
orl-rat TDLo:90 mg/kg (7-15D preg) FCTXAV 11,471,73
orl-rbt TDLo:350 mg/kg (1-28D preg) EVPHBI 1,67,71
orl-rat TDLo:4 gm/kg/2Y-I:ETA NCITR* NCI-CG-TR-38,78
orl-mus TDLo:17 gm/kg/48W-C:NEO JNCIAM 53,547,74
skn-mus TDLo:4 mg/kg:ETA BECTA6 18,552,77
orl-rat LD50:1295 mg/kg FCTXAV 12,63,74
ivn-rat LD50:358 mg/kg FCTXAV 12,63,74
ipr-mus LD50:2840 mg/kg BECTA6 8,245,72

Carcinogenic Determination: Human Suspected IARC** 18,43,78.

TLV: Air: 0.5 mg/m3 DTLVS* 4,89,80. *Toxicology Review:* EVHPAZ 1,105,72; ARVPAX 14,139,74; RREVAH 44,1,73; STEVA8 2(4),305,74; BISNAS 20,958,70. OSHA Standard: Air: TWA 500 ug/m3 (skin) (SCP-I) FEREAC 39,23540,74. Occupational Exposure to Polychlorinated Biphenyls recm std: Air: TWA 1.0 ug/m3 NTIS**. NCI Carcinogenesis Bioassay Completed; Results Indefinite: Rat (NCITR* NCI-CG-TR-38,78). "NIOSH Manual of Analytical Methods" Vol. 2 S121.

THR: An exper ETA, NEO. A susp hmn CARC. HIGH ivn; MOD orl, ipr. See also PCB's.

Disaster Hazard: When heated to decomp it emits tox fumes of Cl^-.

For further information see Chlorinated Diphenyls, Vol. 1, No. 3 of *DPIM Report.*

POLYCHLORINATED BIPHENYL (AROCLOR 1260)

CAS RN: 11096825 NIOSH #: TQ 1362000

Composed of 12% penta-, 38% hexa-, 41% hepta-, 8% octa- and 1% nonachlorobiphenyls (FCTXAV 12,63,74)

SYNS:

AROCHLOR 1260
AROCLOR 1260
CLOPHEN A60
CHLORODIPHENYL (60% Cl)
PHENOCLOR DP6

TOXICITY DATA:	3	CODEN:
cyt-rat-orl 1080 mg/kg/26W-C		APTOD9 19,A16,80
orl-rat TDLo:1675 mg/kg (MGN)		FCTXAV 12,63,74
orl-mus TDLo:74 mg/kg (62D pre/1-10D preg)		ENVRAL 6,176,73
orl-rat TDLo:4380 mg/kg/83W-C:CAR		JNCIAM 55,1453,75
orl-rat LD50:1315 mg/kg		FCTXAV 12,63,74
skn-rbt LDLo:2000 mg/kg		ARVPAX 14,139,74

Carcinogenic Determination: Human Suspected IARC** 18,43,78. *Toxicology Review:* EVHPAZ 1,105,72; ARVPAX 14,139,74; STEVA8 2(4),305,74; BISNAS 20,958,70. Occupational Exposure to Polychlorinated Biphenyls recm std: Air: TWA 1.0 ug/m3 NTIS**.

THR: A susp hmn CARC. An exper CARC. MOD orl, skn. See also PCB's.

Disaster Hazard: When heated to decomp it emits highly tox Cl^-. For further information see Chlorinated Diphenyls, Vol. 1, No. 3 of *DPIM Report.*

POLYCHLORINATED BIPHENYL (AROCLOR 1262)

CAS RN: 37324235 NIOSH #: TQ 1364000

SYNS:

AROCLOR 1262
CHLORODIPHENYL (62% Cl)

TOXICITY DATA:	3	CODEN:
orl-rat LD50:11300 mg/kg		ARVPAX 14,139,74
skn-rbt LDLo:3160 mg/kg		ARVPAX 14,139,74

Carcinogenic Determination: Human Suspected IARC** 18,43,78. *Toxicology Review:* ARVPAX 14,139,74; STEVA8 2(4),305,74. Occupational Exposure to Polychlorinated Biphenyls recm std: Air: TWA 1.0 ug/m3 NTIS**.

THR: A hmn susp CARC. MOD skn; LOW orl. See also PCB's.

Disaster Hazard: When heated to decomp it emits tox fumes of Cl^-.

For further information see Chlorinated Diphenyls, Vol. 1, No. 3 of *DPIM Report.*

POLYCHLORINATED BIPHENYL (AROCLOR 1268)

CAS RN: 11100144 NIOSH #: TQ 1366000

SYNS:

AROCLOR 1268
CHLORODIPHENYL (68% Cl)

TOXICITY DATA:	3	CODEN:
orl-rat LD50:10900 mg/kg		ARVPAX 14,139,74
skn-rbt LDLo:2500 mg/kg		ARVPAX 14,139,74

Carcinogenic Determination: Human Suspected IARC** 18,43,78. *Toxicology Review:* EVHPAZ 1,105,72; ARVPAX 14,139,74; RREVAH 44,1,73; STEVA8 2(4),305,74; BISNAS 20,958,70. Occupational Exposure to Polychlorinated Biphenyls recm std: Air: TWA 1.0 ug/m3 NTIS**.

THR: A susp hmn CARC. MOD skn; LOW orl. See also PCB's.

Disaster Hazard: When heated to decomp it emits tox fumes of Cl^-.

For further information see Chlorinated Diphenyls, Vol. 1, No. 3 of *DPIM Report.*

POLYCHLORINATED BIPHENYL (AROCLOR 2565)

CAS RN: 37324246 NIOSH #: TQ 1368000

SYN: AROCLOR 2565

TOXICITY DATA:	2-1	CODEN:
orl-rat LD50:6310 mg/kg		ARVPAX 14,139,74
skn-rbt LDLo:3160 mg/kg		ARVPAX 14,139,74

Carcinogenic Determination: Human Suspected IARC** 18,43,78. *Toxicology Review:* ARVPAX 14,139,74; RREVAH 44,1,73; STEVA8 2(4),305,74. Occupational Exposure to Polychlorinated Biphenyls recm std: Air: TWA 1.0 ug/m3 NTIS**.

THR: A susp hmn CARC. MOD skn; LOW orl. See also PCB's.

Disaster Hazard: When heated to decomp it emits tox fumes of Cl^-.

For further information see Chlorinated Diphenyls, Vol. 1, No. 3 of *DPIM Report.*

POLYCHLORINATED BIPHENYL (AROCLOR 4465)

CAS RN: 11120299 NIOSH #: TQ 1370000

SYN: AROCLOR 4465

TOXICITY DATA:	2-1	CODEN:
orl-rat LD50:16 gm/kg		ARVPAX 14,139,74
skn-rbt LDLo:3160 mg/kg		ARVPAX 14,139,74

Carcinogenic Determination: Human Suspected IARC** 18,43,78. *Toxicology Review:* ARVPAX 14,139,74; STEVA8 2(4),305,74. Occupational Exposure to Polychlorinated Biphenyls recm std: Air: TWA 1.0 ug/m3 NTIS**.

THR: A susp hmn CARC. MOD skn; LOW orl. See also PCB's.

Disaster Hazard: When heated to decomp it emits tox fumes of Cl^-.

For further information see Chlorinated Diphenyls, Vol. 1, No. 3 of *DPIM Report.*

POLYCHLORINATED BIPHENYL (KANECHLOR 300)

CAS RN: 37353632 NIOSH #: TQ 1372000

Average content: 60% trichlorobiphenyl, 23% tetrachlorobiphenyl, 17% dichlorobiphenyl, 1% pentachlorobiphenyl (IARC** 7,262,74)

SYN: KANECHLOR 300

TOXICITY DATA: 3 CODEN:

Carcinogenic Determination: Human Suspected IARC** 18,43,78. *Toxicology Review:* STEVA8 2(4),305,74. Occupational Exposure to Polychlorinated Biphenyls recm std: Air: TWA 1.0 ug/m3 NTIS**.

THR: See also PCB's. A susp hmn CARC.

Disaster Hazard: When heated to decomp it emits tox fumes of Cl^-.

For further information see Chlorinated Diphenyls, Vol. 1, No. 3 of *DPIM Report.*

POLYCHLORINATED BIPHENYL (KANECHLOR 400)

CAS RN: 12737870 NIOSH #: TQ 1374000

Average content: 44% tetrachlorbiphenyl, 33% trichlorobiphenyl, 16% pentachlorobiphenyl, 5% hexachlorobiphenyl, 3% dichlorobiphenyl (IARC** 7,262,74)

SYN: KANECHLOR 400

TOXICITY DATA: 3	CODEN:
orl-rat TDLo:6750 mg/kg/69W-I:NEO	GANNA2 64,105,73
orl-hmn TDLo:28 mg/kg:SKN	FKIZA4 62,104,71

Carcinogenic Determination: Human Suspected IARC** 18,43,78. *Toxicology Review:* RREVAH 44,1,73; STEVA8 2(4),305,74. Occupational Exposure to Polychlorinated Biphenyls recm std: Air: TWA 1.0 ug/m3 NTIS**.

THR: A susp hmn CARC. A hmn SKN via orl. An exper NEO. See also PCB's.

Disaster Hazard: When heated to decomp it emits tox fumes of Cl^-.

For further information see Chlorinated Diphenyls, Vol. 1, No. 3 of *DPIM Report.*

POLYCHLORINATED BIPHENYL (KANECHLOR 500)

CAS RN: 37317412 NIOSH #: TQ 1376000

Average content, 55% pentachlorobiphenyl, 26.5% tetrachlorobiphenyl, 12.8% hexachloro biphenyl and 5% trichlorobiphenyl (JNCIAM 51,1637,73)

SYNS:

KANECHLOR 500 KC-500

TOXICITY DATA: 3	CODEN:
orl-mus TDLo:13 gm/kg/32W-C:CAR	NAIZAM 25,635,74
orl-mus TD:23 gm/kg/32W-C:CAR	JNCIAM 51,1637,73
orl-rat TDLo:550 mg/kg (1-22D preg)	OFAJAE 53,93,76
orl-rat TDLo:140 mg/kg (15-21D preg)	OFAJAE 53,105,76
orl-mus TDLo:2520 mg/kg (1-21D preg/21D post)	TJADAB 16,103,77

Carcinogenic Determination: Human Suspected IARC** 18,43,78. *Toxicology Review:* STEVA8 2(4),305,74. Occupational Exposure to Polychlorinated Biphenyls recm std: Air: TWA 1.0 ug/m3.

THR: An exper CARC. A susp hmn CARC. See also PCB's.

Disaster Hazard: When heated to decomp it emits tox fumes of Cl^-.

For further information see Chlorinated Diphenyls, Vol. 1, No. 3 of *DPIM Report.*

POLYCHLORINATED TERPHENYL

CAS RN: 61788338 NIOSH #: WZ 6500000

Kanechlor C consists of 95% polychlorinated terphenyl and 5% PCB (CALEDQ 4,271,78)

SYN: KANECHLOR 500

TOXICITY DATA: 3	CODEN:
orl-mus TD:10 g/kg/24W-C:ETA	JTSCDR 3,259,78
orl-mus TDLo:11 gm/kg/24W-C TFX:CARC	CALEDQ 4,271,78

Reported in EPA TSCA Inventory, 1980. EPA TSCA 8(a) Preliminary Assessment Information Proposed Rule FERREAC 45,13646,80.

THR: An exper CARC. See also PCB's.

Disaster Hazard: When heated to decomp it emits tox fumes of Cl^-.

POLYCHLORINATED TRIPHENYL

NIOSH #: TQ 1380000

SYN: PCT

TOXICITY DATA: 3	CODEN:
orl-mus TDLo:108 mg/kg (1-18D preg) TER	TJADAB 14,244,76
orl-mus TDLo:1080 mg/kg (1-18D preg)	TJADAB 14,244,76

THR: An exper TER.

Disaster Hazard: When heated to decomp it emits tox fumes of Cl.

POLYCHLORINATED TRIPHENYL (AROCLOR)

CAS RN: 12642238 NIOSH #: TQ 1385000

SYNS:

AROCLOR 4465 AROCLOR 5442

TOXICITY DATA: 2-1	CODEN:
orl-rat LD50:10600 mg/kg	ARVPAX 14,139,74
skn-rbt LD50:3160 mg/kg	ARVPAX 14,139,74

Toxicology Review: ARVPAX 14,139,74.

THR: MOD skn; LOW orl.

Disaster Hazard: When heated to decomp it emits tox fumes of Cl^-.

POLYCHLOROBENZOIC ACID, DIMETHYLAMINE SALTS

CAS RN: 1338325 NIOSH #: TQ 1400000

Mixture of dimethylamine salt of 2,3,5,6-tetrachlorobenzoic acid, 2,3,6-trichlrobenzoic acid and other chlorinated benzoic acids (GUCHAZ 6,423,73)

SYNS:

DIMETHYLAMINE SALTS OF MIXED POLYCHLOROBENZOIC ACIDS PBA, DIMETHYLAMINE SALT

Uncontrolled Hazardous Waste Site Ranking System

A Users Manual

Kris W. Barrett
S. Steven Chang
Stuart A. Haus
Andrew M. Platt

August 1982

MTR-82W111

SPONSOR:
U.S. Environmental Protection Agency
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McLean, Virginia 22102

TABLE 4
WASTE CHARACTERISTICS VALUES FOR SOME COMMON CHEMICALS

CHEMICAL/COMPOUND	TOXICITY [1]	REACTIVITY [2]	INFLAMMABILITY [3]	CORROSIVITY [2]
Acetaldehyde	3	0	3	2
Acetic Acid	3	0	2	1
Acetone	2	0	3	0
Aldrin	3	3	1	0
Ammonia, Anhydrous	3	0	1	0
Aniline	3	1	2	0
Benzene	3	1	3	0
Carbon Tetrachloride	3	3	0	0
Chlordane	3	3	0*	0*
Chlorobenzene	2	2	3	0
Chloroform	3	3	0	0
Cresol-O	3	1	2	0
Cresol-M&P	3	1	1	0
Cyclohexane	2	2	3	0
Endrin	3	3	1	0
Ethyl Benzene	2	1	3	0
Formaldehyde	3	0	2	0
Formic Acid	3	0	2	0
Hydrochloric Acid	3	0	0	0
Isopropyl Ether	3	1	3	1
Lindane	3	3	1	0
Methane	1	1	3	0
Methyl Ethyl Ketone	2	0	3	0
Methyl Parathion in Xylene Solution	3	0Δ	3	2
Naphthalene	2	1	2	0
Nitric Acid	3	0	0	0
Parathion	3	0Δ	1	2
PCB	3	3	0Δ	0Δ
Petroleum, Kerosene (Fuel Oil No. 1)	3	1	2	0
Phenol	3	1	2	0
Sulfuric Acid	3	0	0	2
Toluene	2	1	3	0
Trichlorobenzene	2	3	1	0
α-Trichloroethane	2	2	1	0
Xylene	2	1	3	0

[1] Sax, N. I., Dangerous Properties of Industrial Materials, Van Nostrand Rheinhold Co., New York, 4th ed., 1975. The highest rating listed under each chemical is used.

[2] JRB Associates, Inc., Methodology for Rating the Hazard Potential of Waste Disposal Sites, May 5, 1980.

[3] National Fire Protection Association, National Fire Codes, Vol. 13, No. 49, 1977.

* Professional judgment based on information contained in the U.S. Coast Guard CHRIS Hazardous Chemical Data, 1978.

Δ Professional judgment based on existing literature.

TABLE 12

INCOMPATIBLE MATERIALS

In the lists below, the mixing of a Group A material with a Group B material may have the potential consequence as noted.

Group 1-A	Group 1-B
Acetylene sludge	Acid sludge
Alkaline caustic liquids	Acid and water
Alkaline cleaner	Battery acid
Alkaline corrosive liquids	Chemical cleaners
Alkaline corrosive battery fluid	Electrolyte acid
Caustic wastewater	Etching acid liquid or solvent
Lime sludge and other corrosive alkalies	Pickling liquor and other corrosive acids
Lime wastewater	Spent acid
Lime and water	Spent mixed acid
Spent caustic	Spent sulfuric acid

Potential consequences: Heat generation; violent reaction.

Group 2-A	Group 2-B
Aluminum	Any waste in Group 1-A or 1-B
Beryllium	
Calcium	
Lithium	
Potassium	
Sodium	
Zinc powder	
Other reactive metals and metal hydrides	

Potential consequences: Fire or explosion; generation of flammable hydrogen gas.

Group 3-A	Group 3-B
Alcohols	Any concentrated waste in Groups 1-A or 1-B
Water	Calcium
	Lithium
	Metal hydrides
	Potassium
	SO_2Cl_2, $SOCl_2$, PCl_3, CH_3, $SiCl_3$
	Other water-reactive waste

Potential consequences: Fire, explosion, or heat generation; generation of flammable or toxic gases.

Group 4-A	Group 4-B
Alcohols	Concentrated Group 1-A or 1-B wastes
Aldehydes	Group 2-A wastes
Halogenated hydrocarbons	
Nitrated hydrocarbons	
Unsaturated hydrocarbons	
Other reactive organic compounds and solvents	

Potential consequences: Fire, explosion, or violent reaction.

Group 5-A	Group 5-B
Spent cyanide and sulfide solutions	Group 1-B wastes

Potential consequences: Generation of toxic hydrogen cyanide or hydrogen sulfide gas.

Group 6-A	Group 6-B
Chlorates	Acetic acid and other organic acids
Chlorine	Concentrated mineral acides
Chlorites	Group 2-A wastes
Chromic acid	Group 4-A wastes
Hyphochlorites	Other flammable and combustible wastes
Nitrates	
Nitric acid, fuming	
Perchlorates	
Permanganates	
Peroxides	
Other strong oxidizers	

Potential consequences: Fire, explosion, or violent reaction.

Source: Hazardous Waste Management Law, Regulations, and Guidelines for the Handling of Hazardous Waste. California Department of Health, Sacramento, California, February 1975.

HAZARDOUS WASTE QUANTITY

MARTHA C. ROSE CHEMICAL COMPANY SITE

Hazardous Waste Summary (Reference 2, p.2 and Reference 3, Attachment 1)

- 322,000 gallon bulk PCB contaminated oil
- 5000 55-gallon drums contaminated waste
- 400 transformers (drained and undrained) assume 200 full at 100 gallons each
- 4700 ft^3 of capacitor cores in steel bin
- 1.3 million pound capacitor cores in fifty pound paper bags

Waste Quantity Calculations

- 322,000 gallons x 7.5 lb/gallon oil = 2,415,000
- 5000 drums x 55 gallons x 7.5 lb/gallon = 2,065,000
- 200 transformers x 100 gallons x 7.5 lb/gallon = 150,000
- $4700\ ft^3 \times \frac{yd^3}{27ft^3} \times \frac{4\ drums}{yd^3} \times \frac{50\ gallons}{drum} \times 7.5\ lb/gallon$ = 261,111
- 1,300,000 pounds = 1,300,000

6,191,111 pounds

$6{,}191{,}111 \times \frac{1\ ton}{2000\ lbs}$ = 3095 tons

MEMORANDUM

B&V Project No. 64580
September 30, 1986

To: File

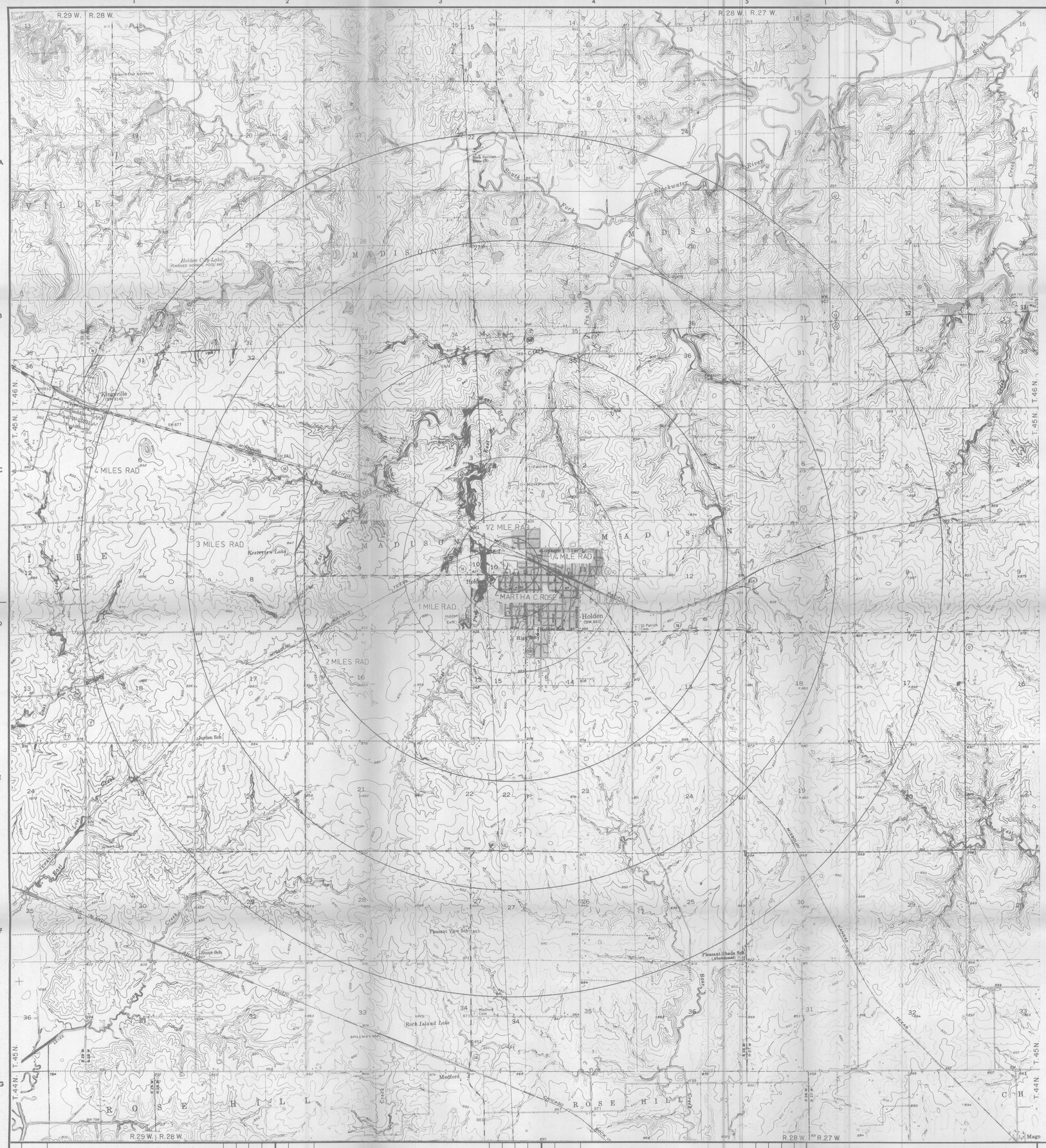
From: [redacted]

FOIA Exemption 4

Subject: Use of East Pin Oak Creek

Mr. Don McCoy, 100 N. Buffalo Street, Holden, Missouri, stated that the East Pin Oak Creek, downstream of the Martha C. Rose facility, is frequently used for fishing. Mr. McCoy lives approximately 100 feet east of the M.C. Rose facility gate. Mr. McCoy has lived around Holden all his life.

jdb



LEGEND

BASE MAP · US GEOLOGICAL SURVEY TOPOGRAPHIC MAPS
7.5 MINUTE SERIES

- PITTSVILLE QUADRANGLE
- KINGSVILLE QUADRANGLE
- ELM QUADRANGLE
- HOLDEN QUADRANGLE

CONTOUR INTERVAL 10 FEET

- OCCUPIED BUILDING
- ABANDONED BUILDING

QUADRANGLE LOCATION

NO	DATE	REVISIONS	DWN	CK	ACC	APP

N

0 1/2 1 MILE

SCALE: 1:24,000

FOUR-MILE RADIUS MAP
POPULATION COUNT

BLACK & VEATCH
CONSULTING ENGINEERS
PROJECT 64580

MARTHA C. ROSE CHEMICAL COMPANY SITE
HOLDEN, MISSOURI

HAZARD RANKING SYSTEM SCORING (HRS)

B&V DWG NO.
REFERENCE 8

REV.

United States Department of the Interior

FISH AND WILDLIFE SERVICE
Ecological Services
Columbia Field Office
P.O. Box 1506
Columbia, Missouri 65205

IN REPLY REFER TO:

October 1, 1986

FOIA Exemption 4

[redacted]
Black & Veatch
Engineers-Architects
P.O. Box 8405
Kansas City, Missouri 64114

Dear [redacted]

This responds to your September 23, 1986 request for information regarding wildlife habitat near the city of Holden, Johnson County, Missouri. The specific questions are addressed by the following remarks:

- There are no freshwater wetlands of 5 acres or greater within 1 mile of the point of interest.
- There are no federally endangered or threatened species listed for Johnson County, Missouri.
- There are no National Wildlife Refuges within 1 mile of the point of interest.
- There are no national or state parks, or forest or wildlife reserves within 2 miles of the point of interest.

If you have any questions regarding this response or if we can be of any further assistance, please contact Richard R. Szlemp, Columbia Field Office, P. O. Box 1506, Columbia, Missouri 65205, (314)875-5374 or (FTS)276-5374.

Sincerely yours,

Joe Tieger

Joe Tieger
Field Supervisor

MISSOURI DEPARTMENT OF CONSERVATION

MAILING ADDRESS:
P.O. Box 180
Jefferson City, Missouri 65102-0180

STREET LOCATION:
2901 West Truman Boulevard
Jefferson City, Missouri

Telephone 314/751-4115
LARRY R. GALE, Director

October 3, 1986

FOIA Exemption 4

[redacted]
Black & Veatch
P. O. Box 8405
Kansas City, Missouri 64114

Dear [redacted]

I am responding to your letter of September 23 requesting environmental information near Holden, Missouri.

The county highway map indicates there is a pond along the Missouri Pacific Railroad tracks in Sec. 12, T45N, R28W just east of the city. Old railroad watering ponds have often silted in, with the ensuing shallow water becoming excellent wetlands/marshes. We do not know the status of this pond.

Mead's milkweed, a state endangered species and a candidate for federal listing, occurs within 2.5 miles of the city. Baltic rush, a state endangered species, occurs within 3 miles. There are no parks or refuges within a 4 mile radius.

Thank you for the opportunity to review and comment.

Sincerely,

Dan F. Dickneite

DAN F. DICKNEITE
ENVIRONMENTAL SERVICES OFFICER

COMMISSION

JEFF CHURAN
Chillicothe

JOHN POWELL
Rolla

JOHN B. MAHAFFEY
Springfield

RICHARD T. REED
East Prairie

TELEPHONE MEMORANDUM

DATE Sept. 18, 1986

(TO) ~~(FROM)~~ Toni Larda TELEPHONE 816/732-6343 TIME 4:35 ~~AM~~ PM

COMPANY O&M Interprizes - Water Dept. Holden, MO CC:

RECORDED BY [redacted]

PROJECT Martha C. Rose PROJ. NO.

SUBJECT Holden Water Supply FILE NO.

City of Holden has a water supply lake located approximately 5 miles west of Holden. This lake is on the north side of Kingsville, MO. The lake has been in place since 1980, before this, other water supply lakes were used.

The City serves 970 hook-ups. All City uses supplied water except for two known private wells on the east side of town. The following are:
1) David Taylor 2) Charlie Stout. No address is given in the City phone book.

O&M Interprizes is a private company which handles the city water supply.

There are also two or three cisterns in town. Thes people haul city-supplied water to the cisterns.

There are approximately 2100 people in Holden.

Rural homes supplied by Rural Water District #2 of Johnson Co., Missouri. Rural Water Dist. #2 gets its water from wells (ground). R.W.D. #2 (816) 732-6658, Ron Brockhouse.

jdb

[redacted]

FOIA Exemption 4

TELEPHONE MEMORANDUM

DATE Sept. 26, 1986

(TO) (~~FROM~~) Toni Larda TELEPHONE 816/732-6343 TIME 11:50 AM ~~PM~~

COMPANY Holden Water Department - Supervisor CC:

RECORDED BY [redacted]

PROJECT Martha C. Rose PROJ. NO.

SUBJECT Public Water Supply FILE NO.

Entire water supply for city of Holden, MO is derived from lake located approximately 1/2 mile north of Kingsville, MO. This is about four miles from Holden. Old water supply lakes were sold. There was a well associated with old lakes. [redacted]

jdb

FOIA Exemption 4

TELEPHONE MEMORANDUM

DATE Sept. 18, 1986

(TO) ~~(FROM)~~ Ron Brockhouse TELEPHONE 816/732-6658 TIME 3:45 ~~AM~~ PM

COMPANY Johnson Co. Missouri Rural Water Dist. #2 CC:

RECORDED BY [redacted]

PROJECT Martha C. Rose PROJ. NO.

SUBJECT Rural Water FILE NO.

Johnson County Rural Water District #2 supplies approximately 1150 connections in Johnson Mo. This includes rural areas around Holden. (The attached map shows the R.W.D. #2 boundaries). This district uses one well located southeast of Warrensburg. It is located 2.5 m. south of Warrensburg, Mo., then 2 miles east. This well is 1050 ft deep. The City of Warrensburg's wells are approximately 780 ft in depth.

jdb
Attachment

[redacted]

FOIA Exemption 4

CENSUS OF POPULATION AND HOUSING, 1980--SUMMARY TAPE FILE 3A

(FOR DEFINITION OF ITEMS AND FOOTNOTES, SEE TECHNICAL DOCUMENTATION)

SUMMARY LEVEL: 15 STATE: MISSOURI COUNTY: JOHNSON MCD/CCD: MADISON

PLACE: HOLDEN TRACT/BNA: 9901 BG: 2 ED:

URBAN/RURAL: 1 CD: 04 URBANIZED AREA: WARD: SMSA:

INDIAN RESERVATION/ANV: INDIAN SUBRESERVATION: SCSA:

1. PERSONS BY URBAN AND RURAL [50]

TOTAL	1244
INSIDE URBANIZED AREAS	-
RURAL	1244

2. UNWEIGHTED SAMPLE COUNT OF PERSONS 628

3. 100-PERCENT COUNT OF PERSONS [38] 1231

4. HOUSING UNITS (INCLUDING VACANT SEASONAL AND MIGRATORY UNITS) BY URBAN AND RURAL [1,50]

TOTAL	580
INSIDE URBANIZED AREAS	-
RURAL	580

5. UNWEIGHTED SAMPLE COUNT OF HOUSING UNITS (INCLUDING VACANT SEASONAL AND MIGRATORY UNITS) [1] 282

6. 100-PERCENT COUNT OF HOUSING UNITS (INCLUDING VACANT SEASONAL AND MIGRATORY UNITS) [1,38] 572

7. PERSONS IN RURAL AREAS BY FARM RESIDENCE (CURRENT FARM DEFINITION) [2]

RURAL FARM	-
NONFARM	1244

8. PERSONS IN RURAL AREAS BY FARM RESIDENCE (1970 CENSUS FARM DEFINITION) [2]

RURAL FARM	-
NONFARM	1244

9. FAMILIES 339

10. HOUSEHOLDS [3] 512

11. YEAR-ROUND HOUSING UNITS BY OCCUPANCY STATUS

TOTAL	580
OCCUPIED [3]	520
VACANT	60

12. PERSONS BY RACE

WHITE	1196
BLACK	37
AMERICAN INDIAN, ESKIMO AND ALEUT:	
AMERICAN INDIAN	9
ESKIMO	-
ALEUT	-
ASIAN AND PACIFIC ISLANDER: [4]	
JAPANESE	2
CHINESE	-
FILIPINO	-
KOREAN	-
ASIAN INDIAN	-
VIETNAMESE	-
HAWAIIAN	-
GUAMANIAN	-
SAMOAN	-
OTHER [47]	-
OTHER (RACE, N.E.C.): [5]	
SPANISH [6,47]	-
NOT SPANISH [47]	-

13. PERSONS BY SPANISH ORIGIN AND RACE

NOT OF SPANISH ORIGIN	1244
MEXICAN	-
PUERTO RICAN	-
CUBAN	-
OTHER SPANISH:	
WHITE, BLACK, AMERICAN INDIAN, ESKIMO, ALEUT, AND ASIAN AND PACIFIC ISLANDER [4]	-
OTHER (RACE, N.E.C.) [5]	-

14. PERSONS OF SPANISH ORIGIN BY RACE

TOTAL	-
WHITE	-
BLACK	-
AMERICAN INDIAN, ESKIMO, ALEUT, AND ASIAN AND PACIFIC ISLANDER [4]	-
OTHER (RACE, N.E.C.) [5]	-

15. PERSONS BY SEX BY AGE

	TOTAL	FEMALE
UNDER 1 YEAR	27	16
1 AND 2 YEARS	32	8
3 AND 4 YEARS	41	22
5 YEARS	18	7
6 YEARS	27	14
7 TO 9 YEARS	47	22
10 TO 13 YEARS	62	37
14 YEARS	15	7
15 YEARS	13	8
16 YEARS	31	18
17 YEARS	23	15
18 YEARS	27	13
19 YEARS	19	9
20 YEARS	37	18
21 YEARS	28	13
22 TO 24 YEARS	51	21
25 TO 29 YEARS	91	46
30 TO 34 YEARS	75	40
35 TO 44 YEARS	124	59
45 TO 54 YEARS	91	51
55 TO 59 YEARS	47	26
60 TO 61 YEARS	22	15
62 TO 64 YEARS	28	16
65 TO 74 YEARS	122	63
75 TO 84 YEARS	106	83
85 YEARS AND OVER	40	35

16/17. PERSONS OF SPECIFIED RACES AND SPANISH ORIGIN BY SEX BY RACE AND SPANISH ORIGIN BY AGE [14]

	TOTAL	FEMALE
WHITE:		
UNDER 5 YEARS	91	42
5 TO 14 YEARS	156	83
15 TO 59 YEARS	637	328
60 TO 64 YEARS	48	29
65 YEARS AND OVER	264	179
BLACK:		
UNDER 5 YEARS	9	4
5 TO 14 YEARS	9	2
15 TO 59 YEARS	13	7
60 TO 64 YEARS	2	2
65 YEARS AND OVER	4	2
AMERICAN INDIAN, ESKIMO AND ALEUT:		
UNDER 5 YEARS	...	...
5 TO 14 YEARS	...	...
15 TO 59 YEARS	...	...
60 TO 64 YEARS	...	...
65 YEARS AND OVER	...	...
ASIAN AND PACIFIC ISLANDER: [4]		
UNDER 5 YEARS	...	...
5 TO 14 YEARS	...	...
15 TO 59 YEARS	...	...
60 TO 64 YEARS	...	...
65 YEARS AND OVER	...	...
SPANISH ORIGIN (OF ANY RACE):		
UNDER 5 YEARS	-	-
5 TO 14 YEARS	-	-
15 TO 59 YEARS	-	-
60 TO 64 YEARS	-	-
65 YEARS AND OVER	-	-

18. HOUSEHOLDS BY PERSONS IN HOUSEHOLD [7]

1 PERSON	169
2 PERSONS	151
3 PERSONS	79
4 PERSONS	66
5 PERSONS	31
6 OR MORE PERSONS	16

22. MEAN NUMBER OF OWN CHILDREN BY FAMILY TYPE [10]

IN MARRIED-COUPLE FAMILY	1.0
IN FAMILY WITH MALE HOUSEHOLDER, NO WIFE PRESENT	.9
IN FAMILY WITH FEMALE HOUSEHOLDER, NO HUSBAND PRESENT	.9

19. PERSONS BY HOUSEHOLD TYPE AND RELATIONSHIP

IN FAMILY HOUSEHOLD:	
HOUSEHOLDER	339
SPOUSE	293
OTHER RELATIVES [8]	433
NONRELATIVES [9]	2
IN NONFAMILY HOUSEHOLD:	
MALE HOUSEHOLDER	35
FEMALE HOUSEHOLDER	135
NONRELATIVES [9]	4
IN GROUP QUARTERS:	
INMATE OF INSTITUTION	-
OTHER	-

20PT/21PT. FAMILY HOUSEHOLDS BY PRESENCE OF OWN CHILDREN BY RACE AND SPANISH ORIGIN OF HOUSEHOLDER BY FAMILY TYPE [10,11,21]

	WITH OWN CHILDREN	WITHOUT OWN CHILDREN
TOTAL:		
MARRIED-COUPLE FAMILY	137	151
FAMILY WITH MALE HOUSEHOLDER, NO WIFE PRESENT	9	4
FAMILY WITH FEMALE HOUSEHOLDER, NO HUSBAND PRESENT	19	19
WHITE:		
MARRIED-COUPLE FAMILY	132	149
FAMILY WITH MALE HOUSEHOLDER, NO WIFE PRESENT	7	4
FAMILY WITH FEMALE HOUSEHOLDER, NO HUSBAND PRESENT	19	19
BLACK:		
MARRIED-COUPLE FAMILY	...	...
FAMILY WITH MALE HOUSEHOLDER, NO WIFE PRESENT	...	...
FAMILY WITH FEMALE HOUSEHOLDER, NO HUSBAND PRESENT	...	...
AMERICAN INDIAN, ESKIMO, AND ALEUT:		
MARRIED-COUPLE FAMILY	...	...
FAMILY WITH MALE HOUSEHOLDER, NO WIFE PRESENT	...	...
FAMILY WITH FEMALE HOUSEHOLDER, NO HUSBAND PRESENT	...	...
ASIAN AND PACIFIC ISLANDER: [4]		
MARRIED-COUPLE FAMILY	-	-
FAMILY WITH MALE HOUSEHOLDER, NO WIFE PRESENT	-	-
FAMILY WITH FEMALE HOUSEHOLDER, NO HUSBAND PRESENT	-	-
SPANISH ORIGIN (OF ANY RACE):		
MARRIED-COUPLE FAMILY	-	-
FAMILY WITH MALE HOUSEHOLDER, NO WIFE PRESENT	-	-
FAMILY WITH FEMALE HOUSEHOLDER, NO HUSBAND PRESENT	-	-

20PT/21PT. NONFAMILY HOUSEHOLDS BY RACE AND SPANISH ORIGIN OF HOUSEHOLDER [11,21]

TOTAL	173
WHITE	171
BLACK	...
AMERICAN INDIAN, ESKIMO, AND ALEUT	...
ASIAN AND PACIFIC ISLANDER [4]	-
SPANISH ORIGIN (OF ANY RACE)	-

23/24/25. SUBFAMILIES BY SUBFAMILY TYPE AND PRESENCE OF OWN CHILDREN [10]

MARRIED-COUPLE SUBFAMILY:	
WITH OWN CHILDREN	2
MEAN NUMBER OF OWN CHILDREN	1.0
WITHOUT OWN CHILDREN	-
FATHER-CHILD SUBFAMILY	-
MOTHER-CHILD SUBFAMILY	4
PERSONS PER SUBFAMILY	2.3

26. PERSONS 15 YEARS AND OVER BY SEX BY MARITAL STATUS

	MALE	FEMALE
SINGLE	91	89
NOW MARRIED, EXCEPT SEPARATED	289	298
SEPARATED	-	12
WIDOWED	20	114
DIVORCED	26	36

104. PERSONS IN OCCUPIED HOUSING UNITS BY TENURE BY UNITS IN STRUCTURE

	TOTAL	RENTER
1, DETACHED	1083	214
1, ATTACHED	10	6
2	49	39
3 OR 4	50	48
5 OR MORE	61	57
MOBILE HOME OR TRAILER, ETC. [25]	22	14

105. YEAR-ROUND HOUSING UNITS BY STORIES IN STRUCTURE

1 TO 3	580
4 TO 6	-
7 TO 12	-
13 OR MORE	-

106. YEAR-ROUND HOUSING UNITS IN STRUCTURE WITH 4 OR MORE STORIES BY PASSENGER ELEVATOR

WITH ELEVATOR	-
NO ELEVATOR	-

107. YEAR-ROUND HOUSING UNITS BY SOURCE OF WATER

PUBLIC SYSTEM OR PRIVATE COMPANY	578
INDIVIDUAL WELL:	
DRILLED	-
DUG	-
SOME OTHER SOURCE	2

108. YEAR-ROUND HOUSING UNITS BY SEWAGE DISPOSAL

PUBLIC SEWER	566
SEPTIC TANK OR CESSPOOL	14
OTHER MEANS	-

109. YEAR-ROUND HOUSING UNITS BY TENURE AND OCCUPANCY STATUS BY YEAR STRUCTURE BUILT

TOTAL:	
1979 TO MARCH 1980	-
1975 TO 1978	16
1970 TO 1974	36
1960 TO 1969	58
1950 TO 1959	62
1940 TO 1949	77
1939 OR EARLIER	331
TOTAL OCCUPIED:	
1979 TO MARCH 1980	-
1975 TO 1978	16
1970 TO 1974	36
1960 TO 1969	54
1950 TO 1959	62
1940 TO 1949	62
1939 OR EARLIER	290
RENTER OCCUPIED:	
1979 TO MARCH 1980	-
1975 TO 1978	-
1970 TO 1974	15
1960 TO 1969	13
1950 TO 1959	23
1940 TO 1949	21
1939 OR EARLIER	89

110. OCCUPIED HOUSING UNITS BY TENURE BY YEAR HOUSEHOLDER MOVED INTO UNIT

	TOTAL	RENTER OCCUPIED
1979 TO MARCH 1980	112	72
1975 TO 1978	156	60
1970 TO 1974	78	15
1960 TO 1969	85	9
1950 TO 1959	53	2
1949 OR EARLIER	36	3

111. YEAR-ROUND HOUSING UNITS BY HEATING EQUIPMENT

STEAM OR HOT WATER SYSTEM	28
CENTRAL WARM-AIR FURNACE	291
ELECTRIC HEAT PUMP	-
OTHER BUILT-IN ELECTRIC UNITS	12
FLOOR, WALL, OR PIPELESS FURNACE	75
ROOM HEATERS WITH FLUE	147
ROOM HEATERS WITHOUT FLUE	6
FIREPLACES, STOVES, OR PORTABLE ROOM HEATERS	18
NONE	3

112. OCCUPIED HOUSING UNITS BY HOUSE HEATING FUEL

UTILITY GAS [26]	497
BOTTLED, TANK, OR LP GAS	-
ELECTRICITY	18
FUEL OIL, KEROSENE, ETC.	-
COAL OR COKE	-
WOOD	5
OTHER FUEL	-
NO FUEL USED	-

113. OCCUPIED HOUSING UNITS BY COOKING FUEL

UTILITY GAS [26]	344
BOTTLED, TANK, OR LP GAS	-
ELECTRICITY	176
OTHER [27]	-
NO FUEL USED	-

114. OCCUPIED HOUSING UNITS BY WATER HEATING FUEL

UTILITY GAS [26]	471
BOTTLED, TANK, OR LP GAS	6
ELECTRICITY	43
FUEL OIL, KEROSENE, ETC.	-
OTHER [27]	-
NO FUEL USED	-

115. YEAR-ROUND HOUSING UNITS BY KITCHEN FACILITIES

COMPLETE KITCHEN FACILITIES	577
NO COMPLETE KITCHEN FACILITIES	3

116. YEAR-ROUND HOUSING UNITS BY TENURE AND OCCUPANCY STATUS BY BEDROOMS

TOTAL:	
NONE	1
1	101
2	255
3	168
4	47
5 OR MORE	8
TOTAL OCCUPIED:	
NONE	1
1	94
2	230
3	144
4	45
5 OR MORE	6
RENTER OCCUPIED:	
NONE	1
1	67
2	61
3	23
4	4
5 OR MORE	5

117. YEAR-ROUND HOUSING UNITS BY TENURE AND OCCUPANCY STATUS BY BATHROOMS

TOTAL:	
NO BATHROOM OR ONLY A HALF BATH	11
1 COMPLETE BATHROOM	462
1 COMPLETE BATHROOM PLUS HALF BATH(S)	59
2 OR MORE COMPLETE BATHROOMS	48
TOTAL OCCUPIED:	
NO BATHROOM OR ONLY A HALF BATH	11
1 COMPLETE BATHROOM	404
1 COMPLETE BATHROOM PLUS HALF BATH(S)	57
2 OR MORE COMPLETE BATHROOMS	48
RENTER OCCUPIED:	
NO BATHROOM OR ONLY A HALF BATH	7
1 COMPLETE BATHROOM	146
1 COMPLETE BATHROOM PLUS HALF BATH(S)	8
2 OR MORE COMPLETE BATHROOMS	-

118. OCCUPIED HOUSING UNITS BY TENURE BY TELEPHONE IN HOUSING UNIT

TOTAL:	
WITH TELEPHONE	459
NO TELEPHONE	61
RENTER OCCUPIED:	
WITH TELEPHONE	121
NO TELEPHONE	40

119. OCCUPIED HOUSING UNITS WITH HOUSEHOLDERS OF SELECTED AGE GROUPS BY AGE OF HOUSEHOLDER BY TELEPHONE IN HOUSING UNIT

HOUSEHOLDER 60 TO 64 YEARS:	
WITH TELEPHONE	35
NO TELEPHONE	-
HOUSEHOLDER 65 YEARS AND OVER:	
WITH TELEPHONE	170
NO TELEPHONE	11

120. YEAR-ROUND HOUSING UNITS BY AIR CONDITIONING

NONE	300
CENTRAL SYSTEM	76
1 INDIVIDUAL ROOM UNIT	170
2 OR MORE INDIVIDUAL ROOM UNITS	34

121/122. OCCUPIED HOUSING UNITS WITH NO VEHICLE AVAILABLE BY RACE AND SPANISH ORIGIN OF HOUSEHOLDER [11,21,28]

TOTAL	88
WHITE	88
BLACK	...
AMERICAN INDIAN, ESKIMO, AND ALEUT	...
ASIAN AND PACIFIC ISLANDER [4]	-
SPANISH ORIGIN (OF ANY RACE)	-

123. OCCUPIED HOUSING UNITS WITH VEHICLE AVAILABLE BY VEHICLES AVAILABLE [28]

1	183
2	153
3 OR MORE	96

124. SPECIFIED RENTER-OCCUPIED HOUSING UNITS BY GROSS RENT [29]

LESS THAN $60	11
$60 TO $79	6
$80 TO $99	14
$100 TO $119	8
$120 TO $149	26
$150 TO $169	8
$170 TO $199	28
$200 TO $249	28
$250 TO $299	7
$300 TO $349	-
$350 TO $399	1
$400 TO $499	-
$500 OR MORE	-
NO CASH RENT	18

125/126. SPECIFIED RENTER-OCCUPIED HOUSING UNITS WITH HOUSEHOLDER OF SPECIFIED RACES AND SPANISH ORIGIN BY RACE AND SPANISH ORIGIN BY GROSS RENT [11,21,29]

WHITE:	
LESS THAN $100	31
$100 TO $199	70
$200 TO $299	35
$300 OR MORE	1
NO CASH RENT	18
BLACK:	
LESS THAN $100	-
$100 TO $199	-
$200 TO $299	-
$300 OR MORE	-
NO CASH RENT	-
AMERICAN INDIAN, ESKIMO, AND ALEUT:	
LESS THAN $100	-
$100 TO $199	-
$200 TO $299	-
$300 OR MORE	-
NO CASH RENT	-
ASIAN AND PACIFIC ISLANDER: [4]	
LESS THAN $100	-
$100 TO $199	-
$200 TO $299	-
$300 OR MORE	-
NO CASH RENT	-
SPANISH ORIGIN (OF ANY RACE):	
LESS THAN $100	-
$100 TO $199	-
$200 TO $299	-
$300 OR MORE	-
NO CASH RENT	-

TELEPHONE MEMORANDUM

DATE Sept. 29, 1986

(TO) (~~FROM~~) Bob Hagedorn ~~Soil Conservationist~~ TELEPHONE 816/747-8400 TIME 2:10 ~~AM~~ PM

COMPANY Johnson Co. Mo. Soil Conversation Service CC:

RECORDED BY [redacted]

PROJECT Martha C. Rose HRS PROJ. NO. 64580

SUBJECT Irrigation near Holden, MO FILE NO.

Mr. Hagedorn stated that there is some irrigation in the Holden area.
Mr. Herb Thomason has approximately 300-400 acres of land he irrigates.
Mr. Hagedorn thought that a lake was the source of this water.

jdb

[redacted]

FOIA Exemption 4

TELEPHONE MEMORANDUM

DATE Sept. 29, 1986

(TO) (FROM) Mrs. Herb Thomason TELEPHONE 316/732-4584 TIME 4:10 ~~AM~~ PM

COMPANY

CC:

RECORDED BY [redacted]

PROJECT Martha C. Rose PROJ. NO.

SUBJECT Irrigation FILE NO.

Mrs. Thomason stated that they have 3 pivot irrigation systems drawing from a private lake on their property. They are located approximately 1/4 mile south of Holden on Highway 131, then west three house, south side of road. She only knew of one other person irrigating in the area - Thommy Long, located 5 miles east of Holden.

jdb

[redacted]

FOIA Exemption 4

RECEIVED
OCT 01 1986
CMPL SECTION

M E M O R A N D U M

September 11, 1986

PRELIMINARY SAMPLING/ANALYTICAL SURVEY

Rose Chemicals Co. Site
Holden, Missouri

by [redacted], DRU-TEK
(for Clean Sites, Inc.)

FOIA Exemption 4

INTRODUCTION

The initial phase of PCB cleanup at the Rose Chemicals Co. site in Holden, Missouri, requires activities such as mowing of grass/weeds, installation of a security fence around the perimeter of the property, consolidation of debris, etc. To provide information to assist in the determination of health and safety precautions necessary to carry out such work activities, a preliminary sampling/analytical program was needed. Also, concern existed as to the present level of PCB's in sediment along the creek bed below the site because of a previous spill from a truck tank parked near the main building. Additionally, there was concern over a level of several parts per million (ppm) PCB's reported in samples of sludge from the sludge tank at the city sewage plant.

This report discusses a preliminary sampling/analytical plan which was developed to quickly address the above issues.

Analysis of Perimeter Soil Samples

Composite surface samples were collected between selected marker points as shown on the attached plot plan (Attachment 1). These markers were 150' apart on the average. A composite sample consisted of 10 approximately equal portions taken over the 150' interval between markers. These perimeter samples consisted of samples 1 through 22 as described in the attached table (Attachment 2).

Prior to mowing weeds and grass throughout the site some spot surface grab samples also were taken as shown on the plot plan.

Creek Soil/Sediment Samples

Since any drainage from the site apparently would ultimately enter the small creek below the site and since one spill had been reported, it was felt wise to obtain some current values on the PCB levels of the soil/sediment along the creek. Samples were taken upstream, along the site, and downstream of the site. Samples were taken at the spot where a storm sewer drain entered the creek from the site. This was the spot where the EPA found the higher PCB levels after the reported spill.

Contamination of Sewage

In view of the earlier finding that several ppm PCB's were found in sludge at the city sewage plant, it was felt necessary to define the present level of PCB's in the sewage plant system. Because disposal of contaminated sludge represents a problem to the city, some urgency in defining any problems was indicated.

Samples were taken from the sanitary sewer system upstream, within, and downstream of the site. Samples of influent and effluent from the sewage plant were taken from the sludge tank as well as the dried sludge from the drying beds.

"Background" Levels Off-site

A number of surface grab samples were collected at various random offsite locations in public areas of Holden to serve as a measure of PCB background level in the Holden area. These samples are described in Attachment 2.

Subsurface Samples From the Stream

Additional samples were taken of soil/sediment from the creek bed to a depth of 2 feet. This was decided on the basis that one witness claimed to have seen oil oozing up from the subsurface when a shovel full of soil/sediment was removed from the creek bed.

Confirmation of PCB Levels Around the Perimeter Near the Buildings.

Early results from analysis of the perimeter samples indicated no PCB contamination in open areas to the north and west. However, levels up to 12 ppm were found east of the main building and south of the south warehouse. Although this could be contamination from PCB's in the buildings, a transformer on an utility pole east of the building could be the cause of a high level at that point. Spraying along the road (2nd St.) right-of-way south of the south warehouse could have increased PCB levels there. Consequently, it was decided to collect some surface grab samples (not composites) to better define the distribution over these areas. Some samples adjacent to the south warehouse were taken, also.

Repeat of Offsite Samples

Because of the detectable, albeit low, level of PCB's in the offsite sample taken at the Baptist Temple, it was decided to repeat the sampling. Another sample was taken at the original sampling spot, and an additional sample was taken near, but some distance removed from that spot.

Duplicate Samples

Three samples were split and submitted blind in a later group of samples in order to get some idea of repeatability.

EPA Split Samples

The EPA was provided with 13 splits of samples taken in this preliminary study. Results are expected to be available within the next several weeks. This will provide laboratory/laboratory reproducibility and help to establish approval and acceptance of Langston Laboratory as a reliable resource for PCB determinations.

Analytical Results

Results from these initial sampling/analytical efforts are listed in detail in Attachment 2. A summary of observations and conclusions derived from these is presented in a separate section attached to this memorandum.

September 16, 1986

Dr. Roger L. Van Zele
Manager, Project Controls
1199 North Fairfax Street
Alexandria, VA 22314

Dear Roger:

On September 8, I visited Langston Laboratories, Inc., 2005 W. 103rd Terrace (B), Leawood, KS 66206-2695, and oriented them as to the source and purpose of the samples submitted to them by O.H. Materials, the contractor engaged to carry out the first phase of the Rose Chemicals Company site cleanup. One of the main purposes of my visit was to evaluate the capability of Langston Laboratories to provide reliable analytical services, particularly for the determination of PCB's in a wide range of samples collected at the Rose Chemicals Co. site in Holden, Missouri.

Langston laboratories, Inc. were selected for the analysis of samples from the first phase of the Rose Chemicals Co. cleanup. In addition to being within one hour's drive of the site, they offered a 2-day turn-around on groups of 20 samples at a reasonable price of $44 for a PCB analysis.

For PCB determinations they have five gas chromatographs equipped with electron capture detectors (GC/ECD). These detectors provide the sensitivity toward PCB's which makes their mesurement at ppm and ppb levels possible. The Laboratories do not have a gas chromatograph equipped with a mass spectrometer (GC/MS) at this time, but they plan to get one in the near future. For our work in cleanup at the site, the GC/MS would probably not be required. It would be useful primarily in resolving whether the ECD response is really due to PCB's when the pattern of isomers shown in the chromatogram is not normal and suggestive of the presence of an interferring substance(s).

ROSE:executive/drushel.drutek

Langston Laboratories has been in the chemical, environmental, agricultural and microbiological testing business for the past 15 years. The assay of transformer oils, water, soil, air, and cardboard products for PCB's has been a significant part of their activities, particularly over the past 10 years. More generally, hazardous waste services offered by Langston include site investigations, spill contamination assessment, PCB testing, waste characterization, corrosivity, reactivity, ignitability, and toxicity determinations.

Langston Laboratories participate in several certification and quality control check sample programs. They are certified for drinking water and wastewater sampling and analysis in Kansas, Missouri and Nebraska. They are certified by the State of Kansas for hazardous waste analysis. The City of Holden used them to analyze samples of soils, sludge and water related to its sewage treatment plant. Results they obtained on three blind duplicates in the first set of samples from the site which we recently submitted were satisfactory. In addition, the EPA took splits on thirteen of the samples from this same set of samples which will be analyzed by them to provide additional crosschecks on the results provided by Langston laboratories. Results should be available within the next few weeks.

In summary, Langston Laboratories appear to have the technical competence, expertise and experience to provide the analytical services needed to monitor cleanup activities at the Rose Chemicals Company site at Holden, Missouri,

Sincerely yours,

FOIA Exemption 4

[redacted]

Analytical Consultant
DRU-TEK

HVD/sjr

ROSE:executive/drushel.drutek

September 23, 1986

SUMMARY

PRELIMINARY SAMPLING/ANALYTICAL SURVEY

AT ROSE CHEMICALS SITE

- This preliminary survey focused primarily on surface soils and the city sewer system. With two exceptions (described below) solids analyzed showed either no PCBs or only low concentrations, relative to the detection limits (LD) used.

- No PCBs (LD=0.2 parts per million [ppm]) were detected in surface soil samples taken along the perimeter at the NW, W, and SE sides of the site.

- No PCBs (LD=0.2 ppm) were found in 4 out of 6 surface grab samples taken across the center of the site. Two samples taken S of the main building showed only 0.5 and 1.0 ppm PCBs.

- With only one exception, low levels of PCBs from 1 to 12 ppm were found along the perimeter next to the main building along the E and NE sides and near the south warehouse along the S and SE sides of the site.

- Only one surface sample yielded results of greater than 12 ppm PCBs. Sample No. 83 taken at the SE corner of the south warehouse showed nearly 16,000 ppm PCBs.

- Low levels of PCBs were detected in samples of surface sediments in the creek. Less than 2 ppm PCBs were found in the surface sediment where a spill occurred earlier from the site. Less than 1 ppm PCBs were found in sediments downsteam of this point.

- Soil cores taken at the point where the spill exited the storm drain in May showed approximately 30 ppm PCBs at a depth of 0-6 inches, and 2 ppm at the 6-12 inches level. Cores taken both upstream and downstream of this point showed concentrations of 1-2 ppm PCBs at the same depths.

- No PCBs (LD=0.2ppm) were detected in sanitary sewer sediments taken above and below the site.

- Low levels of PCBs were found in dried sludge from the city sewer plant. Levels of less than 1 ppm on a wet weight basis and less than 2 ppm on a dry weight basis were detected.

- Water at the city sewage plant was tested for PCBs. Samples of influent, effluent and sludge tank water showed 22 ppb (parts per billion), 8 ppb and 14 ppb (two samples), respectively.

- Four of seven air samples taken around the perimeter of the site showed no PCBs (LD=0.025 ug/600 l.). Low levels were detected in the remaining three samples taken near locations which also tested positive on soil samples.

- Seven background samples were taken from five public areas around the City of Holden. No PCBs were detected in three of the five areas (LD=0.2 ppm). The other two areas tested showed 1.6 ppm and 5.6 ppm (mean of three samples).

CLEAN SITES INC

1199 NORTH FAIRFAX STREET / ALEXANDRIA VIRGINIA 22314 / 703-683-8522

September 23, 1986

Mr. Jene Robinson
Illinois Power Company
500 S. 27th Street
Decatur, IL 62525-1805

SUBJECT: Initial Sampling Results
Rose Chemicals Site

Dear Jene:

The initial sampling and analytical efforts at the Rose Chemicals site in Holden, Missouri, undertaken by CSI and its contractors during the past two weeks have been completed. During this work, O.H. Materials Co. (OHM), working with CSI's analytical consultant and the EPA's On-Scene Coordinator (OSC), took a total of 72 solid and 4 liquid samples from the Rose site and the city sewage treatment system. Additionally, eight air samples were taken at points on the site's perimeter. Subsequent to sample collecting, all samples were analyzed by Langston Laboratories of Kansas City, Missouri.

The sampling plan implemented by OHM was developed with CSI and was reviewed and agreed with the EPA OSC and EPA's Technical Assistance Team (TAT) representative prior to implementation. Splits of certain of the samples taken were provided to the OSC as directed by him.

The samples taken by OHM included (1) surface soil and sediment samples from the site, the creek, the sewer lines, the sludge drying beds at the sewer plant, and several offsite "background" locations; (2) core samples from the creek, (3) samples from the sludge tank at the sewer plant (largely liquid), (4) samples of the sewer plant influent and effluent, and eight air samples.

ROSE:executive/samplng.result

CHAIRMAN OF THE BOARD/Russell E. Train PRESIDENT/Charles W. Powers BOARD OF DIRECTORS/Peter A.A. Berle, Douglas M. Costle, Louis Fernandez, Sandra S. Gardebring, Edwin A. Gee, Jay D. Hair, Donald Kennedy, Joshua Lederberg, H. Eugene McBrayer, Charles W. Powers, William K. Reilly, Henry B. Schacht

The following materials related to these initial sampling and analytical efforts are enclosed:

- Summary of findings.
- Report by CSI's analytical consultant, Dr. H. V. Drushel, on the sampling design and analytical results.
- Report by Dr. Drushel on his review of Langston Laboratories.
- OH Materials Company (OHM) sampling/analytical report.
- Langston Laboratories analytical reports.

If you have any questions on these materials, please advise.

Very truly yours,

Roger L. Van Zele

Roger L. Van Zele
Acting Project Manager

RLVZ/sjr

cc: G.E. Johnson
PRP Technical Committee
G.E. Murray
J.J. Kohanek
N.W. Newkirk
R. Selman
S. Zabel

ROSE:executive/samplng.result

OHM
THE ENVIRONMENTAL SERVICES COMPANY

O.H. MATERIALS CO.
16406 U.S. Route 224 East
P.O. Box 551
Findlay, Ohio 45839-0551
Phone 419-423-3526
800-537-9540 (24 hr)
800-537-5660 (in Ohio)
Telex 296248 OHMI UR (RCA)

September 18, 1986

Roger L. Van Zele
Clean Sites, Inc.
1199 North Fairfax Street
Alexandria, VA 22314

Dear Sir:

Enclosed, please find the information you requested regarding the Rose Chemical site investigation. This includes:

1. Sampling procedures and site observations
2. Laboratory results obtained from Langston Laboratories
3. QA/QC results from Langston Laboratories
4. Site sketch with sampling points
5. General information regarding air monitoring instrumentation requested by Jim O'Brien

If you should have any question or need additional information, do not hesitate to contact me. This is an interum report only. Additional compatibility analyses on 95 drum samples are forthcoming.

Yours truly,

John F. Molina

John F. Molina, Ph.D.
Manager, Field Analytical Services

JFM:acb

Enclosure

pc: Stan Brand - OHM - St. Louis, MO
Steve Nelson - OHM - New Lennox, MO
Jim O'Brien - Clean Sites, Inc.

SAMPLING PROCEDURES AND SITE OBSERVATION

Twenty-two samples were taken to determine PCB levels along the perimeter of the site. The perimeter barbed-wire fence was marked off at 22 locations between 100 and 175 feet apart. Sample numbers 01 through 22 were taken as surface (0-2 inches deep) soil composites between these markers. Sample 01 was taken between markers number 1 and 2, sample 02 was taken between marker numbers 2 and 3, etc., through sample 22. These samples were taken with chrome-plated trowels which were decontaminated between samples and rinsed with hexane. The number and location of these samples was determined by the client.

In addition to the original 22 surface soil composite samples, ten more surface soil samples were taken at locations along the perimeter fence as designated by the client. These samples were also taken by trowel.

Ten samples, numbers 45 - 50, and 82 - 85 were taken on site away from the main building at locations designated by the client. These were to determine if levels of PCB contamination of soil increased closer to the main building.

Seven samples were taken to determine PCB levels in a creek adjacent to the southern perimeter of the site. Four of these samples were surface samples (0-2 inches deep). Sample number 23 was taken upstream from the site. Sample number 24 was taken at a point where a drain culvert fed into the creek from the site, and samples 25 and 26 were taken downstream of the site. These four samples were taken with tongue depressor blades which were disposed of after each sample.

Samples number 69 through 71 were taken to determine PCB levels at various depths at three sites in the same creek. These three locations were chosen by the client. Sample number 69 was taken in close proximity to sample number 24, where the drain culvert fed into the creek. Samples numbered 70 and 71 were taken at points 50 feet downstream and upstream of the drain pipe, respectively. Each of these three samples was taken with a split spoon in two increments, the first from surface to 6 inches deep and the second from 6 to 12 inches. The split spoon was decontaminated between increments and between samples by scrubbing with soap and water, and rinsing with clean water, acetone, and hexane.

Four samples were taken in four sewer manholes on and adjacent to the site property, to determine PCB levels in the sewers. These samples were taken as solid samples when available. One of the manhole samples, number 33, was taken by wipe method since no residual solid matter was found in this manhole. The wipe was done with Whatman GFA glass microfibre filter paper which had been saturated with hexane. The wipe covered a 100 cm^2 area.

Six surface soil samples were taken in various locations throughout the Holden, Missouri area to determine background PCB levels. These samples were also taken with a chrome plated trowel which was decontaminated and rinsed with hexane between samples. These samples were taken at the Miller Mausoleum, Holden Baptist Temple, City of Holden water tower and the Holden ball park.

Six samples were taken at the City of Holden's sewage treatment plant to determine PCB levels at various stages throughout the system. The influent and effluent samples, numbers 34 and 35 respectively, were each taken as grab samples. The samples of drying sludge, numbers 59 and 60, were taken with tongue depressor blades which were disposed of after each sample. The two samples from the sludge tank, numbers 27 and 28, were taken by using a bacon bomb. The bacon bomb is used to sample a tank at a specific depth. The sludge tank was sampled at one foot below the surface and at six feet below the surface. The bacon bomb was decontaminated after each sample by scrubbing with soapy water and rinsing with clean water, acetone, and hexane.

In addition to the soil and sludge samples, seven air samples, numbers 61 through 67, were taken along the perimeter fence at locations listed on the map. These air samples were taken on florisil tube at a rate of 10 liters/minute for one hour, for a total sample volume of 600 liters.

All sample locations were designated by the client, with the exception of background samples. These sample locations were chosen by the O.H. Materials Corp. (OHM) chemists. Samples were taken at public locations throughout the Holden area which could be easily identified later, as mentioned above.

In addition to these soil, air, and sludge samples taken around the site, ninety-five unidentified drums were sampled for compatibility categories. These drums were found in various locations within the main building and were staged in the eastern bay of the building prior to sampling.

These drums include containers of oils, solvent, caustics, acids, cleaning fluids, and other contents and range in size from one to fifty-five gallons.

Besides the drums which were sampled, one hundred-one drums which had contained sodium metal suspended in organic solvent were moved into the staging area. These drums may still contain a considerable amount of sodium metal present as a residue. They were stored on the opposite side of the bay from the acid containers. There is also one drum which is approximately eighty percent full of the sodium metal suspension. This drum was disconnected from a hose leading to the reactor tank and moved to the staging area.

There are also four containers of sodium metal which were located in the laboratory. These were moved into a locker at the edge of the staging area. This locker is well labeled with "Flammable Solid" placards and the words "Sodium Metal".

Another area of interest are the sixty tanks which are located in and around the main building and south warehouse. These tanks are of various sizes with the majority being over 5,000 gallons. These tanks were inventoried and the size recorded, but they were never sampled.

OHM
THE ENVIRONMENTAL SERVICES COMPANY

Langston Laboratories, Inc.

Leawood, KS

LABORATORY REPORT

O.H. MATERIALS CO
16406 U.S. Route 224 East
P.O. Box 551
Findlay Ohio 45839-0551
Phone 419-423-3526
800-537-9540 (24 hr)
800-537-5663 (in Ohio)
Telex 296248 OHMI UR (RCA

CLIENT: Clean Sites, Inc.
1199 N. Fairfax Street
Alexandria, VA 22314
ATTN: Roger Van Zele

RECEIVED: September 3, 1986 (7:00 pm)
COMPLETED: September 10, 1986

LLI NO.: 86-0231
PROJECT NO.: 4092

SAMPLE DESCRIPTION: Composite Soil Samples Collected September 3, 1986 by O. H. Materials Corporation

SAMPLE IDENTIFICATION	ANALYSIS	RESULTS
1	Polychlorinated Biphenyls	
	Aroclor 1242	6.1 mg/kg
	Aroclor 1260	5.6 mg/kg
2	Polychlorinated Biphenyls	
	Aroclor 1242	1.7 mg/kg
	Aroclor 1260	3.9 mg/kg
3	Polychlorinated Biphenyls	
	Aroclor 1242	1.1 mg/kg
		1.0 mg/kg
	Aroclor 1260	1.1 mg/kg
		1.1 mg/kg
4	Polychlorinated Biphenyls	< 0.2 mg/kg
5	Polychlorinated Biphenyls	< 0.2 mg/kg
6	Polychlorinated Biphenyls	
	Aroclor 1242	0.4 mg/kg
	Aroclor 1260	0.9 mg/kg

NOTE: All soil results are reported on a dry weight basis.

cc: O. H. Materials
John Molina - Findley, OH
Stan Brand - St. Peters, MO
Steve Nelson - New Lenox, IL

APPROVED: Alan Kerschen
Alan Kerschen
Vice President

SAMPLE DESCRIPTION: Composite Soil Samples Collected September 3, 1986 by O. H. Materials Corporation

SAMPLE IDENTIFICATION	ANALYSIS	RESULTS
7	Polychlorinated Biphenyls	
	Aroclor 1242	3.5 mg/kg
	Aroclor 1260	5.6 mg/kg
8	Polychlorinated Biphenyls	
	Aroclor 1242	6.5 mg/kg
	Aroclor 1260	5.7 mg/kg
9	Polychlorinated Biphenyls	
	Aroclor 1260	0.2 mg/kg
10	Polychlorinated Biphenyls	
	Aroclor 1242	4.0 mg/kg
		3.9 mg/kg
	Aroclor 1260	2.7 mg/kg
		2.8 mg/kg
11	Polychlorinated Biphenyls	< 0.2 mg/kg
12	Polychlorinated Biphenyls	< 0.2 mg/kg
13	Polychlorinated Biphenyls	
	Aroclor 1260	0.4 mg/kg
14	Polychlorinated Biphenyls	< 0.2 mg/kg
15	Polychlorinated Biphenyls	< 0.2 mg/kg
16	Polychlorinated Biphenyls	< 0.2 mg/kg
17	Polychlorinated Biphenyls	< 0.2 mg/kg
18	Polychlorinated Biphenyls	< 0.2 mg/kg
19	Polychlorinated Biphenyls	< 0.2 mg/kg
20	Polychlorinated Biphenyls	< 0.2 mg/kg
21	Polychlorinated Biphenyls	
	Aroclor 1242	0.7 mg/kg
		0.7 mg/kg
	Aroclor 1260	3.1 mg/kg
		3.1 mg/kg
22	Polychlorinated Biphenyls	
	Aroclor 1242	0.4 mg/kg
	Aroclor 1260	0.9 mg/kg

OHM
THE ENVIRONMENTAL SERVICES COMPANY

Langston Laboratories, Inc.

Leawood, KS

LABORATORY REPORT

O.H. MATERIALS CO.
1640 U.S. Route 224 East
P.O. Box 551
Findlay, Ohio 45839-0551
Phone 419-423-3525
800-537-9540 (24 hr)
800-537-9560 (in Ohio)
Telex 298245 OHM UR (RCA)

CLIENT: Clean Sites, Inc.
1199 N. Fairfax Street
Alexandria, VA 22314
ATTN: Roger Van Zele

RECEIVED: September 5, 1986 (10:20 am)
COMPLETED: September 9, 1986

LLI NO.: 86-0245
PROJECT NO.: 4092

SAMPLE DESCRIPTION: Soil, Water, Sludge, and Wipe Samples Collected September 4, 1986 by O. H. Materials Corporation

SAMPLE IDENTIFICATION	ANALYSIS	RESULTS
23 (Soil)	Polychlorinated Biphenyls	< 0.2 mg/kg
24 (Soil)	Polychlorinated Biphenyls	
	Aroclor 1242	0.8 mg/kg
	Aroclor 1260	0.9 mg/kg
25 (Soil)	Polychlorinated Biphenyls	
	Aroclor 1242	0.2 mg/kg
	Aroclor 1260	0.4 mg/kg
26 (Soil)	Polychlorinated Biphenyls	
	Aroclor 1242	0.5 mg/kg
		0.4 mg/kg
	Aroclor 1260	0.6 mg/kg
		0.6 mg/kg
27 (Water)	Polychlorinated Biphenyls	
	Aroclor 1242	14.5 µg/liter
28 (Water)	Polychlorinated Biphenyls	
	Aroclor 1242	14.0 µg/liter

NOTE: All soil results are reported on a dry weight basis. Water and sludge results are reported on an as-received basis.

cc: O. H. Materials
John Molina - Findley, OH
Stan Brand - St. Peters, MO
Steve Nelson - New Lenox, IL

APPROVED: Alan Kerschen
Alan Kerschen
Vice President

SAMPLE DESCRIPTION: Soil, Water, Sludge, and Wipe Samples Collected September 4, 1986 by O. H. Materials Corporation

SAMPLE IDENTIFICATION	ANALYSIS	RESULTS
30 (Sludge)	Polychlorinated Biphenyls	< 0.2 mg/kg
31 (Sludge)	Polychlorinated Biphenyls	< 0.2 mg/kg
32 (Sludge)	Polychlorinated Biphenyls	< 0.2 mg/kg
33 (Wipe)	Polychlorinated Biphenyls	0.005 $\mu g/cm^2$
34 (Water)	Polychlorinated Biphenyls Aroclor 1242	8.0 µg/liter
35 (Water)	Polychlorinated Biphenyls Aroclor 1242	21.5 µg/liter
45 (Soil)	Polychlorinated Biphenyls Aroclor 1260	0.4 mg/kg
46 (Soil)	Polychlorinated Biphenyls Aroclor 1242 Aroclor 1260	 0.6 mg/kg 1.7 mg/kg
47 (Soil)	Polychlorinated Biphenyls	< 0.2 mg/kg
48 (Soil)	Polychlorinated Biphenyls	< 0.2 mg/kg
49 (Soil)	Polychlorinated Biphenyls	< 0.2 mg/kg
50 (Soil)	Polychlorinated Biphenyls	< 0.2 mg/kg
55 (Soil)	Polychlorinated Biphenyls	< 0.2 mg/kg
56 (Soil)	Polychlorinated Biphenyls Aroclor 1242	5.9 mg/kg
57 (Soil)	Polychlorinated Biphenyls	< 0.2 mg/kg
58 (Soil)	Polychlorinated Biphenyls	< 0.2 mg/kg
59 (Sludge)	Polychlorinated Biphenyls Aroclor 1242	0.6 mg/kg
60 (Sludge)	Polychlorinated Biphenyls Aroclor 1242	0.4 mg/kg

Comments: The chromatographs for the water samples 27, 28, 34, and 35 did not exhibit the same peak ratio as those of the standards. These samples did appear to be positive for Aroclor 1242, and the values given indicate the maximum contamination levels.

SAMPLE DESCRIPTION: Composite Soil Samples Collected September 3, 1986 by O. H. Materials Corporation

SAMPLE IDENTIFICATION	ANALYSIS	RESULTS
51	Polychlorinated Biphenyls	
	Aroclor 1242	3.6 mg/kg
	Aroclor 1260	7.5 mg/kg
52	Polychlorinated Biphenyls	< 0.2 mg/kg
53	Polychlorinated Biphenyls	< 0.2 mg/kg
54	Polychlorinated Biphenyls	
	Aroclor 1260	1.6 mg/kg

OHM
THE ENVIRONMENTAL SERVICES COMPANY

Langston Laboratories, Inc.

Leawood, KS

O.H. MATERIALS CO.
16436 U.S. Route 224 East
P.O. Box 551
Findlay, Ohio 45839-0551
Phone 419-423-3526
800-537-9540 (24 hr)
800-537-5660 (in Ohio)
Telex 298245 OHMI UR (RCA)

LABORATORY REPORT

CLIENT: Clean Sites, Inc.
1199 N. Fairfax Street
Alexandria, VA 22314
ATTN: Roger Van Zele

RECEIVED: September 8, 1986 (9:15 am)
COMPLETED: September 11, 1986

LLI NO.: 86-0255
PROJECT NO.: 4092

SAMPLE DESCRIPTION: Air Samples Collected September 6 and 8, 1986 by O. H. Materials Corporation

SAMPLE IDENTIFICATION	ANALYSIS	RESULTS
61	Polychlorinated Biphenyls	
	Aroclor 1242	0.19 µg
62	Polychlorinated Biphenyls	< 0.025 µg
63	Polychlorinated Biphenyls	< 0.025 µg
64	Polychlorinated Biphenyls	< 0.025 µg
65	Polychlorinated Biphenyls	< 0.025 µg
66	Polychlorinated Biphenyls	
	Aroclor 1242	0.38 µg
	Aroclor 1260	0.68 µg
67	Polychlorinated Biphenyls	
	Aroclor 1242	1.44 µg
	Aroclor 1260	7.9 µg
68	Polychlorinated Biphenyls	< 0.025 µg

cc: O. H. Materials
John Molina - Findley, OH
Stan Brand - St. Peters, MO
Steve Nelson - New Lenox, IL

APPROVED: Alan Kerschen
Alan Kerschen
Vice President

OHM
THE ENVIRONMENTAL SERVICES COMPANY

O.H. MATERIALS CO.
16406 U.S. Route 224 East
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Findlay, Ohio 45839-0551
Phone 419-423-3526
800-537-9540 (24 hr.)
800-537-5660 (in Ohio)
Telex 298246 OHMI UR (RCA)

Langston Laboratories, Inc.

Leawood, KS

LABORATORY REPORT

CLIENT: Clean Sites, Inc.
1199 N. Fairfax Street
Alexandria, VA 22314
ATTN: Roger Van Zele

RECEIVED: September 10, 1986 (8:00 am)
COMPLETED: September 15, 1986

LLI NO.: 86-0280
PROJECT NO.: 4092

SAMPLE DESCRIPTION: Soil Samples Collected September 9, 1986 by O. H. Materials Corporation

SAMPLE IDENTIFICATION	ANALYSIS	RESULTS
#69 (0-1')	Polychlorinated Biphenyls	
	Aroclor 1242	9.6 mg/kg *
	Aroclor 1260	17.9 mg/kg
#69 (1'-2')	Polychlorinated Biphenyls	
	Aroclor 1260	2.1 mg/kg
#70 (0-1')	Polychlorinated Biphenyls	
	Aroclor 1260	1.0 mg/kg
#70 (1'-2')	Polychlorinated Biphenyls	
	Aroclor 1242	0.3 mg/kg *
	Aroclor 1260	1.4 mg/kg
#71 (0-1')	Polychlorinated Biphenyls	
	Aroclor 1260	1.3 mg/kg *

* Degraded Aroclor 1242

NOTE: All soil results are reported on a dry weight basis.

cc: O. H. Materials
John Molina - Findley, OH
Stan Brand - St. Peters, MO
Steve Nelson - New Lenox, IL

APPROVED: Alan Kerschen
Alan Kerschen
Vice President

SAMPLE DESCRIPTION: Soil Samples Collected September 9, 1986 by O. H. Materials Corporation

SAMPLE IDENTIFICATION	ANALYSIS	RESULTS
#71 (1'-2')	Polychlorinated Biphenyls	
	Aroclor 1260	1.4 mg/kg *
#72	Polychlorinated Biphenyls	
	Aroclor 1242	0.7 mg/kg *
	Aroclor 1260	1.9 mg/kg
#73	Polychlorinated Biphenyls	
	Aroclor 1260	1.6 mg/kg
#74	Polychlorinated Biphenyls	
	Aroclor 1242	0.5 mg/kg *
		0.3 mg/kg *
	Aroclor 1260	1.7 mg/kg
		1.7 mg/kg
#75 **	Polychlorinated Biphenyls	
	Aroclor 1242	0.5 mg/kg
	Aroclor 1260	1.9 mg/kg
#76	Polychlorinated Biphenyls	
	Aroclor 1242	0.5 mg/kg *
	Aroclor 1260	2.2 mg/kg
#77	Polychlorinated Biphenyls	
	Aroclor 1242	2.6 mg/kg *
	Aroclor 1260	7.5 mg/kg
#78	Polychlorinated Biphenyls	
	Aroclor 1242	1.5 mg/kg *
		1.4 mg/kg *
	Aroclor 1260	8.0 mg/kg
		8.3 mg/kg
#79	Polychlorinated Biphenyls	
	Aroclor 1242	0.5 mg/kg *
	Aroclor 1260	1.8 mg/kg
#80	Polychlorinated Biphenyls	
	Aroclor 1242	3.8 mg/kg *
	Aroclor 1260	3.7 mg/kg
#81	Polychlorinated Biphenyls	
	Aroclor 1242	0.6 mg/kg *
		0.6 mg/kg *
	Aroclor 1260	1.9 mg/kg
		1.9 mg/kg

* Degraded Aroclor 1242
** #75 not listed on chain-of-custody record.

OHM

SAMPLE DESCRIPTION: Soil Samples Collected September 9, 1986 by O. H. Materials Corporation

SAMPLE IDENTIFICATION	ANALYSIS	RESULTS
#82	Polychlorinated Biphenyls	
	Aroclor 1242	0.6 mg/kg *
		0.2 mg/kg *
	Aroclor 1260	1.9 mg/kg
		1.9 mg/kg
#83	Polychlorinated Biphenyls	
	Aroclor 1242	158 mg/kg *
	Aroclor 1260	15,700 mg/kg
#84	Polychlorinated Biphenyls	
	Aroclor 1242	5.5 mg/kg *
	Aroclor 1260	5.3 mg/kg
#85	Polychlorinated Biphenyls	
	Aroclor 1242	0.3 mg/kg *
#86	Polychlorinated Biphenyls	
	Aroclor 1242	3.2 mg/kg *
	Aroclor 1260	6.0 mg/kg
#87	Polychlorinated Biphenyls	
	Aroclor 1242	0.2 mg/kg *
	Aroclor 1260	1.5 mg/kg

* Degraded Aroclor 1242

OHM
THE ENVIRONMENTAL SERVICES COMPANY

O.H. MATERIALS CO
16406 U.S. Route 224 East
P.O. Box 551
Findlay, Ohio 45839-0551
Phone 419-423-3526
800-537-9540 (24 hr)
800-537-5660 in Ohio
Telex 296248 OHM UR (RCA)

Langston Laboratories, Inc.

Leawood, KS

SPIKE RECOVERY DATA

LANGSTON LABORATORIES, INC.

SEPTEMBER 16, 1986

		AROCLOR 1242		AROCLOR 1260	
SAMPLE ID	SAMPLE RESULT	SPIKE SOLUTION AMOUNT	RECOVERY	SPIKE SOLUTION AMOUNT	RECOVERY
#74	0.50 mg/kg (1242)	375 µg/liter	98%	375 µg/liter	100%
		375 µg/liter	97%	375 µg/liter	105%
	1.70 mg/kg (1260)	125 µg/liter	106%	125 µg/liter	93%
#75	0.46 mg/kg (1242)	250 µg/liter	92%	250 µg/liter	98%
	2.2 mg/kg (1260)				
#79	0.54 mg/kg (1242)	250 µg/liter	86%	250 µg/liter	116%
	1.8 mg/kg (1260)				
#82	0.62 mg/kg (1242)	188 µg/liter	104%		
	1.9 mg/kg (1260)				

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800-537-9540 (24 hr)
800-537-5662 (in Ohio)
Telex 298248 OHMI UR (RCA)

LANGSTON LABORATORY

LEAWOOD, KANSAS CITY

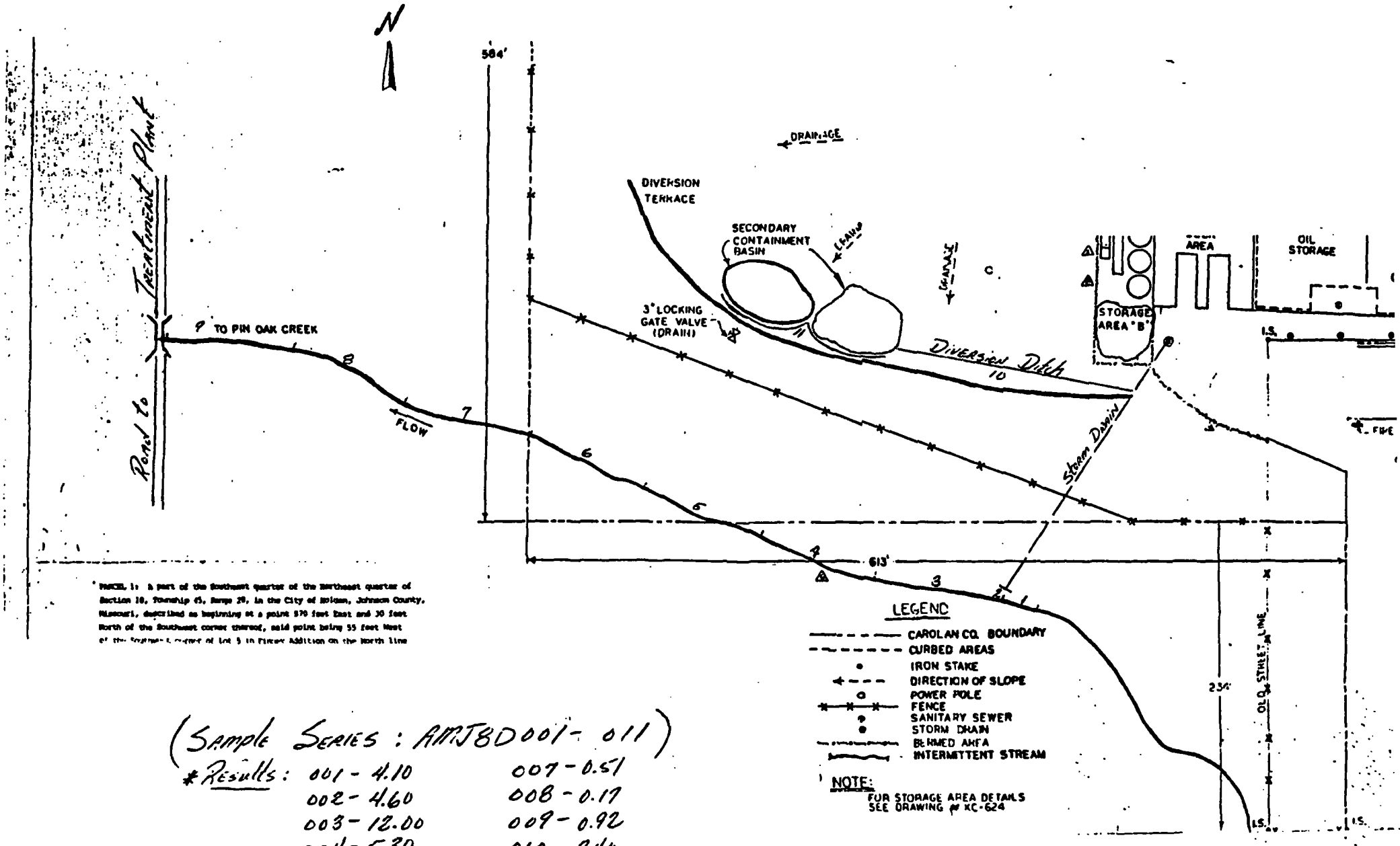
VERBAL REPORT

Moisture Contents:

Sample No.	% Moisture	Wet Basis, mg/kg	Dry Basis mg/kg
30	89.66	<0.2	<2.0
31	5.61	<0.2	<.21
32	37.79	<0.2	<.32
59	60.51	0.6	1.52
60	76.21	0.4	1.68

SAMPLING MAP

(Samples taken June 16, 1986)



PARCEL 1: A part of the Southwest quarter of the Northeast quarter of Section 18, Township 45, Range 28, in the City of Holden, Johnson County, Missouri, described as beginning at a point 570 feet East and 30 feet North of the Southwest corner thereof, said point being 55 feet West of the Southwest corner of Lot 5 in Finney Addition on the North line

(Sample Series : AMJ8D001 - 011)

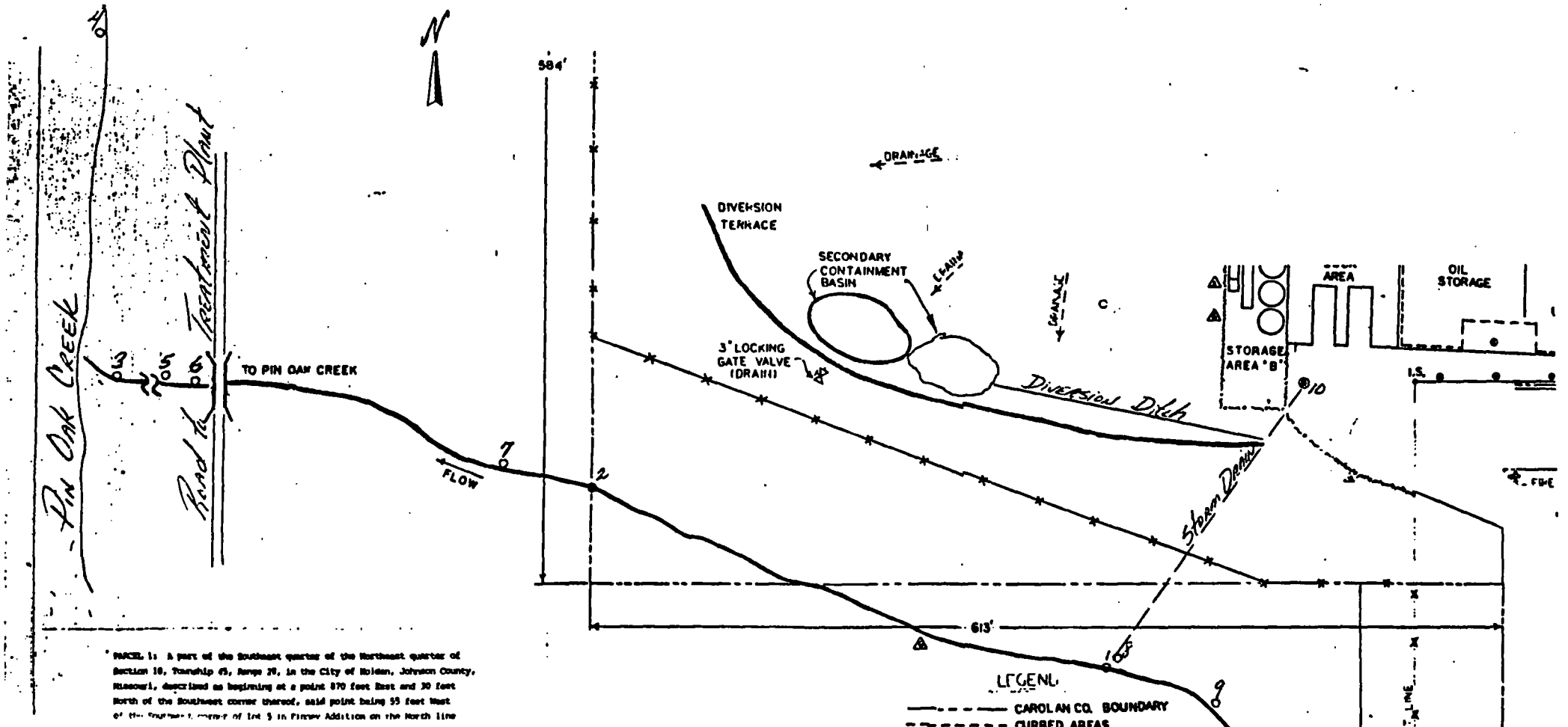
*Results:

001 - 4.10	007 - 0.51
002 - 4.60	008 - 0.17
003 - 12.00	009 - 0.92
004 - 5.30	010 - 3.40
005 - 3.75	011 - 1.40
006 - 0.46	

* Total PCB Concentration in ppm

Sampling Map

(Samples taken May 19, 1986)



PARCEL 1: A part of the Southeast quarter of the Northeast quarter of Section 10, Township 45, Range 29, in the City of Holden, Johnson County, Missouri, described as beginning at a point 870 feet East and 30 feet North of the Southeast corner thereof, said point being 55 feet West of the Southwest corner of Lot 5 in Finney Addition on the North line

LEGEND

- CAROLAN CO. BOUNDARY
- CURBED AREAS
- IRON STAKE
- DIRECTION OF SLOPE
- POWER POLE
- FENCE
- SANITARY SEWER
- STORM DRAIN
- BERMED AREA
- INTERMITTENT STREAM

NOTE:
FOR STORAGE AREA DETAILS SEE DRAWING # KC-624

(Sample Series: BKJ8D001-010)

*Results:

001 - 69.0	006 - Und.
002 - 59.0	007 - 2.12
003 - Und.	008 - 10.4
004 - Und.	009 - Und.
005 - 2.13	010 - 183.0

* Total PCB concentration in ppm

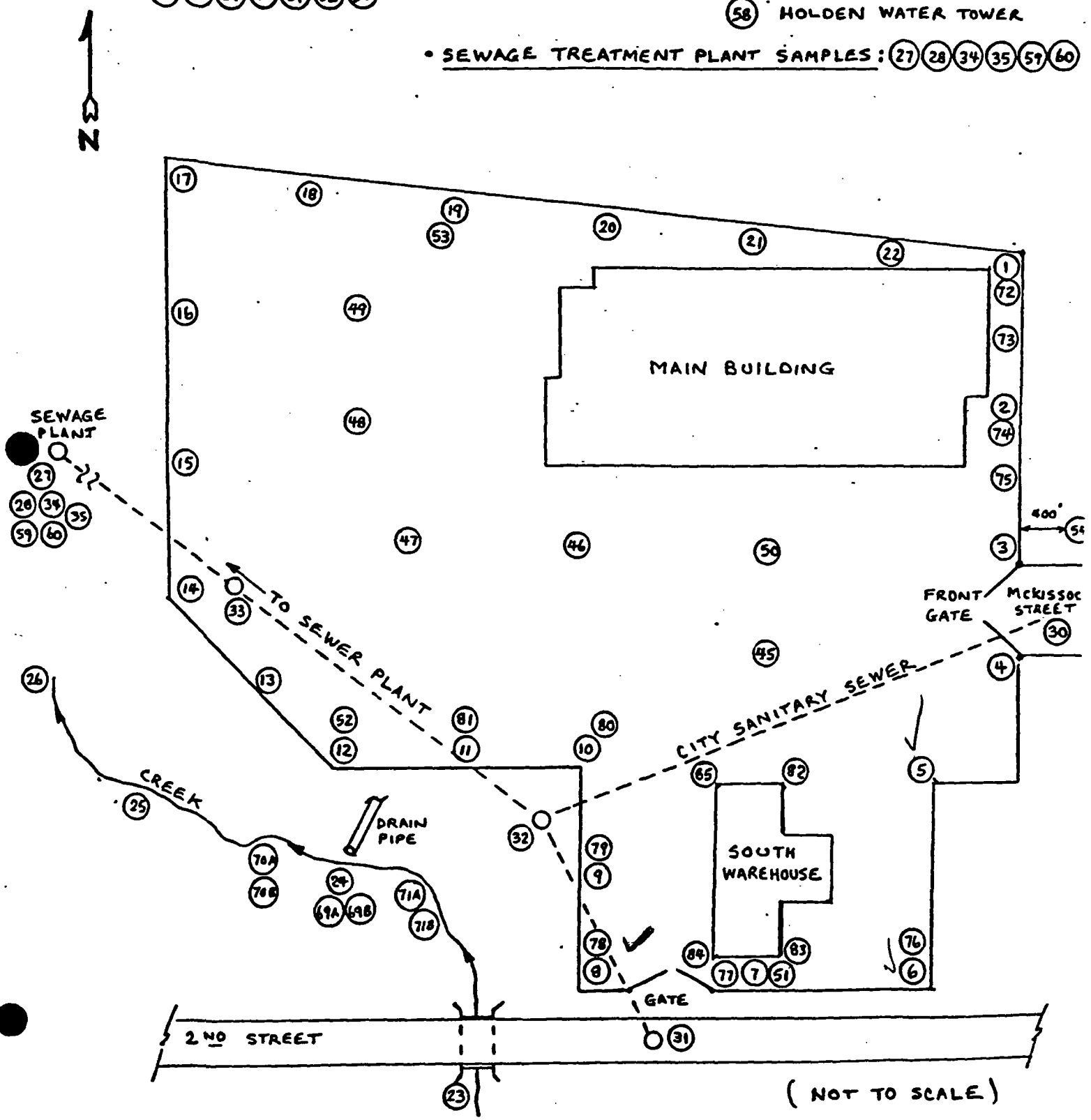
ATTACHMENT 1

LOCATION OF SAMPLES ROSE CHEMICAL CO. SITE

- EPA SPLIT LIST
  2 8 10 17 23 24 27 28 29 30 31 32 50

- BACKGROUND SAMPLES:
  54 400' E. OF FRONT GATE
  55 MILLER MAUSOLEUM
  56 86 87 HOLDEN BAPTIST TEMPLE
  57 HOLDEN BALL PARK
  58 HOLDEN WATER TOWER

- SEWAGE TREATMENT PLANT SAMPLES: 27 28 34 35 59 60

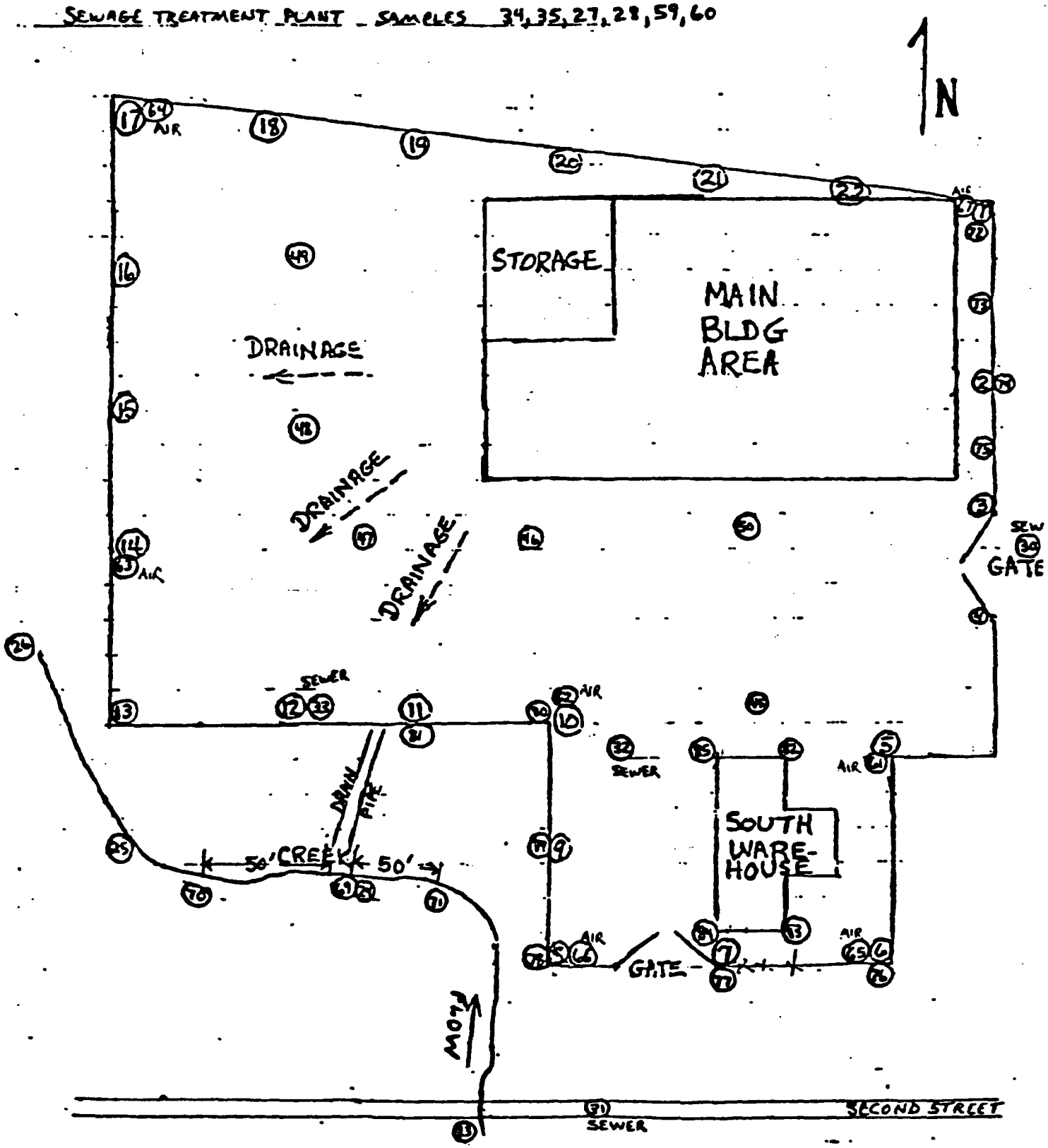


PLOT PLAN OF ROSE CHEMICAL CO. SITE

(Not drawn to scale)

BACKGROUND SAMPLES 55 MILLER MAUSOLEUM
56,86,87 HOLDEN BAPTIST TEMPLE
57 HOLDEN BALL PARK
58 HOLDEN WATER TOWER

SEWAGE TREATMENT PLANT SAMPLES 34,35,27,28,59,60



OHM
THE ENVIRONMENTAL SERVICES COMPANY

O.H. MATERIALS CO.
16406 U.S. Route 224 East
P.O. Box 551
Findlay, Ohio 45839-0551
Phone 419-423-3526
800-537-9540 (24 hr)
800-537-5660 (in Ohio)
Telex 299248 OHMI UR (RCA)

October 20, 1986

Mr. Roger Van Zele
Manager, Project Control
Clean Sites Inc.
1199 N. Fairfax Street
Alexandra, VA 22314

Dear Mr. Van Zele:

RE: Analytical Results from the Rose Chemical Site, Holden, Missouri

Enclosed is the information that you requested regarding the air monitoring and initial drum sampling results.

The air samples were taken on florisil tubes at a rate of 1.0 liters/minute for 60 to 90 minutes, for a total sample volume of 60 to 90 liters. The collection tubes were pointed into the wind and were positioned 4-feet above the ground. The wind was out of the Southwest and the day was breezy. Results have been converted to micrograms per cubic meter of air (Attachment 1).

Drum samples were tested for compatibility. This series of testing is qualitative only and additional testing is required for positive results for a given parameter. It is recommended that all positive cyanide results be retested for total and amenable cyanide under USEPA SW-846 Method 9010 and positive sulfide results by Method 9030 for quantitative results. Positive cyanide and sulfide results that need additional confirmation are highlighted on the original laboratory report (Attachment 2).

If you have any further questions or need additional assistance from me or our staff please feel free to call.

Sincerely,

Mike A. Edelbrock
Senior Project Chemist

ME:smb

(ATTACHMENT 1)

TABLE 1 - POLYCHLORINATED BIPHENYLS IN AIR SAMPLES

(All concentrations are reported in ug/m^3)

Sample Number	Concentration (ug/m^3)
4092-61	1.97 (Aroclor 1242)
4092-62	BDL
4092-63	BDL
4092-64	BDL
4092-65	BDL
4092-66	6.14 (Aroclor 1242) 11.0 (Aroclor 1260)
4092-67	20.2 (Aroclor 1242) 111 (Aroclor 1260)
4092-68	BDL

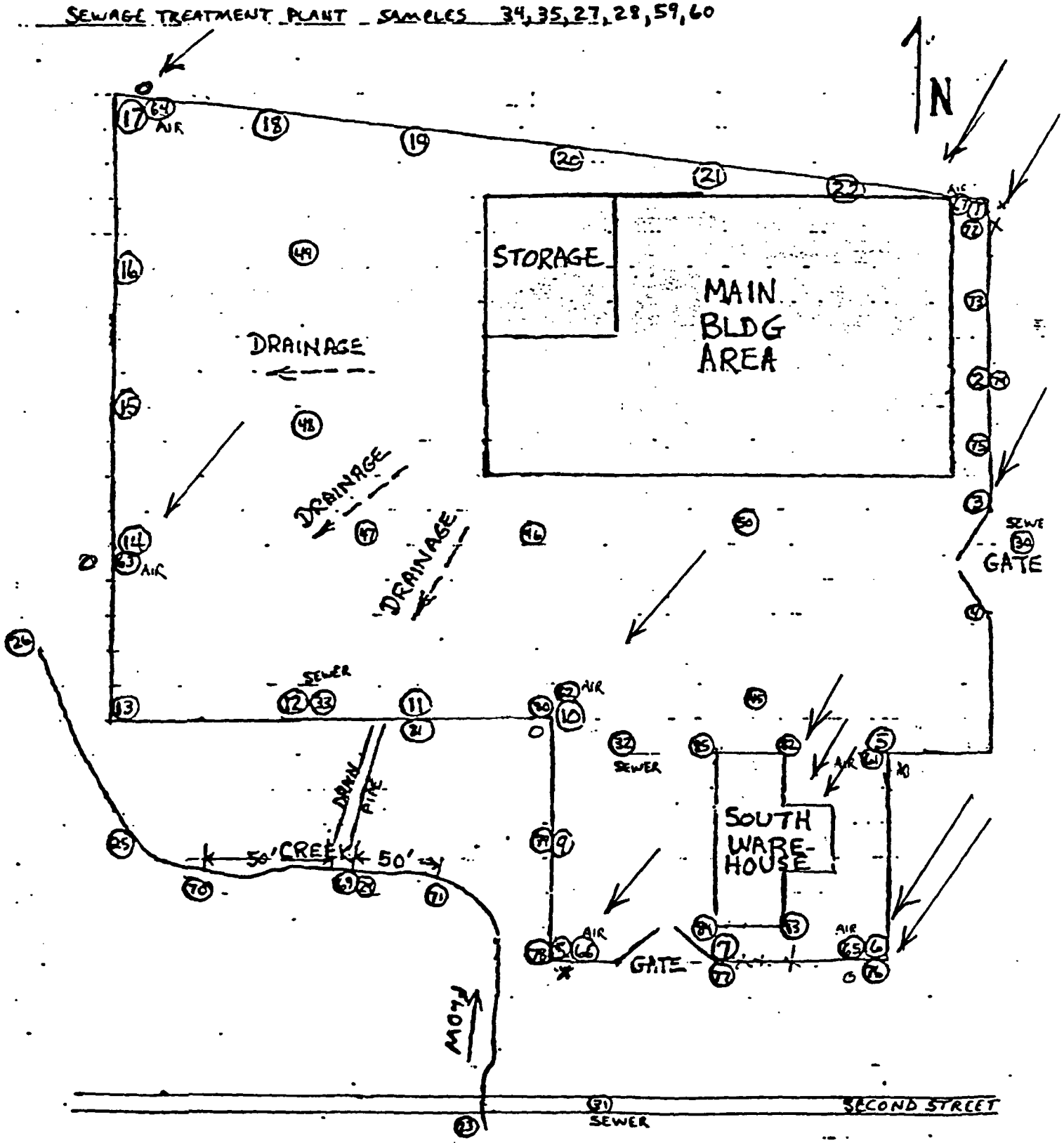
Limit of Detection = 0.25 ug/m^3
BDL = Below Detection Limit

PLOT PLAN OF ROSE CHEMICAL CO. SITE

(Not drawn to scale)

BACKGROUND SAMPLES 55 MILLER MAUSOLEUM
56,86,87 HOLDEN BAPTIST TEMPLE
57 HOLDEN BALL PARK
58 HOLDEN WATER TOWER

SEWAGE TREATMENT PLANT SAMPLES 34,35,27,28,59,60



Reference 18

CLEAN SITES INC

1199 NORTH FAIRFAX STREET / ALEXANDRIA VIRGINIA 22314 / 703-683-8522

October 22, 1986

Mr. Jene L. Robinson
Illinois Power Company
500 S. 27th Street
Decatur, IL 62525

FILE NO: 5.02.03/25.01
5.02.03/1.04.02

Dear Jene:

I recently have been advised by O. H. Materials Company (OHM) that their earlier report on the sampling results at the Rose Chemicals Site contained an error. Specifically, the results of their air sampling efforts were reported incorrectly in their report dated September 18, 1986. This report was attached to the CSI report on initial sampling results directed to you with our letter of September 23, 1986.

In this report (page 2), a total sample volume of 600 liters for each sample was indicated. The sample results have now been corrected to reflect the fact that the actual sample volumes ranged from 60 to 90 liters.

The revised air sampling results from OHM are attached. Since five of the eight samples involved showed levels below detection limits, OHM's original results remain unchanged after the volume correction (i.e. still non-detectable). However, the three samples showing positive results reflect higher concentrations than reported earlier by OHM.

Very truly yours,

Roger L. Van Zele
Acting Project Manager

RLVZ/sjr

Attachment

RECEIVED
OCT 27 1986
EPA-CNSL

CHAIRMAN OF THE BOARD/Russell E. Train PRESIDENT/Charles W. Powers BOARD OF DIRECTORS/Peter A.A. Berle, Douglas M. Costle, Louis Fernandez, Sandra S. Gardebring, Edwin A. Gee, Jay D. Hair, Donald Kennedy, Joshua Lederberg, H. Eugene McBrayer, Charles W. Powers, William K. Reilly, Henry B. Schacht

cc: G. Johnson
PRP Technical Subcommittee
R. Selman
S. Zabel

C. Kline
J. Kohanek
W. Laughlin
G. Murray
N. Newkirk
G Stohrer

G. Hess, EPA-Region VII
S. Pemberton, EPA-Region VII

J. Trimble, (City of Holden, MO)
J. McConathy, (MO. DNR)

H. Drushel, DRU-TEK

ROSE:executive/samplg_results

CLEAN SITES INC

1199 NORTH FAIRFAX STREET / ALEXANDRIA VIRGINIA 22314 / 703-683-8522

RECEIVED

DEC 8 1986

BLACK & VEATCH

November 24, 1986

RECEIVED

NOV 28 1986

CMPL SECTION

J. Scott Pemberton, Esq.
Assistant Regional Counsel
USEPA, Region VII
726 Minnesota Ave.
Kansas City, KS 66101

Subject: Air Sampling Field Notes
Rose Chemical Site

Dear Mr. Pemberton:

Attached is a copy of the O. H. Materials Company field notes for the air samples collected at the Rose Chemical site. These samples were taken September 6 and 9.

If you have any questions or need further information, please call me or Phil Laughlin (703) 683-8522.

Very truly yours,

FOIA Exemption 4

[redacted]

CSI Project Manager

WPL:bcd

cc: L. Burris
G. E. Johnson
S. Kinser
J. J. Kohanek
G. E. Murray
N. W. Newkirk
J. Robinson
R. Selman
S. Zabel

File: 5.02.03/25.01

CHAIRMAN OF THE BOARD/Russell E. Train PRESIDENT/Charles W. Powers BOARD OF DIRECTORS/Peter A.A. Berle, Douglas M. Costle, Louis Fernandez, Sandra S. Gardebring, Edwin A. Gee, Jay D. Hair, Donald Kennedy, Joshua Lederberg, H. Eugene McBrayer, Charles W. Powers, William K. Reilly, Henry B. Schacht

OHM
THE ENVIRONMENTAL SERVICES COMPANY

O.H. MATERIALS CO.
16406 U.S. Route 224 East
P.O. Box 551
Findlay, Ohio 45839-0551
Phone: 419-423-3526
800-537-9540 (24 hr)
800-537-5660 (in Ohio)
Telex: 298248 OHMI UR (RCA)

November 20, 1986

Mr. Phil Laughlin
Clean Sites Inc.
1199 N. Fairfax St.
Alexandria, VA 22314

Dear Mr. Laughlin:

RE: Air Samples Collected at the Rose Chemical Site, Holden, Missouri

Enclosed are the field notes for the air samples collected at the Rose Chemical site. I apologize for not submitting this information sooner and I hope it is sufficient.

If you have any further questions, do not hesitate to contact myself or Stan Brand.

Sincerely,

Michael A. Edelbrock
Senior Project Chemist

MAE:jkb

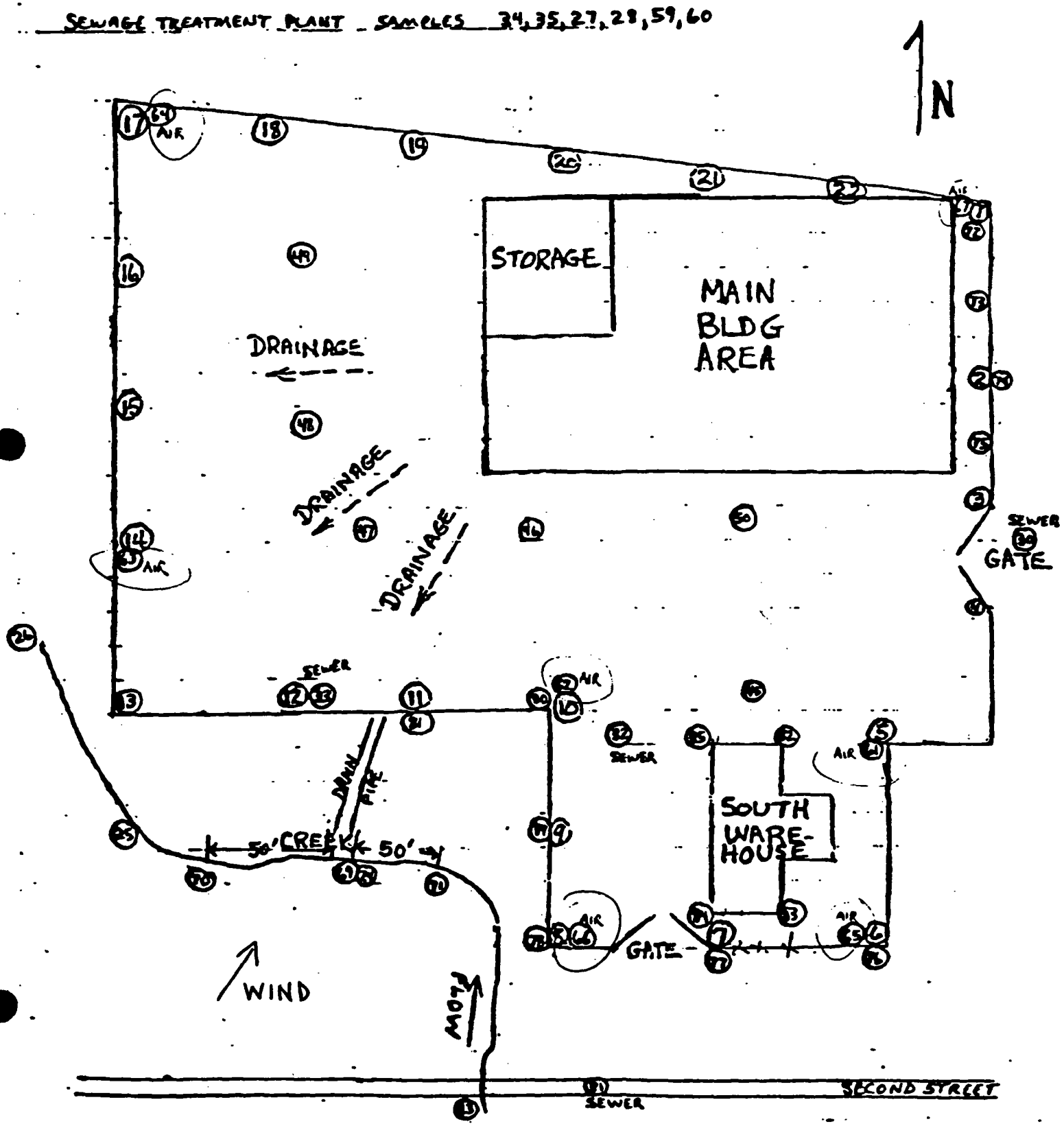
Enclosure

PLOT PLAN OF ROSE CHEMICAL CO. SITE

(Not drawn to scale)

BACKGROUND SAMPLES 55 MILLER MAUSOLEUM
56,86,87 HOLDEN BAPTIST TEMPLE
57 HOLDEN BALL PARK
58 HOLDEN WATER TOWER

SEWAGE TREATMENT PLANT SAMPLES 34,35,27,28,59,60



4092 Holden, Mo.

AIR RESULTS IN TOTAL ug
SOIL RESULTS IN ug/g

So. No.	SAMPLE NUMBER	DESCRIPTION	LENGTH OF ~~COMPOSITE~~ COMPOSITE	TIME	DATE	SAMPLERS	ANALYSIS	RESULTS 1242/1260	COMMENTS	
4	4092-61	AIR	~1½HR	1328	9-6-86	AMV/JC	PCB	0.192/BMDL ug	TAKEN AT MARKER #5	ΔT = 95 min
	62	AIR	~1½HR	1330	9-6-86	AMV/JC	PCB	BMDL(<0.025) ug	TAKEN AT MARKER #10	ΔT = 94 min
	63	AIR	~1½HR	1335	9-6-86	AMV/JC	PCB	BMDL(<0.025) ug	TAKEN AT MARKER #14	ΔT = 89 min
	64	AIR	~1½HR	1337	9-6-86	AMV/JC	PCB	<0.025 ug	TAKEN AT MARKER #17	ΔT = 92 min
	65	AIR	~1 HR	1530	9-6-86	AMV/JC	PCB	<0.025 ug	TAKEN AT MARKER #6	ΔT = 60 min
	66	AIR	~1 HR	1540	9-6-86	AMV/JC	PCB	0.384/0.680 ug	TAKEN AT MARKER #8	ΔT = 60 min
	67	AIR	~1 HR	1550	9-6-86	AMV/JC	PCB	7.445/7.91 ug	TAKEN AT MARKER #1	ΔT = 70 min
	68	AIR	—	0800	9-8-86	AMV/JC	PCB	<0.025 ug	TRAVEL BLANK	
	69	Soil 0-1'	—	1130	9-9-86	JC/TF	PCB	9.6/17.9	CREEK AT DRAIN PIPE 0-1' DEEP	
		Soil 1'-2'	—	1200	9-9-86	JC/TF	PCB	BMDL/2.1	CREEK AT DRAIN PIPE 1'-2' DEEP	
	70	Soil 0-1'	—	1315	9-9-86	JC/TF	PCB	BMDL/1.0	CREEK 50' DOWNSTREAM OF DRAIN PIPE 0-1' DEEP	
		Soil 1-2'	—	1345	9-9-86	JC/TF	PCB	0.28/1.4	1-2' DEEP	
	71	Soil 0-1'	—	1415	9-9-86	JC/TF	PCB	BMDL/1.3	CREEK 50' UPSTREAM OF DRAIN PIPE 0-1' DEEP	
		Soil 1'-2'	—	1445	9-9-86	JC/TF	PCB	BMDL/1.4	1'-2' DEEP	
	72	Soil	—	1300	9-9-86	MV/PK	PCB	0.72/1.9	MARKER #1	
	73	Soil	—	1305	9-9-86	MV/PK	PCB	BMDL/1.6	HALFWAY BETWEEN MARKERS #1 AND #2	
	74	Soil	—	1310	9-9-86	MV/PK	PCB	0.50/1.7	MARKER #2	
	75	Soil	—	1315	9-9-86	MV/PK	PCB	0.46/1.9	HALFWAY BETWEEN MARKERS #2 AND #3	
	76	Soil	—	1320	9-9-86	MV/PK	PCB	0.46/2.2	MARKER #6	
	77	Soil	—	1325	9-9-86	MV/PK	PCB	2.6/7.5	MARKER #7	
	78	Soil	—	1330	9-9-86	MV/PK	PCB	1.5/8.0	MARKER #8	
	79	Soil	—	1335	9-9-86	MV/PK	PCB	0.54/1.8	MARKER #9	
	80	Soil	—	1340	9-9-86	MV/PK	PCB	3.8/3.7	MARKER #10	
	81	Soil	—	1345	9-9-86	MV/PK	PCB	0.59/1.4	MARKER #11	
	82	Soil	—	1350	9-9-86	MV/PK	PCB	0.62/1.9	NE CORNER OF SOUTH WAREHOUSE	
	83	Soil	—	1350	9-9-86	MV/PK	PCB	158/15,000	SE CORNER OF SOUTH WAREHOUSE	
	84	Soil	—	1355	9-9-86	MV/PK	PCB	5.5/5.3	SW CORNER OF SOUTH WAREHOUSE	
	85	Soil	—	1400	9-9-86	MV/PK	PCB	127/BMDL	NW CORNER OF SOUTH WAREHOUSE	
	86	Soil	—	1405	9-9-86	MV/PK	PCB	3.2/6.0	TAKEN 50' EAST OF HOLDEN BAPTIST TEMPLE BLDG.	
	87	Soil	—	1410	9-9-86	MV/PK	PCB	0.21/1.5 ug	TAKEN NEAR ~~AT~~ BACK STEPS OF HOLDEN BAPTIST TEMPLE. (SAMPLE #87 WAS TAKEN IN SAME LOCATION AS #56)	

9/6

0700 Crew arrived on site
0730 JC + MU start lab pack operation and cleaning out the lab.

830 MU + JC ~~Took a~~ taken to a break to contact Cam Tro Inc. of taking care of the Sodium Container 30 gal Langston Lab.
Method NASH 1 (253)

Air monitoring

1#	SKC Air pump	1016 cm³/min	Module # 224-175D
2#	SKC Air pump	1031 cm³/min	
4#	SKC Air Pump	1046 cm³/min	
HH4		1017 cm³/min	
HH3		1023 cm³/min	

		Ti		Tf	ΔT				
61	Ap# 1	1328	Mark #5	1503	~~175 min~~ 95 min	×	1016 cm³/min	× $\frac{1 m^3}{10^6 cm^3}$	= 0.0965 m³
62	Ap# 2	1330	Mark # 10	1504	ME ~~174 min~~ 94 min	×	1013 cm³/min	× 1m³/10⁶cm³	= 0.0952 m³
63	HH#04	1335	Mark # 14	1504	ME ~~169 min~~ 89	×	1031 cm³/min	× 1m³/10⁶cm³	= 0.0918 m³
64	HH#03	1337	Mark # 17	1509	ME ~~172 min~~ 92	×	1023 cm³/min	× 1m³/10⁶cm³	= 0.0941 m³
65	HH03	1530	Mark #6	1630	60 min	×	1023 cm³/min	× 1m³/10⁶cm³	0.0614 m³
66	HH04	1540	Mark #8	1640	60 min	×	1031 cm³/min	× 1m³/10⁶cm³	0.0619 m³
67	SKC #1	1550	Mark #1	1700	70 min	×	1016 cm³/min	× 1m³/10⁶cm³	0.0711 m³
68	Blank	0800 9/8/86							

1000 Crew started to staging miscellaneous containers from the Main building

9/6

~~1300~~ 1200 MVHC Calibrated the air sampling pumps

1326 MVHC Setup air pumps at the various corners of the (the area) parameter. (see map)

1400 MVHC cont helping the rest of the crew to stage chemical.

1730 crew departed from site.

Reference 20

U.S. Department of Transportation
United States Coast Guard

CHRIS

Hazardous Chemical Data

COMMANDANT INSTRUCTION M.16465.12A

POLYCHLORINATED BIPHENYL

PCB

Common Synonyms			
PCB Chlorinated biphenyl Arochlor Halogenated waxes Polychloropolyphenyls	Oily liquid to solid powder *Sinks in water.*	Light yellow liquid, or white powder	Weak odor

Stop discharge if possible. Keep people away.
Avoid contact with liquid and solid.
Call fire department.
Isolate and remove discharged material.
Notify local health and pollution control agencies.

Fire

Combustible.
Extinguish with water, foam, dry chemical, or carbon dioxide.

Exposure

CALL FOR MEDICAL AID.

LIQUID OR SOLID
Irritating to skin and eyes.
Flush affected areas with plenty of water.
IF IN EYES, hold eyelids open and flush with plenty of water.

Water Pollution

HARMFUL TO AQUATIC LIFE IN VERY LOW CONCENTRATIONS.
May be dangerous if it enters water intakes.

Notify local health and wildlife officials.
Notify operators of nearby water intakes.

1. RESPONSE TO DISCHARGE

(See Response Methods Handbook)

Issue warning-water contaminant
Should be removed
Chemical and physical treatment

2. LABEL

2.1 Category: None
2.2 Class: Not pertinent

3. CHEMICAL DESIGNATIONS

3.1 CG Compatibility Class: Not listed
3.2 Formula: $(C_{12}H_{10-n})Cl_n$
3.3 IMO/UN Designation: Not listed
3.4 DOT ID No.: 2315
3.5 CAS Registry No.: 1336-36-3

4. OBSERVABLE CHARACTERISTICS

4.1 Physical State (as shipped): Liquid or solid
4.2 Color: Pale yellow (liquid); colorless (solid)
4.3 Odor: Practically odorless

5. HEALTH HAZARDS

5.1 Personal Protective Equipment: Gloves and protective garments.
5.2 Symptoms Following Exposure: Acne from skin contact.
5.3 Treatment of Exposure: SKIN: wash with soap and water.
5.4 Threshold Limit Value: 0.5 to 1.0 mg/m³
5.5 Short Term Inhalation Limits: Data not available
5.6 Toxicity by Ingestion: Grade 2; oral rat LD_{50} = 3980 mg/kg
5.7 Late Toxicity: Causes chromosomal abnormalities in rats, birth defects in birds
5.8 Vapor (Gas) Irritant Characteristics: Vapors cause severe irritation of eyes and throat and cause eye and lung injury. They cannot be tolerated even at low concentrations.
5.9 Liquid or Solid Irritant Characteristics: Contact with skin may cause irritation.
5.10 Odor Threshold: Data not available
5.11 IDLH Value: 5 to 10 mg/m³

6. FIRE HAZARDS

6.1 Flash Point: >286°F
6.2 Flammable Limits in Air: Data not available
6.3 Fire Extinguishing Agents: Water, foam, dry chemical, or carbon dioxide
6.4 Fire Extinguishing Agents Not to be Used: Not pertinent
6.5 Special Hazards of Combustion Products: Irritating gases are generated in fires.
6.6 Behavior in Fire: Not pertinent
6.7 Ignition Temperature: Data not available
6.8 Electrical Hazard: Not pertinent
6.9 Burning Rate: Data not available
6.10 Adiabatic Flame Temperature: Data not available
6.11 Stoichiometric Air to Fuel Ratio: Data not available
6.12 Flame Temperature: Data not available

7. CHEMICAL REACTIVITY

7.1 Reactivity With Water: No reaction
7.2 Reactivity with Common Materials: No reaction
7.3 Stability During Transport: Stable
7.4 Neutralizing Agents for Acids and Caustics: Not pertinent
7.5 Polymerization: Not pertinent
7.6 Inhibitor of Polymerization: Not pertinent
7.7 Molar Ratio (Reactant to Product): Data not available
7.8 Reactivity Group: Data not available

8. WATER POLLUTION

8.1 Aquatic Toxicity:
0.278 ppm/96 hr/bluegill/TL_m/fresh water
0.005 ppm/336-1080 hr/pinfish/TL_m/salt water
8.2 Waterfowl Toxicity: LD_{50} 2000 ppm (mallard duck)
8.3 Biological Oxygen Demand (BOD): Very low
8.4 Food Chain Concentration Potential: High

9. SHIPPING INFORMATION

9.1 Grades of Purity: 11 grades (some liquid, some solids) which differ primarily in their chlorine content (20%-68% by weight)
9.2 Storage Temperature: Ambient
9.3 Inert Atmosphere: No requirement
9.4 Venting: Open

10. HAZARD ASSESSMENT CODE

(See Hazard Assessment Handbook)

II

11. HAZARD CLASSIFICATIONS

11.1 Code of Federal Regulations: ORM-E
11.2 NAS Hazard Rating for Bulk Water Transportation: Not listed
11.3 NFPA Hazard Classification: Not listed

12. PHYSICAL AND CHEMICAL PROPERTIES

12.1 Physical State at 15°C and 1 atm: Solid
12.2 Molecular Weight: Not pertinent
12.3 Boiling Point at 1 atm: Very high
12.4 Freezing Point: Not pertinent
12.5 Critical Temperature: Not pertinent
12.6 Critical Pressure: Not pertinent
12.7 Specific Gravity: 1.3—1.8 at 20°C (liquid)
12.8 Liquid Surface Tension: Not pertinent
12.9 Liquid Water Interfacial Tension: Not pertinent
12.10 Vapor (Gas) Specific Gravity: Not pertinent
12.11 Ratio of Specific Heats of Vapor (Gas): Not pertinent
12.12 Latent Heat of Vaporization: Not pertinent
12.13 Heat of Combustion: Not pertinent
12.14 Heat of Decomposition: Not pertinent
12.15 Heat of Solution: Not pertinent
12.16 Heat of Polymerization: Not pertinent
12.25 Heat of Fusion: Data not available
12.26 Limiting Value: Data not available
12.27 Reid Vapor Pressure: Data not available

NOTES

PCB	POLYCHLORINATED BIPHENYL

12.17 SATURATED LIQUID DENSITY		12.18 LIQUID HEAT CAPACITY		12.19 LIQUID THERMAL CONDUCTIVITY		12.20 LIQUID VISCOSITY	
Temperature (degrees F)	Pounds per cubic foot (estimate)	Temperature (degrees F)	British thermal unit per pound-F	Temperature (degrees F)	British thermal unit-inch per hour-square foot-F	Temperature (degrees F)	Centipoise
68	81.150		N		N		N
69	81.150		O		O		O
70	81.150		T		T		T
71	81.150						
72	81.150		P		P		P
73	81.150		E		E		E
74	81.150		R		R		R
75	81.150		T		T		T
76	81.150		I		I		I
77	81.150		N		N		N
78	81.150		E		E		E
79	81.150		N		N		N
80	81.150		T		T		T
81	81.150						
82	81.150						
83	81.150						
84	81.150						
85	81.150						

12.21 SOLUBILITY IN WATER		12.22 SATURATED VAPOR PRESSURE		12.23 SATURATED VAPOR DENSITY		12.24 IDEAL GAS HEAT CAPACITY	
Temperature (degrees F)	Pounds per 100 pounds of water	Temperature (degrees F)	Pounds per square inch	Temperature (degrees F)	Pounds per cubic foot	Temperature (degrees F)	British thermal unit per pound-F
	I		N		N		N
	N		O		O		O
	S		T		T		T
	O						
	L		P		P		P
	U		E		E		E
	B		R		R		R
	L		T		T		T
	E		I		I		I
			N		N		N
			E		E		E
			N		N		N
			T		T		T

CENSUS OF POPULATION AND HOUSING, 1980--SUMMARY TAPE FILE 3A

(FOR DEFINITION OF ITEMS AND FOOTNOTES, SEE TECHNICAL DOCUMENTATION)

SUMMARY LEVEL: 12 STATE: MISSOURI COUNTY: JOHNSON MCD/CCD: MADISON

PLACE: TRACT/BNA: BG: ED:

URBAN/RURAL: CD: URBANIZED AREA: WARD: SMSA:

INDIAN RESERVATION/ANV: INDIAN SUBRESERVATION: SCSA:

1. PERSONS BY URBAN AND RURAL [50]

TOTAL	2850
INSIDE URBANIZED AREAS	-
RURAL	2850

2. UNWEIGHTED SAMPLE COUNT OF PERSONS 1196

3. 100-PERCENT COUNT OF PERSONS [38] 2825

4. HOUSING UNITS (INCLUDING VACANT SEASONAL AND MIGRATORY UNITS) BY URBAN AND RURAL [1,50]

TOTAL	1175
INSIDE URBANIZED AREAS	-
RURAL	1175

5. UNWEIGHTED SAMPLE COUNT OF HOUSING UNITS (INCLUDING VACANT SEASONAL AND MIGRATORY UNITS) [1] 507

6. 100-PERCENT COUNT OF HOUSING UNITS (INCLUDING VACANT SEASONAL AND MIGRATORY UNITS) [1,38] 1178

7. PERSONS IN RURAL AREAS BY FARM RESIDENCE (CURRENT FARM DEFINITION) [2]

RURAL FARM	171
NONFARM	2679

8. PERSONS IN RURAL AREAS BY FARM RESIDENCE (1970 CENSUS FARM DEFINITION) [2]

RURAL FARM	322
NONFARM	2528

9. FAMILIES 786

10. HOUSEHOLDS [3] 1084

11. YEAR-ROUND HOUSING UNITS BY OCCUPANCY STATUS

TOTAL	1175
OCCUPIED [3]	1080
VACANT	95

12. PERSONS BY RACE

WHITE	2790
BLACK	45
AMERICAN INDIAN, ESKIMO AND ALEUT:	
AMERICAN INDIAN	11
ESKIMO	-
ALEUT	-
ASIAN AND PACIFIC ISLANDER: [4]	
JAPANESE	2
CHINESE	-
FILIPINO	-
KOREAN	-
ASIAN INDIAN	-
VIETNAMESE	-
HAWAIIAN	-
GUAMANIAN	-
SAMOAN	-
OTHER [47]	-
OTHER (RACE, N.E.C.): [5]	
SPANISH [6,47]	-
NOT SPANISH [47]	2

13. PERSONS BY SPANISH ORIGIN AND RACE

NOT OF SPANISH ORIGIN	2846
MEXICAN	4
PUERTO RICAN	-
CUBAN	-
OTHER SPANISH:	
WHITE, BLACK, AMERICAN INDIAN, ESKIMO, ALEUT, AND ASIAN AND PACIFIC ISLANDER [4]	-
OTHER (RACE, N.E.C.) [5]	-

14. PERSONS OF SPANISH ORIGIN BY RACE

TOTAL	4
WHITE	4
BLACK	-
AMERICAN INDIAN, ESKIMO, ALEUT, AND ASIAN AND PACIFIC ISLANDER [4]	-
OTHER (RACE, N.E.C.) [5]	-

15. PERSONS BY SEX BY AGE

	TOTAL	FEMALE
UNDER 1 YEAR	54	31
1 AND 2 YEARS	59	13
3 AND 4 YEARS	86	49
5 YEARS	41	21
6 YEARS	34	16
7 TO 9 YEARS	153	64
10 TO 13 YEARS	209	92
14 YEARS	55	21
15 YEARS	59	35
16 YEARS	56	24
17 YEARS	59	34
18 YEARS	47	27
19 YEARS	50	24
20 YEARS	43	22
21 YEARS	46	19
22 TO 24 YEARS	121	64
25 TO 29 YEARS	167	83
30 TO 34 YEARS	161	87
35 TO 44 YEARS	324	164
45 TO 54 YEARS	208	107
55 TO 59 YEARS	117	58
60 TO 61 YEARS	57	45
62 TO 64 YEARS	94	44
65 TO 74 YEARS	240	138
75 TO 84 YEARS	223	163
85 YEARS AND OVER	87	53

16/17. PERSONS OF SPECIFIED RACES AND SPANISH ORIGIN BY SEX BY RACE AND SPANISH ORIGIN BY AGE [14]

	TOTAL	FEMALE
WHITE:		
UNDER 5 YEARS	190	89
5 TO 14 YEARS	479	210
15 TO 59 YEARS	1430	735
60 TO 64 YEARS	147	87
65 YEARS AND OVER	544	350
BLACK:		
UNDER 5 YEARS	9	4
5 TO 14 YEARS	9	2
15 TO 59 YEARS	19	11
60 TO 64 YEARS	4	2
65 YEARS AND OVER	4	2
AMERICAN INDIAN, ESKIMO AND ALEUT:		
UNDER 5 YEARS	...	...
5 TO 14 YEARS	...	...
15 TO 59 YEARS	...	...
60 TO 64 YEARS	...	...
65 YEARS AND OVER	...	...
ASIAN AND PACIFIC ISLANDER: [4]		
UNDER 5 YEARS	...	...
5 TO 14 YEARS	...	...
15 TO 59 YEARS	...	...
60 TO 64 YEARS	...	...
65 YEARS AND OVER	...	...
SPANISH ORIGIN (OF ANY RACE):		
UNDER 5 YEARS	...	...
5 TO 14 YEARS	...	...
15 TO 59 YEARS	...	...
60 TO 64 YEARS	...	...
65 YEARS AND OVER	...	...

18. HOUSEHOLDS BY PERSONS IN HOUSEHOLD [7]

1 PERSON	292
2 PERSONS	360
3 PERSONS	153
4 PERSONS	139
5 PERSONS	98
6 OR MORE PERSONS	42

22. MEAN NUMBER OF OWN CHILDREN BY FAMILY TYPE [10]

IN MARRIED-COUPLE FAMILY	1.1
IN FAMILY WITH MALE HOUSEHOLDER, NO WIFE PRESENT	1.1
IN FAMILY WITH FEMALE HOUSEHOLDER, NO HUSBAND PRESENT	.9

19. PERSONS BY HOUSEHOLD TYPE AND RELATIONSHIP

IN FAMILY HOUSEHOLD:	
HOUSEHOLDER	786
SPOUSE	712
OTHER RELATIVES [8]	1021
NONRELATIVES [9]	[illegible]
IN NONFAMILY HOUSEHOLD:	
MALE HOUSEHOLDER	68
FEMALE HOUSEHOLDER	230
NONRELATIVES [9]	6
IN GROUP QUARTERS:	
INMATE OF INSTITUTION	14
OTHER	-

20PT/21PT. FAMILY HOUSEHOLDS BY PRESENCE OF OWN CHILDREN BY RACE AND SPANISH ORIGIN OF HOUSEHOLDER BY FAMILY TYPE [10,11,21]

	WITH OWN CHILDREN	WITHOUT OWN CHILDREN
TOTAL:		
MARRIED-COUPLE FAMILY	336	363
FAMILY WITH MALE HOUSEHOLDER, NO WIFE PRESENT	14	4
FAMILY WITH FEMALE HOUSEHOLDER, NO HUSBAND PRESENT	37	32
WHITE:		
MARRIED-COUPLE FAMILY	331	359
FAMILY WITH MALE HOUSEHOLDER, NO WIFE PRESENT	12	4
FAMILY WITH FEMALE HOUSEHOLDER, NO HUSBAND PRESENT	37	32
BLACK:		
MARRIED-COUPLE FAMILY	4	2
FAMILY WITH MALE HOUSEHOLDER, NO WIFE PRESENT	2	-
FAMILY WITH FEMALE HOUSEHOLDER, NO HUSBAND PRESENT	-	-
AMERICAN INDIAN, ESKIMO, AND ALEUT:		
MARRIED-COUPLE FAMILY	...	...
FAMILY WITH MALE HOUSEHOLDER, NO WIFE PRESENT	...	...
FAMILY WITH FEMALE HOUSEHOLDER, NO HUSBAND PRESENT	...	...
ASIAN AND PACIFIC ISLANDER: [4]		
MARRIED-COUPLE FAMILY	-	-
FAMILY WITH MALE HOUSEHOLDER, NO WIFE PRESENT	-	-
FAMILY WITH FEMALE HOUSEHOLDER, NO HUSBAND PRESENT	-	-
SPANISH ORIGIN (OF ANY RACE):		
MARRIED-COUPLE FAMILY	-	-
FAMILY WITH MALE HOUSEHOLDER, NO WIFE PRESENT	-	-
FAMILY WITH FEMALE HOUSEHOLDER, NO HUSBAND PRESENT	-	-

20PT/21PT. NONFAMILY HOUSEHOLDS BY RACE AND SPANISH ORIGIN OF HOUSEHOLDER [11,21]

TOTAL	298
WHITE	288
BLACK	8
AMERICAN INDIAN, ESKIMO, AND ALEUT	...
ASIAN AND PACIFIC ISLANDER [4]	-
SPANISH ORIGIN (OF ANY RACE)	-

23/24/25. SUBFAMILIES BY SUBFAMILY TYPE AND PRESENCE OF OWN CHILDREN [10]

MARRIED-COUPLE SUBFAMILY:	
WITH OWN CHILDREN	2
MEAN NUMBER OF OWN CHILDREN	1.0
WITHOUT OWN CHILDREN	-
FATHER-CHILD SUBFAMILY	1
MOTHER-CHILD SUBFAMILY	4
PERSONS PER SUBFAMILY	2.7

26. PERSONS 15 YEARS AND OVER BY SEX BY MARITAL STATUS

	MALE	FEMALE
SINGLE	176	190
NOW MARRIED,EXCEPT SEPARATED	702	721
SEPARATED	1	12
WIDOWED	31	207
DIVORCED	58	61

104. PERSONS IN OCCUPIED HOUSING UNITS BY TENURE BY UNITS IN STRUCTURE

	TOTAL	RENTER
1, DETACHED	2474	436
1, ATTACHED	23	6
2	63	41
3 OR 4	57	48
5 OR MORE	61	57
MOBILE HOME OR TRAILER, ETC. [25]	123	85

105. YEAR-ROUND HOUSING UNITS BY STORIES IN STRUCTURE

1 TO 3	1175
4 TO 6	-
7 TO 12	-
13 OR MORE	-

106. YEAR-ROUND HOUSING UNITS IN STRUCTURE WITH 4 OR MORE STORIES BY PASSENGER ELEVATOR

WITH ELEVATOR	-
NO ELEVATOR	-

107. YEAR-ROUND HOUSING UNITS BY SOURCE OF WATER

PUBLIC SYSTEM OR PRIVATE COMPANY	988
INDIVIDUAL WELL:	
DRILLED	35
DUG	71
SOME OTHER SOURCE	81

108. YEAR-ROUND HOUSING UNITS BY SEWAGE DISPOSAL

PUBLIC SEWER	936
SEPTIC TANK OR CESSPOOL	217
OTHER MEANS	22

109. YEAR-ROUND HOUSING UNITS BY TENURE AND OCCUPANCY STATUS BY YEAR STRUCTURE BUILT

TOTAL:	
1979 TO MARCH 1980	11
1975 TO 1978	74
1970 TO 1974	102
1960 TO 1969	159
1950 TO 1959	131
1940 TO 1949	144
1939 OR EARLIER	554
TOTAL OCCUPIED:	
1979 TO MARCH 1980	7
1975 TO 1978	70
1970 TO 1974	102
1960 TO 1969	155
1950 TO 1959	130
1940 TO 1949	125
1939 OR EARLIER	491
RENTER OCCUPIED:	
1979 TO MARCH 1980	-
1975 TO 1978	2
1970 TO 1974	24
1960 TO 1969	31
1950 TO 1959	36
1940 TO 1949	38
1939 OR EARLIER	103

110. OCCUPIED HOUSING UNITS BY TENURE BY YEAR HOUSEHOLDER MOVED INTO UNIT

	TOTAL	RENTER OCCUPIED
1979 TO MARCH 1980	198	106
1975 TO 1978	297	76
1970 TO 1974	178	34
1960 TO 1969	181	13
1950 TO 1959	117	2
1949 OR EARLIER	109	3

111. YEAR-ROUND HOUSING UNITS BY HEATING EQUIPMENT

STEAM OR HOT WATER SYSTEM	71
CENTRAL WARM-AIR FURNACE	549
ELECTRIC HEAT PUMP	20
OTHER BUILT-IN ELECTRIC UNITS	30
FLOOR, WALL, OR PIPELESS FURNACE	132
ROOM HEATERS WITH FLUE	279
ROOM HEATERS WITHOUT FLUE	13
FIREPLACES, STOVES, OR PORTABLE ROOM HEATERS	67
NONE	14

112. OCCUPIED HOUSING UNITS BY HOUSE HEATING FUEL

UTILITY GAS [26]	868
BOTTLED, TANK, OR LP GAS	94
ELECTRICITY	70
FUEL OIL, KEROSENE, ETC.	-
COAL OR COKE	-
WOOD	48
OTHER FUEL	-
NO FUEL USED	-

113. OCCUPIED HOUSING UNITS BY COOKING FUEL

UTILITY GAS [26]	538
BOTTLED, TANK, OR LP GAS	83
ELECTRICITY	459
OTHER [27]	-
NO FUEL USED	-

114. OCCUPIED HOUSING UNITS BY WATER HEATING FUEL

UTILITY GAS [26]	828
BOTTLED, TANK, OR LP GAS	78
ELECTRICITY	163
FUEL OIL, KEROSENE, ETC.	-
OTHER [27]	-
NO FUEL USED	11

115. YEAR-ROUND HOUSING UNITS BY KITCHEN FACILITIES

COMPLETE KITCHEN FACILITIES	1134
NO COMPLETE KITCHEN FACILITIES	41

116. YEAR-ROUND HOUSING UNITS BY TENURE AND OCCUPANCY STATUS BY BEDROOMS

TOTAL:	
NONE	1
1	138
2	446
3	448
4	130
5 OR MORE	12
TOTAL OCCUPIED:	
NONE	1
1	129
2	410
3	402
4	128
5 OR MORE	10
RENTER OCCUPIED:	
NONE	1
1	75
2	78
3	52
4	23
5 OR MORE	5

117. YEAR-ROUND HOUSING UNITS BY TENURE AND OCCUPANCY STATUS BY BATHROOMS

TOTAL:	
NO BATHROOM OR ONLY A HALF BATH	51
1 COMPLETE BATHROOM	816
1 COMPLETE BATHROOM PLUS HALF BATH(S)	149
2 OR MORE COMPLETE BATHROOMS	159
TOTAL OCCUPIED:	
NO BATHROOM OR ONLY A HALF BATH	38
1 COMPLETE BATHROOM	739
1 COMPLETE BATHROOM PLUS HALF BATH(S)	145
2 OR MORE COMPLETE BATHROOMS	158
RENTER OCCUPIED:	
NO BATHROOM OR ONLY A HALF BATH	7
1 COMPLETE BATHROOM	212
1 COMPLETE BATHROOM PLUS HALF BATH(S)	12
2 OR MORE COMPLETE BATHROOMS	3

118. OCCUPIED HOUSING UNITS BY TENURE BY TELEPHONE IN HOUSING UNIT

TOTAL:	
WITH TELEPHONE	979
NO TELEPHONE	101
RENTER OCCUPIED:	
WITH TELEPHONE	179
NO TELEPHONE	55

119. OCCUPIED HOUSING UNITS WITH HOUSEHOLDERS OF SELECTED AGE GROUPS BY AGE OF HOUSEHOLDER BY TELEPHONE IN HOUSING UNIT

HOUSEHOLDER 60 TO 64 YEARS:	
WITH TELEPHONE	82
NO TELEPHONE	4
HOUSEHOLDER 65 YEARS AND OVER:	
WITH TELEPHONE	319
NO TELEPHONE	26

120. YEAR-ROUND HOUSING UNITS BY AIR CONDITIONING

NONE	563
CENTRAL SYSTEM	253
1 INDIVIDUAL ROOM UNIT	284
2 OR MORE INDIVIDUAL ROOM UNITS	75

121/122. OCCUPIED HOUSING UNITS WITH NO VEHICLE AVAILABLE BY RACE AND SPANISH ORIGIN OF HOUSEHOLDER [11,21,28]

TOTAL	126
WHITE	124
BLACK	2
AMERICAN INDIAN, ESKIMO, AND ALEUT	...
ASIAN AND PACIFIC ISLANDER [4]	-
SPANISH ORIGIN (OF ANY RACE)	-

123. OCCUPIED HOUSING UNITS WITH VEHICLE AVAILABLE BY VEHICLES AVAILABLE [28]

1	348
2	389
3 OR MORE	217

124. SPECIFIED RENTER-OCCUPIED HOUSING UNITS BY GROSS RENT [29]

LESS THAN $60	11
$60 TO $79	6
$80 TO $99	14
$100 TO $119	8
$120 TO $149	35
$150 TO $169	16
$170 TO $199	40
$200 TO $249	37
$250 TO $299	11
$300 TO $349	-
$350 TO $399	1
$400 TO $499	-
$500 OR MORE	-
NO CASH RENT	23

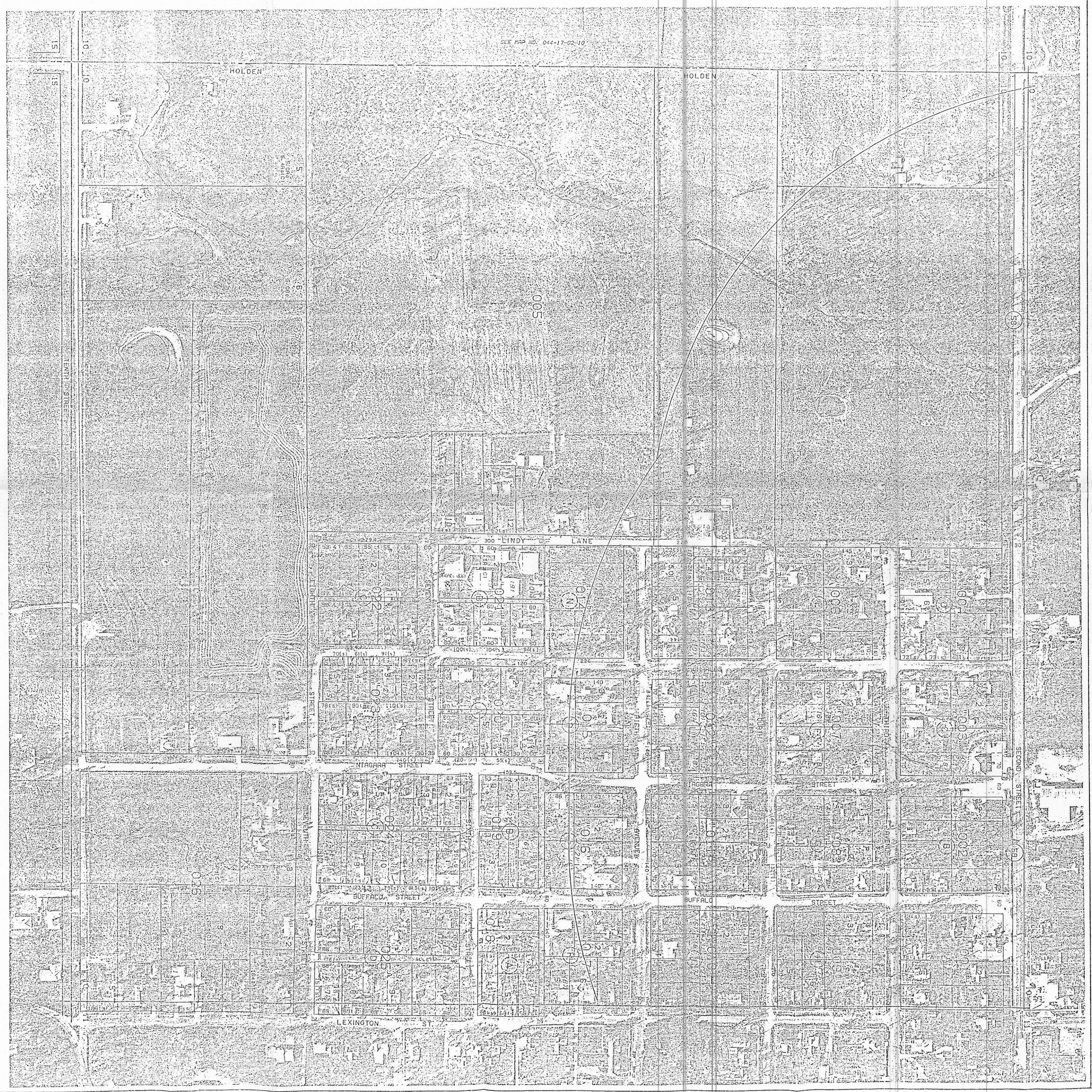
125/126. SPECIFIED RENTER-OCCUPIED HOUSING UNITS WITH HOUSEHOLDER OF SPECIFIED RACES AND SPANISH ORIGIN BY RACE AND SPANISH ORIGIN BY GROSS RENT [11,21,29]

WHITE:	
LESS THAN $100	31
$100 TO $199	99
$200 TO $299	48
$300 OR MORE	1
NO CASH RENT	23
BLACK:	
LESS THAN $100	-
$100 TO $199	-
$200 TO $299	-
$300 OR MORE	-
NO CASH RENT	-
AMERICAN INDIAN, ESKIMO, AND ALEUT:	
LESS THAN $100	-
$100 TO $199	-
$200 TO $299	-
$300 OR MORE	-
NO CASH RENT	-
ASIAN AND PACIFIC ISLANDER: [4]	
LESS THAN $100	-
$100 TO $199	-
$200 TO $299	-
$300 OR MORE	-
NO CASH RENT	-
SPANISH ORIGIN (OF ANY RACE):	
LESS THAN $100	-
$100 TO $199	-
$200 TO $299	-
$300 OR MORE	-
NO CASH RENT	-

JOHNSON COUNTY, MISSOURI

DATE OF PHOTOGRAPHY: NOV 1980 SCALE: 1" = 100' SE 1/4 SEC 10 T 45 N R 28 W

SURDEX



JOHNSON COUNTY, MISSOURI

DATE OF PHOTOGRAPHY: NOV 1980 SCALE: 1"= 100' NW 1/4 SEC 11 T 45 N R 28 W

SURDEX
520 SPIRIT OF ST. LOUIS BLVD.
CHESTERFIELD, MO. 63017
314 532-3427

JOHNSON COUNTY, MISSOURI

DATE OF PHOTOGRAPHY: NOV 1980 SCALE: 1" = 100' SE 1/4 SEC 10 T 45 N R 28 W

SURDEX
520 SPIRIT OF ST. LOUIS BLVD.
CHESTERFIELD, MO.
314-532-3427

OWNERSHIP MAP
JOHNSON COUNTY, MISSOURI
STATE TAX COMMISSION OF MISSOURI
WILLIAM R BRENNER TAX ASSESSOR

WILLIAMS & WORKS MO, INC

SUBDIVISION INDEX

LEGEND

TOWNSHIP LOCATOR

MAP SHEET INDEX

1/4 SECTION INDEX

SEC 10, SE 1/4 TWP 45 RNG 28

MAP NO 044-17-02-10-4

SCALE 1" = 100'
DATE OF MAP 04-83
DATE OF PHOTOGRAPH 11-80
AERIAL PHOTO NO

JOHNSON COUNTY, MISSOURI

DATE OF PHOTOGRAPHY: NOV 1980 SCALE: 1" = 100' SW 1/4 SEC 11 T 45 N R 28 W

SURDEX CORPORATION
520 SPIRIT OF ST. LOUIS BLVD.
CHESTERFIELD, MO. 63017
314-532-3427

POPULATION COUNT - 0-4 MILE RADIUS

MARTHA C. ROSE CHEMICALS, HOLDEN MISSOURI

HOLDEN CITY POPULATION: 2195 persons (Ref. 21)

POPULATION WITHIN 1.0 MILES:

Outside City Limits: 85 houses (Ref. 8) x 3.8 Persons/House = 323 persons

City of Holden:	2195
Outside City Limits	323
	2518 Persons Within 1.0 Mile Radius

POPULATION WITHIN 4.0 MILES

3-4 Mile Radius:	97 houses
2-3 Mile Radius:	75 houses
1-2 Mile Radius:	58 houses
	230 houses (Ref. 8)

230 Houses x 3.8 Persons/House =	874 Persons, Radius 1-4 miles
	2518 Person, 1.0 mile Radius
Total	3392 Persons Within 4.0 Mile Radius

POPULATION WITHIN 0.25 MILES

161 Houses Within 0.25 mile Radius (Ref. 22)

161 Houses x 3.8 mile Radius = 612 Persons Within 0.25 Mile Radius

TOPOGRAPHIC MAP HOUSE COUNT (Reference 8)

0-1 MILE RADIUS
(Outside City Limits)

TOWNSHIP 45, RANGE 28

Section	# of Houses
2	5
3	3
10	10
11	31
14	28
15	8
Subtotal	85 Houses

0-1 MILE RADIUS
Total: 85 Houses

1-2 MILE RADIUS

TOWNSHIP 46, RANGE 28

Section	# of Houses
33	1
34	2
35	2
36	0
Subtotal	5 Houses

TOWNSHIP 45, RANGE 28

Section	# of Houses
1	1
2	2
3	2
4	6
9	3
10	0
11	2
12	7
13	4
14	13
15	4
16	3
21	0
22	2
23	4
24	0
Subtotal	53 Houses

1-2 Mile Radius
Total: 58 Houses

TOPOGRAPHIC MAP HOUSE COUNT (Reference 8)

2-3 MILE RADIUS

TOWNSHIP 46, RANGE 28

Section	# of Houses
25	1
26	10
27	2
28	1
32	1
33	6
34	6
35	4
36	5
Subtotal	36 Houses

TOWNSHIP 46, RANGE 27

Section	# of Houses
31	1
Subtotal	1 House

TOWNSHIP 45, RANGE 27

Section	# of Houses
6	4
7	2
18	3
19	1
Subtotal	10 Houses

TOWNSHIP 45, RANGE 28

Section	# of Houses
1	1
4	1
5	3
8	3
13	0
16	2
17	3
20	0
21	1
22	1
23	5
24	4
25	0
26	1
27	2
28	1
Subtotal	28 Houses

2-3 MILE RADIUS

Total: 75 Houses

AERIAL PHOTO HOUSE COUNT

HOLDEN, MISSOURI

¼ - MILE RADIUS
(From Ref. 22)

SW ¼, Section 11
Township 45N, Range 28W

Block	# of Houses
005	Business
006	3
007	7
008	8
009	7
018	3
019	9
Subtotal	37 Houses

SE ¼, Section 10
Township 45N, Range 28W

Block	# of Houses
001	6
002	6
003	3
004	9
005	3
006	4
007	5
008	5
009	5
010	5
011	4
012	3
013	0
014	1
015	4
016	3
017	4
Subtotal	70 Houses

NW ¼, Section 11
Township 45N, Range 28W

Block	# of Houses
002	2
004	3
005	6
006	6
007	3
015	Business
016	0
018	4
019	1
020	0
021	Business
025	Business
026	2
027	4
Subtotal	31 Houses

NE ¼, Section 10
Township 45N, Range 28W

Block	# of Houses
003	1
006	1
007	1
008	0
009	4
010	4
011	1
012	0
013	Business
014	2
015	9
Subtotal	23 Houses

¼ Mile Radius
SW - 37
SE - 70
NW - 31
NE - 23
161 Houses

161 houses x 3.8 person/house = 612 persons

FOIA Exemption 4

TELEPHONE MEMORANDUM

DATE Oct. 14, 1986

(TO) (FROM) Mrs. Genevena Salsbury TELEPHONE 816/747-6438 TIME 11:40 AM ~~PM~~

COMPANY Johnson County Historical Society - Missouri CC:

RECORDED BY [redacted]

PROJECT Martha C. Rose PROJ. NO. 64580

SUBJECT Historical Sites in Holden, MO FILE NO.

Mrs. Salsbury is a former president and current board member of the Johnson County Missouri Historical Society. She stated that there are no places in Holden that are on the National Register of Historic Places.

jdb