UNITED STATES
ENVIRONMENTAL PROTECTION AGENCY
REGION V
230 SOUTH DEARBORN ST.
CHICAGO, ILLINOIS 60604

REPLY TO ATTENTION OF

5HW-13

DEC 13 1983

Mr. Joseph Calamungi
Director of Manufacturing
SWS Silicones Corporation
Adrian, Michigan 49221

Dear Mr. Calamungi:

Thank you for submitting the information called for in my letter of October 25, 1983, regarding your inactive surface impoundment. The information has been reviewed by the United States Environmental Protection Agency (U.S. EPA). The U.S. EPA would like to advise you of its determination that this surface impoundment is non-regulated under the Resource Conservation and Recovery Act (RCRA) because it was rendered inactive prior to November 19, 1980, and was subsequently closed with the intentions of constituting final disposal.

The enclosed memorandum from John Skinner (U.S. EPA-HQ), dated August 17, 1983, clarifies the issue of whether hazardous waste remaining in the closed site would possibly be considered "in storage" under 40 CFR Part 265.228(c). Storage occurs when hazardous waste is held for a temporary period. Since placement of hazardous waste in the surface impoundment constituted final disposal, your surface impoundment is not regulated under Subtitle C of RCRA.

Since this issue has been resolved, the U.S. EPA has requested the Michigan Department of Natural Resources (MDNR) under its FY '84 Cooperative Agreement to complete its technical review, and to make a final determination as to whether a RCRA permit should be issued to SWS.

If you have further questions or comments on these matters, or would like to keep updated on the status of your Hazardous Waste Permit Application, please contact Mr. Allen A. Debus of my staff at (312) 886-6151.

Sincerely yours,

William H. Miner

William H. Miner, Chief
Technical, Permits and Compliance Section

Enclosure

US EPA RECORDS CENTER REGION 5
1005177

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C. 20460

AUG 17 1983

OFFICE OF
SOLID WASTE AND EMERGENCY RESPONSE

MEMORANDUM

SUBJECT: Clarification of Inactive/Active Storage and Disposal Facilities under RCRA.

FROM: John Skinner
Director
Office of Solid Waste (WH-563)

TO: Thomas W. Devine
Director, Air and Waste Management Division
Region IV

RECEIVED
AUG 22 1983
WASTE MANAGEMENT BRANCH

We apologize for the delay in answering your memorandum of December 9, 1982, requesting clarification of EPA policy concerning active and inactive storage facilities under RCRA. The issue was more complex than it appeared and our review included extensive discussion with the Office of General Counsel before we came to a decision on the policy questions raised in your memorandum.

Your interpretation of the distinction between active and inactive storage facilities is correct. Storage is an ongoing process as opposed to disposal, which is intended to be the final step in handling hazardous waste. This interpretation is based on EPA's existing regulatory definitions of "storage" and "disposal." "Storage" occurs when waste is held for a temporary period at the end of which the waste is treated, stored or disposed elsewhere. Thus "storage" always implies that there will be future management of the waste after the storage period is over. Any facility which is storing hazardous waste that was placed onsite on or before November 19, 1980, is an active storage facility and is subject to the provisions of RCRA, even if no hazardous waste was placed onsite after November 19, 1980. This applies to storage in surface impoundments and waste piles as well as to storage in tanks and containers. If a waste pile or surface impoundment is a storage facility, it should be managed in accordance with the interim status requirements. If, however, the placement of waste in the surface impoundment or waste pile occurred before November 19, 1980, and such placement constituted final disposal, the interim status requirements would not apply

to the facility unless the owner or operator engaged in significant management activities after November 19, 1980. EPA can rely upon either §7003 of RCRA or Superfund to mitigate any adverse impacts. The owner or operator should also be told to notify the Office of Emergency and Remedial Response under the provisions of §103(c) of CERCLA.

If you have any further questions about this issue, please contact Chaz Miller at (FTS) 382-4535.

cc: Hazardous Waste Division Directors, Regions I-III, V-X
Hazardous Waste Branch Chiefs, Regions I-X

DEC 13 1983

ORIGINAL SIGNED BY
WILLIAM H. MINER

137-19

	TYPIST	AUTHOR	STU #1 CHIEF	STU #2 CHIEF	STU #3 CHIEF	TPS CHIEF	WMB CHIEF	WMD DIR.
INITIALS								
DATE	12/09/83	12/12/83				12/12/83		

DEC 13 1983

ORIGINAL SIGNED BY
WILLIAM H. MINER

137-18

	TYPIST	AUTHOR	STU #1 CHIEF	STU #2 CHIEF	STU #3 CHIEF	TPS CHIEF	WMB CHIEF	WMD D...
DATE	12/07/83	12/12/83			WEH 12/12/83	12/13/83		

PUBLIC COMMENT RECORD

NAME: H.C. Philbrook DATE: 12/8/83

ADDRESS:

SITE NAME: page 16

REPRESENTING: SWS Silicones Corp. COUNTY: Lenawee

COMMENTS: Was SWS rating (08) based on "Black Lagoon" which was closed during 1982? Was rating prior to closure? Would post-closure rating be different?

PUBLIC COMMENT RECORD

NAME: Klepper

DATE: 12/8/83

ADDRESS:

SITE NAME: SWS Silicone

REPRESENTING:

COUNTY: Lenawee

COMMENTS:

SWS Silicone entry on screened list is an 8. Two possible concerns at site that are far enough apart that they ~~should~~ could be separate entries. Basis for 8 score should be established and clearly identified as representing either: whole site - both black lagoon and barrel site

or just black lagoon site

or just barrel site

Both concerns should be accounted for in some manner

SWS Silicones Corporation

ADRIAN, MICHIGAN 49221 • TELEPHONE (517) 263-5711

November 22, 1983

RECEIVED
WASTE MANAGEMENT BRANCH

Mr. William H. Miner
Chief, Technical, Permits
and Compliance Section
U.S. Environmental Protection Agency
Region V
230 South Dearborn Street
Chicago, Illinois 60604

Re: RCRA-B Application
5HW-13

Dear Mr. Miner:

This letter is a response to your letter of October 25, 1983, concerning the inactive surface impoundment located on our facility.

As you note in your letter of October 25, 1983, SWS has properly filed a notice under CERCLA, Sec. 103(c), covering the inactive surface impoundment. A follow-up CERCLA inspection was conducted by Ecology and Environment Inc. under contract to EPA. An inspection report is being prepared by EPA Region V. We would suggest that any further inquiry be channeled through the Region V Superfund Office in order to avoid duplicative and time-consuming information requests.

It is our position that the impoundment is in no way related to our RCRA Part B application which, as you know, does not include a land disposal facility. The pond, now closed and capped, cannot be considered a TSD facility under RCRA. Nevertheless, we are submitting the requested information for your review.

The following items correspond to the questions posed in your letter:

1. The attached Table I outlines the use and closure of the evaporation pond.

2. The pond was used in two distinctly different ways over time.

   A. During 1971-1974, the lime-slurry-silane mixture sent to the pond (see Table I, Item 2) would not have been classified as a hazardous waste under 40 C.F.R., Sec. 261.

12-1-83

COPY 2

B. From 1975-1980, the pond received equipment wash waters which did contain traces of various solvents. Under present regulations such waste streams may have been tested for ignitability. However, the low concentrations would have made a positive result extremely unlikely.

Some of the wash waters may also have been independently classifiable as corrosive; however, counter-balancing acid and caustic washes would have achieved instantaneous neutralization. This, coupled with pH adjustment and treatment in the pond, would have resulted in a non-hazardous classification under RCRA (see Table I, Item 3).

3. The closure plan, developed with the Michigan Department of Natural Resources input and approval, was meant to constitute final disposal.

4. The approved closure plan and certificate of closure is attached; the attachments are numbered 1, 5, and 6.

Yours truly,

SWS SILICONES CORPORATION

Joseph Calamungi
Director of Manufacturing

JC:pb 83-229, certified mail
enclosures

cc: C. McIntosh, MDNR, certified mail
G. C. Philbrook
G. L. Ford
T. J. Sayers

TABLE I

Historical Outline of Evaporation Pond

1. Pond was built in 1970-1971.

2. From 1971 to 1974, the pond was used as a lime-slurry system to neutralize silanes from the Monomers production area. The pond water was recycled back to the Monomers area for lime-slurry make-up. There was no discharge from the pond. The Monomers production area was shut down at the end of 1974.

3. From 1975 to 1980, the pond was used to treat various plant washwaters by equalization, aeration, neutralization, evaporation, biological activity and settling. Here again, there was no discharge from the pond.

4. We had determined to close the pond in 1979. Flow curtailment was started. By May, 1980, all flows to the pond were stopped and all pipes were cemented closed.

5. On September 26, 1980, a proposed corrective program for the removal and proper disposal of the evaporation-settling pond contents, and closure plan for the pond site, was submitted to the Michigan Department of Natural Resources. Refer to attachment 1.

6. On January 11, 1982, SWS sent a letter to the Michigan Department of Natural Resources requesting expedition of the closure plan, since there was a Compliance Schedule in the new NPDES permit to have the pond closure completed by October 31, 1982. See attachment 2.

7. On April 14, 1982, more data was submitted to the Michigan Department of Natural Resources concerning sludge analysis. See attachment 3.

8. On May 27, 1982, more data was submitted to the Michigan Department of Natural Resources concerning pond water analysis. See attachment 4.

9. On July 15, 1982, Michigan Department of Natural Resources approved the removal of water from the pond to the chemical sewer treating system. See attachment 5.

10. On July 26, 1982, Michigan Department of Natural Resources approved the September 26, 1980 Closure Plan, with minor modifications. See attachment 5.

11. Water was removed from the pond to the chemical sewer treating system during last two weeks of July, 1982.

12. Pond sludge was fixed with limestone berm mix during August, 1982.

13. Clay cap and soil cap was installed during September, 1982.

14. Top soil and seeding was done during October, 1982.

15. On October 21, 1982, a formal, written "notice of pond closure" was submitted to the Michigan Department of Natural Resources. See attachment 6. The approximate cost of closure was $150,000.

16. Ms. Catherine Morse of the Michigan Department of Natural Resources visited our plant on November 9, 1982. The pond area was inspected by her and verified as closed.

SWS SILICONES CORPORATION

CLOSURE OF EVAPORATION-SETTLING POND
Refer to Drawing 0-181

I. Diking

Install dike across the pond, East to West, using Limestone Berm Mix. Top level will be 42" below final cap grade. Pump water from North portion of pond to South portion. This will allow drying and fixation of North portion. This will also facilitate settling and ultimate removal of the water from the South portion.

Berm mix, amount 600 cu yds.

If necessary to further facilitate water removal, it may be necessary to install another dike across the South portion of the pond, North to South. Pump water to Southwest section. This could allow more control and efficiency of removing all the water from the pond.

Berm mix, amount, 600 cu yds.

II. Water Removal

The South portion can be slowly pumped to the chemical sewer treating system at the rate of 10,000 gallons per day for an estimated 24 days. A study of the pond BOD and chloride levels, and the current stream 001 discharge BOD and chloride levels, indicates that we could handle 10,000 gallons per day of pond water. We may reach the maximum allowed BOD and chloride limits of the NPDES permit. The pond water would be controlled so as to not exceed (on purpose) these limits. As the weather gets colder, the BOD limit will be more difficult to control.

III. Fixation of Sludge

Add Limestone Berm Mix to fill in pond to a level within 42 inches of final grade; level of berm mix will vary from 3 to 4 feet deep. The berm mix will be compacted by 3 passes of a dozer.

Material, 4,000 to 4,600 cu yds.

IV. Fill

Cover pond with 12 inches of fill. This will be compacted in lifts of 6 inches each, with 3 passes of a dozer. The finished surface should be reasonably smooth and free of sharp objects.

Material, 1,300 cu yds.

V. Clay Capping

Cover pond with 12 inches of clay. This material must have a permeability less or equal to 1×10^{-7} cm/sec. This will be compacted in two 6 inch lifts, with 3 passes of the dozer. Contour as shown on Drawing 0-181, to over-lap whole area and slope Eastwards.

Material, 2,000 cu yds.

VI. Soil Layer

Cover clay layer with 12 inches of select soil. This will be compacted in lifts of 6 inches each, with 3 passes of a dozer. This should be natural or imported soil capable of sustaining shallow-rooted and/or deep rooted vegetation.

Material, 2,000 cu yds.

VII. Top Soil Layer

Apply 6 inches of top soil to bring the site to final grade. This should be natural or imported top soil capable of supporting indigenous vegetation.

Material, 1,000 cu yds.

VIII. Final Grading

The final grade shall be as shown on Drawing 0-181. This will be a 2% slope to the East. The East edge will have a 10:1 maximum slope.

IX. Seeding

Seed the entire area with a local blend of grass seed, or suitable ground cover vegetation, probably in the Spring.

X. Monitoring

The nine existing monitoring wells shall be sampled as required by the State.

XI. Record Keeping

A record will be kept of the pond location, size, amount of buried materials, well monitoring data, sample analyses data, and any other information required by the State.

SWS SILICONES CORPORATION
Gordon C. Philbrook

Gordon C. Philbrook

Envirnomental Control Coordinator
Professional Engineer
State of Michigan
9/26/80

STATE OF MICHIGAN
GORDON PHILBROOK
ENGINEER NO. 18243
REGISTERED PROFESSIONAL ENGINEER

SWS Silicones Corporation
ADRIAN, MICHIGAN 49221 • TELEPHONE (517) 263-5711

(2)

January 11, 1982

Mr. Brian Reicks
Michigan Department of Natural Resources
Water Quality Division
District #1
9311 Groh Road
Grosse Isle, Michigan 48138

Dear Mr. Reicks,

This letter is to confirm my telephone call to you on January 11, 1982 concerning the Closure Plan for the old evaporation-settling pond (Black Lagoon).

You said you would pull out the file and notify Mr. Roy Schrameck about our request to obtain comments concerning the Pond Closure Plan, which was submitted to the Michigan DNR on September 26, 1980.

As I indicated to you, the recently renewed NPDES Permit, Part I, A-7, compliance schedule says that we shall submit a pond closure plan and obtain approval of the plan from the Chief of the Water Quality Division by March 31, 1982.

Therefore, we are anxious to proceed with this matter and would appreciate a prompt answer from the Michigan DNR.

Yours truly,

SWS SILICONES CORPORATION

Gordon C. Philbrook

Gordon C. Philbrook
Environmental Control Coordinator

GCP:pb 82-08, Certified

SWS Silicones Corporation
ADRIAN, MICHIGAN 49221 • TELEPHONE (517) 263-5711

April 14, 1982

Mr. Roy Schrameck, District Engineer
Michigan Department of Natural Resources
Water Quality Division, District #1
9311 Groh Road
Grosse Ile, Michigan 48138

Dear Mr. Schrameck,

This letter is in answer to your letter of January 26, 1982 in which you requested additional information concerning the old evaporation pond, in order to evaluate our proposed Pond Closure Plan.

Table 1 attached is a summary of the pond sludge analyses for methyl chloroform in the raw sludge, the sludge leachate and the sludge/birm mix leachate.

We had problems getting a representative pond sample thru the ice and snow. We are now in the process of sampling the pond and we will send you the analyses around the end of April.

Yours truly,

SWS SILICONES CORPORATION

Gordon C. Philbrook

Gordon C. Philbrook
Environmental Control Coordinator

GCP:pb 82-93, certified

cc: J. Calamungi
T. J. Sayers

Table I

SWS SILICONES CORPORATION

Summary

Evaporation Pond Sludge Analyses; February 1982

Sample	Sample Location	% Methyl Chloroform(1)
A	NE Corner; N 1/2	18%
B	N Center; N 1/2	7.0%
C	Center; N 1/2	0.16%
D	W; N 1/2	2.5%
E	SE Corner; S 1/2	0.24%
Composite (2)	----	7.1%

(1) By chloroform extraction; then NMR

(2) Used weighted average based upon estimated volumes of sludge at each location. However, we skewed the composite to the high side, in order to get a better study of the effects of fixing with birm mix.

Sample	Sample Location	Leach Water; mg/l Methyl Chloroform
A	NE Corner; N 1/2	45 mg/l
C	Center; N 1/2	0.54 mg/l
Composite (2)	----	27 mg/l

Birm Mix Ratios		Leach Water; mg/l Methyl Chloroform
Sample A, 1 part	to 4 parts birm mix	0.10 mg/l
Composite, 1 part	to 2 parts birm mix	0.17 mg/l
Composite, 1 part	to 4 parts birm mix	0.09 mg/l

SWS Silicones Corporation
ADRIAN, MICHIGAN 49221 • TELEPHONE (517) 263-5711

(4)

May 27, 1982

Mr. Roy Schrameck, District Engineer
Michigan Department of Natural Resources
Water Quality Division, District #1
9311 Groh Road
Grosse Ile, Michigan 48138

Dear Mr. Schrameck:

As requested in your letter of January 26, 1982, we are enclosing analytical information, from duplicate samples, of the old evaporation pond water. These were analyzed for DEHP, 1,1,1 trichloroethane, trichloroethylene, 1,2-t-dichloroethylene, 1,1-dichloroethane, ethylbenzene, tetrachloroethylene, and toluene.

The DEHP was analyzed on a separate sample, and showed an ND (<20 micrograms/liter) level. However, we have not received a formal letter from Shrader labs, yet, on the DEHP results.

Based on this data, and also the fact that the NPDES parameter items, such as TSS, BOD and chlorides are also low, we would like to start discharging this pond water to the chemical sewer system at the rate of about 20,000 to 30,000 GPD.

As you know, this water would receive further treatment in the chemical sewer system. The discharge rate would be controlled so that there would be no risk of exceeding any NPDES parameters.

Any final Pond Closure Plan must include removal of the pond water as a preliminary step. Pond water removal would eliminate the hydraulic head over the pond sludge and would also allow the sludge to dry out, so that future treatment would be more effective.

This would be of great help in meeting our pond closure target date of September 30, 1982.

Yours truly,

SWS SILICONES CORPORATION

Gordon C. Philbrook

Gordon C. Philbrook
Environmental Control Coordinator

GCP:pb 82-138, certified

cc: J. Calamungi
G. L. Ford
~~B. W. Callan~~
T. J. Sayers

bcc: L. R. Andre
L. C. Ausderau
J. M. Barancin
J. W. Lorenzen

FILE

SHRADER ANALYTICAL
&
CONSULTING LABORATORIES , INC.

PRIORITY POLLUTANT SUMMARY

CUSTOMER . . SWS SILICONES CORP DATE : 20-MAY-82
SAMPLE : 7361 SAMPLE# 56304

CONC. UNITS : MICROGRAMS/LITER LIMIT OF DETECTION : 2.

COMPOUND	CONC.	# IC
INTERNAL STANDARD AREA : 822.		
1,1,1-TRICHLOROETHANE	346.6	4
TRICHLOROETHYLENE	< 2	3
1,2-TRANS-DICHLOROETHYLENE	49.1	1
1,1-DICHLOROETHANE	346.5	3
ETHYLBENZENE	< 2	1
TETRACHLOROETHYLENE	< 2	3
TOLUENE	131.7	2

ND = NOT DETECTED

OTHER COMPOUNDS DETECTED

SCAN	IONS	COMPOUND NAME

SHRADER ANALYTICAL
&
CONSULTING LABORATORIES , INC.

PRIORITY POLLUTANT SUMMARY

CUSTOMER . . SWS SILICONES DATE : 20-MAY-82
SAMPLE : 7362 SAMPLE# X-56304

CONC. UNITS : MICROGRAMS/LITER LIMIT OF DETECTION : 2.

COMPOUND	CONC.	# IO
INTERNAL STANDARD AREA : 1003.		
1,1,1-TRICHLORDETHANE	311.5	4
TRICHLORDETHYLENE	2.3	5
1,2-TRANS-DICHLORDETHYLENE	50.9	4
1,1-DICHLORDETHANE	307.9	3
ETHYLBENZENE	ND	
TETRACHLORDETHYLENE	< 2	5
TOLUENE	149.9	1

ND = NOT DETECTED

OTHER COMPOUNDS DETECTED

SCAN	IONS	COMPOUND NAME

STATE OF MICHIGAN

NATURAL RESOURCES COMMISSION
JACOB A. HOEFER
CARL T. JOHNSON
E.M. LAITALA
[illegible]RY F. SNELL
[illegible]RY H. WHITELEY
JOAN L. WOLFE
CHARLES G. YOUNGLOVE

WILLIAM G. MILLIKEN, Governor

DEPARTMENT OF NATURAL RESOURCES

HOWARD A. TANNER, Director

STEVENS T. MASON BUILDING
BOX 30028
LANSING, MI 48909

Water Quality Division
9311 Groh Road
Grosse Ile, Michigan 48138

July 26, 1982

Mr. Gordon C. Philbrook
Environmental Control Coordinator
SWS Silicones Corporation
Adrian, Michigan 49221

Dear Mr. Philbrook:

We have completed our review of your September 26, 1980 Closure Plan for the "Black Pond" and subsequent submittals of January 11, January 29, April 14 and May 27, 1982. Based on our review, we are approving your September 26, 1980 Closure Plan with the following conditions:

1. The sludge in the Pond shall be mixed with "birm mix" at a ratio of 1 part sludge to 4 parts "birm mix" prior to any backfilling rather than just adding "birm mix" on top of the existing sludge as depicted in Part III of your Plan and drawing 0-181. The "birm mix" shall be added to the existing sludge in a manner guaranteed to provide complete mixing.

2. The backfill materials and thicknesses specified in Part III, IV and V of your Plan shall be adjusted to provide a minimum clay cap thickness of 36 inches while still maintaining the final grade as specified in Part VIII of your Plan and shown on drawing 0-181.

3. All backfill materials shall be compacted as specified in your Plan with no single lift exceeding six inches.

4. As I discussed with you by telephone on July 15, 1982, the water in the Pond can be transferred to the Chemical Sewer for treatment and discharge through outfall 001 at a rate not to exceed 30,000 gpd and on a Monday through Friday only basis.

Based on the above conditional approval, your facility is hereby considered to be in compliance with Part I.C.4.a. of NPDES Permit MI0026034.

MICHIGAN
THE GREAT LAKE STATE
31026 1/79

issued to SWS Silicones Corporation on December 21, 1981. If you should have any questions pertaining to this correspondence, please contact me at (313) 675-0860.

Yours truly,

WATER QUALITY DIVISION

Robert J. Courchaine
Division Chief

Roy E. Schrameck

By: Roy E. Schrameck, P.E.
District Engineer

RJC:RES/sc

cc: Bill Iversen
Scott Ross
John Bohunsky/WQD files

SWS Silicones Corporation
ADRIAN, MICHIGAN 49221 • TELEPHONE (517) 263-5711

October 21, 1982

Chief Engineer
State of Michigan
Department of Natural Resources
Water Quality Division
P.O. Box 30028
Stevens T. Mason Building
Lansing, Michigan 48909

Re: SWS SILICONES CORPORATION
NPDES Permit MI0026034

Gentlemen:

This letter concerns Special Condition Number Seven (7) of our NPDES permit, and is a final report and confirmation of the sludge fixation and closure of our old evaporation pond (Black Lagoon).

I am certifying in writing that the closure has been completed in accordance with the approved plan, which was submitted on September 26, 1980, with subsequent submittals of January 11, 1982, January 29, 1982, April 14, 1982, and May 27, 1982, and which was amended by a letter from Mr. Roy Schrameck of the MDNR, dated July 26, 1982.

Sincerely yours,
SWS SILICONES CORPORATION

Gordon C. Philbrook

Gordon C. Philbrook
Environmental Control Coordinator
Professional Engineer
State of Michigan

GCP:NM 82-339 Certified
cc: R. Schrameck, DNR, Dist. #1 Certified
J. Calamungi
T. J. Sayers (Westport)
W. P. Pagano (Westport)

bcc: L. C. Ausderau (A/R file)
J. M. Barancin
G. L. Ford (Westport)
T. Helfgott, (Dobbs Ferry)
H. Kim
B. McClellan (Westport)
G. H. Meyer (Meyer & Kirk)
G. R. Wolf

STATE OF MICHIGAN
GORDON PHILBROOK
ENGINEER
NO. 18243
REGISTERED PROFESSIONAL ENGINEER

SWS Silicones Corporation

ADRIAN, MICHIGAN 49221 • TELEPHONE (517) 263-5711

October 31, 1983

RECEIVED
WASTE MANAGEMENT BRANCH

Mr. Allen A. Debus
United States Environmental Protection Agency
Region V
RCRA Activities, Part B Permit Application
Technical, Permits and Compliance Section
230 South Dearborn Street
Chicago, Illinois 60604

Re: RCRA Part B Application
SWS Silicones Corporation
EPA ID# MID075400671
5HW-13

Dear Mr. Debus:

In regards to your visit to our facility on October 13, 1983, this letter is to inform you that we have since caulked the pad-diking systems under the three storage tanks, T-101, T-105, and T-108. Evidently some of the expansion joint between the pads and diking walls had failed.

We used an RTV (Room Temperature Vulcanizing) silicone sealant, which would not be affected by the solvents, in case there was a spill inside the diked area. This material is also resistant to sunlight and cold weather.

If there are any other questions or concerns, please let us know.

Yours truly,

SWS SILICONES CORPORATION

Gordon C. Philbrook

Gordon C. Philbrook
Environmental Control Coordinator

GCP:pb 83-213, certified

cc: Mr. W. C. McIntosh, MDNR, Hazardous Waste Div.; certified
Mr. J. Calamungi

137-15

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION V

DATE: OCT 2 1 1983

SUBJECT: Notes from RCRA Pre-permit Inspection of SWS Silicones in Adrian, Michigan, U.S. EPA ID# MID075400671

FROM: Allen A. Debus, State Technical Unit 3 Allen A. Debus, 10/21/83

TO: File

THRU: William E. Muno, Chief
State Technical Unit 3 WEM

On October 13, 1983, Mr. Allen A. Debus of U.S. EPA, and Bob Basch and Chad McIntosh of the Michigan Department of Natural Resources (MDNR) met with Joe Calimungi, Gordon Philbrook, and Haik Kim of SWS Silicones (SWS) for the purposes of conducting a RCRA pre-permit inspection. The hazardous waste container and tank storage areas were inspected. Additionally, the juxtaposition of the Raisin River which flows on the property, and an inactive surface impoundment were observed.

The container storage area was observed to have been placed out-of-doors on a concrete secondary containment area. The 8 inch thick concrete surface had not been epoxy-sealed, but had a diked area 3 to 4 feet high which was sufficient to contain 800 drums according to U.S. EPA regulations. The concrete surface appeared free of holes or cracks. There were 150 drums present in the area stacked 3 pallets high. A 2 feet 8 inch high ramp led into the area. The sump was closed as is normally the practice. After a daily inspection it is opened to drain any rainwater that has collected. The drained water is passed to the chemical sewer system which is then discharged under an NPDES permit.

The inspectors observed that there was 2 to 3 inches of water present on the containment area. The drums were labeled as "hazardous waste", and appeared to be in good condition. Although there were no warning signs placed around this area, SWS personnel indicated that the appropriate signs were placed about the perimeter of the facility and that the facility was managed in conformance with 40 CFR Part 264.14. Since the drums closest to the east wall of the containment area were stacked six to seven feet above the rim of the dike, it was recommended that the 3rd level pallet closest to the wall be removed and placed elsewhere, so that a fork-truck wouldn't accidentally knock drums out of the containment area onto the adjacent field.

Three tanks were observed in the hazardous waste tank storage area. Each one had its own secondary containment area to conform with MDNR rules. The tanks were resting on a concrete surface and both the concrete and the tanks appeared to be in good condition. Overflow from the secondary containment area is routinely drained through a drainage system to the chemical sewer system. The joints between diking and concrete surfaces

137-13

were not entirely intact in some instances. It was indicated that several features of the tank that should have been inspected on a daily basis (40 CFR Part 265.194) were being inspected on a weekly basis instead.

The Raisin River flows onto the SWS property, although according to the MDNR (letter dated March 25, 1982), the 100-year flood elevation is approximately 46 to 51 feet below the active portion of the facility. The information called for in 40 CFR 270.18 regarding submittal of required information in the Part B application by owners/operators of facilities located in the 100-year floodplain does not exempt facilities whose active portion lies above the 100-year floodplain. SWS does not intend to use this portion of the facility for any constructive purpose and would be willing to address this in terms of a RCRA permit condition. Perhaps the proper procedure would be to request that SWS petition for exemption (if they want it) from the 40 CFR Part 270.18 requirement via the provisions of 40 CFR Part 260.20.

SWS also has an inactive surface impoundment on their property. At the present, U.S. EPA is not certain if it was used to treat/store or dispose hazardous wastes. Following is a brief historical outline of the recent history of the impoundment:

November - 1979	--	MDNR issues SWS a notice of violation due to groundwater contamination. SWS had violated their NPDES permit. The pond is unlined.
May - 1980	--	Discontinued use of the pond, no modifications effected, other than installation of groundwater monitoring wells.
Late - 1981	--	Closure plan approved by MDNR. A dike was constructed across the pond to allow evaporation on one side, but this was not successful.
July thru October, 1982	--	Closure effected through pond aeration and lime treatment, pumped out water which was then passed through chemical sewer system in conjunction with the SWS NPDES permit. A clay cap was added, and a top soil - grass cover added over the clay.

This writer spoke with Mr. Philbrook on October 17, 1983, and was informed that U.S. EPA must make a request in writing before SWS will send additional information regarding the surface impoundment. The U.S. EPA must do this in order to determine whether the SWS pond should have been regulated as a storage facility even though wastes were not added to it after November, 1980.

5HW-13:AADEBUS:ap:6-3731:10/19/83 (Disk #6)

	TYPIST	AUTHOR	STU #1 CHIEF	STU #2 CHIEF	STU #3 CHIEF	TPS CHIEF	WMB CHIEF	WMD DIRECT.
INITIALS	ap	[illegible]			WEY			
DATE	10/19/83	10/21/83			10/21/83			

SEP 2 9 1983

5HW-13

Mr. Joseph Calimungi
Director of Manufacturing
SWS Silcones Corporation
Sutton Road
Adrian, Michigan 49221

Dear Mr. Calimungi:

We have received your Resource Conservation and Recovery Act (RCRA) Part B permit application, and additional information dated July 28, 1983. The United States Environmental Protection Agency (U.S. EPA) has reviewed this material and has determined that your application is complete. Technical review of your application will begin shortly.

In accordance with 40 CFR Part 124.3, we reserve the right to request any additional information or to schedule a site visit if we feel that it is necessary to evaluate your application.

Please contact Mr. Allen A. Debus of my staff at (312) 886-3731, if you have any questions or need any assistance.

Sincerely yours,

William H. Miner, Chief
Technical, Permits and Compliance Section

137-10

	TYPIST	AUTHOR	STU #1 CHIEF	STU #2 CHIEF	STU #3 CHIEF	TPS CHIEF	WMB CHIEF	WMD DIR.
INITIALS	ap	AD			WEM			
DATE	9/29/83	9/27/83			9/27/83	9/28/83		

5HW-13:AADEBUS:ap:6-3731:9/27/83

OCT 4 1983

5HW-13

Mr. Alan J. Howard
Office of Hazardous Waste Management
Michigan Department of Natural Resources
P.O. Box 30028
Lansing, Michigan 48909

Re: Hazardous Waste Part B
Permit Application
Facility U.S. EPA ID#: MID007540671
Facility Name: SWS Silicones Corporation

Dear Mr. Howard:

This is to inform you that with the receipt of additional information submitted to the United States Environmental Protection Agency (U.S. EPA) dated July 29, 1983, the Part B application for SWS Silicones Corporation is now considered complete. In accordance with the FY '83 Cooperative Arrangement, you are hereby requested to conduct a technical review of SWS Silicones' Part B application. This should be completed by November 15, 1983. If the State recommends issuance of the permit, please submit a draft permit and Statement of Basis as well within two months from the date of technical review completion.

Mr. Allen A. Debus of my staff shall also perform a technical review of the complete Part B application in order to gain familiarity with the facility's operations. This will facilitate his later review of your draft permit after it is completed. If you have any further questions regarding these matters, please contact Mr. Debus at (312) 886-6731.

Sincerely,

William H. Piper, Chief
Technical, Permits and Compliance Section

	TYPIST	AUTHOR	STU #1 CHIEF	STU #2 CHIEF	STU #3 CHIEF	TPS CHIEF	WMB CHIEF	WMD DIRECTOR
INITIALS	CJ							
DATE	10/4/83	10/4/83			10/4/83	10/4/83		

5HW-13:AADEBUS:ap:6-3731:9/30/83

OCT 2 5 1983

5HW-13

Mr. Joseph Calimungi
Director of Manufacturing
SWS Silicones Corp.
Sutton Road
Adrian, Michigan 49221

Dear Mr. Calimungi:

I have been informed by Mr. Allen A. Debus of my staff of his site-inspection of the SWS Silicones manufacturing plant in Adrian, Michigan. This was conducted on October 13, 1983. This inspection will greatly assist the United States Environmental Protection Agency (U.S. EPA) in completing its technical review of your Part B Hazardous Waste Permit Application.

At this time, in order to proceed with the technical review, the U.S. EPA requests that additional information be submitted regarding the inactive surface impoundment located on your facility. Mr. Debus has informed me that the pond was not used after May of 1981, and was closed last year at the request of the Michigan Department of Natural Resources (MDNR). He also explained that the pond was the source of some groundwater contamination some years ago, and that you have properly filed a notice under the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA). In order to properly access whether the pond should be considered as an additional treatment, storage or disposal facility, the U.S. EPA requests that the following information be provided. Failure to provide this information by December 1, 1983, could warrant permit denial, and/or termination of interim status.

1. A historical outline describing the course of events leading toward the eventual closure of the surface impoundment including all construction and/or retrofitting phases should be provided.

2. A description of wastes which were managed in the surface impoundment during its active life should be provided, including a discussion as to whether the wastes were hazardous as defined in 40 CFR Part 261.

3. A statement as to SWS's intent for closure of the surface impoundment should be provided (i.e., was the impoundment closed with the ultimate intention of removing it later and disposing it elsewhere, or was closure meant to constitute final disposal).

137-14

4. A copy of MDNR's approved closure plan, and a copy of the signed certification of closure should be provided.

Should you have further questions or comments regarding this matter, please contact Mr. Allen A. Debus of my staff at (312) 886-3731.

Sincerely yours,

William H. Miner, Chief
Technical, Permits and Compliance Section

cc: Chad McIntosh, MDNR

	TYPIST	AUTHOR	STU #1 CHIEF	STU #2 CHIEF	STU #3 CHIEF	TPS CHIEF	WMB CHIEF	D
INITIALS	ap	AD			WEM			
DATE	10/21/83	10/21/83			10/24/83	10/24/83		

5HW-13:AADEBUS:ap:6-3731:10/21/83 (Disk #1)

9-7-83

WS MEETING 9-7-83 SE

5X20 1 tier

Bottom 6' down, 3 feet cover

Sept 72 - burial date

Derivation of aquatic safe limits

Acute number - safe concentrations for 4 organisms determined lowest used then divided by 6

Chronic number -

Sayers asked for copy of methodology

If groundwater problem - need to develop human life cycle safe value

Generally lower than number's generated for surface water

Carcinogens - limit most restrictive of:

1. Hold the line - existing discharge
2. Technology
3. Human life cycle safe

Unpermitted discharge - no mixing (dilution) allowed according to Duling

If permitted - could use 1/4 of the stream as mixing zone

For chronic number

We need to look into this

Also, Linn said we could not permit a non-point source

True?

Discussion of vertical extent of plume

Hydrogeologic study did not provide data to conclude that all of the contaminated water is vented

Although probability is low of bypass, it is possible

Agreed to further hydrogeologic investigation to define vertical extent

Need to consider fact that plume may be restricted by company property

If barrels are exposed to air:

- HCl will be developed
- Could have development of lt - flammability

Material is acidic + drums have probably corroded extensively

Could end up with trench of reactive materials

Disposal of reactive material - can't go to landfill even with treatment

Reproduced by the State of Michigan

Would have to burn entire overpack, drum + material
Estimate removal at $400,000

Need a good bit of time to do the engineering to plan to expose the drums
Then after viewing drums - how can they be removed
Drums may crumble during removal

From here

1. Determine whether or not there's risk
2. If risk - what needs to be done to control risk
   May not be drum removal

Can we leave drums in ground
What remedial action is necessary

Reproduced by the State of Michigan

Verify reactivity of material in drums if exposed to air

Verify problems in disposing material

Air Temp vs HCl

A meeting was held with SWS Silicones and Stauffer representatives to discuss cleanup of the drum burial site. DNR staff attending were: Bob Babcock, Steve Eldridge (SWOD-Jackson District), Elmore Eltzroth (GWOD-Jackson District) and Linn Duling (ESD-TCES). Company participants are listed on the attached attendance sheet.

The drums were buried in September, 1972 (roughly). The drums contain various materials which are gelatinous and acidic. There are 100 to 125 drums in one trench. There is 3 feet of cover over the drums. The company claims that drum integrity is suspect because of the acidic nature of the material and the length of time since burial. They claim that should the material be exposed to air, a hydrochloric gas cloud will form (almost a certainty) and there is a good probability that hydrogen gas will be generated. The gas would create a definite explosion/fire hazard.

The company also claims that even if the drums could be placed in overpacks, they could not be disposed of easily. Because the material is reactive (fire/explosion), it cannot be landfilled. The drums will have to be incinerated (overpacks and all).

The company estimated the cost of removal and disposal at $200,000 to $400,000.

- GW degradation exp if under plant owned property

The company wanted to be assured that the risk of leaving the drums in place was truly an "unacceptable risk". They asked Linn Duling to describe the derivation of the numbers he generated. The acute and chronic aquatic protection concentrations are based on studies of the effects of these materials on test organisms. A safety factor is then applied. The carcinogenic numbers were based on a human lifecycle safe model for a surface water discharge (fish consumption, slight water intake). The carcinogen numbers would change (probably decrease) if a groundwater discharge were considered. The volume of contaminated water consumed in such a model increases.

Linn also described that a discharge of carcinogenic material would be limited by the most restrictive of

1- a hold the line posture: no increase in the discharged concentration (?IF?) is acceptable

2- the quality achievable by the best practical treatment technology

3- human life cycle safe concentration

Linn also stated that because the discharge is not permitted, dilution in the mixing zone cannot be allowed. This dilution factor is considerable. In fact, if dilution were considered, the surface water impact would be acceptable. However, according to Linn, the discharge cannot receive a permit

Reproduced by the State of Michigan

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C. 20460

AUG 17 1983

OFFICE OF
SOLID WASTE AND EMERGENCY RESPONSE

MEMORANDUM

SUBJECT: Clarification of Inactive/Active Storage and Disposal Facilities under RCRA.

FROM: John Skinner
Director
Office of Solid Waste (WH-563)

TO: Thomas W. Devine
Director, Air and Waste Management Division
Region IV

RECEIVED
AUG 22 1983
WASTE MANAGEMENT BRANCH

We apologize for the delay in answering your memorandum of December 9, 1982, requesting clarification of EPA policy concerning active and inactive storage facilities under RCRA. The issue was more complex than it appeared and our review included extensive discussion with the Office of General Counsel before we came to a decision on the policy questions raised in your memorandum.

Your interpretation of the distinction between active and inactive storage facilities is correct. Storage is an ongoing process as opposed to disposal, which is intended to be the final step in handling hazardous waste. This interpretation is based on EPA's existing regulatory definitions of "storage" and "disposal." "Storage" occurs when waste is held for a temporary period at the end of which the waste is treated, stored or disposed elsewhere. Thus "storage" always implies that there will be future management of the waste after the storage period is over. Any facility which is storing hazardous waste that was placed onsite on or before November 19, 1980, is an active storage facility and is subject to the provisions of RCRA, even if no hazardous waste was placed onsite after November 19, 1980. This applies to storage in surface impoundments and waste piles as well as to storage in tanks and containers. If a waste pile or surface impoundment is a storage facility, it should be managed in accordance with the interim status requirements. If, however, the placement of waste in the surface impoundment or waste pile occurred before November 19, 1980, and such placement constituted final disposal, the interim status requirements would not apply

to the facility unless the owner or operator engaged in significant management activities after November 19, 1980. EPA can rely upon either §7003 of RCRA or Superfund to mitigate any adverse impacts. The owner or operator should also be told to notify the Office of Emergency and Remedial Response under the provisions of §103(c) of CERCLA.

If you have any further questions about this issue, please contact Chaz Miller at (FTS) 382-4535.

cc: Hazardous Waste Division Directors, Regions I-III, V-X
Hazardous Waste Branch Chiefs, Regions I-X

Date: 9/2/83
Revision: 1

SWS Silicones Corporation

ADRIAN, MICHIGAN 49221 • TELEPHONE (517) 263-5711

August 24, 1983

Richard H. Gascoigne M.D.
Mill Road
Adrian, Michigan 49221

Dear Dr. Gascoigne:

In accordance with the Hazardous Wastes Management rules and regulations pulmugated by the U.S. Environmental Protection Agency, we must have a contingency plan which includes arrangements agreed to by local agencies, in the event of a plant emergency, such as fires, explosions or spills, involving hazardous wastes.

Our understanding is that you will provide assistance through the Bixby Hospital emergency room as outlined in the Lenawee County Disaster Plan procedure.

Please acknowledge this letter, along with any other appropriate comments.

Yours truly,

SWS SILICONES CORPORATION

Gordon C. Philbrook

Gordon C. Philbrook
Environmental Control Coordinator

GCP:pb 83-165

cc: J. Calamungi
T. E. Degnan
H. Kim

Dear Gordon
I'd be happy to help in any way.
Rick

SEP 2 1983

RCRA INSPECTION OVERSIGHT

I. Installation: SWS Silicones

EPA ID.#: MID075400671

Check Either: ____ Major Installation

✓ Non-Major Installation

Installation Activities:

____ Generator

____ Transporter

✓ Treatment/Storage/Disposal Facility

Authorized State?: ____ Yes ✓ No

II. Inspector: Bob Busch

Organization: MDNR

Telephone: ____

III. Evaluator: A Detus

Organization: U S EPA

Telephone: 312-886-6151

IV. Date of Inspection: 10/13/83 Time: (from) 9:30 (to) 12:00

V. Inspection Evaluation

A) Pre-inspection Preparation	Yes	No	Remarks
1) Did the inspector have a complete set of RCRA regulations with him?	✓		
2) Did the inspector review the Part A application or effective permit before beginning the inspection?	✓		

PLEASE FORWARD A COPY OF THE FRONT SHEET ONLY OF THIS EVALUATION FORM WITHIN 5 DAYS FROM THE DATE OF INSPECTION TO Ken Skahn, 5HW, STU #2. (THE ORIGINAL SHOULD GO TO THE STATE COMPLIANCE OFFICER FOR ENTRY INTO HWDMS AND FILING IN THE INSTALLATION COMPLIANCE FILE.)

	Yes	No	Remarks
r have personal t?	✓		
terview			
ector identity owing the to perform ections?	✓		
inspector he owner/ r of the e of the in- on and briefly ibe the agenda?	✓		
the inspector pful to the owner/ rator by giving planations and idance?	✓		
nent Inspection			
Documents reviewed by the inspector:			
a) Part A application or issued permit	✓		
b) Operator inspection log and schedule	✓		
c) Personnel training record	✓	✓	
d) Operating record	NA		
e) Contingency plan	✓		
f) Waste analysis plan	✓		
g) Closure & Post Closure plan	✓	✓	
h) Financial Instruments		NA	
i) Manifests	✓		
j) Ground Water Monitoring Reports			
k) Other			

Note. Part B had been called in & was previously reviewed by inspector.

	Yes	No	Remarks
2) Were documents reviewed thoroughly?	✓		
D) Facility Inspection			
1) Did the inspector observe all required items and correctly record the observations?	✓		
2) Did the inspector ask pertinent questions regarding the processes and wastes management practices used at the facility?	✓		
3) Did the inspector ask questions about non-regulated activities of the facility?	✓		
4) Did the inspector identify any activities which are regulated but not on the Part A or Permit?	✓		
E) Knowledge of the Regulations			
1) Was the inspector knowledgeable of RCRA regulations applicable to the facility?	✓		
2) Was the inspector aware of recent amendments to the regulations that may affect the conduct of this inspection?	✓		
3) Was the inspector able to answer questions accurately?	✓		
4) Did the inspector commit to get answers to questions that couldn't be answered during the inspection?	✓		
F) Completion of Inspection Forms			
1) Did the inspector fully complete the inspection forms during the inspection?	✓		

	Yes	No	Remarks
2) Did the inspector make adequate use of written comments to clarify the report?	✓		
3) Were the inspector's comments factual observations rather than opinion?	✓		
4) Does the inspector's report accurately reflect your observations at the facility?	✓		

G) Remarks

1) What is your overall assessment of the inspection and the inspection report?

Good, informative inspection.
Mr. Rasch's assistance was invaluable
Haven't seen MDNR's inspection report

2) What, if anything, would you recommend that the inspector do differently?

3) Additional remarks from other sections:

EXHIBIT A

37-12

SWS SILICONES CORPORATION
NOTICE TO
GOVERNMENT INSPECTOR

Plant Location ADRIAN, MICHIGAN

Name of Inspector Mr. Allen Debus

Date of Inspection October 13, 1983

Statutory Authority For Inspection RCRA PRE-PERMIT INSPECTION

1. SWS Silicones Corporation ("SWS") has admitted you to its plant mentioned above pursuant to the showing of proper credentials and a Notice of Inspection.

2. You are entering the plant under the statutory authority cited above. SWS hereby objects to and reserves the right to challenge any inspection beyond that authorized by such statutory authority.

3. SWS does not warrant the condition of the portions of its plant to which you will have access during your inspection pursuant to the authority set forth above. You shall conduct the inspection at your own risk and you shall be fully and solely responsible for any injury or damage to your property and/or personnel sustained during the course of this inspection.

4. SWS hereby notifies you that certain information about the plant (or about SWS) which may be observed by you or disclosed to you by SWS during your inspection may be confidential and proprietary and a trade secret(s) of SWS. All such information shall be held by you and by the government agency you represent in confidence in accordance with all applicable statutes and regulations, including, but not limited to, in the case of an inspection by an agency of the United States, the provisions of 18 U.S.C. §1905.

5. If any sampling is performed during the plant visit, you shall, prior to leaving the plant, give to SWS a receipt describing any sample(s) taken, as well as a portion of each sample taken, equal in volume or weight to the portion of the sample retained by you. If an analysis of any such sample is made, SWS shall promptly be furnished a copy of the results of such analysis.

6. SWS hereby requests that it be furnished with a copy of any report or other document prepared by you based on or relating to the plant visit within 30 days after its preparation in order to permit SWS to ascertain whether any confidential and proprietary information of SWS is contained in such report or other document. All information about the plant or about SWS contained in any such report or other document shall be held by you and the government agency you represent in confidence in accordance with all applicable statutes and regulations until such time as SWS has been permitted an opportunity to review such report or document and has advised such government agency of those portions of the information about SWS or the plant contained therein which are nonconfidential.

SWS SILICONES CORPORATION

By Gordon C. Philbrook

Title Environmental Control Coordinator

received 10/13/83 during Site-inspection.

GES 8/2/83
Code O

RCRA Inspection Report

EPA Identification Number: M I D 0 7 5 4 0 0 6 7 1

Installation Name: SWS SILICONES CORPORATION

Location Address: Sutton Road

City: Adrian State: MI 49221,

Date of inspection: 6-1-83 Time of inspection (from) 1:15 PM (to) 2:30 PM

Person(s) interviewed	Title	Telephone
Gordon Phillbrook	Environ. Control Coord	517-263-5711
Hsik Kim	Project Engineer	"
Joseph Calamunzi	Director of Manuf.	"

Inspector(s)	Agency/Title	Telephone
HIEN Q. NGUYEN	Mich DNR / Env. Eng.	517 322-1687

Installation Activity (mark only one box) — Inspection Form(s)

- [X] ~~Treatment~~/Storage/~~Disposal~~ per 40 CFR 265.1 and/or Generation and/~~or Transportation~~ — (A)
- [ ] Treatment/Storage/Disposal (no generation or Transportation) — A
- [ ] Generation and Transportation — B, C
- [ ] Generation only — B
- [ ] Transportation only — C

SWS Silicones Corporation

ADRIAN, MICHIGAN 49221 • TELEPHONE (517) 263-5711

July 28, 1983

RECEIVED

WASTE MANAGEMENT BRANCH

Mr. William H. Miner, Chief
Technical, Permits and Compliance Section
United States Environmental Protection Agency
Region V
230 South Dearborn St.
Chicago, Illinois 60604

Re: RCRA Part B Application
Notice of Deficiency,
SWS Silicones Corporation
EPA ID# MID 075400671
5HW-13

Dear Mr. Miner:

This letter is in answer to the Notice of Deficiency of our RCRA Part B application, which we received on July 7, 1983.

Please refer to the attached listing which was part of your letter to us.

Item 1. Attached are copies of updated page B-3, with the scale of miles.

Item 2. Attached are copies of the revised page, C-20, describing the special provisions for storing ignitable wastes, as per our telephone call to Mr. Allen Debus. (It was unnecessary to have a page C-21A).

Item 3. Also, as discussed on the telephone with Mr. Allen Debus, no hazardous waste is allowed to enter the Chemical Sewer system, which is used for NPDES treatment only. Attached are updated pages of D-5 which clarify this item.

Item 4. The maximum stress for the three storage tanks, and the vapor pressure and specific gravity of the stored bulk wastes, are shown in attached updated pages D-5 and D-5a.

Item 5. Attached are updated pages D-7, D-8, D-9, D-10 and D-12 with the certification stamp.

Item 6. Attached are updated pages D-11 and D-15 which discuss in more detail the measures used to prevent overfilling of the storage tanks.

Item 7a and 7c. Attached are updated pages F-5 and F-10 concerning weekly inspections of surrounding areas, and daily inspections of the overflow pipes and level gauges.

received
8-8-83

COPY 2

Item 7b. As discussed on the telephone with Mr. Allen Debus, the three tanks do not have temperature or pressure gauges, since these tanks are used at ambient temperatures and pressures, only.

Item 8. A date of closure has been estimated for the container storage pad. Attached is updated page I-1.

Yours truly,

SWS SILICONES CORPORATION

Joseph Calamungi

Joseph Calamungi
Director of Manufacturing

JC:pb 83-144-GCP, certified
Enclosures: 4 sets

cc: G. L. Ford
W. P. Pagano
G. C. Philbrook

ATTACHMENT FOR SWS SILICONES CORPORATION OF ADRIAN, MICHIGAN

U.S. EPA ID #MID075400671

1. The topographic map shown on page B-3 of the Part B application does not include a scale of miles. A revised page showing the scale of miles should be submitted.

2. A description of special provisions taken for storing ignitable wastes should be provided. This should appear after page C-21 in the Part B application.

3. You should supply additional information describing your "chemical sewer" referenced on pages D-4 and D-5 of the Part B application. Particularly, how will this system prevent the release of hazardous wastes that are spilled in the containment area?

4. What is the maximum stress allowed by API Standard 650 for Tanks T-105 and T-108, and by ASME Code Section VIII for Tank T-101? What is the vapor pressure and specific gravity of the wastes stored in each of the respective tanks?

5. In Section D, several technical drawings were submitted without the proper certification. This must be provided.

6. What controls or measures are used to prevent overfilling of each tank?

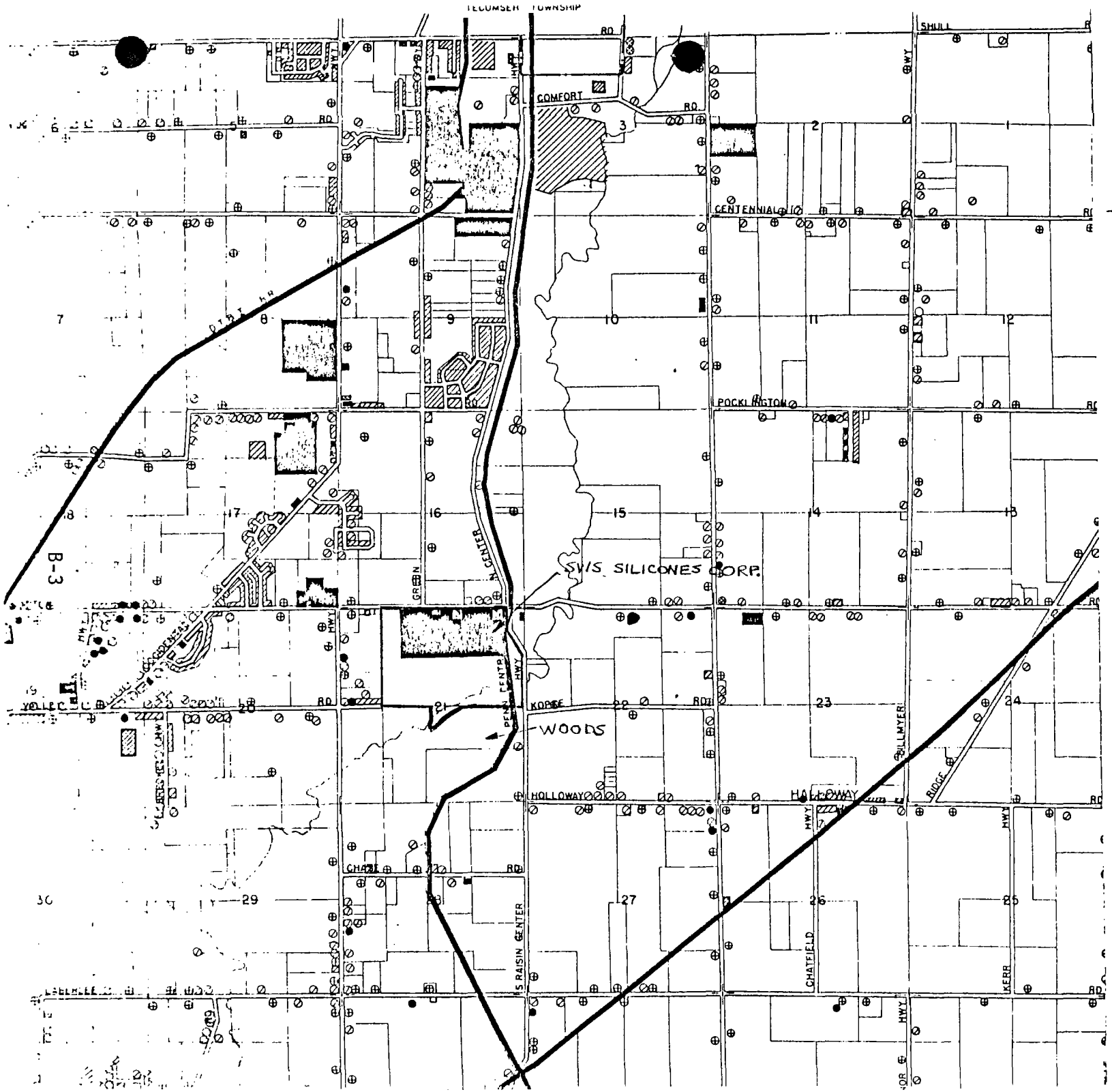
7. Your inspection log for tanks should be a modified to reflect the following activities:

   a. The area surrounding each tank should be inspected at least weekly to detect signs of leakage.

   b. Data gathered from monitoring equipment (e.g. pressure and temperature gauges) must be inspected at least once each operating day to ensure that the tank is being operated according to its design.

   c. Tank overfilling equipment must be inspected at least daily to ensure that it is in good operating order.

8. You must provide an estimate for the date of closure for container storage to supplement your closure plan. This estimate may be based on the postulated working life of the containment area.



LAND USE 197

L E G E N

- FARMSTEAD
- SINGLE FAMILY
- TWO FAMILY AND MULTIPLE DWEL
- MOBILE HOME
- LOCAL COMMERCIAL
- GENERAL COMMERCIAL
- LIGHT INDUSTRIAL
- HEAVY INDUSTRIAL
- RAILROAD
- TRANSPORTATION - UTILITIES TC.
- PARKS AND RELATED
- PUBLIC AND SEMI-PUBLIC
- WATER

Submitted
Date: 05/31/83
Revision No.: 01
7/28/83
B
Figure 8

STATE OF MICHIGAN

NATURAL RESOURCES COMMISSION
JACOB A. HOEFER
ROBERT HOLMES
E. M. LAITALA
HILARY F. SNELL
PAUL H. WENDLER
HARRY H. WHITELEY

JAMES J. BLANCHARD, Governor

DEPARTMENT OF NATURAL RESOURCES

STEVENS T. MASON BUILDING
BOX 30028
LANSING, MI 48909
James F. Cleary, Acting Director

July 15, 1983

Mr. William H. Miner, Chief
Technical, Permits & Compliance Section
U.S. EPA-Region V
230 South Dearborn
Chicago, Illinois 60604

Re: SWS Silicones Corporation
MID 075400671

Dear Mr. Miner:

The Part B Application for SWS Silicones Corporation has been reviewed for completeness.

The review checklist was completed and the response letter was drafted well within the time frame of the Cooperative Agreement which was noted in your 6/7/83 letter to Alan Howard. On July 8, we received your July 1, notice of deficiency to SWS Silicones. We concur, in general, with the notice of deficiency.

The deficiency comments appear to be of a technical nature rather than a completeness check. The review checklist that is enclosed represents only a completeness review. The technical review will begin after the application is determined to be complete.

Please send a second Part B Application. Contact me at (517) 373-2730, if you have questions.

Sincerely,

W. C. McIntosh

W. C. McIntosh, Engineer
Permit & Licenses Unit
Hazardous Waste Division

RECEIVED

Enclosure
cc: J. Traub, U.S. EPA
R. Lundgren

R1026

RECEIVED 7-25-83

COPY

JUL 01 1983

Mr. Joseph Calimunci
SWS Silicones Corporation
Sutton Road
Adrian, Michigan 49221

RE: Notice of Deficiency
Facility at Sutton Road
Adrian, Michigan
[illegible]

Dear Mr. Calimunci:

Pursuant to Section 3005 of the Resource Conservation and Recovery Act (RCRA), as amended and Code of Federal Regulations 40 CFR 270.10, 270.14 through 270.29, and 124.3, my staff has completed an initial review of your Part 1 application for an RCRA permit to treat and store hazardous waste. The purpose of this initial review is to check for completeness of your permit application against a list of required information delineated on pp. [illegible], [illegible], January 12, 1981.

As a result of this review, we found that your application is incomplete because it is deficient in several areas. You will be notified that the application is complete after you have corrected those deficient areas described in an attachment to this letter. The due date for the submittal of such information is September 1, 1983. However, you are encouraged to submit to us this information at your earliest convenience.

In reviewing your application for completeness, we have found areas where clarifications or supplemental information are needed for our review. We are, therefore, requesting that copies be provided in quadruplicate to us for review. Please note that requests of this type do not affect the status of your application.

Our Agency intends to work closely with the Michigan Department of Natural Resources (MDNR) in processing your Part 1 application. We will forward copies of all material submitted to the MDNR.

7/1/83

137-6

Again we are committed to conducting the RCRA permitting process as promptly and efficiently as possible. Please feel free to contact Mr. Allen A. Debus of my staff at (312) 886-3721 if you have any questions regarding this review.

Sincerely yours,

William N. Miner, Chief
Technical, Permits and Compliance Section

Attachment

cc: Alan J. Howard
Michigan Department of Natural Resources

bcc: Joe Boyle (SIO)
Jodi Traub (SS)

INITIALS	TYPIST	AUTHOR	STW #1 CHIEF	STW #2 CHIEF	STW #3 CHIEF	TPS CHIEF	WMMB CHIEF	W... DIR...
DATE	6/29/83		6/29/83		for WEM 6/29/83	WEM 7/1/83		

5HW-13:ADebus:THaywood:6/28/83

ATTACHMENT FOR DOW SILICONES CORPORATION OF ADRIAN, MICHIGAN

U.S. EPA ID #MID075400671

1. The topographic map shown on page B-3 of the Part B application does not include a scale of miles. A revised page showing the scale of miles should be submitted.

2. A description of special provisions taken for storing ignitable wastes should be provided. This should appear after page C-21 in the Part B application.

3. You should supply additional information describing your "chemical sewer" referenced on pages D-4 and D-5 of the Part B application. Particularly, how will this system prevent the release of hazardous wastes that are spilled in the containment area?

4. What is the maximum stress allowed by API Standard 650 for Tanks T-105 and T-108, and by ASME Code Section VIII for Tank T-101? What is the vapor pressure and specific gravity of the wastes stored in each of the respective tanks?

5. In Section D, several technical drawings were submitted without the proper certification. This must be provided.

6. What controls or measures are used to prevent overfilling of each tank?

7. Your inspection log for tanks should be a modified to reflect the following activities.

   a. The area surrounding each tank should be inspected at least weekly to detect signs of leakage.

   b. Data gathered from monitoring equipment (e.g. pressure and temperature gauges) must be inspected at least once each operating day to ensure that the tank is being operated according to its design.

   c. Tank overfilling equipment must be inspected at least daily to ensure that it is in good operating order.

8. You must provide an estimate for the date of closure for container storage to supplement your closure plan. This estimate may be based on the postulated working life of the containment area.

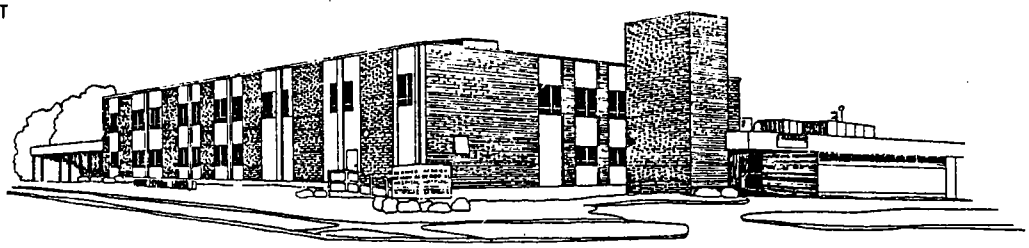
should also have a vacuum relief valve.

Submitted
Date: 5/31/83
Revision No.: 01
8/1/83

HERRICK MEMORIAL HOSPITAL

500 E. POTTAWATAMIE STREET
TECUMSEH, MICHIGAN 49286
(517) 423-2141

WILLIAM R. GROOVER
ADMINISTRATOR



July 8, 1983

Mr. Gordon Philbrook
Environmental Control Coordinator
Stauffer Chemical - SWS Silicons Corporation
Sutton Road
Adrian, Michigan 49221

Dear Gordon:

This letter is to assure you that within the limits of our capability we will be glad to care for any sick or injured personnel coming from your plant day or night.

Our Emergency Room is manned twenty-four (24) hours a day with physicians and we also have laboratory and x-ray personnel on-call around the clock.

In addition to the above we have the ability to land a Life Flight helicopter near our Emergency Room which carries a doctor and nurse for transferring patients to other Medical Centers as needed.

If you have any questions or comments please feel free to call me at any time.

Sincerely yours,

W. Groover

W. Groover

cc: Emergency Room
Outpatient

WG:zw

JUL 13 1983

MEMBER
National Sheriffs' Association
Michigan Sheriffs' Association

Sheriff's Department
LENAWEE COUNTY
405 N. WINTER ST.
ADRIAN, MICH. 49221

SHERIFF
RICHARD L. GERMOND
UNDERSHERIFF
RONALD R. WEILER
Phone: 517- 263-0524

Submitted
Date: 5/31/83
Revision No.: 01
8/1/83

July 6, 1983

Mr. Gordon Philbrook
SWS Silicones Corp.
3000 Sutton Rd.
Adrian, MI 49221

Dear Mr. Philbrook:

In the event of an emergency situation at your facility which would affect the health, well-being and property of surrounding residents and motorists, the Lenawee County Sheriff's Department and Office of Emergency Services would take the necessary actions in conjunction with the area Fire Departments to protect the life and health of the citizens and their property.

This would include invoking emergency disaster plans and annexes, (ACT 207 P.A. 1941, Act 390 P.A. 1976).

Immediate action to be taken would be to assess the potential threat, define the radius of evacuation, assign personnel to contact potential evacuees, traffic-control and establish mass care shelters.

Sincerely,

Bruce Lucey

Bruce Lucey, Captain
Deputy Director
Emergency Services

BL/es

JUL 7 1983

8/2/83
Code O
yes

June 13, 1983

Mr. Gordon Philbrook
Environmental Control Coordinator
SWS Silicones Corporation
P.O. Box 428
Sutton Road
Adrian, Michigan 49211

MID 075 400 671

Dear Mr. Philbrook:

On June 1, 1983, I conducted an inspection at SWS Silicones Corporation located in Adrian, Michigan to evaluate compliance of this facility with requirements of Subtitle C of the Resource Conservation and Recovery Act (RCRA) as amended.

My inspection revealed that your facility, as a storage facility, is in compliance with requirements of Subtitle C of RCRA.

Enclosed is a copy of my inspection report. Thank you for your time and cooperation. Please feel free to contact me at (517) 322-1687 if you have any questions or concerns relative to this report.

Sincerely,

HAZARDOUS WASTE DIVISION

Hien Q. Nguyen
Environmental Engineer

HQN/slp

cc: Bohunsky/Hazardous Waste Div.
U.S. EPA - Region V

5HW-13

JUN 7 1983

Mr. Alan J. Howard
Hazardous Waste Division
Michigan Department of Natural
Resources
P.O. Box 30028
Lansing, Michigan 48909

Facility EPA ID #: MID 075400671
Facility Name: S&S Silcones Corp.
Facility Address: 3901 Sutton Road
Adrian, Michigan

Dear Mr. Howard:

Enclosed is one copy of the Part B application and correspondence for the above referenced facility.

Your agency is requested to perform a completeness check of the application, prepare comments and draft a deficiency letter if appropriate. Please forward the filled-in checklist, review comments, and draft letter to this office by July 18, 1983. This will allow my staff 2 weeks to review the comments and issue the letter before expiration of the allotted 90 day review period.

Please contact Mr. Allen A. Debus, the responsible U.S. EPA person at 312/886-3731, if you have any questions regarding the application.

Sincerely yours,

William H. Miner, Chief
Technical, Permits and Compliance Section

Enclosure

bcc: Joe Boyle, (SIC)
Jodi Traub, (SS)

5HW-13:ADEBUS:ap:6-3731:6/3/83

137-4

	TYPIST	AUTHOR	STU #1 CHIEF	STU #2 CHIEF	STU #3 CHIEF	TPS CHIEF	WMB CHIEF	WMD DIRECTOR
INITIALS	ap				WEM			
DATE	6/6/83	6/6/83			6/6/83	6/6/83		

EXHIBIT A

SWS SILICONES CORPORATION
NOTICE TO
GOVERNMENT INSPECTOR

Plant Location Adrian, Michigan

Name of Inspector Hem P. Nguyen

Date of Inspection June 1, 1983

Statutory Authority For Inspection _____

1. SWS Silicones Corporation ("SWS") has admitted you to its plant mentioned above pursuant to the showing of proper credentials and a Notice of Inspection.

2. You are entering the plant under the statutory authority cited above. SWS hereby objects to and reserves the right to challenge any inspection beyond that authorized by such statutory authority.

3. SWS does not warrant the condition of the portions of its plant to which you will have access during your inspection pursuant to the authority set forth above. You shall conduct the inspection at your own risk and you shall be fully and solely responsible for any injury or damage to your property and/or personnel sustained during the course of this inspection.

4. SWS hereby notifies you that certain information about the plant (or about SWS) which may be observed by you or disclosed to you by SWS during your inspection may be confidential and proprietary and a trade secret(s) of SWS. All such information shall be held by you and by the government agency you represent in confidence in accordance with all applicable statutes and regulations, including, but not limited to, in the case of an inspection by an agency of the United States, the provisions of 18 U.S.C. §1905.

5. If any sampling is performed during the plant visit, you shall, prior to leaving the plant, give to SWS a receipt describing any sample(s) taken, as well as a portion of each sample taken, equal in volume or weight to the portion of the sample retained by you. If an analysis of any such sample is made, SWS shall promptly be furnished a copy of the results of such analysis.

6. SWS hereby requests that it be furnished with a copy of any report or other document prepared by you based on or relating to the plant visit within 30 days after its preparation in order to permit SWS to ascertain whether any confidential and proprietary information of SWS is contained in such report or other document. All information about the plant or about SWS contained in any such report or other document shall be held by you and the government agency you represent in confidence in accordance with all applicable statutes and regulations until such time as SWS has been permitted an opportunity to review such report or document and has advised such government agency of those portions of the information about SWS or the plant contained therein which are nonconfidential.

SWS SILICONES CORPORATION

By J. C. Pillbrook

Title Environmental Control Coordinator

INSPECTION FORM A

Section A: SCOPE OF INSPECTION.

1. Interim status standards for treatment storage or disposal of HAZARDOUS WASTES SUBJECT TO 40 CFR 265.1. Complete Inspection Form A sections B, C, D, E, and G.

2. Place an "X" in the box(es) corresponding to the facility's treatment, storage and disposal processes, and generation and/or transportation activity (if any). Complete only the applicable sections and appendixes.

Permit application process(es) (EPA Form 3510-3)			Inspection Form A section(s)
S01	[X]	storage in containers	I
S02	[X]	storage in tanks	J
T01	[ ]	treatment in tanks	J
S04	[ ]	storage in surface impoundment	K,F
T02	[ ]	treatment in surface impoundment	K,F
D83	[ ]	disposal in surface impoundment	K,F
S03	[ ]	storage in waste pile	L
D81	[ ]	disposal by land application	M,F
D80	[ ]	disposal in landfill	N,F
T03	[ ]	treatment by incineration	O/P
T04	[ ]	treatment in devices other than tanks, surface impoundments, or incinerators	Q

Other activities

GENERATOR	[X]	APPENDIX	GN
TRANSPORTER	[ ]	APPENDIX	TR

3. Indicate any hazardous waste processes, by process code, which have been omitted from Part A of the facility's permit application.

NONE

4. Indicate any hazardous waste processes (by process code and line number on EPA Form 3510-3 page 1 of 5) which appear to be eligible for exclusion per 40 CFR 265.1(c). Provide a brief rationale for the possible exclusion.

NONE

Section B: GENERAL FACILITY STANDARDS: (Part 265 Subpart B)

	YES	NO	NI*	Remarks
1. Has the Regional Administrator been notified regarding: 265.12	N/A			
a. Receipt of hazardous waste from a foreign source?				
b. Facility expansion?				
c. Change of owner or operator?				
2. General Waste Analysis: 265.13				
a. Has the owner or operator obtained a detailed chemical and physical analysis of the waste?	✓			
b. Does the owner or operator have a detailed waste analysis plan on file at the facility?	✓			
c. Does the waste analysis plan specify procedures for inspection and analysis of each movement of hazardous waste from off-site?	NA			No haz. wastes from off-site
3. Security - Do security measures include: (if applicable) 265.14				
a. 24-Hour surveillance?	✓			
or				
b. i. Artificial or natural barrier around facility?	✓			
and				
ii. Controlled entry?	✓			24-Hour Guard Service
c. Danger sign(s) at entrance?	✓			
4. Owner or operator inspections: 265.15				
a. Does the owner or operator inspect the facility for malfunctions, deterioration, operator errors, and dischanges of hazardous waste that may affect human health or the environment?	✓			

Not Inspected

	YES	NO	NI	Remarks
b. Does the owner or operator have an inspection schedule at the facility?	✓			
c. If so, does the schedule address the inspection of the following items:				
i. monitoring equipment?	NA			not required
ii. safety and emergency equipment?	✓			
iii. security devices?	✓			
iv. operating and structural equipment (i.e. dikes, pumps, etc.)?	✓			
v. type of problems to be looked for during the inspection (e.g. leaky fitting, defective pump, etc.)?	✓			
vi. inspection frequency (based upon the possible deterioration rate of the equipment)?	✓			
d. Are areas subject to spills inspected daily when in use?	✓			
e. Does the owner or operator maintain an inspection log or summary of owner or operator inspections?	✓			
f. Does the inspection log contain the following information:				
i. the date and time of the inspection?	✓			
ii. the name of the inspector?	✓			
iii. a notation of the observations made?	✓			
iv. the date and nature of any repairs or remedial actions?	✓			
5. Do personnel training records include: 265.16				
a. Job titles?	✓			
b. Job descriptions?	✓			

	YES	NO	NI	Remarks
c. Description of training?	✓			
d. Records of training?	✓			
e. Did facility personnel receive the required training by 5-19-81?	✓			
f. Do new personnel receive required training within six months?	✓			
g. Do personnel training records indicate that personnel have taken part in an annual review of initital training?	✓			
6. If required, are the following special requirements for ignitable, reactive, or incompatible wastes addressed? 265.17				
a. Special handling?	✓			
b. No smoking signs?	✓			
c. Separation and protection from ignition sources?	✓			

Section C: PREPAREDNESS AND PREVENTION: (Part 265 Subpart C)

Maintenance and Operation of Facility: 265.31	YES	NO	NI	Remarks
Is there any evidence of fire, explosion, or release of hazardous waste or hazardous waste constituent?		✓		
2. If required, does the facility have the following equipment: 265.32				
a. Internal communications or alarm systems?	✓			steam + air alarm system
b. Telephone or 2-way radios at the scene of operations?	✓			
c. Portable fire extinguishers, fire control, spill control equipment and decontamination equipment?	✓			

Indicate the volume of water and/or foam available for fire control:

Water : approx. 1500,000 gallons
plus own fire truck

	YES	NO	NI	Remarks
3. Testing and Maintenance of Emergency Equipment: 265.33				
a. Has the owner or operator established testing and maintenance procedures for emergency equipment?	✓			
b. Is emergency equipment maintained in operable condition?	✓			
4. Has owner or operator provided immediate access to internal alarms? (if needed) 265.34	✓			
5. Is there adequate aisle space for unobstructed movement?	✓			
6. Has the owner or operator attempted to make arrangements with local authorities in case of an emergency [illegible] the facility?	✓			

Section D: CONTINGENCY PLAN AND EMERGENCY PROCEDURES: (Part 265 Subpart D)

	YES	NO	NI	Remarks
1. Does the Contingency Plan contain the following information: 265.52				
a. The actions facility personnel must take to comply with §265.51 and 265.56 in response to fires, explosions, or any unplanned release of hazardous waste? (If the owner has a Spill Prevention, Control, and Countermeasures (SPCC) Plan, he needs only to amend that plan to incorporate hazardous waste management provisions that are sufficient to comply with the requirements of this Part (as applicable.)	✓			
b. Arrangements agreed by local police departments, fire departments hospitals, contractors, and State and local emergency response teams to coordinate emergency services pursuant to §265.37?	✓			
c. Names, addresses, and phone numbers (office and home) of all persons qualified to act as emergency coordinators?	✓			
d. A list of all emergency equipment at the facility which includes the location and physical description of each item on the list and a brief outline of its capabilities?	✓			
e. An evacuation plan for facility personnel where there is a possibility that evacuation could be necessary? (This plan must describe signal(s) to be used to begin evacuation, evacuation routes, and alternate evacuation routes?)	✓			
2. Are copies of the Contingency Plan available at the site and local emergency organizations? 265.53	✓			

	YES	NO	NI	Remarks
3. Emergency Coordinator 265.55				
a. Is the facility Emergency Coordinator identified?	✓			
b. Is coordinator familiar with all aspects of site operation and emergency procedures?	✓			
c. Does the Emergency Coordinator have the authority to carry out the Contingency Plan?	✓			
4. Emergency Procedures 265.56				
If an emergency situation has occurred at this facility, has the Emergency Coordinator followed the emergency procedures listed in 265.56?	NA			none has occurred

Section E: MANIFEST SYSTEM, RECORDKEEPING, AND REPORTING: (Part 265 Subpart E)

	YES	NO	NI	Remarks
1. Use of Manifest System 265.71				NA
a. Does the facility follow the procedures listed in §265.71 for processing each manifest? (Particularly sending a copy of the signed manifest back to the generator within 30 days after delivery.)				
b. Are records of past shipments retained for 3 years?				
2. Does the owner or operator meet requirements regarding manifest discrepancies? 265.72				
Not applicable to owners or operators of on-site facilities that do not receive any waste from off-site sources.				
3. Operating Record 265.73				
a. Does the owner or operator maintain an operating record as required in 265.73?	✓			
b. Does the operating record contain the following information:				
i. The method(s) and date(s) of each waste's treatment, storage, or disposal as required in 40 CFR Part 265 Appendix I?	✓			computer print out for waste inventory
ii. The location and quantity of each hazardous waste within the facility? (This information should be cross-referenced to specific manifest number, if waste was accompanied by by a manifest.)	✓			
***iii. A map or diagram of each cell or disposal area				

*** only applies to disposal facilities

	YES	NO	NI	Remarks
showing the location and quantity of each hazardous waste? (This information should be cross-referenced to specific manifest number, if waste was accompanied by a manifest.)	NA			
iv. Records and results of all waste analyses, trial tests, monitoring data, and operator inspections?	✓			
v. Reports detailing all incidents that required implementation of the Contingency Plan?	NA			no incidents have occurred
vi. All closure and ~~post-closure costs~~ as applicable?	✓			including inflation index
4. Availability of Records 265.74				
Are all facility records required under 40 CFR Part 265 available for inspection?	✓			
5. **Unmanifested Waste Reports 265.76				NA
a. Has the facility accepted any hazardous waste from an off-site generator subject to 40 CFR 262.20 without a manifest or or shipping paper?				
b. If "a" is yes, provide the identity of the source of the waste and a description of the quantity, type, and date received for each unmanifested hazardous waste shipment.				

** Not applicable to owners or operators of on-site facilities that do not receive any hazardous from off-site sources.

Section F - GROUNDWATER MONITORING (Part 265 Subpart F)

Complete this section for facilities that treat, store, or dispose of hazardous waste in landfills, surface impoundments and/or by land treatment.

	YES	NO	NI	Remarks
1. Has the owner or operator of the facility implemented a groundwater monitoring system? 265.90	___	___	___	_____
If "no", Skip to number 11.				
2. Has the owner or operator of the facility implemented an alternate groundwater monitoring system as described in 265.90(d)?	___	___	___	_____
If "yes", skip to number 12. If "no", continue				
3. Does the groundwater monitoring system meet the following requirements of 265.91:				
a. At least one well installed hydraulically up-gradient from the limit of the waste management area?	___	___	___	_____
Indicate the total number of up-gradient wells.				
b. At least three wells installed hydraulically down-gradient at the limit of the waste management area?	___	___	___	_____
Indicate the total number of downgradient wells.	_____			
c. Are the number, locations, and depths of all wells sufficient to yield groundwater samples that are representative of groundwater under the facility?	___	___	___	_____

N/A

Sketch the locations of the wells relative to the waste management area.

	YES	NO	NI	Remarks
d. Are the monitoring wells constructed in accordance with 265.91(c) (e.g. properly cased, screened, etc.)?	___	___	___	_____
4. Has the owner or operator developed a written groundwater sampling and analysis plan that includes procedures and techniques for: 265.92				
a. Sample collection?	___	___	___	_____
b. Sample preservation and shipment?	___	___	___	_____
c. Analytical procedures?	___	___	___	_____
d. Chain of custody control?	___	___	___	_____
5. Does the owner or operator follow his groundwater sampling and analysis plan?	___	___	___	_____
6. Is the groundwater sampling and analysis plan maintained at the facility?	___	___	___	_____
7. Has the owner or operator determined the concentration or value of all the groundwater monitoring parameters of 265.92(b) in accordance with paragraphs c and d of 265.92?	___	___	___	_____

	YES	NO	NI	Remarks
8. Has the owner or operator developed an outline of a comprehensive groundwater quality assesment program that is capable of determining: 265.93				
a. Whether hazardous waste or hazardous waste constituents have entered the groundwater?				
b. The rate and extent of migration of hazardous waste or hazardous waste constituents in the groundwater?				
c. The concentration of hazardous waste or hazardous waste constituents in the groundwater?				
*9. Has the owner or operator performed a statistical analysis of his groundwater monitoring data as required in 265.93(b)?			X	
*10. Was there a statistically significant increase (or pH decrease) detected in any well?			X	
a. If "yes," has the owner or operator responded in accordance with the procedures prescribed in 265.93 paragraphs c through f?			X	
Skip to number 14				
11. Has the owner or operator prepared a written groundwater monitoring waiver demonstration for the facility?				
a. Is the waiver demonstration maintained at the facility?				
b. Has the waiver demonstration been certified by a qualified geologist or geotechnical engineer?				

Note: Inspectors should request a copy of the waiver document.

c. Skip questions 12, 13, and 14.

*These requirements do not take effect until the first 6 months after November 19, 1982. The latest date for compliance with these requirements is May 19, 1983.

	YES	NO	NI	Remarks
12. Has the owner or operator submitted an alternate groundwater monitoring system to the Regional Administrator?	___	___	___	_____
a. Has the plan been certified by a qualified geologist or geotechnical engineer?	___	___	___	_____

Note: If the plan for an alternate groundwater monitoring system was not submitted to the Regional Administrator the inspector should request a copy for review.

13. Does the alternate groundwater monitoring plan address the requirements of 265.90(d)?	___	___	___	_____
14. Does the owner or operator submit reports and maintain records as required in 265.94?	___	___	___	_____

Section G - CLOSURE AND POST CLOSURE (Part 265 Subpart G)

	YES	NO	NI	Remarks
1. Closure 265.112				
a. Is the facility closure plan available for inspection?	✓			
b. Does the plan identify:				
i. maximum extent unclosed during facility life?	✓			
ii. maximum hazardous waste inventory?	✓			
iv. estimated year of closure?				Does not expect to close
v. schedule of closure activities?	✓			
c. Has closure begun?		✓		
*2. Post-Closure 265.118				N/A
a. Is the post-closure plan available for inspection?				
b. Does this plan contain:				
i. description of groundwater monitoring activities and frequencies?				
ii. description of maintenance activities and frequencies for				
AA. integrity of cap, final cover, or containment structures, where applicable				
BB. facility monitoring equipment				
iii. name, address, and phone number of person or office to contact during post-closure care period?				
c. Has the post-closure period begun?				
d. Is the written post-closure cost estimate available? 265.144				

*Applies only to disposal facilities.

Section I - USE D MANGEMENT OF CONTAINERS (Pa. 265, Subpart I)

	YES	NO	NI	Remarks
Are containers in good condition? 265.171	✓			
2. Are containers compatible with waste in them? 265.172	✓			
3. Are containers managed to prevent leaks? 265.173	✓			
4. Are containers stored closed?	✓			
5. Are containers inspected weekly for leaks and defects.	✓			
6. Are ignitable and reactive wastes stored at least 15 meters (50 feet) from the facility property line? (Indicate if waste is ignitable or reactive). 265.176	✓			ignitable
7. Are incompatible wastes stored in separate containers? (If not, the provisions of 40 CFR 265.17(b) apply). 265.177	✓			
8. Are containers of incompatible waste separated or protected from each other by physical barriers or sufficient distance?	✓			

Section J - TANKS (Part 265, Subpart J)

	YES	NO	NI	Remarks
1. Are tanks used to store only those wastes which will not cause corrosion, leakage or premature failure of the tank? 265.192	✓			
2. Do uncovered tanks have at least 60 cm (2 feet) of freeboard, or dikes or other containment structures?	✓			concrete dikes
3. Do continuous feed systems have a waste-feed cutoff?	NA			batch feed
4. Are waste analyses done before the tanks are used to store a substantially different waste than before? 265.193	NA			same type waste
5. Are required daily and weekly inspections done? 265.194	✓			
6. Are reactive & ignitable wastes in tanks protected or rendered non-reactive or non-ignitable? 265.198 Indicate if waste is ignitable or reactive. (If waste is rendered non-reactive or non-ignitable, see treatment requirements.)	✓			ignitable only
7. Are incompatible wastes stored in separate tanks? 265.199 (If not, the provisions of 40 CFR 265.17(b) apply.)	✓			

8. Has the owner or operator observed the National Fire Protection Associations buffer zone requirements for tanks containing ignitable or reactive wastes?

Tank capacity: _____ gallons

Tank diameter: _____ feet

Tank 1 : 14,900 gal Diameter 10 ft
Tank 2 : 14,900 gal Diameter 10 ft
Tank 3 : 25,000 gallons Diameter 9 ft

Distance of tank from property line Approx 350 feet

(See table 2 - 1 through 2 - 6 of NFPA's "Flammable and Combustible Liquids Code - 1977" to determine compliance.)

Section K - SURFACE IMPOUNDMENTS (Part 265, Subpart K)

N/A

	YES	NO	NI	Remarks
1. Do surface impoundments have at least 60 cm (2 feet) of freeboard? 265.222	___	___	___	_____
2. Do earthen dikes have protective covers? 265.223	___	___	___	_____
3. Are waste analyses done when the impoundment is used to store a substantially different waste than before? 265.225	___	___	___	_____
4. Is the freeboard level inspected at least daily? 265.226	___	___	___	_____
5. Are the dikes inspected weekly for evidence of leaks or deterioration?	___	___	___	_____
6. Are reactive & ignitable wastes rendered non-reactive or non-ignitable before storage in a surface impoundment? (If waste is rendered non-reactive or non-ignitable, see treatment requirements.) 265.229	___	___	___	_____
7. Are incompatible wastes stored in different impoundments? (If not, the provisions of 40 CFR 265.17(b) apply.) 265.230	___	___	___	_____

Section L - WASTE PILES (40 CFR Part 265, Subpart L)

N/A

	YES	NO	NI	Remarks
1. Are waste piles covered or protected from dispersal by wind? 265.251				
2. Is each in-coming movement of waste analyzed before being added to the waste pile? 265.252				
3. Are leachate, run-off, and run-on controlled as per the requirements of 265.253? 265.253				
4. Are reactive & ignitable wastes rendered non-reactive or non-ignitable before storage in a pile? Indicate if waste is ignitable or reactive. (If waste is rendered non-reactive or non-ignitable, see treatment requirements.) 265.256				
5. Are piles of reactive or ignitable waste protected from materials or conditions that might cause them to ignite or react?				
6. Are incompatible wastes stored in different piles? (If not, the provisions of 40 CFR 265.17(b) apply.) 265.257				
7. Are piles of incompatible waste protected by barriers or distance from other waste?				

NA

Section M - LAND TREATMENT (Part 265, Subpart M)

	YES	NO	NI	Remarks
1. Is treated hazardous waste capable of biological or chemical degradation? 265.272	___	___	___	_____
2. Are run-off and run-on diverted from the facility or collected				
3. Is waste analyzed according to 265.273?	___	___	___	_____
4. If food chain crops are grown at the facility, has the owner or operator addressed the requirements of 265.276?	___	___	___	_____
5. Is an unsaturated zone monitoring plan designed and implemented to detect the vertical migration of hazardous waste and provide information on the background concentrations of the hazardous waste available? 265.278	___	___	___	_____
6. Does the unsaturated zone monitoring plan address the minimum information specified in 265.278?	___	___	___	_____
7. Are records kept regarding application dates and rates, quantities, and locations, of all hazardous waste placed in the facility? 265.279	___	___	___	_____
8. Are the special requirements fulfilled regarding land treatment of ignitable or reactive wastes? (Indicate if waste is ignitable or reactive.) 265.281	___	___	___	_____
9. Are incompatible wastes land treated? (If yes, 265.17(b) applies) 265.282	___	___	___	_____

Se ion N - LANDFILLS (Part 265, S part N)

N/A

	YES	NO	NI	Remarks
General Operating Requirements 265.302 Does the facility provide the following:				
a. Diversion of run-on away from active portions of the fill?	___	___	___	_____
b. Collection of run-off from active portions of the fill?	___	___	___	_____
c. Is collected run off treated?	___	___	___	_____
d. Control of wind dispersal of hazardous waste?	___	___	___	_____
2. Surveying and Recordkeeping 265.309 Does the Operating Record Include:				
a. A map showing the exact location and dimensions of each cell?	___	___	___	_____
b. The contents of each cell and the location of each hazardous waste type withing each cell?	___	___	___	_____
3. Special requirements for ignitable or reactive waste. Are ignitable or reactive wastes treated so the resulting mixture is no longer ignitable or reactive? (Indicate if waste is ignitable or reactive.) 265.312	___	___	___	_____
4. Special Requirements for Incompatible Wastes. 265.313 Does the owner or operator dispose of incompatible waste in separate cells? (If not, the provisions of 40 CFR 265.17(b) apply.)	___	___	___	_____

Note: If waste is rendered non-reactive or non-ignitable see treatment requirements. If not, the provisions of 40 CFR 265.17(b) apply.

	YES	NO	NI	Remarks
Special requirements for liquid waste 265.314				
a. Are bulk or non-containerized liquids placed in the landfill? If "yes," complete items i, ii, and iii.				
i. Does the landfill have a chemically and physically resistant liner system?	___	___	___	_____
ii. Does the landfill have a functional leachate collection system?	___	___	___	_____
iii. Are free liquids stabilized prior to or immediately after placement in the landfill?	___	___	___	_____
b. Have containers holding free liquids been placed in landfill since March 22, 1982?	___	___	___	_____
5. Special requirements for Containers 265.315 Are empty containers crushed flat, shredded, or similarly reduced in volume before being buried beneath the surface of the landfill?	___	___	___	_____

Section O/P - INCINERATION AND THERMAL TREATMENT (40 CFR Part 265, Subparts O and P)

1 Determination of Steady State

I=incinerator T=thermal

a. Type of unit (i.e., type of incinerator or thermal treatment): _____

b. Components and steady state condition: I 265.343 T 265.373

Was each component at steady state prior to adding waste?

Component	YES	NO	NI	Remarks

2. Waste Analysis I 265.345 T 265.375

a. Minimum requirements, for wastes not previously burned/treated.

i. Required analyses; has an analysis been performed for the following?

Heating value				
Halogen content				
Sulfur content				

ii. Has documented or written data been substituted for analysis of either:

Lead?				
Mercury:				

b. List other paramters for which the waste is tested to enable owner or operator to establish steady state or determine the types of pollutants which may be emitted. (Note in Remarks any which you feel should be tested.)

	YES	NO	NI	Remarks
3. Monitoring and Inspections I 265.347 T 265.37				
a. Are combustion/emission control instruments monitored at least every 15 minutes?	___	___	___	_____
b. Is steady state maintained or corrections attempted?	___	___	___	_____
c. Is stack plume observed at least hourly for normal color and opacity?	___	___	___	_____
d. Did any stack observations made by owner or operator show a plume different than normal?**	___	___	___	_____
e. If "yes" to (d) above, were corrections made to return emissions to normal appearance?**	___	___	___	_____
f. Are the complete unit and associated equipment inspected daily for leaks, spills, and fugitive emissions?	___	___	___	_____

**Specify in Remarks for what period of time this was checked.

g. Are emergency shutdown controls and system alarms checked daily for proper operation?	___	___	___	_____
4. Open Burning T 265.382 (open burning does not apply to incineration)				
a. Only complete this part if the facility open burns hazardous waste.				
i. Does this facility burn only waste explosives? (A No answer means other hazardous waste is open-burned).	___	___	___	_____

	YES	NO	NI	Remarks
ii. It this facility open-burns waste explosives, does it burn the waste at a distance greater than or equal to the minimum specified distance (below)	___	___	___	___

Pounds of waste explosives or propellants	Minimum distance from open burning or detonation to the property of others	
0 to 100.....	204 m	670 ft
101 to 1,000.....	380 m	1,250 ft
1,001 to 10,000.....	530 m	1,730 ft
10,0001 to 30,000.....	690 m	2,260 ft

Section Q - CHEMICAL, PHYSICAL AND BIOLOGICAL TREATMENT (Part 265, Subpart Q)

	YES	NO	NI	Remarks
1. Is equipment used to treat only those wastes which will not cause leakage, corrosion, or premature failure? 265.401	___	___	___	_____
2. Is a continuously fed system equipped with a means of hazardous waste inflow stoppage or control (e.g., cut-off system)?	___	___	___	_____
3. Has the owner or operator addressed the waste analysis requirements of 265.402?	___	___	___	_____
4. Are inspection procedures followed according to 265.403?	___	___	___	_____
5. Are the special requirements fulfilled for ignitable or reactive wastes? 265.405	___	___	___	_____
6. Are incompatible wastes treated? (If yes, 265.17(b) applies.) 265.406	___	___	___	_____

Note: EPA has temporarily suspended the applicability of the requirements of the hazardous waste regulations in 40 CFR Parts 122, 264 and 265 to owners and operators of (1) wastewater treatment tanks that receive, store, and treat wastewaters that are hazardous waste or that generate, store or treat a wastewater treatment sludge which is a hazardous waste where such wastewaters are subject to regulation under Sections 402 or 307(b) of the Clean Water Act (33 U.S.C. 1251 et seq.) and (2) neutralization tanks, transport vehicles, vessels, or containers which neutralize wastes which are hazardous only because they exhibit the corrosivity characteristics under 40 CFR §261.22, or are listed as hazardous wastes in Subpart D of 40 CFR Part 261 only for this reason.

Section A: Scope

1. Complete this Appendix if the owner or operator of a TSD facility also generates hazardous waste that is subsequently shipped off-site for treatment, storage, or disposal.

Section B: MANIFEST REQUIREMENTS (Part 262, Subpart B)

	YES	NO	NI	Remarks
(1) Does the operator have copies of the manifest available for review? 262.40	✓			
(2) Examine manifests for shipments in past 6 months. Indicate approximate number of manifested shipments during that period. 20				
(3) Do the manifest forms examined contain the following information: (If possible, make copies of, or record information from, manifest(s) that do not contain the critical elements). 262.21				
a. Manifest document number?	✓			
b. Name, mailing address, telephone number, and EPA ID number of Generator	✓			
c. Name and EPA ID Number of Transporter(s)?	✓			
d. Name, address, and EPA ID Number Designated permitted facility and alternate facility?	✓			
e. The description of the waste(s) (DOT shipping name, DOT hazard class, DOT identification number)?	✓			
f. The total quantity of waste(s) and the type and number of containers loaded?	✓			
g. Required certification?	✓			
h. Required signatures?	✓			

(4) Reportable exceptions 262.42

a. For manifests examined in (2) (except for shipments within the last 35 days), enter the number of manifests for which the generator has NOT received a signed copy from the designated facility within 35 days of the date of shipment. NONE

b. For manifests indicated in (4a), enter the number for which the generator has submitted exception reports (40 CFR 262.42) to the Regional Administrator. NONE

Section C: PRE-TRANSPORT REQUI' 'ENTS (Part 262, Subpart C)

	YES	NO	NI	Remarks
1. Is waste packaged in accordance with DOT regulations? (Required prior to movement of hazardous waste off-site) 262.30	✓			
2. Are waste packages marked and labeled in accordance with DOT regulations concerning hazardous waste materials? (Required for movement of hazardous waste off-site) 262.31 262.32	✓			
3. If required, are placards available to transporters of hazardous waste? 262.33	✓			

4. On-site accumulation of generated hazardous wastes. A HWMF may accumulate hazardous waste it generates either (A) in its storage facility [265.1(b)] or (B) in accordance with 40 CFR 262.34 [see 265.1(c)(7)]. Option B restricts all accumulation to tanks and containers. If the installation elects option A, check this box [✓] and skip to Section D. If the installation elects option B, complete the following observations: See 40 CFR 262.34 January 11, 1982 Revision

	YES	NO	NI	Remarks
a. Is each container clearly marked with the start of accumulation date?				
b. Have more than 90 days elapsed since the date inspected in (a)?				
c. Do wastes remain in accumulation tanks for more than 90 days?				
d. Is each container and tank labeled or marked clearly with the words "Hazardous Waste"?				

Section D: - RECORDKEEPING AND REPORTING (Part 262, Subpart D)

	YES	NO	NI	Remarks
1. Are all test results and analyses needed for hazardous waste determinations retained for at least three years? 262.40	✓			

Section E: - INTERNATIONAL SHIPMENTS (Part 262, Subpart E)

	YES	NO	NI	Remarks
1. Has the installation imported or exported Hazardous Waste? 262.50		N/A		

(If answered Yes, complete the following as applicable.)

a. Exporting Hazardous waste; has a generator:

	YES	NO	NI	Remarks
i. Notified the Administrator in writing?				
ii. Obtained the signature of the foreign consignee confiming delivery of the waste(s) in the foreign country?				
iii. Met the Manifest requirements?				
b. Importing Hazardous Waste; has the generator met the manifest requirements?				

Appendix TR

	YES	NO	NI	Remarks
Section A: SCOPE:				
1. Complete this Appendix if the owner or operator transports hazardous waste subject to 40 CFR 263.10.	___	___	___	_____
2. Does the transporter transport hazardous waste into the U.S. from abroad?	___	___	___	_____
3. Does the transporter transport hazardous waste out from the U.S.?	___	___	___	_____
4. Does the transporter mix hazardous waste of different DOT shipping descriptions by placing them into a single container?	___	___	___	_____
Section B: MANIFEST SYSTEM AND RECORDKEEPING (Part 263, Subpart B)				
1. Are copies of completed manifests available for review and retained for three years. 263.22	___	___	___	_____
2. Estimate the number of manifests for shipments completed during the part 6 months.	_____			
3. Examine a representative number of manifests. Indicate number examined.	_____			
4. Did transporter properly sign and date the manifests examined?	___	___	___	_____
5. Do any manifests indicate shipments delivered to other than the designated facility? 263.21	___	___	___	_____
If (5) is "no," skip 6 and 7.	___	___	___	_____
6. Do any manifests indicate shipments delivered to other than an alternate facility?	___	___	___	_____
7. Are shipments delivered to alternate facilities only because emergency prevents delivery to the designated facility?	___	___	___	_____

SWS SILICONES CORPORATION

Closure Plan

1983 Addendum

$$\text{Inflation adjustment factor} = \frac{207.23}{195.51} = 1.06$$

Closure Cost = $62,180 x 1.06 = $65,910

GCP
2/9/83

In a transportation accident reporting to pollution control agencies and other regulatory authorities is the responsibility of the carrier. Therefore, any required notifications should be made by the carrier. Be certain to advise the carrier of these responsibilities.

Spills of oils and many chemicals, or other releases of these materials to air, water or the ground, have to be reported under various federal laws. In addition state and local rules may apply, and there is the obvious need to notify local authorities in order to protect life and property and to advise of actions taken to minimize potential for injury to persons and the environment. All remedial action possible should be taken to minimize the impact of any release.

Noxious Gases - If the release is of sufficient size it may require immediate evacuation of nearby people and animals downwind. In such case, immediately notify the nearest police agency or fire department for assistance. Also notify local or state air pollution control authorities of what has happened, what material is involved and what steps have been taken to minimize injury to humans and the environment.

Oil Spills which reach any body of water are to be reported immediately by radio or phone to the National Response Center 800-424-8802. Additionally these reports should be made to local authorities.

Hazardous Chemicals as defined by any federal regulation are to be reported to the National Response Center when any loss to the environment (air, water or ground) exceeds the "Reportable Quantity." Hazardous chemical "spills" may be solid, liquid or gaseous. The Reportable Quantity varies from 1 lb. to 5,000 lbs. depending upon the material.

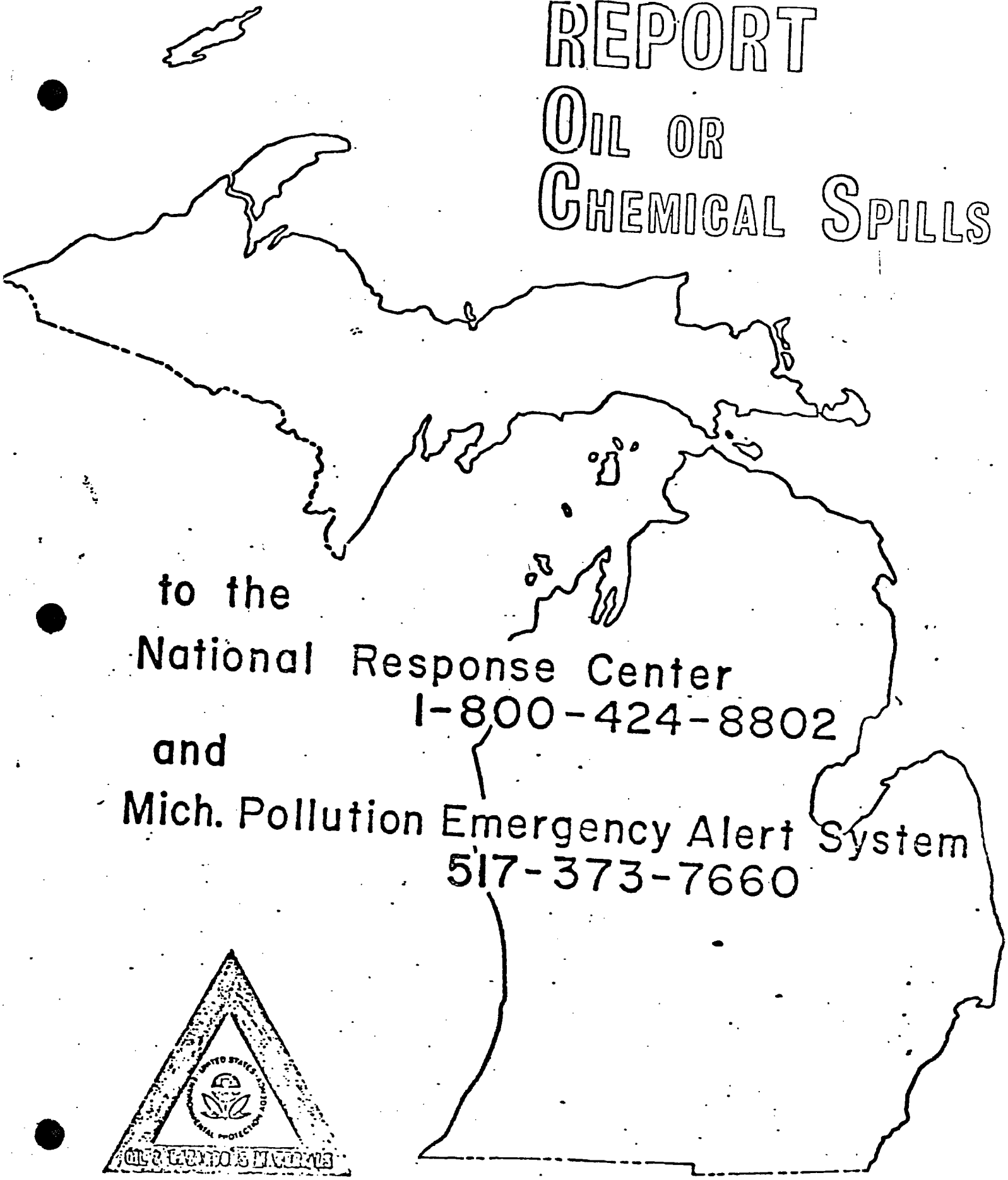
Stauffer personnel seeking assistance in determining reportability based on amount released or questions of when, how or who to notify at a regulatory agency call the Environmental Control Department at Westport 203-222-3228. During non-business hours call:

D. McGrade	203-264-9957	or
T. J. Sayers	203-874-2858	or
W. P. Pagano	203-762-2863	or
J. D. Sheehan	203-375-4107	

IN THIS AREA

Date: 5/31/83
Revision No.: 0

REPORT OIL OR CHEMICAL SPILLS



to the
National Response Center
1-800-424-8802

and
Mich. Pollution Emergency Alert System
517-373-7660

MICHIGAN-OHIO DISTRICT OFFICE
EMERGENCY RESPONSE TEAM

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION V
Michigan-Ohio District Office
Michigan Support Branch

SWS SILICONES CORPORATION

Oil Spill Prevention Control and Counter Measure Plan

List of Oil Storage Tanks
All Underground

Tank	Capacity	Location
T-150 A	30,000 Gal.	North of Boiler House
T-150 B	30,000 Gal.	North of Boiler House
T- 80 A	500 Gal.	South of C W Pump House
T- 80 B	500 Gal.	South of C W Pump House
T-151	500 Gal.	North of Boiler House

Date: 5/31/83
Revision No.: 0

SWS SILICONES CORPORATION

OIL SPILL PREVENTION CONTROL INSPECTION REPORT

Department_____ Date_____ Time_____

	Yes	No
1. Floors and drain ditches clean of oil?		
2. Nozzles, fittings, and lines to storage tanks free from leaks?		
3. Insulated tanks show no signs of leakage?		
4. Operating oil pumps seals free from leaks?		
5. Tank supports in good condition?		
6. Have all leaks and unusual conditions been reported to Plant Manager immediately?		

Inspected by:_____

Additional remarks: _____

_____

_____

OSPCIR
10-8-81

APPENDIX F

CLOSURE PLAN

SWS SILICONES CORPORATION

Closure Plan
****

I. Tanks

Generally, tanks containing hazardous waste materials will be emptied to tank trucks for removal and disposal of contents. Only Michigan, US EPA, and Stauffer approved haulers will be used. Only US EPA and Stauffer approved disposers will be used.

Tanks will then be decontaminated by washing the tank, piping, and associated equipment with three increments of water and industrial detergent. The washing agent will be recirculated and pumped by high pressure lance. Washings will be put in drums for disposal by an approved hauler and disposer.

The tanks, piping, and associated equipment will then be purged with air, demolished and removed. Dikes and tank supports will be demolished and removed. The site will be covered with 6" top soil and seeded.

An independent professional engineer will certify completion of the closure.

II. Drum Storage

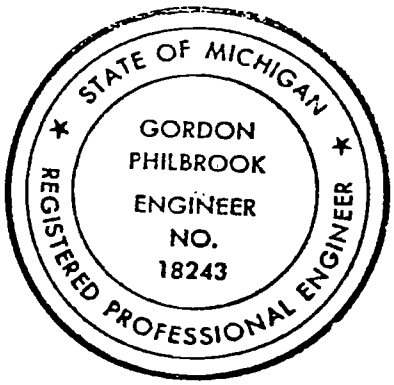
Generally, drum storage areas will be emptied by the removal of the drums to an approved disposer. Only Michigan, US EPA and Stauffer approved haulers will be used. On US EPA, Stauffer and possibly Michigan, approved disposers will be used.

The drum pad will be washed with water and industrial detergent. Washings will be put in drums for disposal by an approved hauler and disposer.

The curbing will be demolished and removed. The concrete pad will be broken up, to improve drainage, covered with 1 foot of fill and 6" of top soil, and then graded and seeded.

An independent professional engineer will certify completion of the closure.

See attached forms for closure plan tanks and drum storage areas.



Certified by

Gordon C. Philbrook

Gordon C. Philbrook
SWS SILICONES CORPORATION
Environmental Control Coordinator

Professional Engineer
State of Michigan
PE 18243
May 3, 1981
Revised February 9, 1983

SWS SILICONES CORPORATION

CLOSURE PLAN

Tanks

****

DATE 5/3/81 TAG NO. T-101

CAPACITY 25,000 gallon MATERIAL OF CONSTRUCTION steel

MAXIMUM USUALLY STORED 10,000 gallon

MISCELLANEOUS horizontal; 200 PSIG pressure rating, 4" breathing vent with nitrogen pad

NATURE OF CONTENTS 1,1,1 trichloroethane waste solvent

UNLOADING METHOD centrifugal pump thru a GAF-type filter to a bulk truck

WHEN CLOSED unknown

CLOSURE COST $890

SWS SILICONES CORPORATION

CLOSURE PLAN

Tanks

****

DATE 5/3/81 TAG NO. T-105

CAPACITY 14,900 gallon MATERIAL OF CONSTRUCTION steel

MAXIMUM USUALLY STORED 9,000 gallon

MISCELLANEOUS vertical, 3" vac/0.5 PSIG pressure rating, 4" breathing vent w/nitrogen pad; 8" relief valve

NATURE OF CONTENTS various Hi Bay ignitable waste solvents

UNLOADING METHOD centrifugal pump thru a GAF-type filter to a bulk truck

WHEN CLOSED unknown

CLOSURE COST $8,550

Date: 5/31/83
Revision No.: 0

SWS SILICONES CORPORATION

CLOSURE PLAN

Tanks

****

DATE 5/3/81 TAG NO. T-108

CAPACITY 14,900 gallon MATERIAL OF CONSTRUCTION steel

MAXIMUM USUALLY STORED 9,000 gallon

MISCELLANEOUS vertical, 3" vac/0.5 PSIG pressure rating, 4" breathing vent w/nitrogen pad; 8" relief valve

NATURE OF CONTENTS RTV mineral spirits waste solvent

UNLOADING METHOD centrifugal pump thru a GAF-type filter to a bulk truck

WHEN CLOSED unknown

CLOSURE COST $8,550

SWS SILICONES CORPORATION

CLOSURE PLAN

Drum Storage Area
****

DATE 5/3/81 AREA 2,500 Ft^2

AREA DESCRIPTION Monomers area, pad

MAXIMUM NUMBER OF DRUMS USUALLY STORED 500

WHEN CLOSED unknown

CLOSURE COST $39,000

TOTAL CLOSURE COST

T-101	$ 890
T-105	8,550
T-108	8,550
East pad	39,000
TOTAL	$56,990

COST ESTIMATE, TANKS:

T-101

1.	Sell 10,000 gallon X $.75/gallon to Safety Kleen PLUS	$7,500
2.	Cleaning Solvent	1,000
3.	Solvent disposal	300
4.	2 operators	640
5.	Cleaning pump	200
6.	Demolition	5,000
7.	Top soil, grading	1,250
	NET COST	890

T-105 (& T-108)

1.	Haul by Systech 9,000 gal X $.35/gallon	3,150
2.	Cleaning Solvent	600
3.	2 operators	600
4.	Solvent disposal	250
5.	Cleaning pump	200
6.	Demolition	3,000
7.	Top soil, grading	750
	NET COST	8,550

Drum Pad

Remove Drums 500 X $70		$35,000
Demolition, top soil, seed		4,000
	NET COST	39,000

SWS SILICONES CORPORATION

Closure Plan

1982 Addendum

$$\text{Inflation adjustment factor} = \frac{193.58}{177.36} = 1.091$$

Closure Cost = $56,990 x 1.091 = $62,180

GCP
2/18/82

ATTACHMENT THREE-- PERSONNEL TRAINING

(913) 985-7104

SECTION H

PERSONNEL TRAINING

H-1 Outline of Training Program [40 CFR Sections 122.25(a)(12) and 264.16]

H-1a Job Titles and Duties

All production area operators and warehouse operators and supervisory personnel are directly involved with the handling of waste. Management responsibilities involving compliance with RCRA regulations but not involving actual handling of the wastes are split between the Environmental Control Coordinator, Production Manager, and the Director of Manufacturing. The Production Manager, James Barancin, is the Emergency Coordinator. Maintenance personnel work in the waste handling area, but they do not handle wastes directly. The duties, responsibilities, and qualifications of each position follow:

Date: 5/31/83
Revision No.: 0
H

Position Title: Environmental Control Coordinator

Name of employee: Gordon C. Philbrook

Position Responsibilities and Duties:

- Training of plant personnel in the proper handling of raw materials, intermediates, finished products, and waste byproducts.
- Responsible for all air, water, and solid waste control systems on the site.
- Obtains all required permits and licenses or modifications of same from local, state, and Federal regulatory bodies.
- Resolves problems involving permits and licenses from local, state, and Federal regulatory agencies.
- Notifies proper authorities in emergency situations.
- Reports to Director of Manufacturing.
- Regularly inspects plant grounds and all facilities for status of air, water, and solid/hazardous waste emissions and controls.
- Consults with plant foremen on questions involving emergency action.
- Drafts and submits to Director of Manufacturing all required reports to EPA or the State.

Experience and Qualifications

- B.S. degree in Chemical, Civil, or Environmental Engineering. B.S. Degree in Chemistry also acceptable.
- 1-3 years experience in industrial or municipal pollution control management.
- Training and/or experience in hazardous waste management is desirable.

Date: 5/31/83
Revision No.: 0
H

JOB DESCRIPTION

Chemical Operator A & Boiler Utility
****

An employee must satisfy the following criteria before he may be promoted to the A classification.

1. An "A" operator must be able to initiate and complete the manufacture of product, given the operating instructions, with a minimum of supervision by the foreman.

2. The employee must have been trained and have demonstrated an understanding in all of the following procedures:

a. Warehousing - The employee must be able to fill out all the necessary papers to log materials into or out of storage. He must be familiar with all location codes and must know the proper procedures for storage (ie. stacking, spacing, etc.).

b. Process Logs - The employee must be fully indoctrinated in the method of filling out process log sheets and the reasons for the importance.

c. Materials Handling - The employee must be familiar with all hazardous materials used within the department, including MIOSHA label requirements, grounding procedures, inert atmosphere padding, and required personal protective equipment.

d. Waste Handling - The employee must be knowledgable in the proper handling and storage of all wastes generated in his department. He must be familiar with all label requirements, proper packaging, and must be able to respond to a spill as defined in the plant's RCRA plan.

Date: 5/31/83
Revision No.: 0
H

e. The employee must be familiar with the use and care of all personal protective equipment.

f. The employee must be familiar with the emergency action plan and his roll in it.

Date: 5/31/83
Revision No.: 0
H

JOB DESCRIPTION

Chemical Operator B
****

An employee who is classified as a chemical operator "B" is in the process of training towards the "A" classification. Therefore, the job description of a "B" operator will expand correspondingly to the training he has received up to and including the "A" operator level.

The jobs assigned a "B" operator will be defined by the foreman and the extent that he is on his own and totally responsible for his actions will depend on the degree of training and experience he has on the particular assignment.

Date: 5/31/83
Revision No. 0
H

JOB DESCRIPTION

Warehouseman A

RECEIVED MAY 30 1981

An employee must satisfy the following criteria before he may be promoted to the "A" classification.

1. Receive all inbound material. Verify material and quantity. Prepare Count Sheet, Receiving Report, Receiving Log. Prepare log books for materials received for R & D, Maintenance and Sutton House.

2. Deliver all received goods to appropriate area assigned by Warehouse Floor Foreman.

3. Prepare orders for shipment, using shipping data form, locate material to ship, clean, label and load on trucks. (stencil, stack and palletize if necessary)

4. Carry out necessary housekeeping to maintain a clean and orderly area.

5. Follow directions to do whatever is necessary for a safe and efficient operation.

6. Prepare labels and stencils needed to prepare orders for shipment.

7. Knowledgeable in the proper handling and storage of all wastes, hazardous and non hazardous, shipped out in drums. Must be familiar with all labeling requirements, proper packaging, and must be able to respond to a spill as defined in the plant RCRA plan.

8. Must be familiar with the use and care of all personal protective equipment.

9. Familiar with the emergency action plan and his role in it.

JOB DESCRIPTION

Warehouseman B

An employee who is classified as a warehouseman "B" is in the process of training towards the "A" classification. Therefore, the job description of a "B" operator will expand correspondingly to the training he has received up to and including the "A" warehouseman level.

The jobs assigned a "B" warehouseman will be defined by the foreman and the extent that he is on his own and totally responsible for his actions will depend on the degree of training and experience he has on the particular assignment.

H-1b Training Content, Frequency, and Technique

The program developed at SWS Silicones Corporation for training employees in the safe handling of hazardous wastes Provisions are made for updating or revising the text as necessary to ensure compliance with the terms of the RCRA permit.

During the training program, employees are instructed on (1) the hazardous nature of chemicals and chemical wastes in general, (2) the purpose of RCRA and importance of maintaining compliance with RCRA regulations, (3) the hazardous nature of the wastes being stored in the facility, (4) proper handling and storage procedures for wastes, (5) emergency procedures and contingency plan.

The program is used as the basis or framework for training SWS Silicones Corporation personnel in the proper procedures, equipment, and systems to be used in managing hazardous wastes.

A brief description of each section of the training manual follows:

Introduction

This section of the program introduces SWS Silicones Corporation employees to the general classes and characteristics of chemicals and chemical wastes that can be hazardous to health and property. In this context, the terms toxicity, reactivity, corrosivity, and ignitability are defined. It is SWS Silicones Corporation's policy that each employee handling chemical substances (raw materials, finished products, by-products, and wastes) respect them and be aware of these potential hazards. The company's policy on the use of protective clothing and safety equipment to prevent accidental worker exposures and releases to the environment of hazardous chemicals and wastes is introduced.

The authority for regulating hazardous wastes under the Resource Conservation and Recovery Act (RCRA) also is discussed. The regulatory framework for classifying hazardous wastes, setting operational standards, and permitting procedures and achieving compliance is explored. The RCRA permit for SWS Silicones Corporation (once it is received) will also be studied to be sure that each employee is familiar with its terms.

Storage of Hazardous Wastes at SWS Silicones Corporation

This section focuses on the types of hazardous wastes that are handled and stored at SWS Silicones Corporation, normal/routine storage operations, and procedures for maintaining compliance with the RCRA permit (e.g., waste analysis, recordkeeping, inspections, and security).

Training for normal or routine operating conditions includes the following topics:

- Proper operation and maintenance of the storage facility.
- Scheduled inspections.
- Purpose and use of security and communications systems.
- Monitoring requirements for tracking and recording the operations of the facility.
- Recordkeeping requirements and procedures.

Emergency and Contingency Plans

The third section of the training program provides detailed instruction on steps to be taken in the event of an emergency such as a waste spill or fire, or damage from wind and storms. The emergency coordinator is clearly identified, as are emergency phone numbers and directions for locating and using onsite emergency equipment, alarms, and communications.

Contingency plans are also detailed. (See Appendix B)

This program is used in classroom training for both introductory training and annual review. All personnel involved with hazardous waste are required to complete this program in addition to on-the-job training. Also personnel receive a classroom review training session once a year. A record system for both initial and annual training is kept at the Personnel Department which will include:

a. Job titles and name of employee

b. Job descriptions, including skills, education, and duties

c. Training done

This is supplemented with attendance by the Environmental Control Coordinator at seminars and conferences involving hazardous waste management.

H-1c Training Director

The personnel training program is directed by Mr. Gordon C. Philbrook, the plant Environmental Control Coordinator. Mr. Philbrook has been with SWS Silicones Corporation/Stauffer for 21 years. He received a B.S. degree in Chemical Engineering from the University of California in 1957. He has been trained in all aspects of Hazardous Waste Management and attended various seminars on this subject. Records of his previous and ongoing training are kept on file at the personnel office.

H-1d Relevance of Training to Job Position

Mr. Gordon C. Philbrook, the plant Environmental Control Coordinator, is responsible for teaching hazardous waste management procedures to all waste handling personnel. Mr. James Barancin, Emergency Coordinator is responsible for the contingency plan implementation.

H-1e Training for Emergency Response

This training program is designed to ensure that personnel not only handle hazardous wastes in a safe manner but also properly respond to emergency situations. The program trains hazardous waste handling/management personnel to maintain compliance under both normal operating conditions and emergency conditions.

Training elements addressing nonroutine and emergency situations (unscheduled shutdowns and startups related to storms, fires, explosions, spills) include:

- Procedures for locating, using, inspecting, repairing, and replacing facility emergency and monitoring equipment
- Emergency communication procedures and alarm systems
- Response to fires and explosions
- Response to ground water contamination incidents and procedures for containing, controlling, and mitigating spills
- Shutdown of operations

- Procedures for evacuation of nearby areas

Trained plant personnel are on standby for initial response to all fires and other general plant emergencies. For more information contact SWS Silicones Corporation's safety officer, Thomas Degnan at 517-263-5711.

H-2 Implementation of Training Program [40 CFR Sections 122.25 (a)(12) and 264.16]

The director of the training program and all current waste-handling personnel have been fully trained at the time of this submittal. In the future, all new personnel will complete this training program within 6 months of assignment to the hazardous waste storage facility or within 6 months of their date of employment, whichever is later. No employee hired to work at this facility will work unsupervised prior to completion of the training program.

Employees are required to meet annually for review and update of this training program and to discuss and study the following subjects:

1) All hazardous wastes currently being handled at the facility, noting any changes in waste type, volume, source, characteristics, or location that have occurred during the past year.

2) The status of storage and operating conditions and procedures, noting any areas where there are problems or potential for problems. Employees

participate in developing effective solutions.

3) The requirements contained in the facility's RCRA permit, noting any changes that have occurred during the past year. Areas where maintenance of compliance is a problem are identified and discussed, and effective solutions are sought.

4) Incidents that have occurred in the past year that warranted use of contingency plans and/or emergency action. This review focuses on the cause of the incident and identification of steps to be taken to prevent or to ensure better handling of such events in the future.

The annual review will also utilize the facility's report to EPA, which is required every two years, as a working document for the review.

Records documenting the job title for each position, job descriptions, names of employees, and completed training programs (both introductory and review) will be kept onsite in the personnel office of SWS Silicones Corporation. These records will be kept until closure of the facility for current employees and for 3 years from the date of the individual employee's termination for former employees.

[illegible]

[illegible] permit must be filled out correctly before power tools are operated [illegible] an EXPLOSION PROOF AREA. An explosion meter test is required for the following areas: South room of RTV, waste oil drumming building, Inside Polymers and Fluids, the east side of [illegible] and inside [illegible].

[illegible] must be completed for welding, cutting or any work that scatters hot fragments to all areas of the [illegible].

The properly completed form must be signed by those responsible and those working and posted prominently at the job site.

This permit is subject to compliance with the following precautions and is valid only as long as working conditions at the time of issuance continue. It automatically expires upon an occurrence of a hazard.

LOCATION _____ JOBS _____

DATE _____ TIME _____ DURATION _____

PART 1		
YES	YES	Have you examined all points where gas, oil, or fumes could enter the work area and are valves all closed and tagged?
CLEAR	CLEAR	Have all sources of flammable vapors been removed by draining [illegible] or by sealing manways or drums?
SAFE	SAFE	Is the atmosphere safe, for rated area run test? Time _____ Result _____ Signature _____
PART 2		
CLEAR	CLEAR	Are all combustibles removed from the work area (wood, paper, oil)?
YES/NO	YES/NO	Is a welding shield required?
YES/NO	YES/NO	Should the area be roped off from traffic?
YES	YES	Is a fire extinguisher on hand and the location of a back up known?
YES	YES	Is an escape route designated?
YES	YES	Are area personnel aware of impending work?
YES/NO	YES/NO	Is a fire watch needed?
NO	NO	Will valuable material be damaged by spark or slag?

Operations Supervisor	Mechanics Supervisor	Mechanics on the job who agree to limit their work to what is outlined on this permit.

If the men change who are working under this permit and/or supervision changes, a second permit must be issued.

ATTACHMENT FOUR-- CONTINGENCY PLAN

SECTION G

CONTINGENCY PLAN

G-1 General Information [40 CFR 122.25(a)(7)]

This contingency plan is for SWS Silicones Corporation located at 3901 Sutton Road, Lenawee County, Adrian, Michigan 49221. SWS Silicones Corporation manufactures a variety of silicone products, including fluids, emulsions, sealants, antifoams and rubbers. Mr. Joseph Calamungi is the Director of Manufacturing, and he may be reached at (517) 263-5711 from 8:00 a.m. to 4:30 p.m. on weekdays, and at (517) 263-9300 at other times. Mr. Gordon Philbrook is the Environmental Control Coordinator, and he may be reached at (517) 263-5711 from 8:00 a.m. to 4:30 p.m. on weekdays, and at (517) 467-4329 at other times. Mr. James Barancin is the Production Manager and the primary emergency coordinator. He may be reached at (517) 263-5711 from 8:00 a.m. to 4:30 p.m. on weekdays, and at (517) 547-5462 at other times.

SWS Silicones Corporation stores hazardous wastes in two locations. A tank storage area with three tanks is used to store 1,1,1-trichloroethane waste solvent (25,000-gallon), Mixed Ignitable Solvent Waste (15,000-gallon), and Mineral Spirits Solvent Waste (15,000-gallon). A container storage area has an estimated maximum storage capacity of 300 drums. A general site plan and a full description of the facility is contained in Section B. A description of the wastes is contained in Section C.

G-2 Emergency Coordinators [40 CFR 122.25(a)(7), 264.52(d) and 264.55]

If an emergency situation develops at the facility, the discoverer should contact an emergency coordinator listed below. James Barancin, primary Emergency Coordinator, should be contacted first.

EMERGENCY COORDINATORS

Name	Title	Home address	Work phone no.	Home phone no.
James Barancin	Production Manager	13600 Rome Rd. Manitou Beach	517-263-5711 Ext. 366	517-547-5462
James Lorenzen	Engineering Manager	4451 Kiowa Ct. Adrian	517-263-5711 Ext. 215	517-265-8341

The primary emergency coordinator, and alternate, have complete authority to commit all resources of the company, in the event of an emergency. App. B-2 lists organizations that could possibly be contacted by the Emergency Coordinator in the event of an emergency.

G-3 Implementation of the Contingency Plan [40 CFR 122.25(a)(7) and 264.51(b)]

The decision to implement the contingency plan depends upon whether or not an imminent or actual incident could threaten human health or the environment. The contingency plan will be implemented in the following situations: fire, explosion or uncontrolled spills.

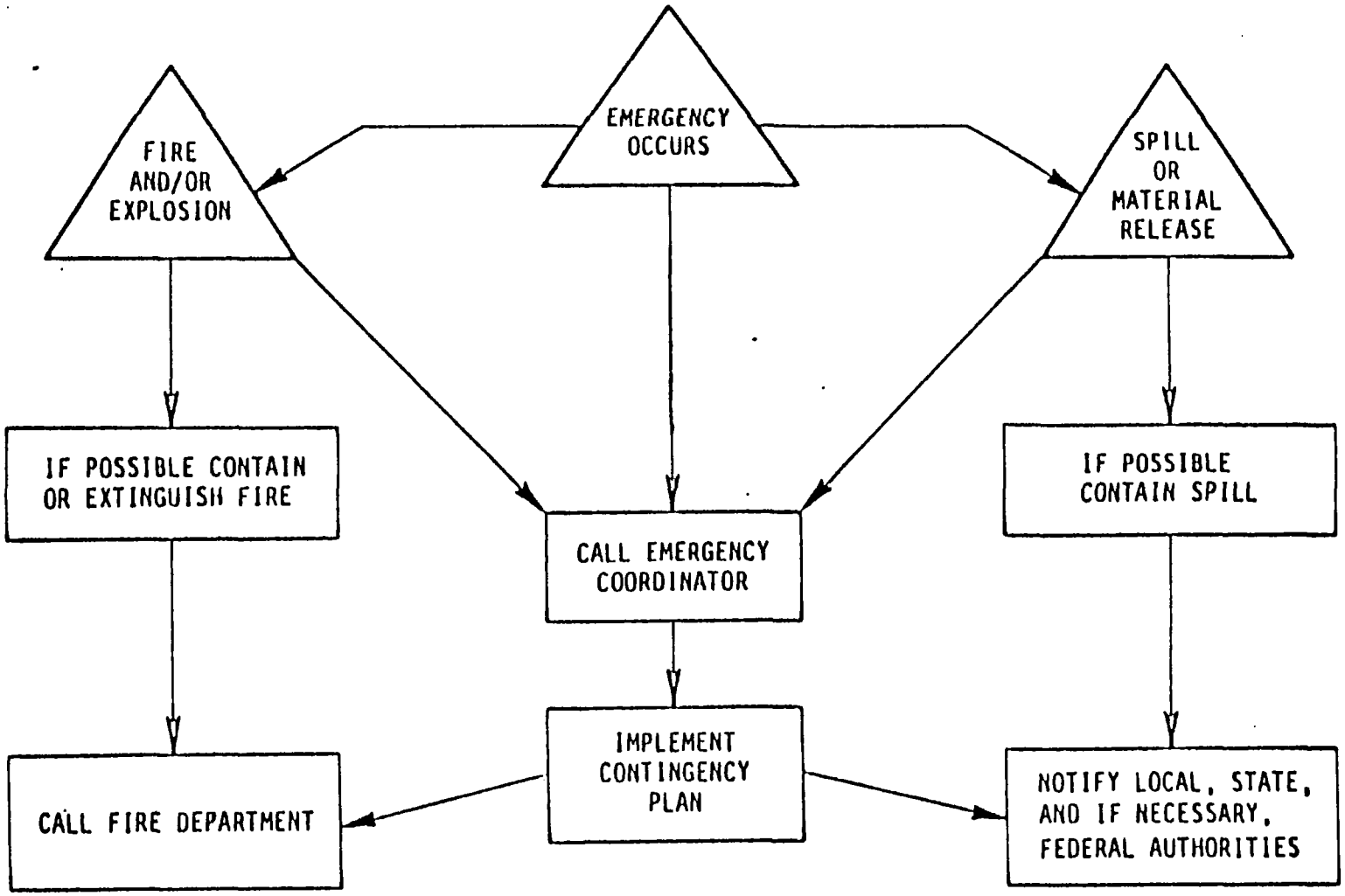
G-4 Emergency Response Procedures [40 CFR 122.25(a)(7), 264.52(a), 264.56, 264.171, 264.194(c), 264.255 and 264.258]

G-4a Notification

In the event of an emergency situation, the emergency coordinator will be notified first; subsequently, all appropriate facility personnel, federal, state or local agencies, and fire or police departments will also be notified. (See Figure 39 and Appendix B).

G-4b Identification of Hazardous Wastes

The emergency coordinator will immediately identify the character, exact source, amount and area extent of release. The initial identification method will be to utilize visual analysis of the material and location



SWS SILICONES CORPORATION

Figure 39 Overview of Emergency Action Plan

Date: 5/31/83
Revision No.: 0
G

of the release. All containers are labeled as to their contents and are stored in distinct locations on the pad. The three storage tanks are identified and labeled as to their contents. If for some reason the released material cannot be identified, samples will be taken for chemical analysis.

G-4c Assessment

The emergency coordinator and the Environmental Control Coordinator will assess possible hazards, both direct and indirect, to human health or the environment.

G-4d Control Procedures

Potential emergencies fall under two general classifications: (1) fire and/or explosions, and (2) spills or material release. Natural disasters, such as tornadoes are assumed to fall into one of these two classifications. An overview of the Emergency Action Plan is described in Figure 39.

Fire and/or Explosion

The procedures for this type of emergency are outlined in Appendix B, pages 1-17. Figure 11 shows the rally point for the manufacturing plant. Plant Classification of Fires and Plant Fire Protection System are described in Appendix B, pages 18-24. This includes sketch, SK-8-3 (Appendix B-24), which describes the underground fire lines and the locations of various post indicator valves, fire hydrants and hose houses.

Spills or Material Release

Emergency procedures due to spills or material release will be handled in the same manner as described in Appendix B, pages 1-17. When appropriate, the Federal and State Agencies, as listed in Appendix B, will be notified.

As called for in regulations developed under the Comprehensive Environmental Liability and Compensation Act of 1980 (Superfund), our practice is to report a spill of a pound or more of any hazardous material for which a reportable quantity has not been established and which is listed under the Solid Waste Disposal Act, Clean Air Act, Clean Water Act, or TSCA. We also follow the same practice for any substances not listed in the Acts noted above but which can be classified as a hazardous waste under RCRA.

Most waste spills and leaks are easily contained within the dikes and sumps provided in the tank area. Small spills occurring in a diked area are flushed with plenty of water, to the sump provided in that area. If necessary, a portable sump pump is used to pump the diluted waste material into 55-gallon drums. Procedures for handling large spills were discussed earlier in this section.

G-4e Prevention of Recurrence or Spread of Fires, Explosions or Releases

Actions to prevent the recurrence or spread of fires, explosions or releases include stopping processes and operations, collecting and containing released waste, and recovering or isolating containers. The onsite training manual addresses the specific actions to be taken in an emergency. In addition, if the facility stops operations in response to an emergency, the emergency coordinator will monitor valves, pipes, and other equipment for leaks, pressure build up, gas generation or ruptures.

G-4f Storage and Treatment of Released Material

Immediately after an emergency, the emergency coordinator and the Environmental Control Coordinator will make arrangements for off-site treatment, storage, or disposal of recovered waste, contaminated soil, surface water, or any other contaminated material.

G-4g Incompatible Wastes

SWS Silicones Corporation does not have any incompatible wastes. Therefore, this section G-4g does not apply.

G-4h Post-Emergency Equipment Maintenance

After an emergency event, all emergency equipment listed in section G5 will be cleaned so that it is fit for use or it will be replaced. Before operations are resumed an inspection of all safety equipment will be conducted as discussed in section F-2. The Regional Administrator, state, and local authorities will be notified that post-emergency equipment maintenance has been performed and operations will be resumed.

G-4i Container Spills and Leakage

Refer to section G-4d for a discussion of emergency response procedures for container spills and leakage. Please refer to SPCC (Spill Prevention Control and Countermeasure) Plan, Appendix D.

G-4j Tank Spills and Leakage

Refer to section G-4d for a discussion of tank spills and leakage emergency response procedures. Please refer to SPCC (Spill Prevention Control and Countermeasure) Plan, Appendix D.

G-4k Waste Piles

SWS Silicones Corporation does not have any waste piles. Therefore, this section G-4k is not applicable.

G-5 Emergency Equipment [40 CFR 122.25 (a)(7) and 264.52(e)]

The underground fire lines and the locations of various post indicator valves, fire hydrants and hose houses are shown in Sketch, SK-8-3, Appendix B-24. Also available for fire control are the portable fire extinguishers as shown in Appendix B, pages 25-29. Fire Axe Locations are in the following six locations (Refer to SK-8-3, App. B-24):

Fire truck
Hi Bay first floor
Monomers Control Room
HCR
Guard House
Polymers hallway

The emergency equipment kept in the five fire houses is listed on the operator's overall Fire Protection System Log sheet, App. B-30. First aid supplies are located at the First Aid station at the Guard House. In addition, there is a full-time (8:00 a.m. - 4:30 p.m., Monday - Friday) nurse with first aid supplies located at the Sutton House office building. Emergency eyewash fountains and showers are located throughout the plant. Protective clothing and equipment is provided to protect employees during normal and emergency operations. Hard hats, protective eyewear, and steel-toed boots or shoes are the minimum protective clothing required.

G-6 Coordination Agreements [40 CFR 122.25(a)(7), 264.52(c) and 264.37]

SWS Silicones Corporation has made the following agreements to assist in response to emergency situations.

1. An agreement is being made with a local disposal facility, A.C.E.S. to provide a tank truck on a 24-hour basis.

2. Copies of the contingency plan has been given to the local police and fire departments.

The following organizations have submitted letters outlining their capabilities to assist us in an emergency situation:

Raisin Township Fire Department (Page App. B-31)
Lenawee County Sheriff's Office (Page App. B-33)
Emma L. Bixby Hospital (Page App. B-34)
Herrick Memorial Hospital (Page App. B-36)
Dr. Charles Heffron, Company Physician (Page App. B-37)

G-7 Evacuation Plan [40 CFR 122.25(a)(7), 264.52(f)]

The evacuation plan is outlined in the following overview:

I. Evacuation routes and gathering points.

A. In the event of a plant evacuation, all personnel will muster in front of the guard house (north side off of the roadway).

1. The routes to follow for evacuation will follow the arrows on the attached map. (Figure 40). The route in general will be by the main roadway, which circles the plant. The direction to take will depend on the wind and the amount of smoke, if any, during the evacuation.

B. Departmental evacuations will muster in the following areas:

1. Hi Bay upon hearing the departmental alarm will meet in front of the Maintenance Shop.

2. Polymers and Process Control departments will meet at the south end of Fluids, outside.

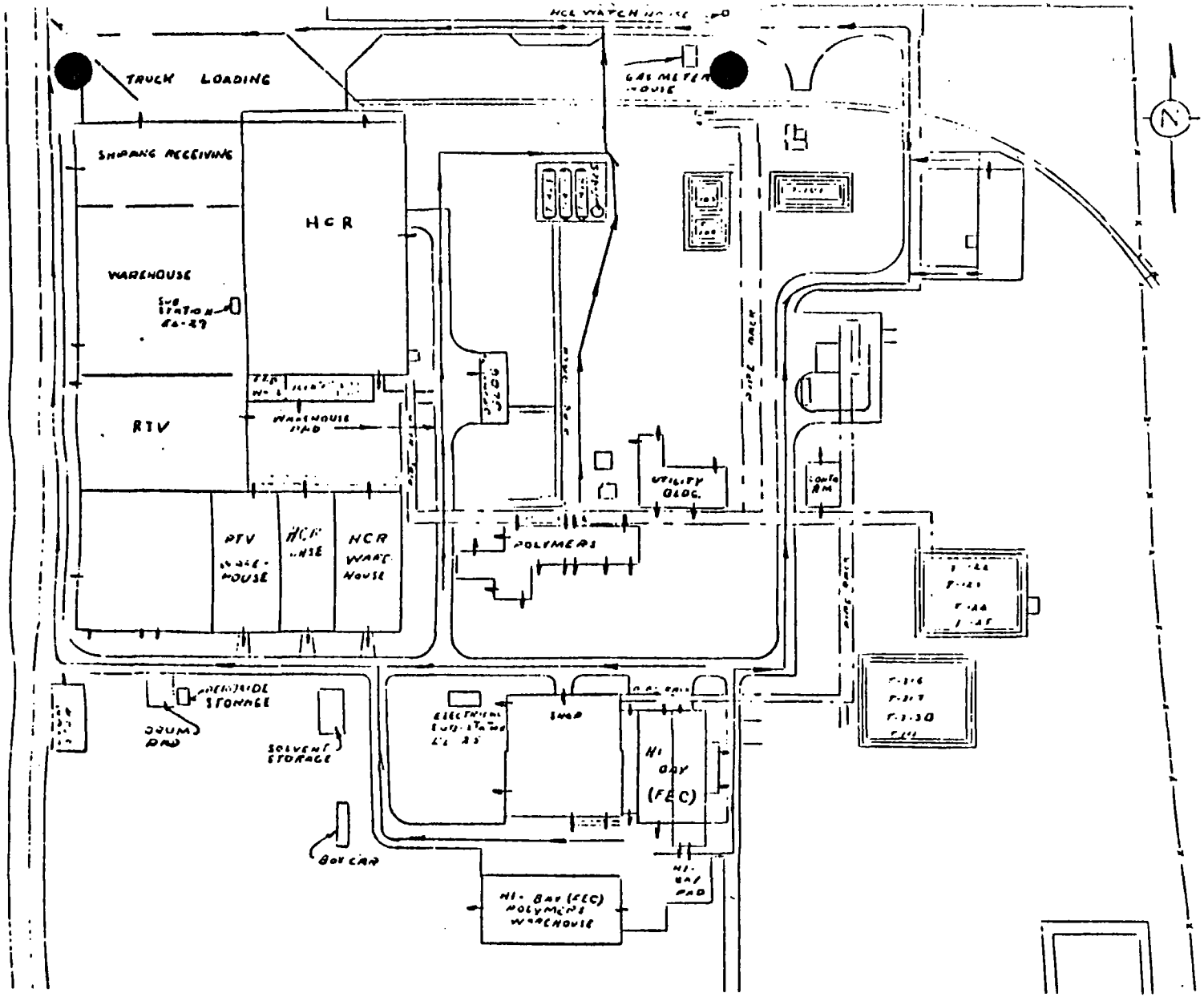
3. The Warehouse and HCR departments, because of the close proximity, will respond to the same departmental alarm. These two departments will meet, off the roadway, at the north side of the guard house.

4. RTV will meet along the fence line directly west of the department.

C. In the event of a tornado "take cover" alert each department will take cover in the areas as designated in the tornado section.

II. Alarm Systems

A. Total plant evacuation will be initiated via the plant emergency phone system.



MANUFACTURING AREA

DISASTER PLAN
ESCAPE ROUTES

Date: 5/31/83
Revision No.: 0
G

Figure 40

1. In the event an emergency is out of control in a department, the plant will be evacuated.

2. The evacuation alarm will be given over the emergency phone. Each department will then sound their evacuation horn and assemble for a head count at their designated location.

3. The departments will then evacuate to the front gate in departmental groups.

B. Departmental evacuations will be conducted by a continuous blast of the departmental air horns.

C. Take cover for a tornado will be given by a continuous blast of the N_2 horns located on top of Hi Bay and in the piperack by the 4000 OH tanks.

D. Announcement for fires will be given over the paging system along with activation of the emergency phone system.

III. Head counts will be handled by individual departments as outlined in their respective section.

IV. In the event of a plant wide evacuation, the Polymer Shift foreman will be responsible for closing the main gas valve on his way out. The senior polymer operator will be responsible in his absence.

G-8 Required Reports [40 CFR 122.25(a)(7), 264.56(d), 264.56(i) and 264.73(b)(4)]

As required by section 264.56(J), any emergency event (e.g., fire, explosion, etc.) that requires implementing the contingency plan will be reported in writing within 15 days to the EPA Regional Administrator. A reporting form for emergency events is shown in Figure 41.

In addition to these reporting requirements for state and Federal authorities, SWS Silicones Corporation also has internal reporting requirements. The

Figure 41

REPORTING FORM FOR EMERGENCY EVENTS

Name, address, and phone number of owner or operator

Name, address, and phone number of facility

Date, time, and type of incident (e.g., fire, explosion, etc.)

Name and quantity of material(s) involved

Extent of injuries (if any)

Assessment of actual or potential hazards to human health or the environment (if applicable)

Estimated quantity and disposition of material recovered from the incident

Send to:
Valdas Adamkus
U.S. EPA, Region V
Regional Administrator (EPA)
230 South Dearborn, 13th Floor
Chicago, Illinois 60606
Karl J. Klepitsch, Jr., Chief
Waste Management Branch
U.S. EPA, Region V
230 South Dearborn
Chicago, Illinois 60604

Sample reporting form for emergency events.

following incidents require that an incident report be completed and returned to the Corporate safety director at the end of every month:

1. All Fires
2. Unusual gas or vapor releases
3. Chemical spills of more than 10 gallons (or smaller volumes if highly toxic materials are involved)
4. All injuries (serious injuries are reported within 24 hours)
5. All equipment damage due to malfunction or operating error (Property/Liability)
6. All "near misses" of the above variety that could have had serious consequences

Amendments to the Contingency Plan

The contingency plan will be reviewed and immediately amended, if necessary, whenever:

1. The facility permit is revised
2. The plan fails in an emergency
3. The facility changes in its design, construction, operation, maintenance, or other circumstances in a way that materially increases the potential for fires, explosions, or releases of hazardous waste or hazardous waste constituents, or changes in the response necessary in any emergency
4. The list of emergency coordinators change
5. The list of emergency equipment changes

APPENDIX B

SWS RCRA PLAN - CONTINGENCY PLAN

SWS SILICONES CORPORATION
RCRA PLAN

OUTSIDE EMERGENCY CALL NUMBERS
****

	TELEPHONE NUMBER	SPEED CALL #
ABLE EQUIPMENT RENTAL, Toledo, Ohio	70-419-865-5530	
ADT, Jackson, Michigan	9-1-782-1825	638
AMBULANCE - Sheriff's Department, Adrian, Michigan	9-263-4684	603
AMBULANCE - (also Fire Department)	9-263-2324	603
BAILEY METER COMPANY, Detroit, Michigan	9-1-313-356-1500	
CATALYTIC OF TOLEDO (Major Repairs) Toledo, Ohio	7-0-419-693-4441	
CONSUMERS POWER (Electrical and Gas), Adrian, Mich.	9-265-6145	607
FIRE DEPARTMENT (Raisin Township), Adrian, Michigan	9-263-2324	603
GUARD SERVICE, Adrian, Michigan(SE Security, Inc.)	9-263-2818	
HIGHWAY PATROL, Clinton, Michigan	9-263-0033	604
HOSPITAL - (Emma L. Bixby), Adrian, Michigan	9-263-0711	601
INDUSTRIAL ELECTRIC (Electrical Products) Adrian, MI	9-265-7108	
PHYSICIAN - Dr. Charles Heffron, Adrian, Michigan	9-265-2175	605
POISON CONTROL CENTER, Adrian, Michigan	9-263-2412	602
at night after 9:00 P.M. call Ann Arbor	9-1-313-764-5102	
or Toledo	7-0-419-382-3435	
WILLIAM FERREL, INC. (Repair Heat) Toledo, Ohio	7-0-419-531-4451	
PLANT EXECUTONE, Phone tie-in	181	
SHERIFF'S DEPARTMENT, Adrian, Michigan	9-263-4684	603
R & D EXECUTON, Phone tie-in	182	
POLYMERS AREA, FIRE ALARM HOT LINE PHONE	222	
TOLEDO WEATHER	7-0-419-936-1212	
NATIONAL RESPONSE CENTER	9-1-800-424-8802	
MICHIGAN POLLUTION EMERGENCY ALERT SYSTEM	9-1-373-7660	
EPA (Spill Emergency)	9-1-800-292-4706	
MICHIGAN DNR (Spill Emergency)	9-1-313-379-9692	
HOSPITAL - (Herrick Memorial), Tecumseh, Michigan	9-423-2141	

SWS SILICONES CORPORATION
RCRA PLAN

PLANT MANUFACTURING PERSONNEL PHONE NUMBERS
****

	PLANT EXT.	HOME PHONE
GUARD	201	
DIRECTOR OF MANUFACTURING J. Calamungi	376	9-263-9300
ENGINEERING MANAGER (Alternate Emergency Coordinator) J. W. Lorenzen	215	9-265-8341
PRODUCTION MANAGER (Emergency Coordinator) J. M. Barancin	366	9-1-547-5462
PLANT ENGINEER L. R. Andre	217	9-423-5758
ASSISTANT PLANT ENGINEER L. C. Ausderau	225	9-263-4402
MAINTENANCE SUPERINTENDENT J. M. O'Connor	268	9-1-313-453-0523
MAINTENANCE FOREMEN L. Flanagin	284	9-263-7998
K. E. Iffland	322	9-1-486-2656
POLYMERS SUPERINTENDENT J. C. Shull	271	9-423-6183
POLYMERS FOREMAN M. Mininger	270	9-265-7326
SEMI-WORKS (HI BAY) SUPERINTENDENT S. R. Dery	259	7-0-419-472-1810
SEMI-WORKS (HI BAY) FOREMAN B. E. Weekley	264	9-423-4848
RTV SUPERINTENDENT G. Zubke	237	9-263-4862
RTV FOREMAN J. E. Sanders	289	9-265-8557

	PLANT EXT.	HOME PHONE
HCR SUPERINTENDENT		
G. Neice	295	9-263-2034
HCR FOREMAN		
N. Prather	279	9-265-5482
WAREHOUSE SUPERINTENDENT		
V. Sharp	230	9-265-5713
SHIPPING SUPERVISOR		
P. E. Brosamer	319	9-467-2739
RESEARCH		
G. R. Wolf	325	9-1-456-7108
R & D MAINTENANCE		
L. L. McClain	330	9-423-5382
PUBLIC RELATIONS		
J. Calamungi	376	9-263-9300
L. B. Bruner	213	9-1-313-428-8605
G. C. Philbrook	361	9-467-4329
ENGINEERING DEPARTMENT		
W. F. Clark	223	9-1-349-2591
L. J. Zuzek	287	9-263-7976
ENVIRONMENTAL		
G. C. Philbrook	361	9-467-4329

Contingency Plan and Emergency Procedures

Definitions and Coverage

WHAT IS A DISASTER?

Any event which could cause serious injury, loss of life, serious loss of production and loss of facilities, or environmental losses, both inside the plant area as well as to adjoining property and communities.

WHAT IS THE DISASTER CONTROL PLAN?

Disaster control plan is an organized procedure to effectively cope with a disaster or major emergency.

The plan covers:

a. Immediate action by personnel on duty.

b. Activation of disaster plan.

1. FIRST ANNOUNCEMENT

A. Anyone observing an emergency should sound the alert by broadcasting over the Executone system "NOW HEAR THIS! NOW HEAR THIS! (EMERGENCY) in the _____ area! Then repeat the whole message. Speak loudly and clearly. If you are near a phone you can dial 181 and announce directly on the Executone system, also. You should also call the Polymers foreman or the Process Control operator on their special phone, number 222 and report the emergency. The "181" system and the "222" system will be tested once per week.

B. The Polymers foreman or the Process Control operator, upon learning of an emergency, either from the Executone or from the telephone, will activate the "RED" phone system and announce over that phone the emergency and location. NOTE: during nights or weekends, use of the "RED" phone system could be eliminated, since it's effectiveness would be low.

C. The Polymers foreman will also send someone to blow the steam whistle; three short blasts, repeat 2 more times. This whistle will be tested once a week.

D. Also, the air whistle in the Hibay area can be blown.

E. If the emergency has not been announced over the Executone yet, the Polymers foreman or Process Control operator will now do so.

II. ACTION, PHASE I (Disaster NOT announced, yet)

A. A Head Count will be started immediately in all plant areas (see Section on Head Count). As soon as an emergency team member checks in for Head Count, he should then report to the Emergency Team.

B. The Emergency Team will go directly to the emergency scene, if in the plant. Otherwise, the team will go to the emergency vehicle. The emergency vehicle will wait up to 2 minutes, then proceed to the emergency scene. If the emergency is in the R & D area, only staff personnel will go in the emergency vehicle.

C. On hearing the emergency alarm, either the HCR foreman or the RTV foreman, depending on the location of the emergency, will go to the guard house to direct traffic, and call outside help as directed. During nights or weekends, either the HCR/RTV foreman or the Polymers/Hi Bay foreman, will go to the guard house.

D. The Process Control operator will go to the Guard House and open up the First Aid Station.

III. ACTION PHASE II

A. Normally, the first supervisor on the emergency scene would be the Shift Foreman. Any other supervisor might also be first. If any supervisor, on the scene, decides that a disaster is occurring, he would then activate the disaster plan on his own cognition, as follows:

IV. SECOND ANNOUNCEMENT

A. The supervisor or his designee would broadcast over the Executone system: "NOW HEAR THIS! NOW HEAR THIS! THIS IS A DISASTER ALERT. There is an (EMERGENCY) in the _____area." Then repeat the whole message. Speak loudly and clearly. If you are near a phone you can dial 181 and announce directly on the executone system, also. You should also call the Polymers foreman so he can announce the disaster both over the Executone and over the "RED" phone system. NOTE: During nights or weekends, use of the 222 "RED" phone line could be eliminated, since it's effectiveness would be low.

B. The shift foreman or the supervisor could also start the disaster announcement by calling the HCR or RTV foreman at the Guard House. This man would then call the Polymers foreman to have him announce the disaster on the 222 "RED" phone line, and would also use the 181 Executone system.

C. The DISASTER PLAN is now in effect:

V. ACTION, DISASTER PLAN

A. The foreman at the Guard House would then do the following:

1). Call Fire Department, 263-2324.

2). Call Sheriff's Department, for ambulance standby, 263-4684.

3). Call the disaster officers in order, until he locates one and tells him of the disaster emergency (these are listed on Page 5 of the general section). For Environmental problems, he will call the Emergency Coordinator.

4). Does any other calls as the shift foreman directs, such as
(1) The highway patrol for traffic control or evacuation or
(2) The hospital for standby, etc. (phone numbers on page 4).

B. All Plant areas will shut down as quickly as possible.

C. All "outside" personnel (vendors, contractors, visitors, etc.) will immediately WALK to the Guard House. No vendor vehicles will be driven, unless at the direction of the disaster officer in charge. All trucks, which are unloading or loading, will shut off their valves and secure the operation. Contractors and vendors should leave their keys in their vehicles.

D. The telephones and intercom are to be used for emergency messages only.

E. The foreman or supervisor in charge will make every effort to fight the disaster utilizing the emergency team and any other personnel available, until the Emergency Coordinator or a disaster officer arrives on the scene.

VI. DUTIES OF DISASTER OFFICERS OR EMERGENCY COORDINATOR

As soon as he is notified, the disaster officer or his assistant will proceed as follows:

1). Make certain that all necessary emergency outside aid has been called. If not, make arrangements to have this done. This includes traffic control or evacuation of surrounding plant areas.

2). Have foreman at the Guard House proceed to call all personnel on the disaster committee, including all area superintendents and general foreman.

3). Proceed to plant site.

4). Make sure that evacuation of plant personnel and care for injured is underway.

5). Make sure that all steps are being taken to control the disaster and then establish a disaster control center.

6). Complete shutting down operations affected by the disaster.

7). Inspect the area to make a preliminary survey of the cause, nature, and extent of the disaster.

8). Notification of disaster will then be made by the Director of Manufacturing to the following:

Vice President and General Manager

9). Arrange to notify families of injured employees. This must be done before any leak to the media.

10). Communications with outside media will be made by the following personnel only:

Director of Manufacturing

Vice President and General Manager

11). Meet with all supervisors, who should now be at the plant, appraise the situation and make plans to make necessary repairs and resume operations.

12). Arrange for necessary information and instructions concerning raw materials, incoming materials, supplies, customers, and neighboring property owners.

VII. DUTIES OF ASSISTANT DISASTER OFFICERS

1. In the absence of the disaster officers, he will assume the duties of the disaster officer, up to step 7 in previous section VI.

2. When a disaster officer arrives, the assistant disaster officer will then assist the shift foreman in any way possible, so that the shift foreman can concentrate on the emergency team and fighting the disaster.

3. Establish the communications center, if the disaster officer hasn't yet done so.

VIII. RESCUE OPERATIONS OFFICER

1. As soon as he is notified, he will proceed to the plant site, check with the disaster officer.

2. Make necessary arrangements to call his assigned assistants, if they have not already been contacted.

3. Proceed to the disaster area and appraise the situation.

4. Check with the shift foreman on the status of the Head Count. If not completed, he will contact all areas and complete the count. He will also check with the guard for any movements of personnel.

5. Notify the maintenance department of your needs, that is additional personnel, equipment, etc.

6. Coordinate rescue operations with the Medical and Evacuation officer.

IX. MEDICAL AND EVACUATION OFFICER

1. As soon as he is notified, he will proceed to the plant site and check with the disaster officer and/or the rescue operations officer.

2. Make necessary arrangements to call his assigned assistant, if he has not already been contacted.

3. Arrange for ambulance and hospital service, if needed, and hasn't already been called.

4. Establish first aid center. The process control operator should have done this.

5. Evacuate plant personnel, and if necessary, carry out evacuation of neighboring people, with the help of the police.

X. TRAFFIC CONTROL AND SECURITY OFFICERS

1. As soon as they are notified, they will proceed to the plant site, and check with the disaster officer.

2. Make necessary arrangements to call his assigned assistant, if he has not already been contacted.

3. Work in conjunction with the police to block off roads when necessary.

4. Direct incoming outside assistance to the proper place.

5. Direct plant personnel to police the perimeter of the plant, especially to watch all other gates and observe any problems, such as trespassing of outsiders, etc.

6. Prevent local sightseers and unauthorized people (photographers, newspaper, radio, etc.) from entering the plant premises.

7. Establish security guards at all plant gates.

XI. COMMUNICATIONS AND MAINTENANCE OFFICER

1. As soon as he is notified, he will proceed to the plant site, and check with the disaster officer.

2. Make necessary arrangements to call his assigned assistants, if they have not already been contacted.

XI. COMMUNICATIONS AND MAINTENANCE OFFICER (CONTINUED)

3. Establish a communication center, if the disaster officer hasn't already done so. This will consist of the following:

   a. The warehouse van and the plant managers truck are the primary communication vehicles. Each is equipped with FM-2-way radios. One of these, usually the WH van, should be located in the area of the disaster, to provide a communication link with the communication center at Sutton House radio.

      Upon his arrival, the Communications Officer should establish contact with the WH van and with the plant managers vehicle.

   b. In addition to the 2-way mobile radios, there is a hand held walkie-talkie in Sutton House, (on the Engineering and Production Manager's desk) which should be picked up by the Traffic Control officer for use at the Guard House.

4. He will also provide necessary maintenance personnel and equipment as required.

XII. AREA GENERAL FOREMEN

1. As soon as they are notified, they will proceed to the plant site, and obtain a quick briefing from one of the disaster cfficers.

2. They will immediately go to their own areas and proceed as follows:

3. Make sure a Head Count has been made and reported. If not, do so.

XII. AREA GENERAL FOREMEN (CONTINUED)

4. Find out the extent of the disaster as it affects their area, and take necessary action.

5. Assure that their area is secure, that an orderly and safe shutdown is underway or completed.

6. Then, and only then, should they get involved at the disaster site for assistance.

XIII. HEAD COUNT

A. During Daytime on Weekdays

In each plant area the general foreman will both do a Head Count and check out his area. He will remain in his area until he is satisfied of the above 2 conditions. In this respect, he must always be aware of which of his men are on the emergency team and have left for their duties.

Each general foreman must develop his own system for getting a quick and accurate Head Count of his area.

The general foreman will then notify the rescue operations officer of his area status, both as to Head Count and as to condition. He can do this by:

1. Sending a "runner".
2. Contacting the communications center, if one has been established.
3. He will notify the shift foreman, in the absence of the rescue operations officer.

XIII. HEAD COUNT (CONTINUED)

B. DURING NIGHTS OR WEEKENDS

During shifts, the senior operator in each area must do the Head Count. Here again a procedure for doing this quickly and accurately must be established by the general foreman. The senior operator will report his results to the shift foreman.

XIV. ENDING

When the emergency or disaster is over, this should be announced over the executone system(s) and "RED" phone when appropriate.

XV. DISASTER PLAN

Refer to plant Disaster Plan for more information, sketches, etc.

EMERGENCY COORDINATOR

Required Emergency Coordinator

A. On the facility premises or available to respond to the facility in a short time.

B. Responsible for coordinating all emergency response measures with authority to commit the resources needed to carry out the contingency plan.

C. Must be thoroughly familiar with:
   1. The facility's contingency plan
   2. Operations and acitvities
   3. Location and characteristics of waste
   4. Location of all records
   5. Facility layout.

Additional Responsibilities of the Emergency Coordinator (and the owner/operator)

A. Whenever there is an imminent or actual emergency situation he must immediately:
   1. Activate internal facility alarms on communication systems to notify all facility personel
   2. Notify appropriate State or local agencies if their help is needed.

B. Whenever there is a release, fire or explosion he must immediately:
   1. Identify the character, exact source, amount, and real extent of any released materials using observation, facility records or manifests, and, if necessary, by chemical analysis.

C. Concurrently he must:
   1. Assess possible hazards (ex. the effects of any toxic, irritating, or asphyxiating gases), and the effects of surface run-offs of wastes(including water or chemical agents used to fight fire).

D. Whenever the release could threaten human health or the environment outside the facility he must:

1. Immediately notify appropriate local authorities if he believes that evacuation of local areas may be necessary.
2. Immediately notify the on-scene coordinator for that area (in the applicable regional contingency plan) or the National Response Center (800-424-8802) and provide a report detailing:
   a. Name and telephone number of reporter
   b. Name and address of facility
   c. Time and type of incident (e.g. release, fire)
   d. Name and quantity of materials involved, to the extent known.
   e. The extent of injuries, if any, and
   f. The possible hazards to human health, or the environment, outside the facility.

E. Take measures such as stopping processes and operations, collecting and containing released waste, and removing or isolating containers, necessary to stop the occurrence, re-occurrence, or spread of fires, explosions or releases.

F. If the facility stops operations, monitor for leaks, pressure buildups, gas generation, or ruptures in valves, pipes, or other equipment (as appropriate).

G. Immediately after an emergency, treat or store recovered waste, contaminated soil or surface water, or other material. Such recovered material may have to be handled as a hazardous waste.

H. Immediately after an emergency, do not allow incompatible waste to be treated, stored, or disposed with released materials until cleanup procedures are completed; and clean emergency equipment before operations are resumed.

I. Before operations are resumed, notify the Regional Administrator and State and local authorities that Subsection H above has been comlied with.

J. The owner or operator must note in the operating record the time, date, and details of any incident which implement the contingency plan; and within 15 days after the incident, submit a written report to the Regional Administrator detailing:

1. Name, address, and telephone number of owner or operator.
2. Name, address, and telephone number of the facility
3. Date, time, and type of incident (e.g. fire, explosion)
4. Name, and quantity of material(s) involved
5. The extent of injuries, if any
6. As assessment of actual or potential hazards to human health or the environment, where this is applicable, and
7. Estimated quantity and disposition of recovered material that resulted from the incident.

CLASSIFICATION OF FIRES AND RATING OF PORTABLE FIRE EXTINGUISHERS

The basic types of fires are Classes A,B,C, and D as defined in the following paragraphs.

CLASS A fires are fires in ordinary combustible materials, such as wood, cloth, paper, rubber, and many plastics.

CLASS B fires are fires in flammable liquids, gases, and greases.

CLASS C fires are fires which involve energized electrical equipment where the electrical nonconductivity of the extinguishing media is of importance. (When electrical equipment is deenergized, extinguishers for Clas A or B fires may be used safely.).

CLASS D fires are fires in combustible metals, such as magnesium, titanium, zirconium, sodium, and potassium.

Certain combustible metals and reactive chemicals require special extinguishing agents or techniques. If there is doubt, applicable NFPA standards should be consulted or reference made to NFPA No: 49.

Portable fire extinguishers are classified for use on certain classes of fires and rated for relative extinguishing effectiveness at a temperature of plus 70 degrees Fahrenheit by nationally recognized testing laboratories. This is based upon the preceding classification of fires and the fire-extinguishment potentials as determined by fire tests.

The classification consists of a LETTER which indicates the Class of fire on which an extinguisher has been found to be effective, preceded by a rating NUMERAL (Class A and B only) which indicates the relative extinguishing effectiveness.

(continued).....

For extinguishers rated on Class B fires, the rating NUMERAL is also a proportional indication of the square-foot area of flammable liquid fire (of appreciable depth) which a trained operator can extinguish. (NOTE: appreciable depth is defined as a depth of liquid greater than 1/8 inch.).

For extinguishers classified for use on Class C fires, no NUMERAL is used since Class C fires are essentially either Class A or B fires involving energized electrical wiring and equipment. The size of the different suitable extinguishers installed should be commensurate with the size and extent of the Class A and/or B components of the electrical hazard or containing equipment being protected.

For extinguishers classified for use on Class D fires, no NUMERAL is used. The relative effectiveness of these extinguishers for use on specific combustible metal fires is detailed on the extinguisher nameplate.

Extinguishers which are effective on more than one Class of fire have multiple LETTER and NUMERAL-LETTER classifications and ratings.

The classification and rating is found on the label of Underwriters' Laboratories, Inc. and Underwriters' Laboratories of Canada, which is affixed to the extinguisher.

EXAMPLE: An extinguisher is rated and classified 4-A:16 B:C. This indicates the following:

1). It should extinguish approximately twice as much Class A fire as a 2-A (2-1/2 gallon water) extinguisher.
2). It should extinguish approximately sixteen times as much Class B fire as a 1-B extinguisher.
3). It should extinguish approximately 16 square feet of flammable liquid fire of appreciable depth when used by an operator trained in the use of the specific extinguisher.
4). It is suitable for use on energized electrical equipment.

PLANT FIRE PROTECTION SYSTEM

Training Aids: SWS Drawing SK #8 -3, Page 32A

INTRODUCTION

Our plant has a well designed fire protection system, and if properly used should extinguish or control any fire that occurs. We have a water supply, fire pumps, underground fire loop, sprinkler systems, fire trucks, and associated equipment.

WATER SUPPLY AND PUMPS

We have two (2) cooling water ponds, each of which contain approximately 750,000 gallons of water. Of this amount, 500,000 gallons are reserved for the two (2) fire pumps. This is governed by the fact that the fire pumps are longer than the cooling water pumps. When water is being drawn from these ponds to fight a fire, water is pumped into the ponds from the river water intake pump, which is rated at 500 gpm. Water may also be added through a four (4) inch well water makeup line. The river water makeup line will open automatically as the pond level drops, but the well water makeup line must be opened manually.

We have two (2) vertical turbine fire pumps located in our pump house. Each pump is capable of 2,000 gpm at 175 psi pressure. These pumps are set to come on automatically if the pressure drops in the fire mains. The electric pump comes on when the pressure drops to 145 psi, and the diesel comes on at 125 psi. We have an electric pump and a diesel driven pump. In the event of a fire during power outage, the diesel pump must be run.

These pumps whould start automatically in the event of a pressure drop in the fire main, but if the pressure switches should malfunction, either pump can be started manually. How to start and shut down these pumps will be pointed out on our tour.

UNDERGROUND FIRE MAINS: Refer to SWS SK-8-3, entitled "underground fire line", see page 32A

Start in the lower ~~left~~ RIGHT hand corner, where it says " from pumping station". This shows that there are paralled 12" underground lines coming from the pump house and tying into our 10" underground at PIV7 and PIV8. In the event of a rupture in one of these 12" lines, it can be isolated and pressure maintained through the other line. The lower 12" line on the sketch can be isolated by closing PIV7 & PIV8 and the northern most 12" valve in the pump house. The upper 12" line or sketch can be isolated by closing PIV6 & PIV7 and the southern most 12" gate valve in the pump house.

It should be pointed out here that anytime a post indicator valve is closed, the number of turns needed to close it should be counted and recorded. It should take the same number of turns to open this valve (usually 30 to 32 turns). Anytime a post indicator valve is closed, the Safety and Loss Department, in Westport, must be notified. They will want to know why it was closed and the estimated time that it will be closed.

FIRE HYDRANTS: Our fire hydrants are equipped with 2 - 2-1/2" nozzles. Most of these have one side reduced to 1-1/2" and have a 1-1/2" hose attached. It is important when using a hydrant that it is opened all the way. All hydrants have weep holes located underground. There are two (2) leather seals that cover these when the hydrant is not opened fully.

If the hydrant is not opened fully, water will flow out of these holes. Upon closing the hydrant, disconnect one side and place the palm of your hand over the opening. If the hydrant is draining properly, you should feed a vacuum forming.

SPRINKLER SYSTEMS: The following areas in our plant are protected by sprinkler systems: HI Bay, RTV, Reactor structure, Silicon warehouse, northeast corner of maintenance, Polymers, HCR, the new warehouse, the Polymers-HI Bay warehouse, the HCR warehouse, and the RTV warehouse.

Most of these areas, with the exception of the Monomers reactor structure, have temperature sensitive heads. This means that the sprinkler heads have a temperature rating (usually 180°F) at which point the solder melts and they spray water. In case of a fire only the sprinkler heads which get hot will go off. In the reactor structure, we have a deluge system. When a heat sensitive head is heated up, all of the heads will spray water, blanketing the structure with water.

Where a plant is protected by a well designed and maintained system of automatic sprinklers, the fire brigades work is simplified in a majority of fires. In all cases, where sprinklers operate on a fire, they should not be shut down until the supervisor in charge of the emergency brigade has determined that the fire is completely under control. Premature closing of the sprinkler supply valves has been a leading cause of major fire losses in industry.

All of our sprinkler systems have a post indicator valve by which the various systems may be shut off. After a sprinkler system has been tripped and the fire is out, this valve may be shut off to stop the water flow while replacing sprinkler heads. THIS VALVE SHOULD ONLY BE SHUT UNDER THE DIRECTION OF THE FIRE MARSHAL.

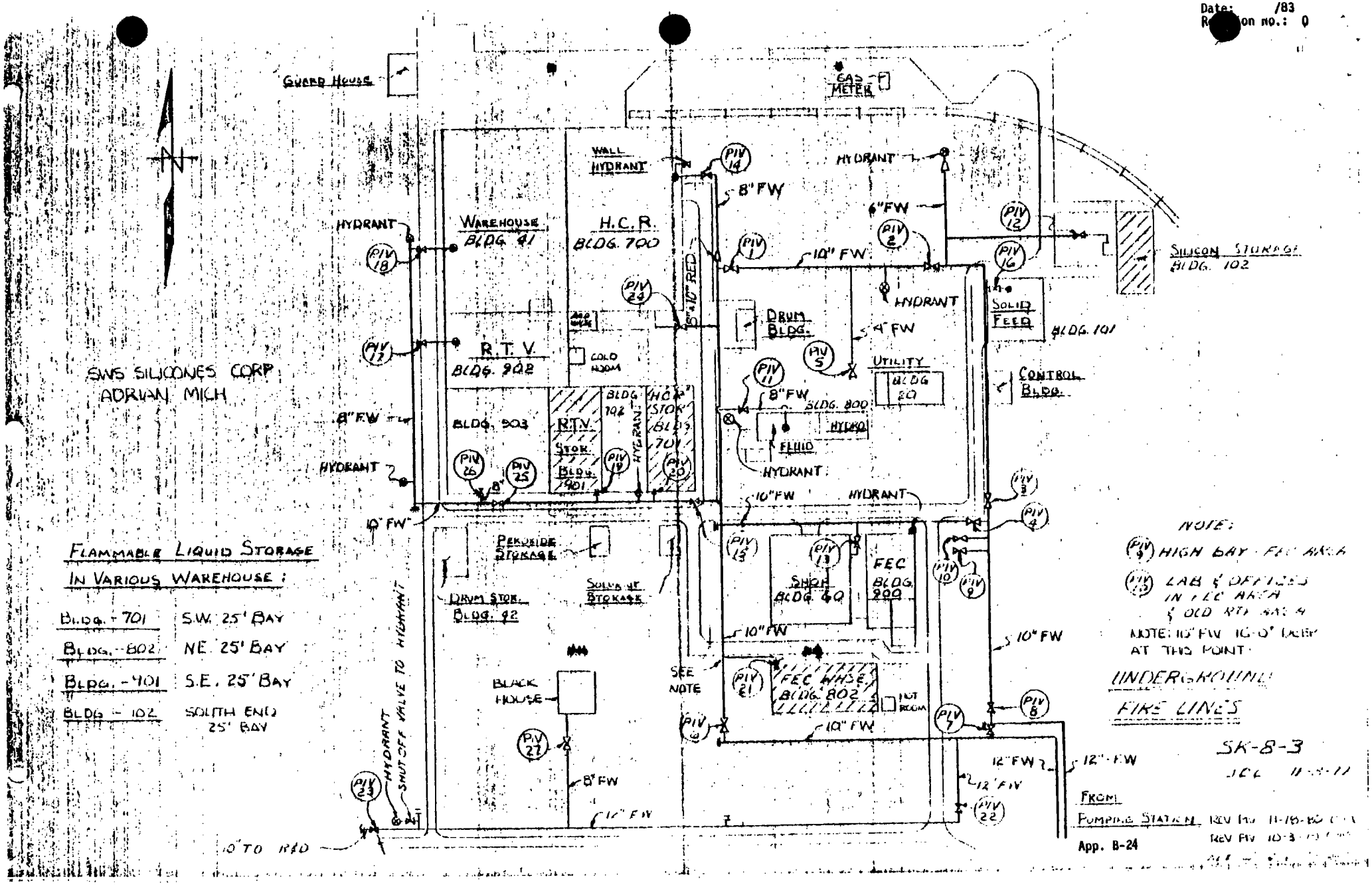
PLANT FIRE TRUCK: We have a 1968 Chevy pickup equipped as an emergency vehicle. Some of the equipment on this vehicle consists of: two (2) Scott Air Pacs; eight (8) gas masks; one (1) 300 pound dry chemical extinguisher; five (5) 30 pound extinguishers; an oxygen bottle and mask; 2-1/2" fire hose; and a monitor nozzle with 150' of hose attached. There

PLANT FIRE TRUCK (CONTINUED)

Is also a radio so that communications can be set up with walkie-talkies and the Sutton House radio system.

To use the 300 pound dry chemical extinguisher that is on the truck only one valve needs to be opened, this is the valve on the nitrogen cylinder. As soon as this valve is opened, it pressurizes the dry chemical and this unit is ready for use.

Date: /83
Revision no.: 0



FIRE EXTINGUISHERS

NUMBER	LOCATION		SIZE
1	Guard House	Bldg. 5	SP-A-30
2	Guard House Gas Pump		SP-A-20
3			
4	DSA Row 18	Bldg. 41	20A
5	DSA Door 2	Bldg. 41	20A
6	DSA Row 1	Bldg. 41	20A
7			
8			
9			
10			
11			
12	Middle; C-21	Bldg. 41	30A
13	Middle; C-10	Bldg. 41	30A
14	Middle; T-1	Bldg. 41	SPA 30
15	Middle; E-17	Bldg. 41	SPA 30
16	Middle; E-9	Bldg. 41	30
17	Middle; Small Pkg. Cage	Bldg. 41	30
18	Middle; S-16	Bldg. 41	20A
19			
20			
21			
22			
23			
24	RTV East Overhead Door	Bldg. 902	20A
25	RTV East next to Men's Room	Bldg. 902	30
26	RTV Solvent Room	Bldg. 902	20
27	RTV Lab	Bldg. 902	20
28	RTV West Wall	Bldg. 902	30
29	RTV Red Room West	Bldg. 902	30
30	RTV Red Room East	Bldg. 902	30
31	RTV New Bldg. East	Bldg. 902	20
32	RTV New Bldg. West	Bldg. 902	20
33	RTV New Bldg. South Wall	Bldg. 902	
34	RTV New Exp. West	Bldg. 903	20
35	RTV New Exp. East	Bldg. 903	20
36	RTV Warehouse; North	Bldg. 901	30
37	RTV Back Warehouse; South	Bldg. 901	30
38			
39			
40			
41			
42			
43	AR Building; North	Bldg. 42	20
44			
45			
46	CO_2 Label Room	Bldg. 700	I
47	Outside Label Room	Bldg. 700	20
48	HCR; North	Bldg. 700	20
	HCR Office	Bldg. 700	30
50	HCR R-601	Bldg. 700	30
51	HCR M-603; North	Bldg. 700	30
52	HCR M-603; South	Bldg. 700	30
53	HCR M-602; North	Bldg. 700	20

FIRE EXTINGUISHERS

NUMBER	LOCATION		SIZE
55	HCR M-704; West	Bldg. 700	20
56	HCR Ext - 704	Bldg. 700	20
57	HCR ML-704	Bldg. 700	20
58	HCR ML-702	Bldg. 700	20
59	HCR South Wall ML-703	Bldg. 700	30
60	HCR Hisil Room	Bldg. 700	20
61	HCR Chiller Room	Bldg. 700	20
62	HCR Y-400 Next to D_3 Tank		30
63	HCR; 2nd Deck Y-400		20
64	HCR; 2nd Deck Y-400 Railing		
65	HCR; 3rd Deck Y-400 Railing		30
66	HCR Bldg. 701 North	Bldg. 701	30
67	HCR; South Warehouse	Bldg. 701	20
68	HCR; South Warehouse	Bldg. 702	30
69			
70			
71			
72			
73			
74	Solvent Storage; North	Bldg. 44	30
75	Oil & Grease	Bldg. 44	20
76			
77			
78	Drum Bldg. Polymers	Bldg. 801	20
79	Poly T-422; Ground Tank Farm		20
80	Poly T-425; Ground Tank Farm		20
81	Poly T-509 C; Ground		30
82	Poly T-814; Ground		20
83	Poly T-815; Ground		500
84	Poly T-815; 2nd Level		30
85	Poly T-512 B; 2nd Level		20
86	Poly T=831; 2nd Level		20
87			
88			
89	Poly Office Hallway	Bldg. 800	30
90	CO_2 Poly Electrical Breaker Room		
91			
92	Poly Fluids R-803; Ground	Bldg. 800	20
93	Poly Fluids R-805; Ground	Bldg. 800	30
94	Poly Fluids T-862; Ground	Bldg. 800	20
95	Poly Fluids Stairway; 2nd Level	Bldg. 800	20
96	Poly Fluids West Door; 2nd Level	Bldg. 800	30
97	Poly Fluids T-861; 2nd Level	Bldg. 800	30
98	Poly Fluids T-862; 2nd Level	Bldg. 800	30
99	Poly Fluids T-905; 2nd Level		30
100	Poly Fluids Roof; 1st Level	Bldg. 800	30
101	Poly Fluids C-803; 2nd Level	Bldg. 800	30
102	Poly Fluids C-803; 3rd Level	Bldg. 800	30
103	Poly Fluids C-803; Top Level	Bldg. 800	30
1			
105			
106	Process Control Lab; North Door	Bldg. 800	20

FIRE EXTINGUISHERS

NUMBER	LOCATION		SIZE
107	Process Control Lab; South Hood	Bldg. 800	10
108	Process Control Lab; Cyclics Door	Bldg. 800	20
109	Process Control Lab; Office Door	Bldg. 800	10
110			
111			
112	Poly Cyclics; Ground South C-502 & C-503		20
113	Poly Cyclics; 2nd Level C-502 & C-503		20
114	Poly Cyclics; 2nd Level C-502 & C-503		10
115	Poly Cyclics; 3rd Level C-502 & C-503		20
117	Poly Cyclics; Top Level C-502 & C-503		10
118	Poly Cyclics; Top Level C-502 & C-503		10
119	Poly Cyclics; Top Level C-505 & C-506		20
120	Poly Cyclics; 6th Level C-505 & C-506		20
121	Poly Cyclics; 5th Level C-505 & C-506		20
122	Poly Cyclics; 4th Level C-505 & C-506		20
124	Poly Cyclics; 2nd Level C-505 & C-506		20
125	Poly Cyclics; Ground Wall West	Bldg. 800	30
126	Poly Cyclics; Ground Wall East	Bldg. 800	30
127	Poly Cyclics; East Door 2nd Level	Bldg. 800	30
128	Poly Cyclics; West Door 2nd Level	Bldg. 800	30
129	Poly Cyclics; T-406 2nd Level	Bldg. 800	20
130	Poly Cyclics; T-406 3rd Level	Bldg. 800	20
131	Poly Cyclics; T-406 4th Level	Bldg. 800	10
132	Poly Cyclics; Roof T-503 ovhd	Bldg. 800	10
133	Poly Cyclics; Roof T-516 ovhd	Bldg. 800	10
134	Fluids T-808; South of Poly Cyclics	Bldg. 800	20
135	M-601 Jet Platform	Bldg. 700	20
136			
137			
138			
139			
140	Boiler House Southwest Corner	Bldg. 20	150
141	Boiler House; West Wall	Bldg. 20	20
143	Boiler House; Northeast Corner	Bldg. 20	10
144	Boiler House; Southeast Corner	Bldg. 20	20
145	FU-102		30
146	FU-101		20
147			
148			
149			
150	C-301; Ground		20
151	T-304; Ground		20
152	T-354; Ground		20
153	T-317; 2nd Level East		30
154	T-317; 2nd Level East		30
[illegible]	T-122; Ground West		30
5[illegible]	North Control Room; Solvent Storage		20
57	North Control Room; Solvent Storage		20
58	North Control Room; between Offices	Bldg. 100	10

FIRE EXTINGUISHERS

NUMBER	LOCATION		SIZE
160 CO_2	Control Room South Breaker Room	Bldg. 100	
161	Control Room North Door	Bldg. 100	20
163	Monomers C-202 Ground		20
164	Monomers C-203 Ground		20
165	Monomers R-101 Ground		20
166	Monomers Solids Feed North Wall; Ground	Bldg. 101	20
167	Monomers Solids Feed West Wall; Ground	Bldg. 101	20
168	Monomers Solids Feed East Door; 2nd	Bldg. 101	20
169	Monomers R-101; 2nd Level		20
170	Monomers Solids Feed; 3rd Level	Bldg. 101	20
171	Monomers Solids Feed; 4th Level	Bldg. 101	10
172	Monomers R-101; 3rd Level		20
173	Monomers R-101; 4th Level	Bldg. 101	20
174	Monomers R-101; 5th Level		20
175	Monomers R-101; 6th Level		20
176	Monomers R-101; 7th Level		20
177	Monomers T-101		500
178	Monomers Bldg. 102 Southwest		30
180			500
181	Monomers HCl Watch Bldg. #23		
182	Fire House #1 Northside		10
183			
184			
185			
186			
187			
188			
189	Hi Bay North Personnel Door; Ground	Bldg. 900	10
190	Hi Bay Outside Ladies Room; Ground	Bldg. 900	20
191	Hi Bay Breaker Room; Ground	Bldg. 900	
192	Hi Bay South Door		20
193	Hi Bay Bottleroom; North; Ground	Bldg. 900	20
194	Hi Bay Bottelroom; South; Ground	Bldg. 900	20
195	Hi Bay Ribbon Blender; 2nd Level	Bldg. 900	20
196	Hi Bay T-962; 2nd Level	Bldg. 900	20
197	Hi Bay Locker Area; 2nd Level	Bldg. 900	10
198	Hi Bay Training Room Door; East	Bldg. 900	10
199	Hi Bay Training Room Door; West	Bldg. 900	20
200	Hi Bay Training Room Door; Hallway	Bldg. 900	20
201	Hi Bay Training Room Door; Hallway	Bldg. 900	10
202	Hi Bay R-902; Ground Level	Bldg. 900	30
203		Bldg. 900	30
204		Bldg. 900	10
205	Hi Bay R-910; Ground Level; West	Bldg. 900	20
206	Hi Bay M-916; Ground Level	Bldg. 900	20
207	Hi Bay T-942; Ground Level	Bldg. 900	20
208	Hi Bay M-922; Ground Level	Bdlg. 900	20
209	Hi Bay T-927; 2nd Level	Bldg. 900	20
210	Hi Bay M-922; 2nd Level	Bldg. 900	20
211	Hi Bay HL Pump Room; South	Bldg. 900	20

FIRE EXTINGUISHERS

NUMBER	LOCATION		SIZE
212	Hi Bay ML Pump Room; North	Bldg. 900	20
213	Hi Bay Gas Pump	Bldg. 900	20
214	Hi Bay R-902; 2nd Level	Bldg. 900	20
215	Hi Bay R-905; 2nd Level	Bldg. 900	20
216	Hi Bay R-903; 2nd Level	Bldg. 900	20
217	Hi Bay R-903; 3rd Level	Bldg. 900	10
218	Hi Bay R-905; 3rd Level	Bldg. 900	10
219	Hi Bay R-901; 4th Level	Bdlg. 900	20
220	Hi Bay R-905; 4th Level	Bldg. 900	20
221	Hi Bay R-903; 4th Level	Bldg. 900	10
222	Hi Bay Warehouse East	Bldg. 802	20
223	Hi Bay Warehouse West	Bldg. 802	20
224	Hi Bay Little Breaker Room	Old Hi Bay	CO_2
225	Hi Bay Breaker Room Outside Entrance South		CO_2
226	Hi Bay 942; 2nd Level West Post		
227	Hi Bay Warehouse; Northwest Corner		20
228	Between Breaker Room West of 905		
229	Hi Bay R-905 East of ML Door		20
230	Engineering South Door	Bldg. 60	10
31	Engineering Water Fountain	Bldg. 60	10
232	Engineering North Door	Bldg. 60	10
233			
234	North Door Ground Level Maint.	Bldg. 60	30
5	Northwest Door Maint; Ground Level	Bldg. 60	30
236	Maint. Instrument Shop	Bdlg. 60	10
237	Maint. South Door	Bldg. 60	10
238	Maint. Southwest Door	Bldg. 60	30
239	Maint. Office Trailer	Bldg. 60	20
240	Fire Truck		
241	Fire Truck		20
242	Fire Truck		300
243	Maint. Tool Crib; Ground Bottom Stairway	Bldg. 60	10
244	Maint. Tool Crib; 2nd Level Top Stairway	Bldg. 60	20
245	Fire Truck		30
246	Fire Truck		10
247			
248			
249	Sanitary Sewer Bldg. Door		30
52			
53			
54			
55	Cooling Water Pump House West Door	Bldg. 22	20
56	Cooling Water Pump House East Door	Bldg. 22	20
57	Sutton House Hallway; 1st Floor		10
8	Sutton House Kitchen; 1st Floor		20
9	Sutton House Basement		10
0	Sutton House Hallway; 2nd Floor		10
1	Sutton House Office; 3rd Floor		10

	1	2	3	4	5
300' HOSE					
1½" FOG NOZZLE					
2½" FOG NOZZLE					
2½" X 1½" NOZZLE					
2½" X 1½" SIAMESE					
BIG BEAM LIGHT			N.A.		
ADJUSTABLE HYDRANT WRENCH					
2½" GATE VALVE					
FIRE AX					
6' PIKE POLE					
CROW BAR					
100' ROPE					
4 SPANNER WRENCHES					
2 HOSE STRAPS	N.A.				
2½" + 1½" GASKETS					
CLEANLINESS					

SPRINKLER SYSTEMS

	VALVE OPEN	VALVE SEALED	PRESS. ABOVE	PRESS. BELOW
WAREHOUSE (OLD)				
WAREHOUSE (NEW)				
HI BAY NORTH				
HI BAY SOUTH				
FLUIDS				
RTV				
RTV WHSE.				
MAINT.				
RTV Addition				

	VALVE OPEN	VALVE SEALED	AIR PRESS.	WATER PRESS.
MICA WHSE.				
HI BAY WHSE.				
HCR WHSE				
FILLER TREAT				

VALVE No.	OPEN
1	
2	
3	
4	
5	
6	
7	
8	
9	
10	
11	
12	
13	
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15	
16	
17	
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19	
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21	
22	
23	
24	

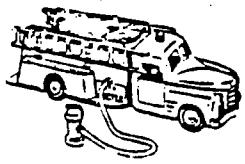
FIRE DIESEL

ENGINE HOURS	
FUEL SUPPLY	
BATTERY WATER	
BATTERY CHARGER	

FIRE PUMP (ELEC.)

PUMP TESTED		25	
PUMP DISCHARGE		26	

RAISIN T_WNSHIP FIRE D_.PARTMENT



Submitted
Date: 5/31/83
Revision No.: 01
8/1/83

July 22, 1983

Mr. Gordon Philbrook
c/o SWS Silicones
Stauffer Chemical Corp.
Adrian , Michigan 49221

Mr. Philbrook:

In response to your request of July 5,1983 I am sending you an updated letter with our current status listed.

1. Personell.

Raisin Township Fire Department currently consists of 45 members on a paid call basis broke down as follows.

1 - - Chief
2 - - Assistant chief's
2 - - Rescue captains
4 - - Fire Captains
36 - - Fireman & Rescue persons

Overall training includes 66 hour firemanship training, Officer training, rescue training, extrication courses, C.P.R. , Emergency medical technicians, overdose aid training, radiological training, hazardous materials courses and other related courses as they are made available.

2. Equipment: 10 vehicles as listed below.

81-1 Pumper tanker w/ 1000 gpm pump and 1000 gallons of water. This unit carries a deluge gun capable of discharging 1000 gmp.
81-2 Pumper tanker w/ 750 gpm pump and 1500 gallons of water. This unit has foam capability.
81-3 Combination 4 wheel drive grass rig and light rescue. This unit capable of handling most rescue situations.
81-4 Pumper w/ 750 gpm pump and 650 gallons of water.
81-5 Tanker w/ 350 gpm auxillary pump and 1500 gallons of water.
81-6 4 wheel drive vehicle -- grass rig with snowplow for situations in bad weather.
81-7 Main rescue unit with capability of treating many victims. This unit has the capability of direct communications with local hospitals.Forceable entry equipment up to and including the " jaws of life " are carried in this unit.
81-91 Ambulance New in 1981
81-92 Ambulance New in 1980
81-93 Ambulance New in 1980

JUL 27 1983

3. In addition to the equipment listed above we have the ability and capability of handling any and all situation which may occur. Self contained breathing apparatus is carried and would be used whenever the situation warranted.

As in the past SWS personell would act in an official capacity to help us control any situation that would occur.

Raisin Township personell will enter any building deemed safe for entry in the event of an emergency.

Our response time to your facility at the corner of Raisin Ctr Hwy and Sutton Rd should be 3-5 minutes under normal conditions.

In addition to the equipment owned and operated by the Township of Raisin, Mutual aid contracts in Lenawee County would put at our disposal, the knowledge and resources of eighteen other fire departments who would respond as required. Their dispatch would be accomplished through the command post of the Raisin Township Fire Department.

Respectfully,

Carl F Wagner

Carl F Wagner

Raisin Township Fire Chief

MEMBER
National Sheriffs' Association
Michigan Sheriffs' Association

Sheriff's Department
LENAWEE COUNTY
405 N. WINTER ST.
ADRIAN, MICH. 49221

SHERIFF
RICHARD E. GERMOND
UNDERSHERIFF
RONALD R. WEILER
Phone: 517-263-0524

Submitted
Date: 5/31/83
Revision No.: 01
8/1/83

July 6, 1983

Mr. Gordon Philbrook
SWS Silicones Corp.
3000 Sutton Rd.
Adrian, MI 49221

Dear Mr. Philbrook:

In the event of an emergency situation at your facility which would affect the health, well-being and property of surrounding residents and motorists, the Lenawee County Sheriff's Department and Office of Emergency Services would take the necessary actions in conjunction with the area Fire Departments to protect the life and health of the citizens and their property.

This would include invoking emergency disaster plans and annexes, (ACT 207 P.A. 1941, Act 390 P.A. 1976).

Immediate action to be taken would be to assess the potential threat, define the radius of evacuation, assign personnel to contact potential evacuees, traffic control and establish mass care shelters.

Sincerely,

Bruce Lucey

Bruce Lucey, Captain
Deputy Director
Emergency Services

BL/es

JUL 7 1983

SWS Silicones Corporation
ADRIAN, MICHIGAN 49221 • TELEPHONE (517) 263-5711

Date: 5/31/83
Revision No.: 0

December 29, 1980

Mr. Paul Nelson, Administrator
Emma L. Bixby Hospital
818 Riverside Avenue
Adrian, MI. 49221

Dear Mr. Nelson:

In accordance with the new Hazardous Wastes Management rules and regulations recently (11/19/80) pulmugated by the U.S. Environmental Protection Agency, we must have a contingency plan which includes arrangements agreed-to by local hospitals, in the event of a plant emergency, such as fires or explosions, involving hazardous wastes.

Our understanding is that Bixby Hospital can and would provide the following services, when appropriate:

1. The Emergency Room is available 24 hours/day.
2. Doctors are available or on call 24 hours/day at the Hospital.
3. There are emergency shower facilities at the Hospital Emergency Room area.
4. There would be communications between the Hospital, the Sheriff's department and the Ambulance service.
5. The Hospital has a heliport.
6. The Hospital maintains a 24 hour/day Poison Control center for information and advise concerning poisons and chemicals. ?

Please review our comments if you agree or have any suggestions please call me at 263-5711 Ext. 361. Your assistance is greatly appreciated in this matter.

Yours truly,

SWS SILICONES CORPORATION

Gordon C. Philbrook
Environmental Control Coordinator

SWS RCRA Plan, page 114
Revised 1/20/81

GCP:ceh
cc: J. Calamungi

Submitted
Date: 5/31/83
Revision No.: 01
8/1/83

EMMA L. BIXBY HOSPITAL

818 RIVERSIDE AVENUE ADRIAN, MICHIGAN 49221
AREA 517 263-0711

BOARD OF TRUSTEES
BETTY L. SKILLMAN, PH.D.
CHARLES E. GROSS
GRACE MILEY
H. LYMAN DUNLAP
RICHARD GILMARTIN, M.D.
REX MARTIN
ROBERT MEYERS

PAUL E NELSON F A C.H.A.
President

July 6, 1983

Mr. Gordon C. Philbrook
Environmental Control Coordinator
SWS Silicones Corporation
Adrian, Michigan 49221

Dear Mr. Philbrook:

In reply to your letter of July 5, 1983 concerning your plant Emergency Contingency Plan, and updating of same, Bixby Hospital can and will provide the six services as outlined in your letter of December 29, 1980.

If we may be of further service, please do not hesitate to contact me.

Sincerely,

Jay E. Kreuzer

Jay E. Kreuzer
Executive Vice President

JEK:prc

cc: Patricia Lamb, M.D.
Medical Director, Emergency Room

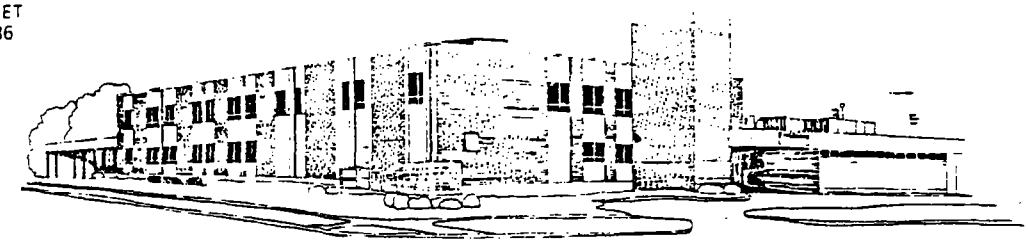
JUL 8 1983

Submitted
Date: 5/31/83
Revision No.: 01
8/1/83

ERRICK MEMORIAL HOSP...L

500 E. POTTAWATAMIE STREET
TUMSEH MICHIGAN 49286
(517) 423-2141

WILLIAM R. GROOVER
ADMINISTRATOR



July 8, 1983

Mr. Gordon Philbrook
Environmental Control Coordinator
Stauffer Chemical - SWS Silicons Corporation
Sutton Road
Adrian, Michigan 49221

Dear Gordon:

This letter is to assure you that within the limits of our capability we will be glad to care for any sick or injured personnel coming from your plant day or night.

Our Emergency Room is manned twenty-four (24) hours a day with physicians and we also have laboratory and x-ray personnel on-call around the clock.

In addition to the above we have the ability to land a Life Flight helicopter near our Emergency Room which carries a doctor and nurse for transferring patients to other Medical Centers as needed.

If you have any questions or comments please feel free to call me at any time.

Sincerely yours,

W. Groover

W. Groover

cc: Emergency Room
Outpatient

WG:zw

JUL 13 1983

Date: 9/2/83
Revision: 1

ADRIAN, MICHIGAN 49221 • TELEPHONE (517) 263-5711

August 24, 1983

Richard H. Gascoigne M.D.
Mill Road
Adrian, Michigan 49221

Dear Dr. Gascoigne:

In accordance with the Hazardous Wastes Management rules and regulations pulmugated by the U.S. Environmental Protection Agency, we must have a contingency plan which includes arrangements agreed to by local agencies, in the event of a plant emergency, such as fires, explosions or spills, involving hazardous wastes.

Our understanding is that you will provide assistance through the Bixby Hospital emergency room as outlined in the Lenawee County Disaster Plan procedure.

Please acknowledge this letter, along with any other appropriate comments.

Yours truly,

SWS SILICONES CORPORATION

Gordon C. Philbrook

Gordon C. Philbrook
Environmental Control Coordinator

GCP:pb 83-165

cc: J. Calamungi
T. E. Degnan
H. Kim

Dear Gordon
Sol be happy to help in any way.
Richard

SEP 2 1983

APPENDIX D

OIL AND HAZARDOUS SUBSTANCES SPILL PREVENTION CONTROL AND COUNTERMEASURE (SPCC) PLAN

OIL AND HAZARDOUS SUBSTANCES
SPILL PREVENTION CONTROL AND COUNTER MEASURE PLAN

February 3, 1984
-Revision-

I. Objective

The objective of this plan is to prevent the discharge of any oils, gasolene, petrochemicals or hazardous substances to the River Raisin. This shall entail any means required, during a spill incident, even including shutdown of manufacturing operations, until the discharge effluent meets all requirements under the law.

II. Coverage

The materials covered by this plan will be comprised of fuel oil, gasolene, lubricating oils, heat transfer oil (mobiltherm), petrochemicals, items on the Michigan Water Resources Commission Critical Materials Register, and items on the EPA Hazardous Substances list, which are used at the Adrian facility.

III. Facility Drainage

A. Flow from all plant processing areas will, via a network of ditches and culverts, be directed to a closed lagoon or discharged through an API style oil separator, and from the separator to a 2MM gallon pond before discharge to the river. Flow from the pond will be closely monitored and operation of the separator checked on a routine basis.

B. All other drainage within the plant flows naturally to a pond containing 750,000 gallons of water designed to trap floating fluids. The discharge water from the trap is periodically released to the river. The same pond permits total containment of 3.0MM gallons of contaminated water.

IV. Oil Storage (Refer to Table I)

Fuel oil could be stored in underground tanks, but these two tanks are presently inactive. Diesel fuel is stored in three small underground tanks. Mobiltherm is stored in drums prior to use and also in a 3,000 gallon surge tank, which is part of the hot oil system. Gasolene is stored in two underground tanks and one above-ground tank. One of the underground tanks is being phased out.

V. Petrochemical Storage (Refer to Table II)

Most petrochemicals are stored in drums in production area warehouses. There is one 6,000 gallon underground tank, T-920, for mineral spirits storage. Hazardous wastes, containing petrochemicals, are stored in drums on the special concrete hazardous waste storage pad, and also in two tanks, T-108 and T-105, which have a concrete dike and concrete pad system to prevent spillage loss.

VI. Storage Containers

A. All material used in the construction of the storage tanks is suitable for materials being stored.

B. All buried tanks are adequately protected against corrosion. A periodic level reading is done in order to detect any leakage in the underground storage tanks. A special semi-annual "level-test" will be done on all active underground tanks.

C. The above ground mobiltherm surge tank undergoes constant checking by operating personnel. Also, an inspection form is filled out by an engineer every month.

1. This surge tank is located next to one of the drainage ditches as outlined in Section III.

D. The hazardous waste storage drums and tanks are inspected weekly as per RCRA regulations.

VII. Facility Transfer Operations, Piping, and In-Plant Process

A. All piping containing oil or critical materials is above-ground.

B. All piping supports and pipe racks are designed to meet the U.S.A.S. B31 1.0 Standards.

C. All piping and valving is continually inspected by operating personnel.

D. All vehicles entering the plant are warned of any hazards associated with the areas of the plant to which they will be traveling.

E. The pumps and other equipment used in the hot oil system are designed for the temperatures involved and pressure up to 300 psi.

F. Water used in cooling these pumps and related equipment is either retained in the plant closed cooling system or discharged through the API separator described in Section IIIA.

G. Loading and unloading of oil and critical materials are monitored to avoid spills, and drainage from these areas is controlled by the spill pond.

VIII. Inspections and Records

Any occurrence which involves the loss to the ground of five (5) gallons or more of oil will be recorded. The engineering department inspects all oil use and storage locations monthly as well as the various ponds and ditches for possible contamination.

Any occurrence which involves a loss of the "Reportable Quantity" of any hazardous substance will be reported and recorded, as appropriate.

IX. Security

A. The entire plant is enclosed by fencing and the River Raisin, and the operation is continuous.

B. The critical valves and connections used in transfer and circulating are inspected continually.

C. Facility lighting is adequate to allow early detection of any spill.

X. Personnel Training and Spill Prevention Procedures

All personnel involved in the transfer of oil or chemicals are continually instructed as to the safe and proper procedures to follow. Training will also include the simulation of pollution incidents and contingency plan procedures. All personnel involved in handling materials with pollution potential are instructed to report any loss of control of these materials to their shift foreman. The reporting sequence thereafter is:

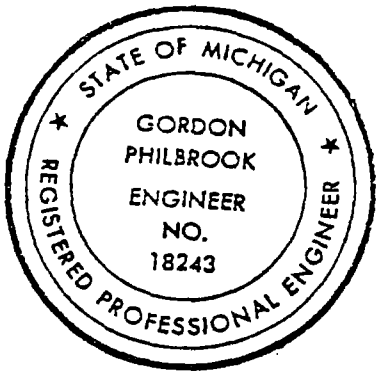
General Foreman (if available)
Area Superintendent
Production Manager
Environmental Control Coordinator
Director of Manufacturing
Vice President and General Manager

Each individual must take preventative or corrective action to the fullest extent of his authority.

The Production Manager or Director of Manufacturing, or his designate, or the Environmental Control Coordinator shall solicit outside help as needed, and will supply notice and pertinent information when necessary to government agencies as their jurisdiction dictates:

Michigan Pollution Emergency Alert System	800-292-4706
Michigan Department of Natural Resources	517-788-9598
Lenawee County Drain Commissioner	263-8831
Lenawee County Sheriff	263-4684
Michigan State Police	263-0033
U. S. Coast Guard (National Response Center)	800-424-8802

See attached instructions for notifying pollution control and other regulatory authorities.



Certified by:
Gordon C. Philbrook
Gordon C. Philbrook
Environmental Control Coordinator
Professional Engineer
State of Michigan
PE 18243
February 3, 1984

GCP:jjf

OIL AND HAZARDOUS SUBSTANCES
SPILL PREVENTION CONTROL AND COUNTER MEASURE PLAN

Table I

List of Oil Storage Tanks

All Underground

Tank	Capacity	Location
T-150 A	30,000 Gal. (1)	North of Boiler House
T-150 B	30,000 Gal. (1)	North of Boiler House
T-80 A	500 Gal.	South of C W Pump House
T-80 B	500 Gal.	South of C W Pump House
T-151	500 Gal.	North of Boiler House

(1) The two 30,000 gal. oil storage tanks are empty and are inactive at the present time (disconnected from system).

List of Gasoline Tanks

Tank	Capacity	Location
T-921	1,500 Gal. (2)	Underground, East of Hi Bay
---	550 Gal.	Underground, Guard House
---	275 Gal.	Above-ground, Maintenance

(2) This tank is being emptied and will not be used for gasolene or petrochemical storage.

List of Mobiltherm Storage (Above-Ground)

Item	Capacity	Location
T-158	3,000 Gal.	By Mobiltherm Furnaces
Storage Pad	12 Drums	South of T-101

GCP
2/03/84

Table II
List of Petrochemicals Storage

Petrochemical	Container	Average Storage, Lbs.	Location
Mineral Spirits	T-920	24,000	04, Underground
Mineral Spirits	55 gal. drum	32,700	03/04/05
Naphthas	55 gal. drum	30,700	03/04/05
Hydrocarbons	55 gal. drum	4,600	04
Xylene	55 gal. drum	1,500	03
Olefins	55 gal. drum	11,300	03/04
Mineral Spirit Waste	55 gal. drum	50,000	04
Bulk Mineral Spirit Waste	T-108	75,000	32
Ignitible Solvents Waste	55 gal. drum	50,000	04
Bulk Ignitables Waste	T-105	75,000	32

GCP
2/03/84

OIL AND HAZARDOUS SUBSTANCES

SPILL PREVENTION CONTROL AND COUNTER MEASURE PLAN

Department_____ Date_____ Time_____

	Yes	No
1. Floors and drain ditches clean?		
2. Nozzles, fittings, and lines to storage tanks free from leaks?		
3. Insulated tanks show no signs of leakage?		
4. Operating oil pumps seals free from leaks?		
5. Tank supports in good condition?		
6. Have all leaks and unusual conditions been reported to Production Manager immediately?		

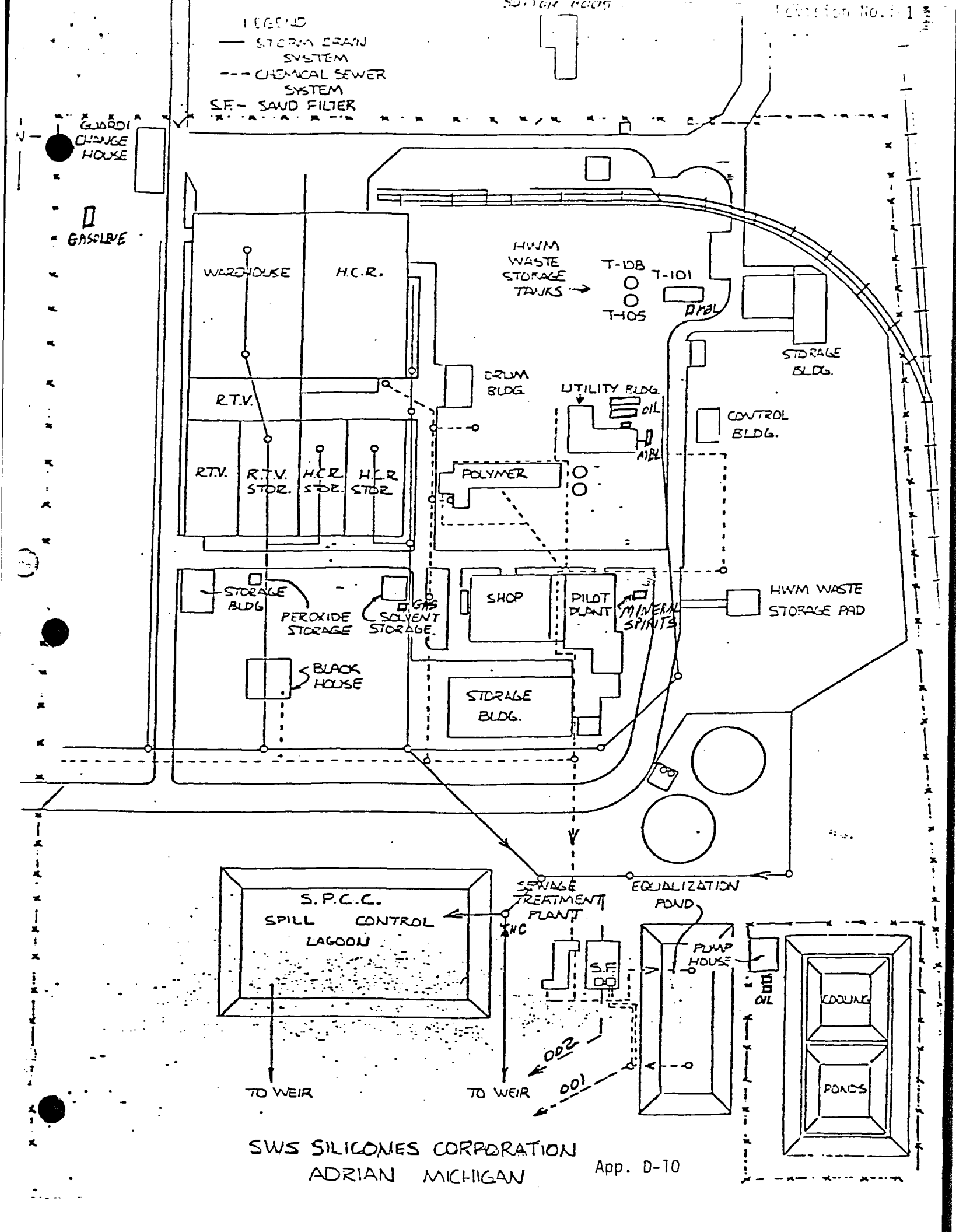
Inspected by:_____

Additional remarks: _____

_____

_____

OHSSPCIR
February 3, 1984



SWS SILICONES CORPORATION
ADRIAN MICHIGAN

App. D-10

In a transportation accident reporting to pollution control agencies and other re
l. ory authorities is the responsibility of the carrier. Therefore, any required noti
cations should be made by the carrier. Be certain to advise the carrier of these
responsibilities.

Spills of oils and many chemicals, or other releases of these materials to air, w
or the ground, have to be reported under various federal laws. In addition state and
local rules may apply, and there is the obvious need to notify local authorities in or
to protect life and property and to advise of actions taken to minimize potential for
jury to persons and the environment. All remedial action possible should be taken to
minimize the impact of any release.

Noxious Gases - If the release is of sufficient size it may require immediate eva
ation of nearby people and animals downwind. In such case, immediately notify the nea
ce agency or fire department for assistance. Also notify local or state air pollu-
tion control authorities of what has happened, what material is involved and what step
have been taken to minimize injury to humans and the environment.

Oil Spills which reach any body of water are to be reported immediately by radio
or phone to the National Response Center 800-424-8802. Additionally these reports sho
be made to local authorities.

Hazardous Chemicals as defined by any federal regulation are to be reported to th
National Response Center when any loss to the environment (air, water or ground) excee
the "Reportable Quantity." Hazardous chemical "spills" may be solid, liquid or gaseou
The Reportable Quantity varies from 1 lb. to 5,000 lbs. depending upon the material.

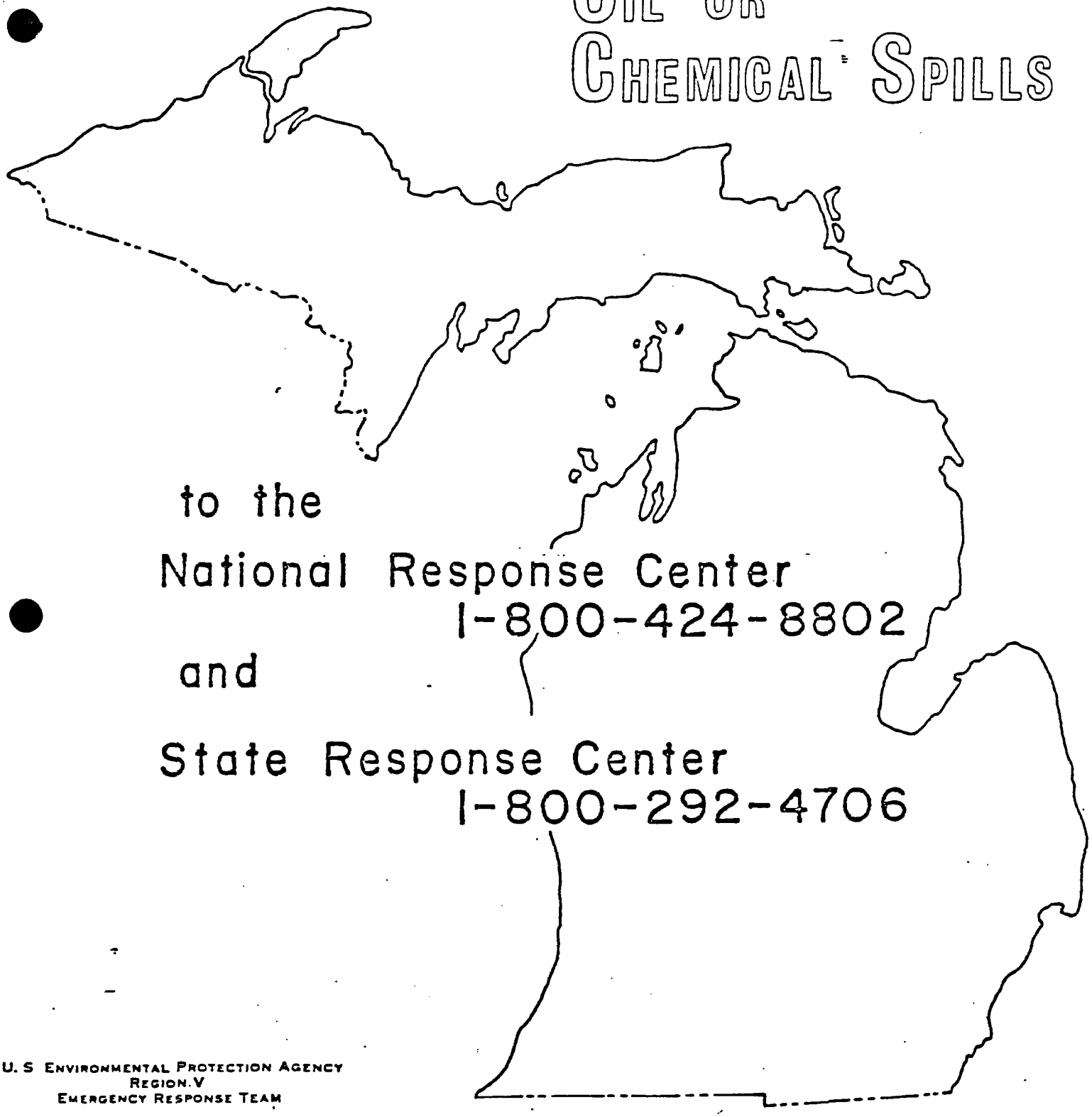
Stauffer personnel seeking assistance in determining reportability based on amoun
released or questions of when, how or who to notify at a regulatory agency call the
ronmental Control Department at Westport 203-222-3228. During non-business hours
al

D. McGrade 203-264-9957 or
T. J. Sayers 203-874-2858 or
J. D. Sheehan 203-375-4107

IN THIS AREA

Revision No.: 1

REPORT OIL OR CHEMICAL SPILLS



to the

National Response Center
1-800-424-8802

and

State Response Center
1-800-292-4706

U. S ENVIRONMENTAL PROTECTION AGENCY
REGION.V
EMERGENCY RESPONSE TEAM

ROSS E. POWERS
OIL AND HAZARDOUS MATERIALS COORDINATOR

CHIGAN SUPPORT BRANCH
11 GROH ROAD
OSSE ILE, MICH. 48138

313/676-6500

ATTACHMENT SIX-- PART 'A' APPLICATION, (Page 3 of 5, Form 3)

Continued from page 2:
NOTE: Photocopy this page before completing if you have more than 26 wastes to list.

Form Approved Submitted

EPA I.D. NUMBER (enter from page 1)	FOR OFFICIAL USE ONLY
W M I D 0 7 5 4 0 0 6 7 1 — T/A: C: 1	W DUP — T/A: C: 2 DUP

Date: 5/31/83
Revision No.: (8/27/82)
A

IV. DESCRIPTION OF HAZARDOUS WASTES (continued)

LINE NO.	A. EPA HAZARD. WASTE NO. (enter code)	B. ESTIMATED ANNUAL QUANTITY OF WASTE	C. UNIT OF MEASURE (enter code)	D. PROCESSES 1. PROCESS CODES (enter)				D. PROCESSES 2. PROCESS DESCRIPTION (if a code is not entered in D(1))
1	F002	550,000	P	S01	S02			
2	F002	20,000	P	S01				
3	F003	30,000	P	S01				
4	F003	40,000	P	S01	S02			
5	D001	544,000	P	S01	S02			
6	D002	140,000	P	S01				
7	D001							INCLUDED WITH ABOVE
8								
9								
10								
11								
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EPA Form 3510-3 (6-80)

CONTINUE ON REVERSE

(enter "A", "B", "C", etc. behind the "3" to identify photocopied pages)

ATTACHMENT SEVEN-- CONTAINERS

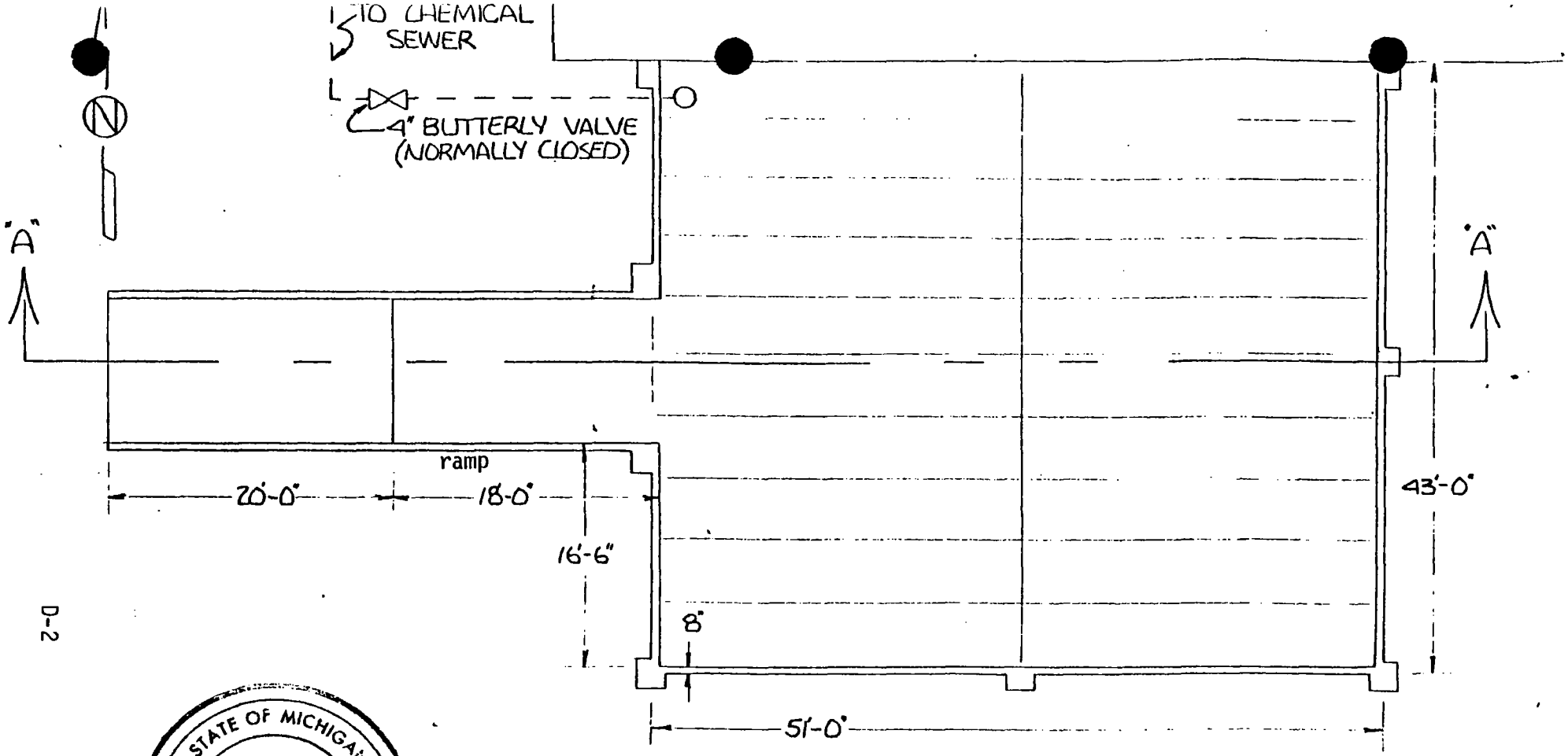
SECTION D

PROCESS INFORMATION

D-1 Containers [40 CFR 122.25(b)(1)]

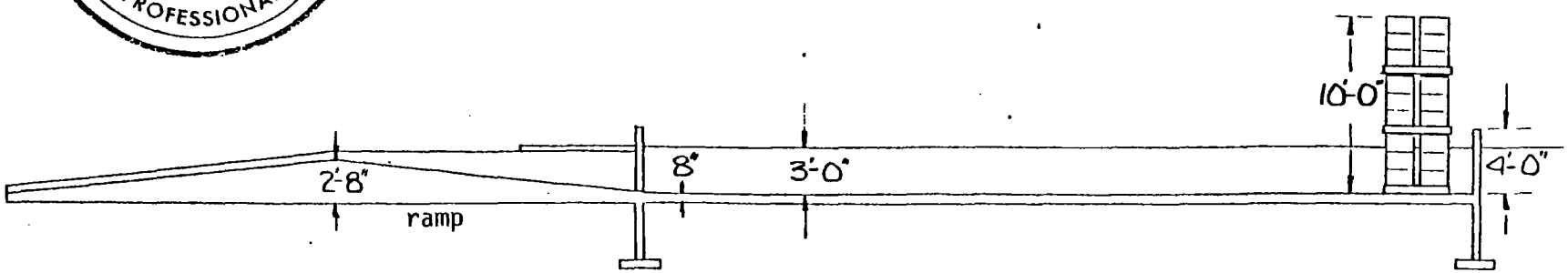
D-1a Containers

The maximum inventory of drums in storage at any given time during the operating life of the facility is not expected to exceed 300 drums. (The maximum allowable number of drums, according to E.P.A. regulations, would be 800 drums). The container storage area, which is located outdoors at the east end of the facility currently holds approximately 90 containers. Drummed wastes, listed on Table 1, all contain free liquids. Consequently, specific information provided in this section will follow a format required for containers storing free liquids. There is 2,100 ft^2 in the container storage area, 60 ft^2 for ramp area (inside storage area), and approximately 940 ft^2 for aisle space. The remaining approximately 1,100 ft^2 is the actual storage area. A plan layout drawing of the Hazardous Waste Storage Pad is provided in Figure 33. Stacked to a maximum of three drums high, the container storage area may hold a capacity of approximately 800 drums (according to EPA regulations). However, the maximum capacity according to Michigan Department of Natural Resources Regulations is 300 drums. The average inventory of drums at any given time is approximately 90-100 drums.



STATE OF MICHIGAN
GORDON PHILBROOK
ENGINEER NO. 18243
REGISTERED PROFESSIONAL ENGINEER

SWS SILICONES CORP.
PLAN LAYOUT HAZARDOUS WASTE STORAGE PAD
SCALE 3/32" = 1'-0"



SECTION "A"-"A" HAZARDOUS WASTE STORAGE PAD
SCALE 3/32" = 1'-0"

Figure 33

CJM 2-8-87

Date: 05/31/83
Revision No.: 0
D

D-1a(1) Description of Containers

Steel 55-gallon drums are used at the facility to store the wastes mentioned above in D-1a. The drums are constructed of low carbon steel that meet U.S. Department of Transportation Specification No. 17E. Some drums, used for in-plant storage and transfer operations, are steel drums in good condition. Cyclizer Waste (Figure 27) and HCR Vent Waste (Figure 29) are stored in white D.O.T. 17H open head drums. These drums are protected against corrosion by epoxy phenolic linings.

Steel or aluminum 400-500 gallon tote containers (12x12x12 gauge thickness) are used in transferring spent solvents from satellite production areas to the bulk storage tanks, within three days. These containers are properly labeled and sealed.

D-1a(2) Container Management Practices

Prior to transfer to the container storage area, wastes generated in the production areas are placed in the proper drums, sealed, dated and labeled according to Department of Transportation regulations for hazardous materials. Production area operators transfer drummed wastes by forklift trucks from the production areas to a "hold area". At this "hold area," the Warehouse operators sort out hazardous and non-hazardous wastes, and transfer these drums to the appropriate container storage areas. This procedure is completed within three days.

At SWS Silicones Corporation, there are no sources of ignition, such as an open flame.

The drums are stored on pallets to elevate them from contact with standing liquids, and if necessary, the drums are stacked as high as 10 feet (3 drums). Sufficient aisle space of at least 4 feet, every other row, is maintained at all times, and the container storage area

is inspected regularly (see Section F-2).

D-1a(3) Secondary Containment System Design and Operation

The container storage area pad is constructed of concrete, designed for loads of 28 lb/in^2. A 4-ft.-high concrete curb lines three sides and a 3-ft.-high curb lines one side of the storage pad perimeter.

There is a 2-ft. high entrance ramp to the pad. This pad will provide a holding capacity of 31,000 gallons, or more than 150 percent of the total volume held by the estimated maximum inventory. The concrete pad is presently in good condition, free of any gaps, holes or cracks. The base of the storage area is constructed of 8-in. thick concrete, reinforced with 6" x 6" wire mesh. The total storage pad is slightly sloped toward the sump area at the northwest corner. The pad will be regularly inspected as discussed in Section F-2 to ensure that it remains impervious and in good condition. The sump area has a drain valve connecting to the chemical sewer. This drain valve is normally closed. After inspection, it is opened to drain rainwater [see Section D-1a(4)].

Run-on is prevented from entering the containment area by the pad walls, and by the fact that the land surrounding the area is graded to encourage drainage away from the area.

D-1a(4) Removal of Liquids From Containment System

The container storage area has a holding capacity of approximately 31,000 gallons. The pad walls and the 2-ft.-high ramp provides a containment area for precipitation, leaks or spills. The drain valve, which is normally closed, connects the pad sump area to the

chemical sewer system. This valve is opened ONLY for stormwater, whenever necessary.

Any spills of drummed material will be pumped into drums and disposed properly off-site.

D-1b Containers Without Free Liquids

SWS Silicones Corporation does not currently manage containers without free liquids. Therefore, Permit Application Sections D-1b, D-1b(1), D-1b(2), D-1b(3), and D-1b(4) are not applicable.

and the tank storage area. Plant air failure would not affect the operation of hazardous waste practices since the whole operation is a batch process.

F-4e Personnel Protection Equipment

General information on the chemical components of the wastes in the containers and tanks is provided in Appendix A (General Information and Hazardous Characteristics of Wastes) and Figures 17-32. The data presents information on various chemicals regarding toxicity, fire, and explosion hazards. All plant personnel are equipped with safety shoes, hard hats, safety glasses, and respirators. Further details are presented in the Contingency Plan, Section G. Use of protective equipment is covered in the initial and annual Personnel Training Programs (see Section H), which satisfies the Occupational Safety and Health Standards of 29 CFR Part 1910 Subpart I - Personal Protective Equipment.

F-5 Prevention of Reaction of Ignitable, Reactive, and Incompatible Wastes [40 CFR Sections 122.25(a)(9), 122.25(b)(1)(iii), 122.25 (b)(2)(vi), 122.25(b)(4)(i)(c)(4), 122.25(b)(4)(ii)(b)(1), 264.17, 264.21, 264.23, 264.176, 264.177, 264.198, 264.199, 264.256, 264.257]

F-5a Precautions to Prevent Ignition or Reaction of Ignitable or Reactive Wastes

The container storage area and the T-105 and T-108 tank storage areas are the only areas on the facility property where ignitable wastes are stored. No reactive wastes are handled or stored at the facility. The containers, as discussed in Section D-1a(1),

are compatible with the contained wastes; therefore the only source of ignition is external to the containers and tanks. The container storage and tank storage areas are remotely located from the operating areas of the plant. Sparkproof tools are used on all containers and tanks storing ignitable materials.

F-5b General Precautions for Handling Ignitable or Reactive Wastes or Accidently Mixing Incompatible Wastes

General precautions for handling ignitable or reactive wastes were discussed above. SWS Silicones does not have any incompatible wastes.

F-5c Management of Ignitable or Reactive Wastes in Containers

Precautions taken in the container storage area to prevent accidental fire and explosion include proper storage of containers (e.g. stacking, aisle space, and labeling and sealing of containers), dikes, and sump areas.

Prior to storage, each container is sealed, labeled and dated. This prevents precipitation from entering the drum, and identifies the contents of the container and the date wastes were generated. Containers are stored on pallets to minimize contacts with precipitation, leaks, or spills, and they are never stacked more than three containers high. A minimum of four feet is maintained in the aisles to allow access for inspections. The container

storage area is located approximately 300 feet from the closest company property line (Figure 11), which is in compliance with the National Fire Code Standards for outdoor storage of containers holding ignitable wastes.

F-5d Management of Incompatible Wastes in Containers

SWS Silicones Corporation has no incompatible wastes. Thus, this Section F-5d is not applicable.

F-5e Management of Ignitable or Reactive Wastes in Tanks

Precautions taken in the tank storage area to prevent accidental fire and explosion include proper storage (e.g. nitrogen padding and grounding), and diking. The tank storage area is located 375 feet from the closest company property line (Figure 11), which is in compliance with the National Fire Code Standards for "Flammable and Combustible Liquids Codes" for vertical tanks with emergency relief venting. The facility provides protection for exposures by location within the jurisdiction of the Raisin Township Fire Department and by operation of its own trained personnel.

F-5f Management of Incompatible Wastes in Tanks

SWS Silicones Corporation has no incompatible wastes. Thus, this Section F-5f is not applicable.

F-5g Management of Ignitable or Reactive Wastes in Waste Piles

SWS Silicones Corporation does not have any waste piles. Therefore, this Section F-5g is not applicable.

ATTACHMENT EIGHT -- TANKS

Be sure to include that info from Sections D-3 to F-5h

D-2 Tanks [40 CFR 122.25(b)(2)]

D-2a Description of Tanks

One 25,000-gallon horizontal tank, designated as T-101, provides storage for spent 1,1,1-trichloroethane solvent waste. Two 15,000 gallon vertical tanks, designated as T-105 and T-108, provide storage for mixed ignitable solvent wastes and mineral spirits waste, respectively. T-101 has been fabricated and stamped in accordance with ASME Code Section VIII. T-105 and T-108 have been fabricated and stamped in accordance with API STD 650 Code. The design ratings for T-101 are 200 psi and 150°F. The design ratings for both T-105

and T-108 are 0.5 psi and ambient temperature.

The maximum allowable stress values (in tension) are 13,750 psi for T-101, and 12,650 psi for T-105 and T-108. The following describes the wastes stored in each tank:

	Waste	Specific Gravity	Vapor Pressure (mm Hg @ 20°C)
T-101	Bulk Polychlorohydrocarbon Waste	1.2	100
T-105	Bulk Ignitables Waste	0.96	100*
T-108	Bulk Mineral Spirits Waste	0.80	0.5

*This vapor pressure value is for cyclohexane, one of the major components in this mixed Bulk Waste. See section C for further details on waste characteristics.

Table 6 provides the individual tank dimensions and physical characteristics. Copies of the tank drawings are presented in Figures 34 and 35.

D-2b Tank Corrosion and Erosion

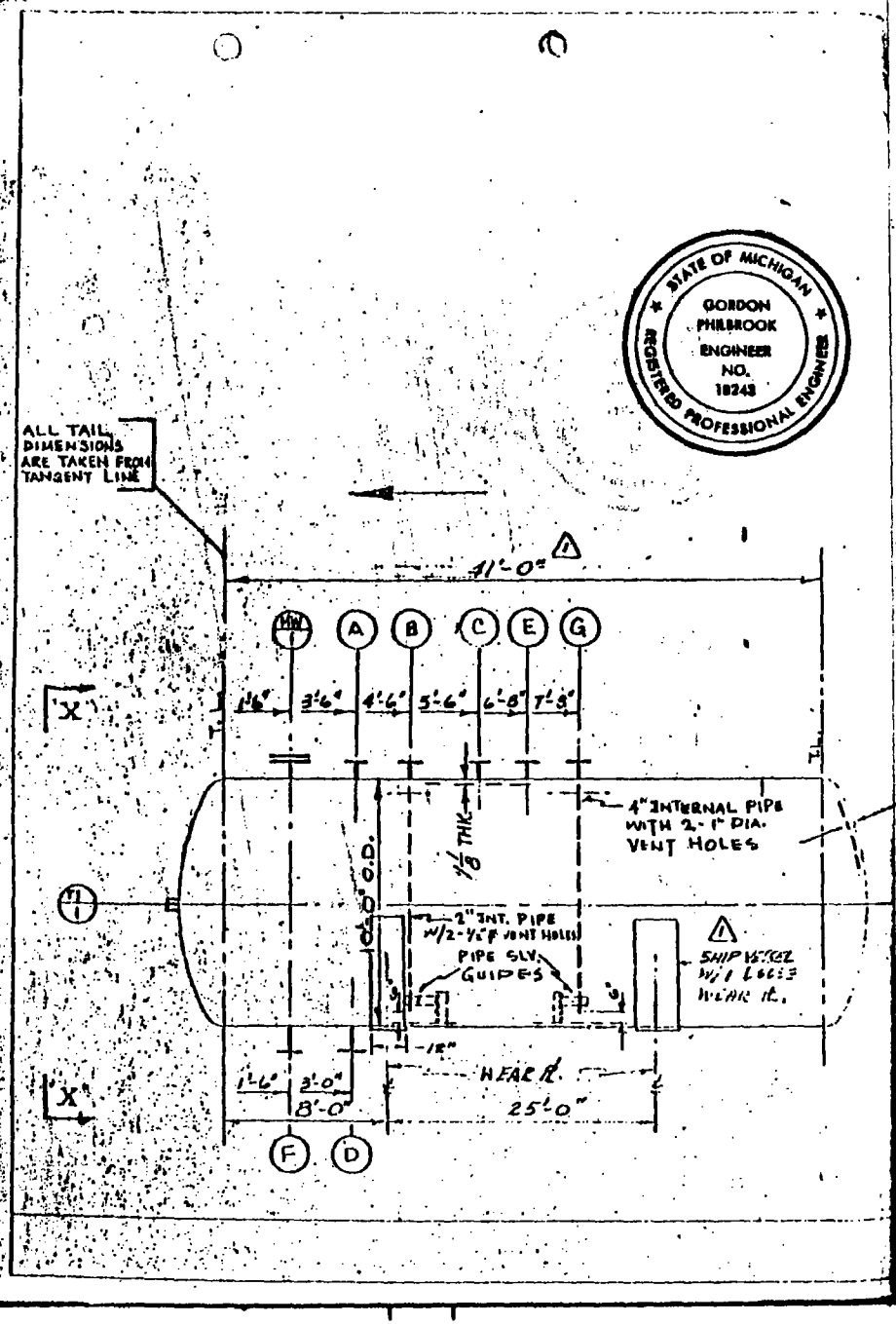
Storage tanks, T-101, T-105, and T-108 have no internal linings. The solvent wastes in these tanks have a pH range of 5-9. The external tank shells do have white protective paint coatings to

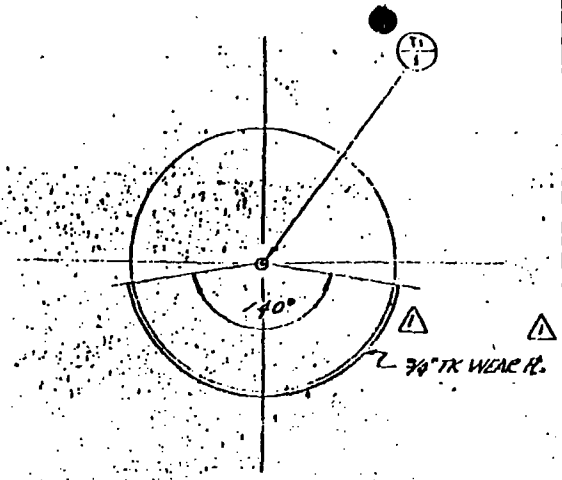
TABLE 6

PHYSICAL CHARACTERISTICS OF STORAGE TANKS

Item	Tank Identification No.		
	T-101	T-105	T-108
Orientation	horizontal	vertical	vertical
Capacity, gallons	25,000	15,000	15,000
Dimensions, in.			
Straight side	492	216	216
Diameter (O.D.)	120	143	143
Shell thickness, in.			
design	1.125	0.25	0.25
actual	1.109	0.25	0.25
Material	Mild Steel	Mild Steel	Mild Steel

STATE OF MICHIGAN
GORDON PHILBROOK
ENGINEER NO. 18243
REGISTERED PROFESSIONAL ENGINEER





ORIENTATION
END VIEW "X-X"

1" MIN. THK. HEAD
2:1 ELIP. HD. BOTH ENDS

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ENGINEER
NO. 18243
REGISTERED PROFESSIONAL ENGINEER

ISSUED FOR APPROVAL
DATE 8-19-64
PBG

REFERENCE DWGS:

MANWAY DAVIT	STD-6-4.2
NOZZLES	STD-6-6.1
~~SADDLES~~	~~STD-6-3.2~~
PAINT	STD-103

1 WEAR PL ADDED. LENGTH INCREASED FROM 25'-0" CAP. WAS 15,000 GALS

DATA

CODE	ASME [illegible]
OTHER SPEC.	STAUFFER PRESS VESSEL
DESIGN PRESS.	200
OPER. PRESS.	
STRESS RELIEVING	NONE
WELD EXAMINATION	SPOT X-RAY
JOINT EFFICIENCY	SHELL 85 HEADS 100
CORR. ALLOWANCE	SHELL (1/16) HEADS 1/16"
LINING	NONE
HYDROSTATIC TEST	PER CODE
FIRE PROOFING	— THK —
INSULATION	NONE THK —
SANDBLAST	OUTSIDE
PAINT	PER STAUFFER SPEC Nº 103
EMPTY WEIGHT	74,300
OPERATING WEIGHT	267,800
TEST WEIGHT	288,500
CAPACITY	25,000

BILL OF MATERIAL

ITEM	MATERIAL	SHEET
SHELL	ASTM-A285-GR C	VENDOR
HEADS	ASTM-A285-GR C	
NOZZ NECKS	ASTM-A106-GR A&B	
NOZZ FLGS	ASTM-A181-GR I	
GASKET	1/16" COMP ASB	
BOLTS	ASTM-A195 GR B7	
NUTS	ASTM-A194 CL 2H	VENDOR
SADDLES	ASTM-A286 GR C	VENDOR

MK	SIZE	RTG	FCG	DESCRIPTION
G	4"	150#	RF	LIQUID LEV CONN
TI-1	3/4"	3000#	SCRD FULL CPLG	TEMP CONN
MW-1	24"	150#	RF	MAN WAY
F	1½"			FEED PUMP CONN
E	2"			R/V CONN
D	3"			DRAIN CONN
C	1"			HP INLET CONN
B	2"			INLET CONN
A	2"	150#	RF	VAPOR CONN

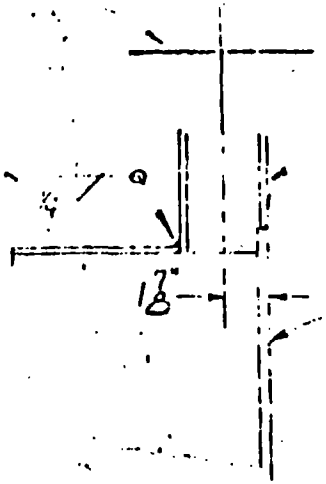
NOZZLE SCHEDULE

STAUFFER CHEMICAL CO.
ENG. DEPT. CHAUNCEY, N.Y.

T-101 - AREA "D"

ADRIAN MICHIGAN

DRN. D.F.	CHK. [illegible]	DATE 8/18/64
DWG. NO.	JOB NO.	ISSUE
SK-2012	[illegible]	P



DET. [illegible]
(1) PER TANK

Submitted
Date: 5/31/83
Revision No.: 01
7/28/83
D
Figure 35: T-105 and T-108 Drawir

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ENGINEER
NO. 18243

NOZZLE SCHEDULE		
MARK	SIZE	SERVICE
A	2"	INLET CONN
B	2"	PUMP OUTLET CONN
C	1"	LEVEL INDICATOR
D	3"	DRAIN
MW	24"	MANWAY
V	3"	VACUUM BREAKER

10	5/8" [illegible]	
1	LADDER 16" WIDE [illegible] LG.	400#
1	TANK	11,200#

SHIPPING LIST FOR (1) TANK

X-RAY | STAMP | YES

341-3
REV-4

MATERIAL A-283-C
[illegible] BUTT WELD IN & OUT
NOZZLE BOLT HOLES STRADDLE [illegible] TANK CENTERLINES
OUTSIDE [illegible] TO BE SANDBLASTED & [illegible] PER STAUFFER SPEC. NO. [illegible]
PAINT [illegible] PRIMER PR-825-[illegible]

NOZZLES TO HAVE WOOD COVERS FOR SHIPPING PROTECTION
MARK TANK [illegible] TAG NUMBERS
TEST TANKS WITH AIR IN ACCORDANCE WITH A.P.I. 650

REF. DWG.
S-1 — NOZZS. & ATTACH.
A-649 — LADDER & PLATFORM
D-1195 — A.P.I. LABEL BRACKET

TWO (2) REQ'D.
(1) TAG T-105 AREA C
(1) TAG T-108 AREA C

CAPACITY 14900 GAL. EA.
WT. FULL OF WATER 135,000 LB. EA.
SHIPPG. WT. 11000 LB. EA.

WO 94 62

NO	REVISION		
4	REVISED TEST	RG	1-14-65
3"	ADD LIFT LUGS & NOZ. [illegible]	RG	12-21-66
2	WAS DWG. US-[illegible]	[illegible]	
1	[illegible] WAS W-4[illegible]	[illegible]	[illegible]

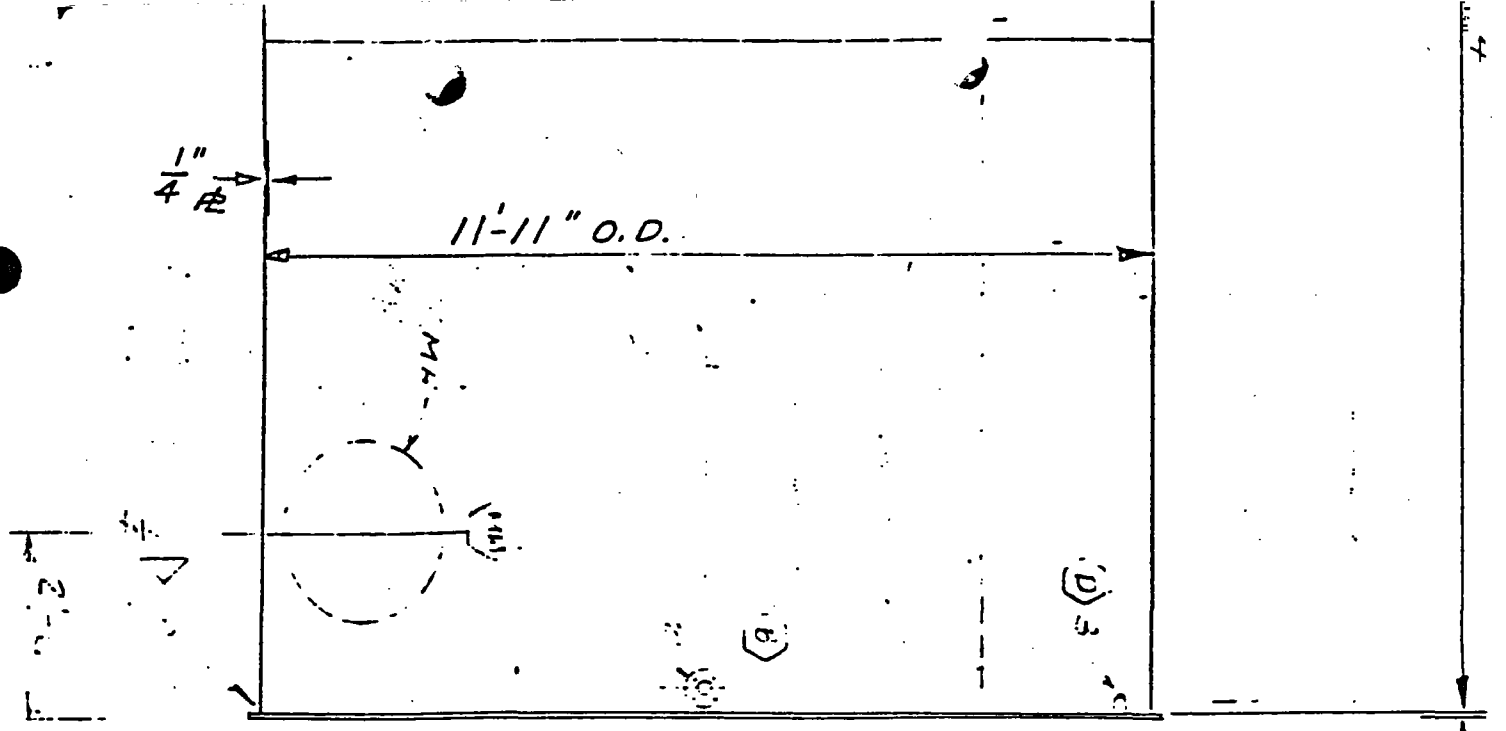
BUFFALO TANK DIVISION
BETHLEHEM STEEL COMPANY

T-105 & T-108

STAUFFER CHEMICAL COMPANY
CHARLESTON, N.Y.

DATE 12-[illegible]
DRAWN [illegible]
CUST. ORDER [illegible] 341
CONTRACT
DRAWING B-10[illegible]

D-8



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GORDON PHILBROOK
ENGINEER NO. 18243
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Date: 5/31/83
Revision No.: 01
7/28/83
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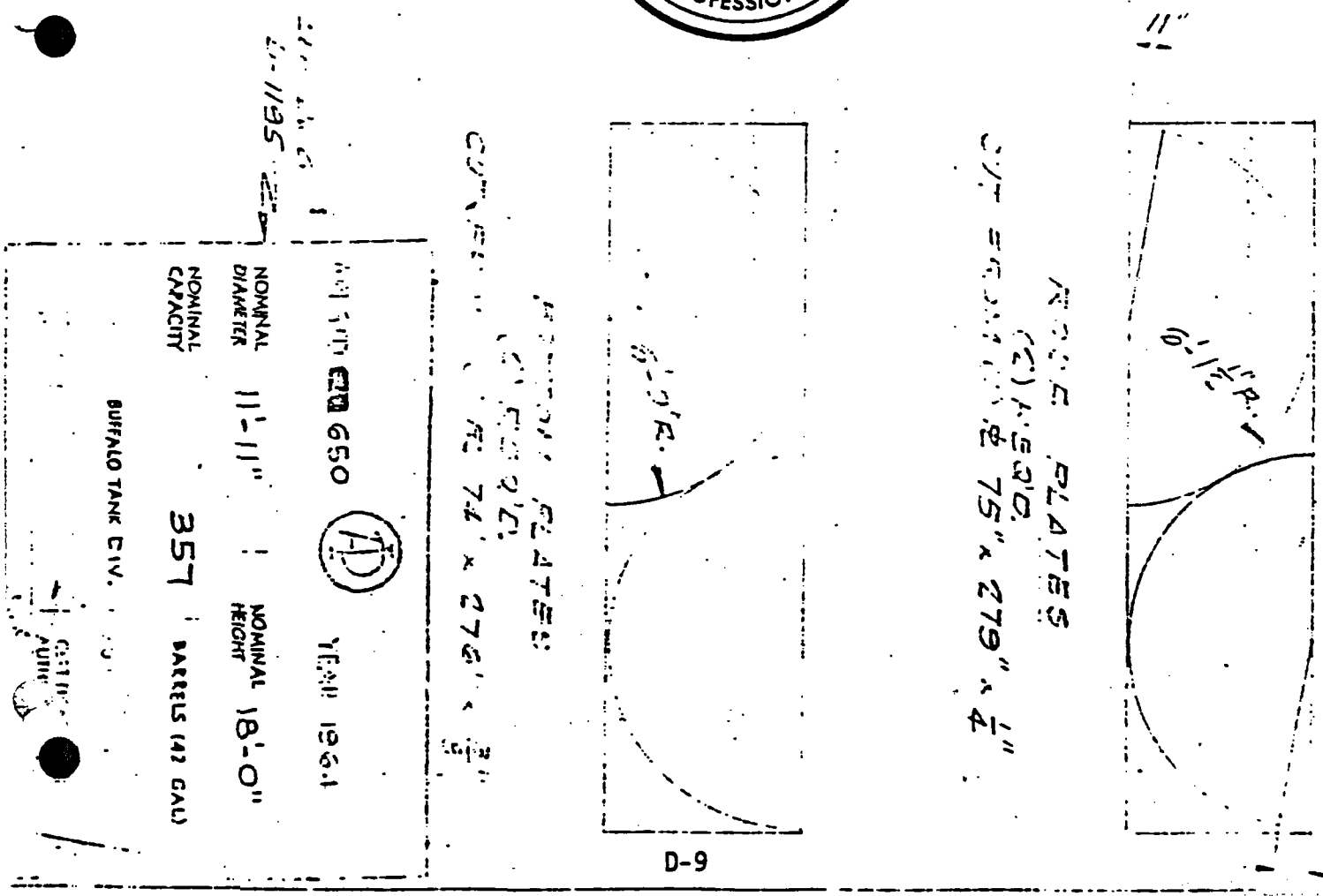
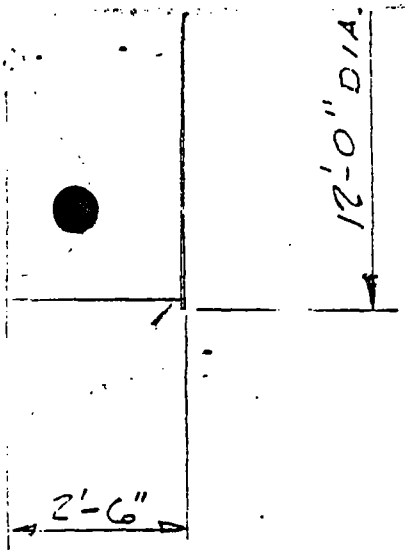
Figure 35 T-105 and T-108 Drawing (page 2)





SEE DWG D-1195

API STD 650 — YEAR 1964

11'-11" 18'-0"

357

D.W.

DES. PRESS	3" VAC .5 PSIG	CORR. ALLOW	1/16"
DES. TEMP	AMB.	STRESS RELIEF	NO
JOINT EFF.	85%	CONSTRUCTION	API 650
X-RAY	SPOT	STAMP	[illegible]

341-3
REJ-4

MAT'L A-283-C
SEAMS BUTT WELD IN & OUT
NOZZLE BOLT HOLES STRADDLE MAIN TANK CENTERLINES
OUTSIDE OF TANK TO BE SAND BLASTED & PAINTED PER STAUFFER SPEC. NO. 103
PAINT IS DUPONT PRIMER PR-[illegible]

NOZZLES TO HAVE WOOD COVERS FOR SHIPPING PROTECTION
MARK TANKS WITH TAG NUMBERS
TEST TANKS WITH AIR IN ACCORDANCE WITH A.P.I. 650

SERVICE	
INLET CONN.	
[illegible]	
LEVEL [illegible]	
DRAIN	
[illegible]	
[illegible]	

REF. [illegible]
S-1 — NOZZS. & ATTACH.
A-649 — LADDER & PLATFORM
D-1195 — A.P.I. LABEL BRACKET

TWO (2) REQ'D.
(1) TAG T-105 AREA C
(1) TAG T-108 AREA [illegible]

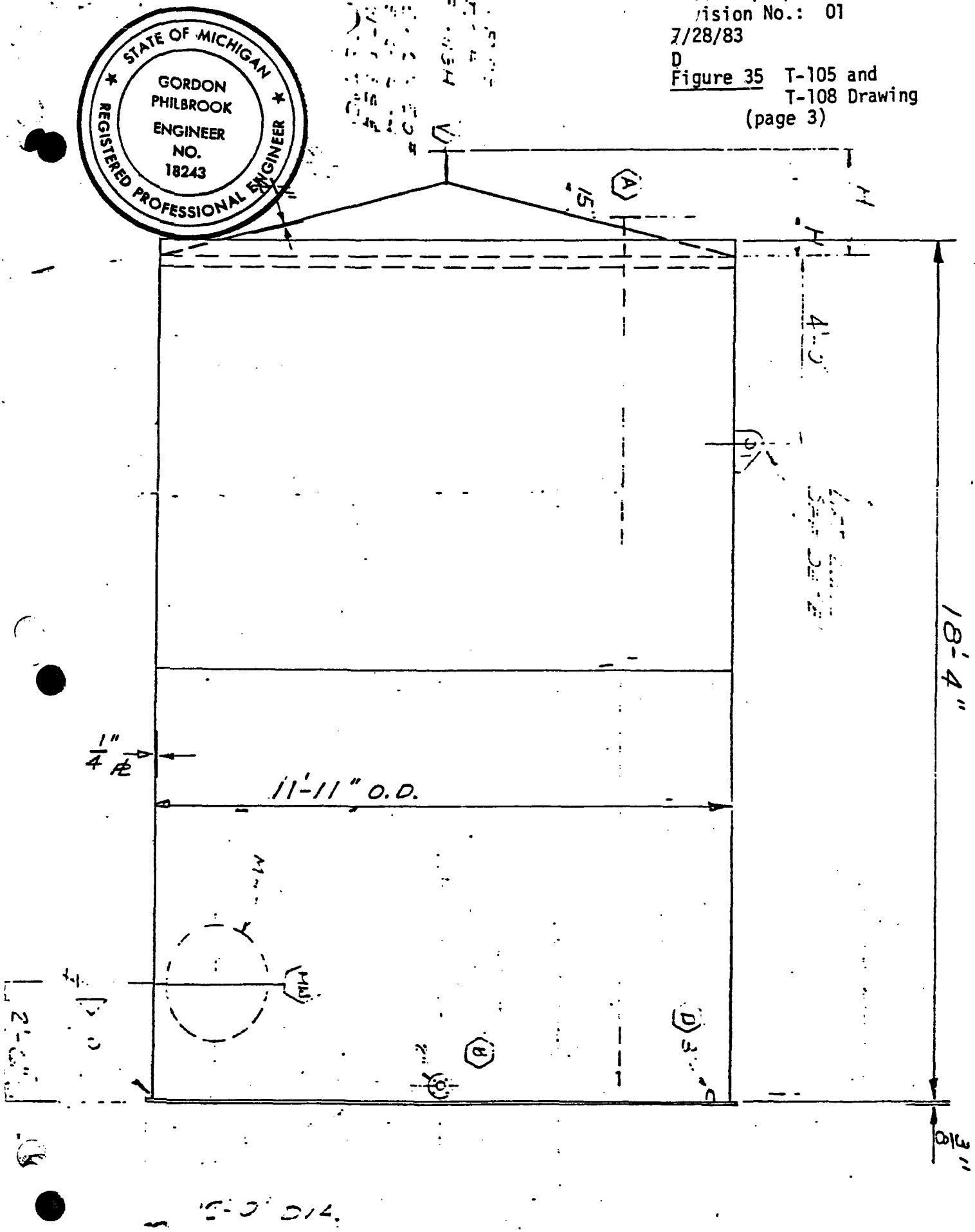
CAPACITY [illegible] GAL. A.
WT. FULL [illegible] 135000 L [illegible]
SHIPPING WT. 11000 LB. EA.

[illegible] TANK

BUTLER TANK DIVISION

Date: 5/31/83
Revision No.: 01
7/28/83
D

Figure 35 T-105 and T-108 Drawing (page 3)

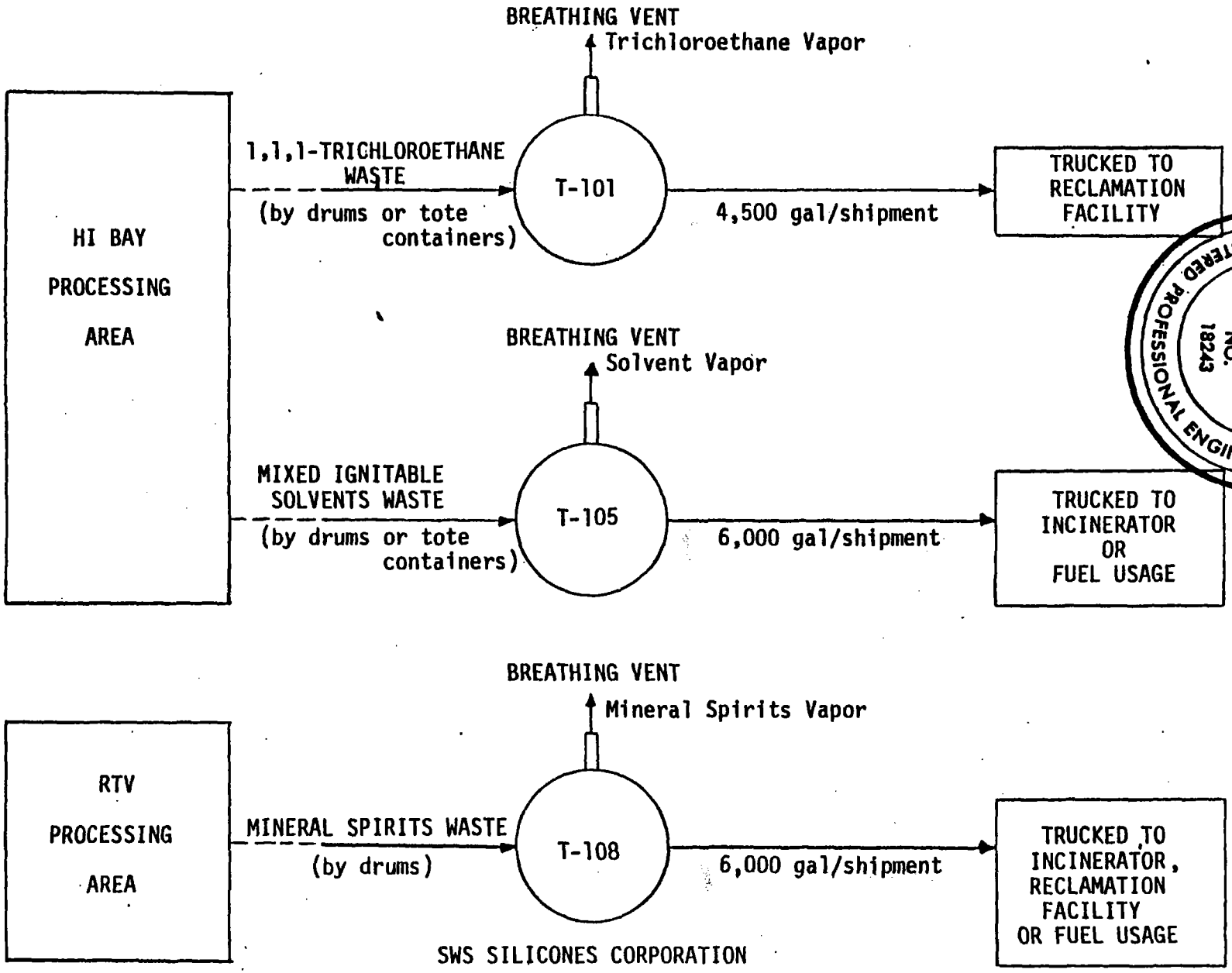


resist corrosion. According to manufacturer specifications, the corrosion allowance for the service life of the tanks is 1/16 inch.

D-2c Tank Management Practices

A simplified process flow diagram for all three tanks is shown in Figure 36. Also, a piping and instrumentation diagram showing the three storage tanks, instrumentation, and valving is presented in Figure 37.

T-101: Spent 1,1,1-trichloroethane solvent wastes, generated from the HiBay processing area, are transported via drums and tote containers to T-101. When there is a sufficient volume, the solvent waste is pumped to a tanker (by use of an air-operated diaphragm pump) and transported to a licensed reclamation facility. The T-101 storage tank is situated on a 28-ft by 64-ft concrete pad, surrounded by a 3½ to 4-ft-high, 6-inch reinforced concrete wall. The pad base is 4 inches thick and reinforced with 6 x 6 - #6 rods. The T-101 storage tank, oriented horizontally, is supported by two saddles (reinforced by 1" rods) and which set on concrete slabs (also reinforced by 1" rods). The dimension of the slabs is 4' x 12 1/2'x 1 1/4' thick. The load bearing capacities are 3,000 psi for the support slabs and 1,350 psi for the pad base. The volume in T-101 is accurately recorded in a log book every time there is a drum or tote container transfer. This batch-wise process would take at least six months to fill the tank. However, usually there is a shipment before the tank gets two-thirds full. Methods to prevent overfilling of T-101 include accurate inventory control (batch-wise filling only of one drum or one 450-gallon tote-tank at a time), and level sight glass. (No over flow drain Pipes



SWS SILICONES CORPORATION

Figure 36 Process Flow Diagram

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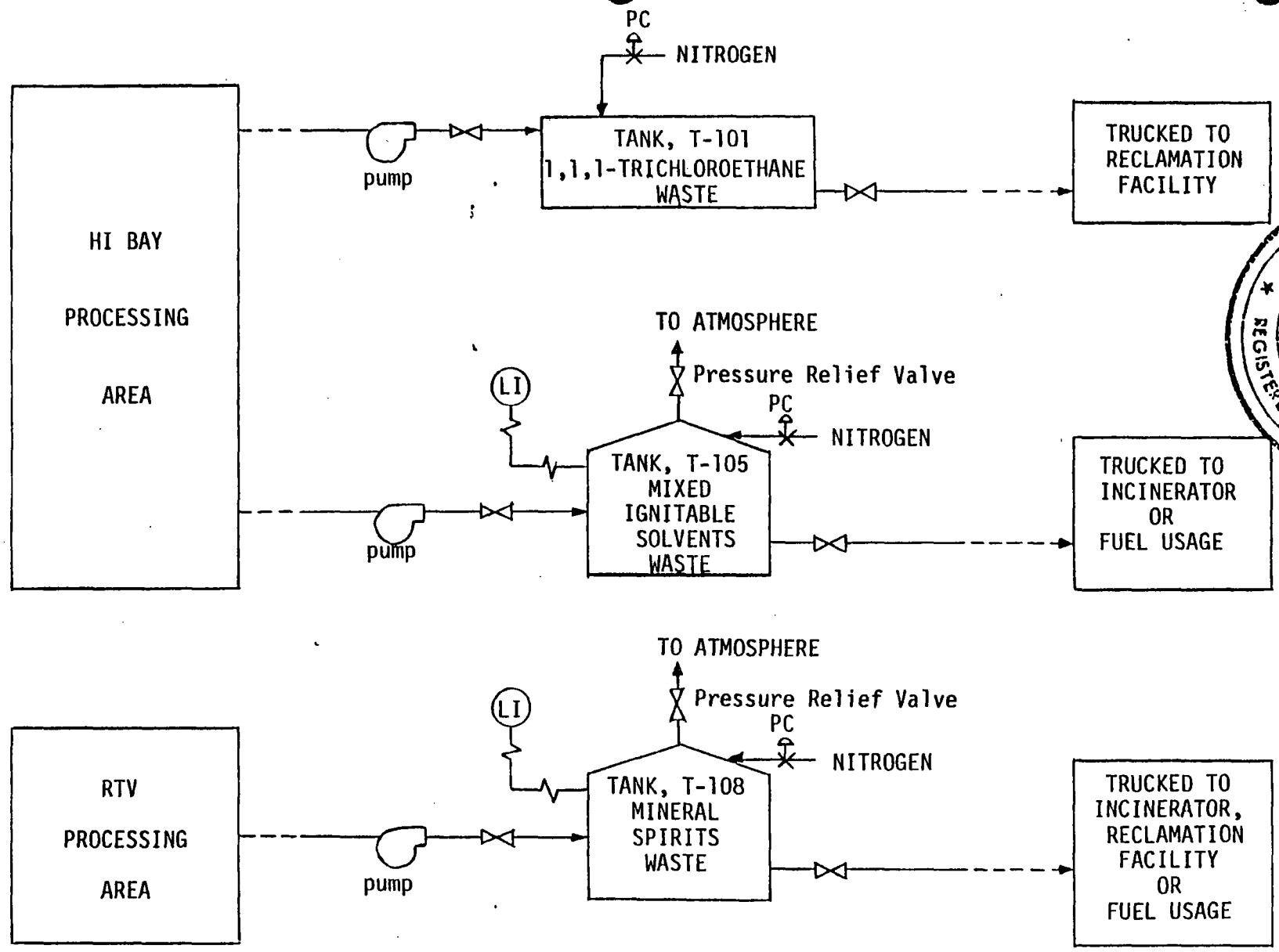
ENGINEER
NO. 18243

Submitted
Date: 5/31/83
Revision No.: 01
7/28/83
D



STATE OF MICHIGAN
GORDON
PHILBROOK
ENGINEER
NO.
18243
REGISTERED PROFESSIONAL ENGINEER

NOTE:
(LI) Level Indicator
PC Pressure Control

SWS SILICONES CORPORATION

Figure 37 Piping and Instrumentation Diagram for Hazardous Waste Storage in Tanks

Date: 5/31/83
Revision No.: 0
D

T-105: Mixed ignitable solvent wastes, generated from the HiBay processing area, are transported via drums and tote containers to T-105. When there is a sufficient volume, the solvent waste is pumped to a tanker (by use of an air-operated diaphragm pump) and transported either to an incinerator facility or to an approved facility to be used as a fuel.

T-108: Mineral Spirits Waste, generated from the RTV (Room Temperature Vulcanizing) processing area, are transported via drums to T-108. When there is a sufficient volume, the solvent waste is pumped to a tanker (by use of an air-operated diaphragm pump) and transported to an incinerator facility, an approved facility for fuel usage, or a reclamation facility.

The T-105 and T-108 storage tanks are situated on a 32½-ft by 62-ft concrete pad, surrounded by a 4-ft-high, 6-inch reinforced concrete wall. There is a 6-inch concrete wall separating the two tanks. The portion of the concrete pad directly underneath the tanks is 8-inches thick and reinforced with 6 x 6-6/6 wire. The remaining concrete pad area is 4-inches thick and reinforced with 6 x 6 x 6 mesh. The load bearing capacities are 2,500 psi for the portion directly underneath the tanks, and 28 psi for the remaining area of the concrete pad. The pressure relief valves installed on T-105 and T-108 are rated at 0.5 psi. T-105 and T-108 have mechanical float level indicators, which are inspected weekly. The volumes in both tanks are accurately recorded in log books every time there is a transfer. This batch-wise process would take at least six

months to fill the tanks. However, usually there is a shipment before the tanks get two-thirds full.

Methods to prevent overfilling of T-105 and T-108 include accurate inventory control (batch-wise filling only of one drum or one 450-gallon tote-tank at a time), float level indicators, and special overflow drain pipes to the diked area pad.

D-3 Waste Piles [40 CFR Sections 122.25(b)(4), 264.250, 264.251, 264.252, 264.253]

SWS Silicones Corporation does not have any waste piles. Thus, Section D-3 is not applicable.

D-4 Surface Impoundments [40 CFR Sections 122.25(b)(3) and 264.220-264.223]

SWS Silicones Corporation does not manage a surface impoundment; therefore, Section D-4 is not applicable.

D-5 Incinerators [40 CFR Sections 122.25(b)(5) and 264.340-264.351]

SWS Silicones Corporation does not manage an incinerator; therefore, Section D-5 is not applicable.

storage area is located approximately 300 feet from the closest company property line (Figure 11), which is in compliance with the National Fire Code Standards for outdoor storage of containers holding ignitable wastes.

F-5d Management of Incompatible Wastes in Containers

SWS Silicones Corporation has no incompatible wastes. Thus, this Section F-5d is not applicable.

F-5e Management of Ignitable or Reactive Wastes in Tanks

Precautions taken in the tank storage area to prevent accidental fire and explosion include proper storage (e.g. nitrogen padding and grounding), and diking. The tank storage area is located 375 feet from the closest company property line (Figure 11), which is in compliance with the National Fire Code Standards for "Flammable and Combustible Liquids Codes" for vertical tanks with emergency relief venting. The facility provides protection for exposures by location within the jurisdiction of the Raisin Township Fire Department and by operation of its own trained personnel.

F-5f Management of Incompatible Wastes in Tanks

SWS Silicones Corporation has no incompatible wastes. Thus, this Section F-5f is not applicable.

F-5g Management of Ignitable or Reactive Wastes in Waste Piles

SWS Silicones Corporation does not have any waste piles. Therefore, this Section F-5g is not applicable.

F-5h Management of Incompatible Wastes in Waste Piles

SWS Silicones Corporation does not have any waste piles. Therefore, this Section F-5h is not applicable.

F-5i Management of Ignitable Wastes in Tanks

The T-105 and T-108 tanks have a controlled nitrogen pad of about 0.5 PSIG. If the gaseous volume is increased by liquid removal or by temperature drop, nitrogen will automatically bleed into the tank to maintain the pad pressure. Alternately, when the gaseous volume is reduced, some nitrogen (and vapors) are automatically released from the tank, so as not to exceed the 0.5 PSIG. We have a Michigan Department of Natural Resources air permit for the vent releases.

The tanks are well grounded. The fill piping is a dip tube which discharges to the bottom of the tank, thus avoiding static electricity problems. The tanks are located in a remote area from the plant production processes.

SWS Silicones Corporation
ADRIAN, MICHIGAN 49221 • TELEPHONE (517) 263-5711

February 3, 1984

Mr. Allen A. Debus
United States Environmental Protection Agency
Region V
RCRA Activities, Part B Permit Application
Technical, Permits and Compliance Section
230 South Dearborn Street
Chicago, Illinois 60604

Re: RCRA Part B Application
SWS Silicones Corporation
EPA ID# MID075400671
5HW-13

Dear Mr. Debus:

This letter is in reference to your telephone call of February 1, 1984.

A. CFR 40, 264.192 (b)(1) (Tank Over-filling Prevention)

We can demonstrate that we meet this requirement as follows:

1. The tanks are not used continuously; only batch filling is done from drums or tote tanks (350 to 450 gallons), and then only every few days or even less frequently.

2. The tanks are not piped up to the plant or any other source. The drums and/or tote tanks are taken to the tank area by fork lift trucks. There, the containers are connected to the permanent suction piping-pump system and pumped into the tank one drum (or tote tank) at a time.

3. The operator is physically present in the tank area during this procedure. He can readily see the tank level gage and can easily judge that one more drum (or tote tank) will not over-fill the tank. He can also readily see the overflow pipe, and could shut off the pump immediately.

4. A "running" inventory of the tank is kept in a plant log book and the department supervisor can tell when the tank is even coming close to being full. In fact, we will probably not ever have more than 9,000 gallons in these 15,000 gallon storage tanks (T-105 and T-108). Also, T-101 would probably not ever have more than 15,000 gallons in this 25,000 gallon tank.

5. Please refer to pages D-11 to D-15 for more information.

Figure 16

January 20, 1983

Mr. Allen DeBus
U. S. Environmental Protection Agency
Region V
111 West Jackson Boulevard
Chicago, Illinois 60604

Re: Service No. 8203 119
River Raisin
NE¼, Section 21, T 6 S, R 4 E
Raisin Township
Lenawee County

Dear Mr. DeBus:

I have been asked by Mr. Philbrook of SWS Silicones Corp. to explain our flood estimate of 721, USGS datum at the above location. Enclosed is a copy of the U.S.G.S. gage data for that area.

From the gage data, note the gage datum is elevation 707.0. The flood of record occurred in June, 1968 with a discharge of 2,900 cfs and a resulting stage of 12.66 feet (elevation 719.66). The gage is directly across the river from SWS Silicones and all data are directly applicable.

The 100-year frequency flood discharge has been calculated by this office at 4,090 cfs. We estimate this would produce a stage of approximately 14 feet, or elevation 721.0. We know from other areas on the River Raisin that flood discharges for the 100-year flood raise stages by about 9 to 10 feet over normal water elevations. This agrees very closely with known water surface elevations at this site of zero flow stage equal to 709.1 and normal flow stage equal to 711.7.

Since SWS Silicones' plants are located at elevations 767 and 772, from 46 to 51 feet above expected flood stage, they are obviously well above any expected flood levels. To require their company to perform a detailed analysis of the riverine system would be very expensive and produce

JAN 24 1983

results refining the flood elevation by only a matter of tenths of a foot.

Should you have any further questions in this regard, please feel free to contact me (517/373-3930).

Sincerely,

Wallace A. Wilson, P.E., Chief
Flood Hazard Regulation
Water Management Division

WAW:cjs

Enclosure: Gage record

cc: G. C. Philbrook

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY
WATER RESOURCES DIVISION

File No. Washington 4-1757
Field

Description Prepared 9-12-56
(Date)
by A. J. Quigley
Revised by D. E. Bower 11-19-62

Description of Gaging Station on River Raisin near Tecumseh, Michigan

(Prepare description in accordance with outline on back of Form 9-277. Plot cross section to scale. Use Form 9-213A or 9-213E for cross section. Use second page of this form for sketch if room is available, otherwise use Form 9-213C or 9-213H. Initial and date all sheets.)

Location.--Lat 41°56'35", long 83°56'45", in NE¼ sec. 21, T. 6 S., R. 4 E., on right bank, 12 ft downstream from bridge on N. Raisin Cen. Highway, and 4.5 miles south of Tecumseh.

To reach gage from - Tecumseh - At signal light at W. Chicago and South Evans, go south on South Evans 4.5 miles to bridge and gage. (South Evans changes to N. Raisin Cen. Road at city limits).

Established.--Sept. 7, 1956 by A. J. Quigley.

Drainage area.--266 square miles.

Gage.--An F & P digital and a Stevens A 35 recorder in concrete block house and well. Outside gage is wire weight gage located on downstream side of bridge which is 12 ft upstream from gage house. Inside gage is enamel staff gage plate reading from 0 to 16.86 and fastened to downstream wall of well. Reference gage is electric tape gage set on instrument shelf to left of recorder. Well is equipped with three 2-inch intakes the 2 bottom ones of which are connected by 3-way valves to 3 cu ft tank for flushing.

Gage elevations of pertinent parts are as follows:

Bottom of well----------	0 feet
Lower intake, river end------	.6 "
Lower intake, well end-------	1.2 "
Middle intake, river end-----	1.9 "
Middle intake, well end------	2.2 "
Upper intake, river end------	2.7 "
Upper intake, well end-------	3.2 "
Sub-floor----------	7.3 "
Floor of House----------	14.1 "
Instrument shelf----------	17.00"
ETC index----------	17.008"
Check bar----------	17.37"

Date: 05/31/83
Revision No: 0
B

Figure 16
(Page 3)

Datum of gage is 707.0 feet above mean sea level, datum of 1929.

History.--Recording gage started on River Raisin near Adrian about 5.5 miles downstream in October 1953 and has been operating continuously since.

A Stevens recorder operated in present house until Nov. 15, 1962 when the digital recorder was installed.

FEB 5 1983

Channel and control.--Channel and streambed are of mud, sand and small gravel. Main channel is confined to small valley about 1000 ft wide which is generally about 40 ft below surrounding countryside. River wanders throughout valley floor. Both banks are fairly low and covered with small trees and brush. Overflow starts on right bank at about gage height 7 ft. Channel is straight for 50 feet above and 300 feet below station.

Low-water control is gravel riffle 200 ft below gage and is believed to be fairly permanent.

High-water control is channel and extreme high water is probably railroad bridge abutments 225 ft below gage.

Discharge measurements.--Low-water measurements can be made by wading on control or at almost any section from bridge to 300 ft above bridge up to a stage of about 5.5 ft. High-water measurements can be made from highway bridge 12 ft above gage. Both handrails of bridge are marked with single paint stripe every 5 feet to 40 feet and then every 2 feet to 90 feet. Numerals are painted next to stripe every 10 feet. Initial point is at right bridge abutment.

Floods.--A discharge of 1200 cfs occurred on Mar. 7, 1959 at a gage height of 10.33 ft.

Point of zero flow.--2.1 ft Sept. 10, 1956, probably shifting.

Winter flow.--Stage discharge relation probably affected by ice during extreme cold weather.

Regulation and diversion.--Diurnal fluctuation caused by municipal power-plant at Tecumseh 5.5 miles upstream. A number of other small dams further upstream may have slight effect upon flow.

Accuracy.--Conditions for obtaining gage-height record are excellent. Conditions for measuring discharge are excellent at low stages and fair at high stages due to varying angles.

Cooperation.--City of Adrian, State of Michigan Water Resources Commission.

Sketch.--

Photographs.--In district files.

Reference marks.--RM 1 is chiseled cross on 19th rivet below bridge nameplate in downstream row of rivets at right downstream end of bridge. Elevation 16.116 ft., gage datum.

RM 2 is chiseled cross in I beam encased in right downstream bridge abutment at right edge of gage house walkway. Elevation 14.066 ft., gage datum.

RM 3 is ½" machine bolt in 18" diameter tree 5 ft north of gage house. Bolt is 18" above ground in north side of tree. Elevation 11.535 ft., gage datum.

Date: 05/31/83
Revision No: 0
B
Figure 16
(Page 4)

Statement of Basis

SWS Silicones Corporation
Adrian Michigan
MID075400671

This statement of basis is prepared for the draft Resource and Recovery Act (RCRA) Storage Permit which the United States Environmental Protection Agency (U.S. EPA) intends to issue to SWS Silicones Corporation (SWS), of Adrian, Michigan. Since SWS has not been designated as a major hazardous waste management facility, this is being prepared in accordance with the requirements of 40 CFR Part 124.7.

A. FACILITY DESCRIPTION

SWS manufactures a variety of silicone products including fluids, sealants, antifoams, and rubbers. The company's product line includes several hundred different formulations, many of which are specialty chemicals for specific customers. The plant operates 24 hours per day, 7 days per week and employs approximately 250 people. An additional 150 people are employed at the neighboring Technical center.

A variety of processes including chemical reactions, distillation, hydrolysis, mixing and polymerization are used. Company operations are divided into four basic manufacturing areas. The polymers area produces various fluid and gums including silicone oils, solvent blends, and some plant intermediates including alkaline fluids. The Hi-bay area produces band ply tubes, outside tire paints, antifoams, emulsifiers, and printing fluids along with plant intermediates for the polymers and RTV areas. The RTV area produces room temperature vulcanization compounds and silicone greases. The HCR base consists of a fluid or gum mixed with various fumed silicas, fillers, and alkaline fluids. An HCR compound consists of a base plus a color additive and a catalyst which results in a solid. The resulting solid may be extruded to customer order. Hazardous wastes are generated by tank cleaning, byproducts generations, spent solvents from production, laboratory solvents, off-specification products, and fume recovery.

137-35

Hazardous wastes are stored in three (3) tanks which meet requirements of professional engineering codes and also in a separate container storage area. The container storage area was renovated in July, 1983, in order to fully comply with RCRA regulations. Off-site generated wastes are not accepted by SWS for storage or disposal.

B. PERMIT APPLICATION

The permit application dated herein is the May 31, 1983, permit application and all subsequent amendments.

C. PURPOSE OF THE PERMITTING PROCESS

The purpose of the permitting process is to afford the U.S. EPA, interested citizens and other governmental agencies the opportunity to evaluate the ability of the Permittee, SWS, to comply with the applicable hazardous waste management requirements promulgated under RCRA, prior to construction and operation of the hazardous waste storage facility. U.S. EPA is required to prepare a draft permit which sets forth in one concise document all the applicable requirements with which the agency intends to require the Permittee to comply during the ten-year duration of the permit.

D. PROCEDURES FOR REACHING A FINAL DECISION

Under Section 7004(b) of RCRA and 40 CFR §124.10, the public is given forty-five days to review the application and comment on the draft permit conditions prior to EPA taking any final permitting action on the application for a hazardous waste management permit. The comment period will begin on the date of publication of the public notice in a major local newspaper of general circulation. When the Regional Administrator of the U.S. EPA makes his final permit decision, notice will be given to the applicant and each person who has submitted written comments or requested notice of the final permit decision. If none of the comments received requested a change in the draft permit conditions the permit will become effective immediately upon issuance of the permit. If comments received during the comment period requested changes in the draft permit conditions then the final permit will become effective thirty (30) days after service of notice of the decision or at a later date if review is requested under 40 CFR §124.19.

The issuance of a Hazardous Waste Permit will be coordinated by both U.S. EPA and the Michigan Department of Natural Resources (MDNR). At this time each Agency has regulations which require a permit to be issued for all facilities which treat, store, or dispose of hazardous waste. If the State receives Phase II interim authorization for the hazardous waste program, the State will assume the administration of the Federal hazardous waste permitting program and this permit.

Please contact Mr. Allen A. Debus of the U.S. EPA at (312) 886-6151 for further information.

E. Summary of Basis for Permit Conditions

This section of the statement of basis provides a brief summary of the permit conditions in the draft permit. All citations of the regulations refer to the regulation as codified in Title 40 of the Code of Federal Regulations (40 CFR). On April 1, 1983, Parts 122 and 123 of the Consolidated Permit Regulations were recodified. This statement of basis reflects the new coding system.

1. General Permit Conditions

Permit conditions I.A to I.H are regulatory requirements of 40 CFR Parts 270. These conditions are of a general nature and are applicable to all Hazardous Waste Management Facilities regulated pursuant to an U.S. EPA RCRA permit.

Standard Permit Conditions	Subject	Basis (40 CFR)
I.A	Effect of Permit	§270.4 §270.30(g)
I.B	Permit Actions	§270.30(f) §270.41 §270.42 §270.43
I.C	Severability	§270.32(a)
I.D.1	Duty to Comply	§270.30(a)
I.D.2	Duty to Reapply	§270.51
I.D.3	Permit Expiration	§270.30(b) §270.10(h)
I.D.4	Need to Halt or Reduce Activity Not a Defense	§270.30(c)
I.D.5	Duty to Mitigate	§270.30(d)
I.D.6	Proper Operation and Maintenance	§270.30(e)
I.D.7	Duty to Provide Information	§270.30(h)

Standard Permit Conditions	Subject	Basis of (40 CFR)
I.D.8	Inspection and Entry	§270.30(i)
I.D.9	Monitoring and Records and Retention of Records	§270.30(j)
I.D.10	Notices of Planned Physical Facility Changes	§270.30(l)(1)
I.D.11	Certification of Construction	§270.30(l)(2)
I.D.12	Anticipated Noncompliance	§270.30(l)(2)
I.D.13	Transfer of Permits	§270.40 §270.30(l)(3) §264.12(c)
I.D.14	Compliance Schedules	§270.33
I.D.15	Twenty-four Hour Reporting of Hazardous Noncompliance	§270.30(l)(6) §264.56
I.D.16	Other Noncompliance	§270.30(l)(10)
I.D.17	Other Information	§270.30(l)(11)
I.E	Signatory Requirement	§270.11 §270.30(k)
I.F	Confidential Information	§270.12
I.G	Documents to be Submitted	§270.14(b)(2) §270.14(b)(3) §264.16(d) §264.37 §264.52 §264.143 §264.147 §264.1(g)(6)
I.H	Documents To Be Maintained At Facility Site	§264.13(b) §264.53(a) §264.112(a) §264.142(a) §264.16(d) §264.73 §264.15(b)

General Facility Conditions

The conditions II.A to II.N are regulatory requirements of 40 CFR Part 264, Parts B, C, D, E, G, and H. Again, these conditions are of a general nature in that they are applicable to all facilities which treat, store, or dispose of hazardous waste pursuant to an U.S. EPA RCRA permit.

Permit Conditions	Subject	Basis of (40 CFR)
II.A	Design and Operation of Facility	§264.31
II.B	General Waste Analysis	§264.13
II.C	Security	§264.14
II.D	General Inspection Requirements	§264.15
II.E	Personnel Training	§264.16
II.F	General Requirements for Ignitable, Reactive, or Incompatible waste	§264.17
II.G.1	Required Equipment	§264.32
II.G.2	Testing and Maintenance of Equipment	§264.33
II.G.3	Access to Communication or Alarm System	§264.34
II.G.4	Required Aisle Space	§264.35
II.G.5	Arrangements with Local Authorities	§264.37
II.H.1	Contingency Plan Implementation	§264.51
II.H.2	Copies of Plan	§264.53
II.H.3	Amendment of Contingency Plan	§264.54
II.H.4	Emergency Coordinator	§264.55

Permit Conditions	Subject	Basis (40 CFR)
II.I.1	Operating Record and Availability, Retention, and Disposition of Records	§264.73 §264.74
II.I.2	Bienniel Reports	§264.75
II.J.1	Closure Performance Standard	§264.111
II.J.2	Amendment of Closure Plan	§264.112(b)
II.J.3	Notification of Closure	§264.112(c)
II.J.4	Time Allowed for Closure	§264.113(a)
II.J.5	Disposal or Decontamination of Equipment	§264.114
II.J.6	Certification of Closure	§264.115
II.K	Cost Estimate for Facility Closure	§264.142
II.L	Financial Assurance for Facility Closure	§264.143
II.M	Liability Requirement	§264.147
II.N	Incapacity of Owners or Operators, Guarantors, or Financial Institutions	§264.148

3. Containers

Conditions III.A to III.G are specific to containers and implement the regulatory requirements of 40 CFR Part 264, Subpart I, Sections 264.170 to 264.178.

Specific Permit Conditions	Subject	Basis (40 CFR)
III.A	Waste Identification and Container Storage Capacity	Application (Part A)
III.B	Condition of Containers	§264.171
III.C	Compatibility of Waste	§264.172
III.D	Management of Containers	§264.173
III.E	Containment	§264.175
III.F	Special Requirements for Ignitable or Reactive Waste	§264.176
III.G	Special Requirements for Incompatible Wastes	§264.177

4. Tanks

The conditions IV.A to IV.F are specific to tanks and implement the regulatory requirements of 40 CFR Part 264, Subpart J, Sections 264.190 to 264.199.

Specific Permit Conditions	Subject	Basis (40 CFR)
IV.A	Waste Identification	Application (Part A)
IV.B	Design of Tanks	§264.191
IV.C	General Operating Requirements	§264.192
IV.D.1	Special Requirements for Ignitable or Reactive Waste	§264.198(a)(2)
IV.D.2	Record Documentation	§264.17(c)
IV.D.3	Buffer Zone Requirement	§264.198(b)
IV.E.1	Special Requirements for Incompatible Wastes	§264.17(b)
IV.E.2	Record Documentation	§264.17(c)
IV.F	Compliance Schedule	*

* The Permittee will be required to install high level alarms in each of the three tanks used for hazardous waste storage, described in Attachment 8. The installation will enable the Permittee to comply with 40 CFR 264.192(b). The U.S. EPA must receive proper certification that this activity has been completed within four months following the date of issuance of this permit.

UNIT STATES ENVIRONMENTAL PROTECTIC AGENCY
REGION V

Name of Permittee: SWS Silicones Corporation

Facility Location: Sutton Road, Adrian, Michigan

EPA Identification Number: MID075400671

Effective Date: _____

Expiration Date: (This permit will have a ten year duration.)

Authorized Activities

Pursuant to the Solid Waste Disposal Act, as amended by the Resource Conservation and Recovery Act of 1976, as amended (42 USC §6901 et seq., commonly known as RCRA) and regulations promulgated thereunder by the U.S. Environmental Protection Agency (U.S. EPA) codified and to be codified in Title 40 of the Code of Federal Regulations), a permit is issued to SWS Silicones Corp. (hereafter called the Permittee), to operate a hazardous waste storage facility located in Adrian, Michigan at latitude 41° 56' 48" N and longitude 83° 57' 13" W. You are authorized to conduct the following hazardous waste management activities:

X Storage	___ Treatment	___ Disposal
X Container	___ Tank	___ Injection Well
X Tank	___ Surface Impoundment	___ Landfill
___ Waste Pile	___ Incinerator	___ Land Application
___ Surface Impoundment	___ Other	___ Ocean Disposal
		___ Surface Impoundment

Applicable Regulations:

The conditions of this permit were developed in accordance with the applicable provisions of 40 CFR Part:

X 261	X 264, Subpart G	___ 264, Subpart L
X 262	X 264, Subpart H	___ 264, Subpart M
X 264, Subparts A-E	X 264, Subpart I	___ 264, Subpart N
___ 264, Subpart F	X 264, Subpart J	___ 264, Subpart O
	___ 264, Subpart K	X 270

Permit Approval

The Permittee must comply with all terms and conditions of this permit. This permit consists of the conditions contained herein (including those in any attachments) and the applicable regulations contained in 40 CFR Parts 260 through 264 and 270 and 124 as specified in the permit. Applicable regulations are those which are in effect on the date of issuance of this permit (see 40 CFR §270.32(c)).

This permit is based on the assumption that the information submitted in the permit application attached to the Permittee's letter dated May 23, 1983 and any subsequent amendments (hereafter referred to as the application) is accurate and that the facility will be constructed and operated as specified in the application. Any inaccuracies found in this information may be grounds for the termination or modification of this permit (see 40 CFR §270.42 and §270.43) and potential enforcement action. The Permittee must inform U.S. EPA of any deviation from or changes in the information in the application which would affect the Permittee's ability to comply with the applicable regulations or permit conditions.

Issued this _____ day of _____

by _____
Basil G. Constantelos, Director
Waste Management Division

I. STANDARD CONDITIONS

A. EFFECT OF PERMIT

The Permittee is allowed to store hazardous waste in accordance with the conditions of this permit. Any storage of hazardous waste not authorized in this permit is prohibited. Compliance with this permit constitutes compliance, for purposes of enforcement, with Subtitle C of RCRA. Issuance of this permit does not convey property rights of any sort or any exclusive privilege; nor does it authorize any injury to persons or property, any invasion of other private rights, or any infringement of State or local law or regulations. Compliance with the terms of this permit does not constitute a defense to any action brought under Section 3013 or Section 7003 of RCRA, Section 106(a) of the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (42 U.S.C. 9606(a), commonly known as CERCLA), or any other law providing for protection of public health or the environment.

B. PERMIT ACTIONS

This permit may be modified, revoked and reissued, or terminated for for cause as specified in 40 CFR 270.41, 270.42, and 270.43. The filing of a request for a permit modification, revocation and reissuance, or termination or the notification of planned changes or anticipated noncompliance on the part of the Permittee does not stay the applicability or enforceability of any permit condition.

C. SEVERABILITY

The provisions of this permit are severable, and if any provision of this permit, or the application of any provision of this permit to any circumstance is held invalid, the application of such provision to other circumstances and the remainder of this permit shall not be affected thereby.

D. DUTIES AND REQUIREMENTS

1. Duty to Comply. The Permittee shall comply with all conditions of this permit, except to the extent and for the duration such noncompliance is authorized by an emergency permit. Any permit noncompliance, constitutes a violation of RCRA and is grounds for enforcement action, permit termination, revocation and reissuance, modification, or denial of a permit renewal application.

2. Duty to Reapply. If the Permittee wishes to continue an activity allowed by this permit after the expiration date of this permit, the Permittee must submit a complete application for a new permit at least 180 days before this permit expires.

3. Permit Expiration. The duration of this permit shall be 10 years from the effective date of the permit, in conformance with the provisions of 40 CFR 270.50. This permit and all conditions herein will remain in effect beyond the permit's expiration date if the Permittee has submitted a timely, complete application (see 40 CFR 270.13-270.29) and through no fault of the Permittee the Regional Administrator has not issued a new permit as set forth in 40 CFR 270.15.

4. Need to Halt or Reduce Activity Not a Defense. It shall not be a defense for the Permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this permit.

5. Duty to Mitigate. The Permittee shall take all reasonable steps to minimize or correct any adverse impact on the environment resulting from noncompliance with this permit.

6. Proper Operation and Maintenance. The Permittee shall at all times properly operate and maintain all facilities and systems of treatment and control (and related appurtenances) which are installed or used by the Permittee to achieve compliance with the conditions of this permit. Proper operation and maintenance includes effective performance, adequate funding, adequate operator staffing and training, and adequate laboratory and process controls, including appropriate quality assurance procedures. This provision requires the operation of back-up or auxiliary facility or similar systems only when necessary to achieve compliance with the conditions of the permit.

7. Duty to Provide Information. The Permittee shall furnish to the Regional Administrator, within a reasonable time, any relevant information which the Regional Administrator may request to determine whether cause exists for modifying, revoking and reissuing, or terminating this permit, or to determine compliance with this permit. The Permittee shall also furnish to the Regional Administrator, upon request, copies of records required to be kept by this permit.

8. Inspection and Entry. The Permittee shall allow the Regional Administrator, or an authorized representative, upon the presentation of credentials and other documents as may be required by law to:

   (a) Enter at reasonable times upon the Permittee's premises where a regulated activity is located or conducted, or where records must be kept under the conditions of this permit;

(b) Have access to and copy, at reasonable times, any records that must be kept under the conditions of this permit;

(c) Inspect at reasonable times any facilities, equipment (including monitoring and control equipment), practices, or operations regulated or required under this permit; and

(d) Sample or monitor, at reasonable times, for the purposes of assuring permit compliance or as otherwise authorized by RCRA, any substances or parameters at any location.

9. Monitoring and Records.

(a) Samples and measurements taken for the purpose of monitoring shall be representative of the monitored activity. The method used to obtain a representative sample of the waste to be analyzed must be the appropriate method from Appendix I of 40 CFR Part 261. Laboratory methods must be those specified in Test Methods for Evaluating Solid Waste: Physical/Chemical Methods SW-846, (July, 1982) or an equivalent method as specified in the attached Waste Analysis Plan.

(b) The Permittee shall retain records of all monitoring information, including all calibration and maintenance records and all original strip chart recordings for continuous monitoring instrumentation, copies of all reports and records required by this permit, and records of all data used to complete the application for this permit for a period of at least 3 years from the date of the sample, measurement, report or record. These periods may be extended by request of the Regional Administrator at any time and are automatically extended during the course of any unresolved enforcement action regarding this facility.

(c) Records of monitoring information shall specify:

(i) The dates, exact place, and times of sampling or measurements;

(ii) The individuals who performed the sampling or measurements;

(iii) The dates analyses were performed;

(iv) The individuals who performed the analyses;

(v) The analytical techniques or methods used; and

(vi) The results of such analyses.

10. Reporting Planned Changes. The Permittee shall give notice to the Regional Administrator as soon as possible of any planned physical alterations or additions to the permitted facility.

11. Certification of Construction or Modification. The Permitee must cease storing hazardous waste in tanks at the facility after four months following the effective date of this permit, unless:

(a) The Permittee has submitted to the Regional Administrator by certified mail or hand delivery a letter signed by the Permittee and a registered professional engineer stating that the facility has been constructed or modified in compliance with the permit; and,

(b) (i) The Regional Administrator has inspected the modified and newly constructed facility and finds it is in compliance with the conditions of the permit; and,

(ii) The Regional Administrator has either waived the inspection or has not within 15 days notified the Permittee of his or her intent to inspect.

12. Anticipated Noncompliance. The Permittee shall give advance notice to the Regional Administrator of any planned changes in the permitted facility or activity which may result in noncompliance with permit requirements.

13. Transfer of Permits. This permit may be transferred to a new owner or operator only if it is modified or revoked and reissued pursuant to 40 CFR 270.41(b)(2) or 270.42(d). Before transferring ownership or operation of the facility during its operating life, the Permittee shall notify the new owner or operator in writing of the requirements of 40 CFR Parts 264 and 270.

14. Compliance Schedules. Reports of compliance or noncompliance with, or any progress reports on, interim and final requirements contained in any compliance schedule of this permit shall be submitted no later than 14 days following each schedule date.

15. Twenty-four Hour Reporting. The Permittee shall report to the Regional Administrator any noncompliance with the permit which may endanger health or the environment. Any such information shall be reported orally within 24 hours from the time the Permittee becomes aware of the circumstances. This report shall include the following:

(a) Information concerning the release of any hazardous waste which may endanger public drinking water supplies.

(b) Any information of a release or discharge of hazardous waste, or of a fire or explosion at the facility, which could threaten the environment or human health outside the facility. The description of the occurrence and its cause shall include:

(i) Name, address, and telephone number of the owner or operator;

(ii) Name, address, and telephone number of the facility;

(iii) Date, time, and type of incident;

(iv) Name and quantity of materials involved;

(v) The extent of injuries, if any;

(vi) An assessment of actual or potential hazard to the environment and human health outside the facility, where this is applicable; and

(vii) Estimated quantity and disposition of recovered material that resulted from the incident.

A written submission shall also be provided within 5 days of the time the Permittee becomes aware of the circumstances. The written submission shall contain a description of the noncompliance and its cause; the periods of noncompliance (including exact dates and times); whether the noncompliance has been corrected; and if not, the anticipated time it is expected to continue; and steps taken or planned to reduce, eliminate, and prevent recurrence of the noncompliance. The Permittee need not comply with the five day written notice requirement if the Regional Administrator waives the requirement and the Permittee submits a written report within fifteen days of the time the Permittee becomes aware of the circumstances.

16. Other Noncompliance. The Permittee shall report all other instances of noncompliance not otherwise required to be reported above, at the time monitoring reports, as required by this permit are submitted. The reports shall contain the information listed in condition I.D.15.

17. Other Information. Whenever the Permittee becomes aware that he failed to submit any relevant facts in the permit application, or submitted incorrect information in a permit application or in any report to the Regional Administrator, the Permittee shall promptly submit such facts or information.

E. Signatory Requirement. All reports or other information requested by the Regional Administrator shall be signed and certified as required by 40 CFR 270.11.

F. Confidential Information. The Permittee may claim confidential any information required to be submitted by this permit in accordance with 40 CFR 270.12.

G. Documents To Be Maintained at Facility Site. The Permittee shall maintain at the facility, until closure is completed and certified by an independent registered professional engineer, the following documents and amendments, revisions and modifications to these documents:

1. Waste analysis plan as required by 40 CFR 264.13 and this permit.

2. Personnel training documents and records as required by 40 CFR 264.16(d) and this permit.

3. Contingency plan as required by 40 CFR 264.53(a) and this permit.

4. Closure plan as required by 40 CFR 264.112(a) and this permit.

5. Cost estimate for facility closure as required by 40 CFR 264.142(d) and this permit.

6. Operating record as required by 40 CFR 264.73 and this permit.

7. Inspection schedules as required by 40 CFR 264.15(b) and this permit.

II. GENERAL FACILITY CONDITIONS

A. Design and Operation of Facility. The Permittee shall maintain and operate the facility to minimize the possibility of a fire, explosion, or any unplanned sudden or non-sudden release of hazardous waste constituents to air, soil, or surface water which could threaten human health or the environment.

B. General Waste Analysis. The Permittee shall follow the procedures described in the attached waste analysis plan, Attachment 1.

C. Security. The Permittee shall comply with the security provisions of 40 CFR 264.14(b)(1) and (c).

D. General Inspection Requirements. The Permittee shall follow the inspection schedule, Attachment 2. The Permittee shall remedy any deterioration or malfunction discovered by an inspection as required by 40 CFR 264.15(c). Records of inspections shall be kept as required by 40 CFR 264.15(d).

E. Personnel Training. The Permittee shall conduct personnel training as required by 40 CFR 264.16. This training program shall follow the attached outline, Attachment 3. The Permittee shall maintain training documents and records as required by 40 CFR 264.16(d) and (e).

F. General Requirements for Ignitable, Reactive, or Incompatible Waste. The Permittee shall comply with the requirements of 40 CFR 264.17(a).

G. Preparedness and Prevention

1. Required Equipment. At a minimum, the Permittee shall equip the facility with the equipment set forth in the contingency plan, Attachment 4 as required by 40 CFR 265.32.

2. Testing and Maintenance of Equipment. The Permittee shall test and maintain the equipment specified in the previous permit condition, as necessary to assure its proper operation in time of emergency.

3. Access to Communications or Alarm System. The Permittee shall maintain access to the communications or alarm system as required by 40 CFR 264.34.

4. Required Aisle Space. At a minimum, the Permittee shall maintain aisle space as required by 40 CFR 264.35.

5. Arrangements with Local Authorities. The Permittee shall attempt to make arrangements with State and local authorities as required by 40 CFR 264.37. If State or local officials refuse to enter into preparedness and prevention arrangements with the Permittee, the Permittee must document this refusal in the operating record.

H. Contingency Plan.

1. Implementation of Plan. The Permittee shall immediately carry out the provisions of the contingency plan, Attachment 4, and follow the emergency procedures described by 40 CFR 264.56 whenever there is a fire, explosion, or release of hazardous waste or constituents which threatens or could threaten human health or the environment.

2. Copies of Plan. The Permittee shall comply with the requirements of 40 CFR 264.53.

3. Amendments to Plan. The Permittee shall review and immediately amend, if necessary, the contingency plan, as required by 40 CFR 264.54.

4. Emergency Coordinator. The Permittee shall comply with the requirements of 40 CFR 264.55, concerning the emergency coordinator.

I. Recordkeeping and Reporting.

1. Operating Record. The Permittee shall maintain a written operating record at the facility in accordance with 40 CFR 264.73(a), (b)(1), (2), (3), (4), (5), (6), and (8).

2. Biennial Report. The Permittee shall comply with the biennial report requirements of 40 CFR 264.75.

J. Closure.

1. Performance Standard. The Permittee shall close the facility as required by 40 CFR 264.111 and in accordance with the closure plan, Attachment 5.

2. Amendment to Closure Plan. The Permittee shall amend the closure plan in accordance with 40 CFR 264.112(b) whenever necessary.

3. Notification of Closure. The Permittee shall notify the Regional Administrator at least 180 days prior to the date he expects to begin closure.

4. Time Allowed For Closure. After receiving the final volume of hazardous waste, the Permittee shall treat or remove from the site all hazardous waste in accordance with the schedule specified in the closure plan, Attachment 5. After receiving the final volume of hazardous waste, the Permittee shall complete closure activities in accordance with the schedule specified in the closure plan, Attachment 5.

5. Disposal or Decontamination of Equipment. The Permittee shall decontaminate and/or dispose of all facility equipment as required by 40 CFR 264.114 and the closure plan, Attachment 5.

6. Certification of Closure. The Permittee shall certify that the facility has been closed in accordance with the specifications in the closure plan as required by 40 CFR 264.115.

K. Cost Estimate for Facility Closure.

1. The Permittee's original closure cost estimate, prepared in accordance with 40 CFR 264.142(a) is specified in Attachment 5. The Permittee must adjust the closure cost estimate for inflation within 30 days after each anniversary of date on which the first closure cost estimate was prepared, as required by 40 CFR 264.142(b).

2. The Permittee must revise the closure cost estimate whenever there is a change in the facility's closure plan as required by 40 CFR 264.142(c).

3. The Permittee must keep at the facility the latest closure cost estimate as required by 40 CFR 264.142(d).

L. Financial Assurance for Facility Closure. The Permittee shall demonstrate continuous compliance with 40 CFR 264.143 by providing documentation of financial assurance, as required by 40 CFR 264.151, in at least the amount of the cost estimates required by permit condition II.K. Changes in financial assurance mechanisms must be approved by the Regional Administrator pursuant to 40 CFR 264.143.

M. Liability Requirements. The Permittee shall demonstrate continuous compliance with the requirements of 40 CFR 264.147 and the documentation requirements of 40 CFR 264.151, including the requirements to have and maintain liability coverage for sudden and accidental occurrences in the amount of at least $1 million per occurrence with an annual aggregate of at least $2 million, exclusive of legal defense costs.

N. Incapacity of Owners or Operators, Guarantors, or Financial Institutions.

The Permittee shall comply with 40 CFR 264.148 whenever necessary.

III. STORAGE IN CONTAINERS

A. Waste Identification. The Permittee may store the following wastes in containers at the facility, subject to the terms of this permit:

Waste Type	Waste Code
a. Spend halogenated solvents	F002
b. Spent non-halogenated solvents	F003
c. Ignitable wastes	D001
d. Corrosive wastes	D002

These wastes were indicated on page #3 of Form #3 of Part A of the Permittee's Hazardous Waste Permit Application, Attachment 6. The Permittee may store wastes in 55-gallon drums. The maximum quantity of 55-gallon drums to be held in the designated storage area shall not exceed 300 drums, to comply with the requirements of 40 CFR 264.175(b)(3).

B. Condition of Containers. If a container holding hazardous waste is not in good condition (e.g., severe rusting, apparent structural defects) or if it begins to leak, the Permittee shall transfer the hazardous waste from such container to a container that is in good condition or otherwise manage the waste in compliance with the the conditions of this permit.

C. Compatibility of Waste with Containers. The Permittee shall assure that the ability of the container to contain the waste is not impaired as required by 40 CFR 264.172. Containers constructed of low carbon steel that meets U.S. Department of Transportation specifications No. 17E shall be used for all hazardous waste storage except for storage of ignitable HCR vent waste and corrosive/ignitable cyclizer waste. Cyclizer and HCR vent wastes shall be stored in containers meeting the U.S. DOT specification No. 17H and will be protected against corrosion by epoxy phenolic linings.

D. Management of Containers. The Permittee shall manage containers as required by 40 CFR 264.173.

E. Containment. The Permittee shall maintain the containment system in accordance with the requirements of 40 CFR 264.175 as specified in the attached plans and specifications, Attachment 7.

F. Special Requirements for Ignitable or Reactive Waste.

1. The Permittee shall not locate containers holding ignitable or reactive hazardous waste within 15 meters (50 feet) of the facility's property line.

G. Special Requirements for Incompatible Wastes.

1. The Permittee shall not store incompatible wastes together in the containment area described in Attachment 7.

2. The Permittee must document compliance with III.G.1 as required by 40 CFR 264.17(c) and place this documentation in the operating record (condition II.I.1).

IV. STORAGE IN TANKS

A. Waste Identification. The Permittee may store the following hazardous wastes in tanks, subject to the terms of this permit:

Waste type	Waste Code
a. Spent halogenated solvents except for tetrachloroethylene	F002
b. Spent non-halogenated solvents except for acetone	F003
c. Ignitable wastes	D001

These wastes were indicated on page #3 of form #3 of Part A of the Permittee's Hazardous Waste Permit Application, Attachment 6. The 3 storage tanks are located at the north-east corner of the facility, and are not in the 100 year Flood-plain of the Raisin River. The tank storage area is located 375 feet from the closest company property line which is in compliance with the National Fire Code Standards for "Flammable and Combustible Liquids Codes". The tanks have been fabricated to specifications listed in Attachment 8. The hazardous wastes which shall be stored in each tank are fully described in Attachment 8. Only tanks designated as T-105 and T-108 shall be utilized for the storage of ignitable hazardous waste. Compounds containing benzene, carbon tetrachloride, methyl ethyl ketone, aniline, or formaldehyde shall not be stored in T-101, T-105, or T-108. Tank T-101 has a 25,000 gallon capacity, and tanks T-105 and T-108 have 15,000 gallon capacities.

B. Design of Tanks. The Permittee shall maintain all tanks as required by 40 CFR 264.191, as specified in the attached plans and specifications Attachment 8. The Permittee shall maintain the minimum shell thickness specified below at all times to ensure sufficient shell strength.

Tank Designation #	Minimum Shell Thickness
T-105	0.188 inches
T-108	0.188 inches
T-101	0.250 inches

The shell thickness of each tank must be determined annually, and records of testing must be maintained as part of the operating record.

C. General Operating Requirements.
The Permittee shall prevent overfilling of tanks as required by 40 CFR 264.192(b), by methods specified in Attachment 8.

D. Special Requirements for Ignitable or Reactive Wastes.

1. The permittee shall not place ignitable or reactive waste in a tank unless the procedures described in Attachment 8 are followed, as required by 40 CFR 264.198(a).

2. The Permittee shall document compliance with IV.D.1 as required by 40 CFR 264.17(c) and place this documentation in the operating record (condition II.I.1).

3. The Permittee shall maintain buffer zones around covered tanks as specified in Attachment 8, as required by 40 CFR 264.198(b).

E. Special Requirements for Incompatible Wastes.

1. The Permittee shall not place incompatible wastes in the same tank or place hazardous waste in a tank that previously held an incompatible waste or material unless the procedures specified in Attachment 8 are followed, as required by 40 CFR 264.17(b).

2. The Permittee shall document compliance with IV.E.1 as required by 40 CFR 264.17(c) and place this documentation in the operating record (Condition II.I.1).

F. Compliance Schedule.

Within four months from the date of issuance of this permit, the Permittee shall install high level alarms in tanks T-101, T-105, and T-108 to comply with 40 CFR 264.192(b). Pursuant to the certification requirement of I.D.11, the storage of hazardous wastes in tanks must cease if the high level alarms are not installed.

5.2383

B.1.2 Part B Permit Application (1983)

Wacker Silicones Corporation

MID 075 400 671

SWS Silicones Corporation

ADRIAN, MICHIGAN 49221 • TELEPHONE (517) 263-5711

RECEIVED

JUN 1 1983

WASTE MANAGEMENT BRANCH
EPA, REGION V

May 23, 1983

RCRA ACTIVITIES
Part B Permit Application
U.S. EPA, Region V
P.O. Box A 3587
Chicago, Illinois 60690-3587

Re: SWS Silicones Corporation
MID 075400671
5HW-TUB

Gentlemen:

This letter is a response to your formal request for submittal of Part B of the RCRA permit application for SWS Silicones Corporation, which was dated December 2, 1982.

Enclosed are four copies of the RCRA Part B application. We have been in contact with Mr. Allen Debus of your staff concerning this application.

If there are any questions, please contact Mr. Gordon Philbrook (517-263-5711).

Yours truly,

SWS SILICONES CORPORATION

Joseph Calamungi

Joseph Calamungi
Director of Manufacturing

JC:pb

cc: L. B. Bruner
G. C. Philbrook

received
6-1-83

COPY 2

RCRA PERMIT APPLICATION

SWS SILICONES CORPORATION

RCRA PART B APPLICATION

CONTENTS

Description	Page
A. Part A Application	A-1
B. Facility Description	B-1
B-1 General description [40 CFR Section 122.25(a)(1)]	B-1
B-2 Topographic map [40 CFR Section 122.25 (a)(19)]	B-2
B-3 Location information [40 CFR Sections 122.25(a)(11), and 264.18]	B-13
B-3a Seismic standard (reserved)	B-13
B-3b Floodplain standard	B-13
B-3b(1) Demonstration of compliance	B-13
B-3b(1)(a) Flood proofing and flood protection measures	B-13
B-3b(1)(b) Flood plain	B-13
B-3b(2) Plan for future compliance	B-13
B-4 Traffic patterns [40 CFR Sections 122.25(a)(10)]	B-13
C. Waste Characteristics	C-1
C-1 Chemical and physical analyses [40 CFR Sections 122.25(a)(2) and 264.13(a)]	C-1
C-2 Waste analysis plan [40 CFR Sections 122.25(a)(13) and 264.13(b) and (c)]	C-21
C-2a Parameters and rationale	C-21
C-2b Test methods	C-21
C-2c Sampling methods	C-21
C-2d Frequency of analyses	C-21
C-2e Additional requirements for waste generated offsite	C-21
D. Process Information	D-1
D-1 Containers [40 CFR Sections 122.25(b)(1), 264.171, 264.172, 264.173, 264.175 and 264.176]	D-1
D-1a Containers with free liquids	D-1
D-1a(1) Description of containers	D-3
D-1a(2) Container management practices	D-3
D-1a(3) Secondary containment system design and operation	D-4
D-1a(3)(a) Requirement for base to contain liquids	
D-1a(3)(b) Containment system drainage	
D-1a(3)(c) Containment system capacity	
D-1a(3)(d) Control of run-on	

Description	Page
D-1a(4) Removal of liquids from containment system	D-4
D-1b Containers without free liquids	D-5
D-1b(1) Test for free liquids	
D-1b(2) Description of containers	
D-1b(3) Container management practices	
D-1b(4) Container storage area drainage	
D-2 Tanks [40 CFR Sections 122.25(b)(2), 264.191, 264.192]	D-5
D-2a Description of tanks	D-5
D-2b Tank corrosion and erosion	D-5
D-2c Tank management practices	D-11
D-3 Wastes piles [40 CFR Sections 122.25(b)(4), 264.250, 264.251, 264.252, 264.253]	D-15
D-3a Waste piles with free liquids	
D-3a(1) Control of wind dispersal	
D-3a(2) Control of run-on	
D-3a(3) Collection of leachate and runoff	
D-3a(4) Foundation	
D-3a(5) Waste pile base	
D-3a(5)(a) Containment system design	
D-3a(5)(b) Leachate detection, collection, and removal system	
D-3a(6) Vegetation and rodent control	
D-3a(7) Equipment and procedures for waste pile movement	
D-3b Waste piles without free liquids	
D-3b(1) Test for free liquids	
D-3b(2) Control of wind dispersal	
D-3b(3) Protection from precipitation and run-on	
D-3b(4) Demonstration that no free liquids are placed on pile	
D-4 Surface impoundments	D-15
D-5 Incinerators	D-15
E. Ground Water Monitoring Systems (Reserved)	E-1
F. Procedures to Prevent Hazards	F-1
F-1 Security [40 CFR Sections 122.25(a)(4) and 264.14]	F-1
F-1a Security procedures and equipment	F-1
F-1a(1) 24-hour surveillance system	F-1
F-1a(2) Barrier and means to control entry	F-3
F-1a(2)(a) Barrier	F-3
F-1a(2)(b) Means to control entry	F-3
F-1a(3) Warning signs	F-4
F-1b Waiver	F-4
F-1b(1) Injury to intruder	
F-1b(2) Violation by intruder	
F-2 Inspection schedule [40 CFR Sections 122.(a)(5), 264.15, 264.33, 264.174, 264.194, 264.254, 264.255]	F-4

Description	Page
F-2a General inspection requirements	F-4
F-2a(1) Types of problems	F-4
F-2a(2) Frequency of inspection	F-6
F-2b Specific process inspection requirements	F-6
F-2b(1) Container inspection	F-6
F-2b(2) Tank inspection	F-6
F-2b(2)(a) Construction materials	
F-2b(2)(b) Surrounding area	
F-2b(2)(c) Overfilling control equipment	
F-2b(2)(d) Monitoring data	
F-2b(2)(e) Level of waste	
F-2b(2)(f) Tank condition assessment	
F-2b(2)(g) Tank interior inspection	
F-2b(3) Waste pile inspection	F-9
F-2b(3)(a) Liner systems	
F-2b(3)(b) Manufactured liner materials	
F-2b(3)(c) Containment system	
F-2c Remedial action	F-9
F-2d Inspection log	F-14
F-3 Waiver of preparedness and prevention requirements [40 CFR Sections 122.25(a)(6), 264.32, and 264.35]	F-14
F-3a Equipment requirements	F-14
F-3a(1) Internal communications	
F-3a(2) External communications	
F-3a(3) Emergency equipment	
F-3a(4) Water for fire control	
F-3b Aisle space requirement	F-14
F-4 Preventive procedures, structures, and equipment [40 CFR Section 122.25(a)(8)]	F-15
F-4a Loading/unloading operations	F-15
F-4b Runoff	F-15
F-4c Water supplies	F-16
F-4d Equipment and power failure	F-16
F-4e Personnel protection equipment	F-17
F-5 Prevention of reaction of ignitable, reactive, or incompatible wastes [40 CFR Sections 122.25(a)(9), 122.25(b)(1)(iii), 122.25(b)(2)(vi), 122.25(b)(4)(i)(c)(4), 122.25(b)(4)(ii)(b)(1), 264.17, 264.21, 264.23, 264.176, 264.177, 264.198, 264.199, 264.256, 264.257]	F-17
F-5a Precautions to prevent ignition or reaction of ignitable or reactive wastes	F-17
F-5b General precautions for handling ignitable or reactive wastes or accidently mixing incompatible wastes	F-18
F-5c Management of ignitable or reactive wastes in containers	F-18
F-5d Management of incompatible wastes in containers	F-19
F-5e Management of ignitable or reactive wastes in tanks	F-19
F-5f Management of incompatible wastes in tanks	F-19
F-5g Management of ignitable or reactive wastes in waste piles	F-19

Description	Page
F-5h Management of incompatible wastes in waste piles	F-20
G. Contingency Plan	G-1
G-1 General information [40 CFR Section 122.25(a)(7)]	G-1
G-2 Emergency coordinators [40 CFR Sections 122.25(a)(7), 264.52(d), and 264.55]	G-2
G-3 Implementation of the contingency plan [40 CFR Sections 122.25(a)(7), 264.51(b)]	G-2
G-4 Emergency response procedures [40 CFR Sections 122.25(a)(7), 264.52(a), 264.56, 264.171, 264.194(c), 264.255, and 264.258]	G-2
G-4a Notification	G-2
G-4b Identification of hazardous materials	G-2
G-4c Assessment	G-4
G-4d Control procedures	G-4
G-4e Prevention of recurrence or spread of fires, explosions, or releases	G-5
G-4f Storage and treatment of released material	G-6
G-4g Incompatible wastes	G-6
G-4h Post-emergency equipment maintenance	G-6
G-4i Container spills and leakage	G-6
G-4j Tank spills and leakage	G-6
G-4k Waste piles	G-6
G-4k(1) Indication of waste pile containment system failure	
G-4k(2) Elements of a containment system evaluation and repair plan	
G-4k(3) Criteria and procedures for removal of waste pile from service in the case of positive failure of the containment system	
G-4k(4) Restoration of a waste pile to service	
G-4k(5) Course of action after waste pile is removed from service	
G-5 Emergency equipment [40 CFR Sections 122.25(a)(7) and 264.52(e)]	G-7
G-6 Coordination agreements [40 CFR Sections 122.25(a)(7), 264.52(c) and 264.37]	G-7
G-7 Evacuation plan [40 CFR Sections 122.25(a)(7), 264.52(f)]	G-8
G-8 Required reports [40 CFR Sections 122.25(a)(7), 264.56(d), 264.56(i), and 264.73(b)(4)]	G-10
H. Personnel Training	H-1
H-1 Outline of training program [40 CFR Sections 122.25(a)(12) and 264.16]	H-1
H-1a Job titles and duties	H-1
H-1b Training content, frequency, and techniques	H-8
H-1c Training director	H-11
H-1d Relevance of training to job position	H-12
H-1e Training for emergency response	H-12

Description	Page
H-1e(1) Procedures for using, inspecting, repairing, and replacing facility's emergency and monitoring equipment	
H-1e(2) Key parameters for automatic waste feed cutoff systems	
H-1e(3) Communications on alarm systems	
H-1e(4) Response to fires	
H-1e(5) Response to groundwater contamination incidents	
H-1e(6) Shutdown of operations	
H-2 Implementation of training program [40 CFR Sections 122.25(a)(12) and 264.16]	H-13
I. Closure Plans, Post-Closure Plans and Financial Requirements	I-1
I-1 Closure plans [40 CFR Sections 122.25(a)(13), 264.111, 264.112, 264.113, 264.178, 264.197, and 264.258]	I-1
I-1a Closure performance standard	I-1
I-1b Partial closure	I-1
I-1c Maximum waste inventory	I-2
I-1d Disposal or decontamination of equipment	I-2
I-1d(1) Closure of containers	I-3
I-1d(2) Closure of tanks	I-4
I-1d(3) Closure of waste piles	I-5
I-1e Schedule for closure	I-5
I-1f Extensions for closure time	I-5
I-2 Post-closure plans	I-5
I-3 Notice in deed and notice to local land authority	I-5
I-4 Closure cost estimate [40 CFR Sections 122.25(a)(13) and 264.142]	I-5
I-5 Financial assurance mechanism for closure [40 CFR Sections 122.25(a)(1), 264.143, and 264.151]	I-6
I-5a Closure trust fund	
I-5b Surety bond	
I-5c Closure letter of credit	I-6
I-5d Closure insurance	
I-5e Financial test	
I-5f Combinations	
I-5f(1) Multiple financial mechanisms	
I-5f(2) Use of financial mechanism for multiple facilities	
I-5g Proof of financial coverage by an equivalent state financial mechanism	
I-6 Post-closure cost estimate	I-6
I-7 Financial assurance mechanism for post-closure	I-7
I-8 Liability requirements [40 CFR Sections 122.25(a)(17), 264.147, and 264.151]	I-7
I-8a Sudden insurance	I-7
I-8b Non-sudden insurance	I-7
I-8c Financial test for liability insurance	I-7

Description	Page
I-8d Variance procedures	I-7
I-8e Adjustment procedures	I-7
I-9 State mechanisms	I-8
I-9a Use of state-required mechanisms [40 CFR Sections 122.25(a)(18), 264.149, and 264.150]	
I-9b State assumption of responsibility	
J. Other Federal Laws [40 CFR Sections 122.12 and 122.25(a)(20)]	J-1
K. Certification [40 CFR Sections 122.6(a) and (d)]	K-1
Appendix A General Information and Hazardous Characteristics of Wastes	App. A-1
Appendix B SWS RCRA Plan - Contingency Plan	App. B-1
Appendix C Spills Control Contract with A.C.E.S.	App. C-1
Appendix D Spill Prevention Control and Countermeasure (SPCC) Plan	App. D-1
Appendix E Personnel Training Plan	App. E-1
Appendix F Closure Plan	App. F-1
Appendix G Letter of Credit, Trust Agreement and Liability Insurance Certificate	App. G-1

SWS SILICONES CORPORATION

RCRA PART B APPLICATION

FIGURES

Number		Page
1	SWS Silicones Corporation - Facility Drawing	A-11
2	Location Map - SWS Silicones Corporation	A-12
3	Covered Waste Tank T-101	A-13
4	Covered Waste Tanks T-105, T-108	A-13
5	Covered Waste Drum Storage	A-14
6	Covered Waste Drum Storage	A-14
7A	Tecumseh South Quadrangle Michigan-Lenawee Co. (Topographic)	(see back pocket)
7B	Aerial Photograph	(see back pocket)
8	1974 Land Use Atlas of Lenawee Co., Michigan	B-3
9	SWS Silicones Corporation - Contour Map	B-4
10	100 Year Floodplain Layout	B-5
11	SWS Silicones Corporation - Manufacturing Plant	B-7
12	Wind Rose	B-8
13	SWS Silicones Corporation - Storm Drain and Chemical Sewer System	B-11
14	SWS Silicones Corporation - Traffic Flow Layout	B-12
15	Michigan Department of Natural Resources Letter - 100 year Floodplain Elevation for the River Raisin	B-15
16	U.S. EPA Letter - 100 Year Floodplain Elevation for the River Raisin	B-16
17	Mixed Alcohol Waste Characterization	C-3
18	Hydrocarbon, Extremely Flammable Waste Characterization	C-4
19	Hydrocarbon, Flammable Waste Characterization	C-5
20	Hydrocarbon, Combustible Waste Characterization	C-6
21	Flammable Waste (Tech Center) Characterization	C-7

Number		Page
22	Solvent Sump Waste Characterization	C-8
23	RTV-Mineral Spirits Waste Characterization	C-9
24	Polychlorohydrocarbon Waste Characterization	C-10
25	Non-Combustible Waste Characterization	C-11
26	ES-40 Lites Waste Characterization	C-12
27	Cyclizer Waste Characterization	C-13
28	SWS-960 Waste Characterization	C-14
29	HCR Vent Waste Characterization	C-15
30	Bulk Ignitables Waste Characterization	C-16
31	Bulk Polychlorohydrocarbon Waste Characterization	C-17
32	Bulk Mineral Spirits Waste Characterization	C-18
33	Plan Layout Hazardous Waste Storage Pad	D-2
34	T-101 Drawing	D-7
35	T-105 and T-108 Drawing	D-8
36	Process Flow Diagram	D-12
37	Piping and Instrumentation Diagram for Hazardous Waste Storage in Tanks	D-13
38	Visitor's Log	F-2
39	Overview of Emergency Action Plan	G-3
40	Manufacturing Area - Disaster Plan Escape Routes	G-9
41	Reporting Form for Emergency Events	G-11

SWS SILICONES CORPORATION

RCRA PART B APPLICATION

TABLES

Number		Page
1	Wastes, Associated Hazards, and Basis for Hazard Designation	C-2
2	Parameters and Rationale for their Selection	C-22
3	Parameters and Test Methods	C-23
4	Methods Used to Sample Hazardous Wastes	C-24
5	Frequency of Analyses	C-25
6	Physical Characteristics of Storage Tanks	D-6
7	Inspection Schedule	F-5
8	Container Storage Area Weekly Inspection Log Sheet	F-7
9	Tank Storage Area and Ancillary Equipment Weekly Inspection Log Sheet	F-10

SECTION A

PART A APPLICATION

The Part A application includes the completed forms that follow, facility maps (Figures 1 and 2) and facility photographs (Figures 3-6).

This revised application was submitted to the EPA on August 27, 1982. The only differences are new pictures for the drum storage area.

Submitted
Date: 5/31/83
Revision No.: 1
(8/27/82)
A

SWS Silicones Corporation
ADRIAN, MICHIGAN 49221 • TELEPHONE (517) 263-5711

August 27, 1982

U. S. Environmental Protection Agency
Region V
RCRA Activities
P. O. Box A3587
Chicago, Illinois 60690

Dear Sir,

In reference to your June, 1982 letter, SWS Silicones Corporation (U. S. EPA I.D. #075400671) has met the requirements of 40 CFR Part 122.23, and has been acknowledged to operate under interim status.

Attached is the revised RCRA application for a hazardous waste permit which includes the following:

EPA Consolidated Permit Application Form 1
EPA Consolidated Permit Application Form 3

The major changes from the 1980 RCRA Application are:

1. Elimination of treatment tanks, because these are part of the waste wash-water, NPDES system.

2. Addition of a new drum pad; deletion of the old drum pad.

Please confirm upon receipt of this permit application-revision. If you have any questions regarding this submittal, please contact us.

Sincerely yours,

SWS SILICONES CORPORATION

Gordon C. Philbrook

Gordon C. Philbrook
Environmental Control Coordinator

GCP:pb 82-05-HK, certified

cc: J. Calamungi
W. P. Pagano

bcc: H. Kim
G. C. Philbrook (3)

[Fill in areas are spaced for elite type, i.e., 12 characters/inch].

Form Approved OMB No. 158-R0175

FORM 1 GENERAL

EPA

U.S. ENVIRONMENTAL PROTECTION AGENCY

GENERAL INFORMATION

Consolidated Permits Program

(Read the "General Instructions" before starting.)

I. EPA I.D. NUMBER: F M I D 0 7 5 4 0 0 6 7 1

LABEL ITEMS

EPA I.D. NUMBER	MID 075 400 671
II. FACILITY NAME	SWS SILICONES CORPORATION
V. FACILITY MAILING ADDRESS	Adrian, Michigan 49221-9355
VI. FACILITY LOCATION	Sutton Road Adrian, Michigan 49221-9355

Submitted Date: 5/31/83
Revision No.: 1 (8/27/82)
A

II. POLLUTANT CHARACTERISTICS

INSTRUCTIONS: Complete A through J to determine whether you need to submit any permit application forms to the EPA. If you answer "yes" to any questions, you must submit this form and the supplemental form listed in the parenthesis following the question. Mark "X" in the box in the third column if the supplemental form is attached. If you answer "no" to each question, you need not submit any of these forms. You may answer "no" if your activity is excluded from permit requirements; see Section C of the instructions. See also, Section D of the instructions for definitions of bold-faced terms.

SPECIFIC QUESTIONS	MARK 'X' YES	NO	FORM ATTACHED
A. Is this facility a publicly owned treatment works which results in a discharge to waters of the U.S.? (FORM 2A)		X	
C. Is this a facility which currently results in discharges to waters of the U.S. other than those described in A or B above? (FORM 2C)	X*		
E. Does or will this facility treat, store, or dispose of hazardous wastes? (FORM 3)	X		X
G. Do you or will you inject at this facility any produced water or other fluids which are brought to the surface in connection with conventional oil or natural gas production, inject fluids used for enhanced recovery of oil or natural gas, or inject fluids for storage of liquid hydrocarbons? (FORM 4)		X	
I. Is this facility a proposed stationary source which is one of the 28 industrial categories listed in the instructions and which will potentially emit 100 tons per year of any air pollutant regulated under the Clean Air Act and may affect or be located in an attainment area? (FORM 5)		X	

SPECIFIC QUESTIONS	MARK 'X' YES	NO	FORM ATTACHED
B. Does or will this facility *(either existing or proposed)* include a concentrated animal feeding operation or aquatic animal production facility which results in a discharge to waters of the U.S.? (FORM 2B)		X	
D. Is this a proposed facility *(other than those described in A or B above)* which will result in a discharge to waters of the U.S.? (FORM 2D)		X	
F. Do you or will you inject at this facility industrial or municipal effluent below the lowermost stratum containing, within one quarter mile of the well bore, underground sources of drinking water? (FORM 4)		X	
H. Do you or will you inject at this facility fluids for special processes such as mining of sulfur by the Frasch process, solution mining of minerals, in situ combustion of fossil fuel, or recovery of geothermal energy? (FORM 4)		X	
J. Is this facility a proposed stationary source which is NOT one of the 28 industrial categories listed in the instructions and which will potentially emit 250 tons per year of any air pollutant regulated under the Clean Air Act and may affect or be located in an attainment area? (FORM 5)		X	

III. NAME OF FACILITY

1 SKIP SWS SILICONES CORPORATION

IV. FACILITY CONTACT

A. NAME & TITLE *(last, first, & title)*	B. PHONE *(area code & no.)*
2 CALAMUNGI, JOSEPH, DIR OF MANU	517 263 5711

V. FACILITY MAILING ADDRESS

A. STREET OR P.O. BOX: 3 SUTTON ROAD

B. CITY OR TOWN	C. STATE	D. ZIP CODE
4 ADRIAN	MI	49221

VI. FACILITY LOCATION

A. STREET, ROUTE NO. OR OTHER SPECIFIC IDENTIFIER: 5 SAME

*See Attachment A

B. COUNTY NAME: LENAWEE

C. CITY OR TOWN	D. STATE	E. ZIP CODE	F. COUNTY CODE *(if known)*
6			

CONTINUED FROM THE FRONT

Submitted

Date: 5/31/83
Revision No.: 1
(8/27/82)

VII. SIC CODES (4-digit, in order of priority)

A. FIRST	B. SECOND
C 7 2821 (specify) SILICONE MATERIALS	C 7 2822 (specify) SILICONE RUBBER
C. THIRD	**D. FOURTH**
891 (specify) SILICONE SEALANTS	C 7 2869 (specify) SILICONE FLUIDS

VIII. OPERATOR INFORMATION

A. NAME: C S.W.S. SILICONES CORPORATION

B. Is the name listed in Item VIII-A also the owner? [X] YES [ ] NO

C. STATUS OF OPERATOR (Enter the appropriate letter into the answer box; if "Other", specify.)
F = FEDERAL
S = STATE
P = PRIVATE
M = PUBLIC (other than federal or state)
O = OTHER (specify)

P (specify)

D. PHONE (area code & no.): C A 517 263 5711

E. STREET OR P.O. BOX: SUTTON ROAD

F. CITY OR TOWN: ADRIAN

G. STATE: MI

H. ZIP CODE: 49221

IX. INDIAN LAND

Is the facility located on Indian lands? [ ] YES [X] NO

X. EXISTING ENVIRONMENTAL PERMITS

A. NPDES (Discharges to Surface Water)	D. PSD (Air Emissions from Proposed Sources)
T N I MI 002603 4	C 9 T P I
B. UIC (Underground Injection of Fluids)	**E. OTHER (specify)**
T U I	C 9 T I (specify)
C. RCRA (Hazardous Wastes)	**E. OTHER (specify)**
I MID075400671	C 9 T I (specify) See Attachment B

XI. MAP

Attach to this application a topographic map of the area extending to at least one mile beyond property bounderies. The map must show the outline of the facility, the location of each of its existing and proposed intake and discharge structures, each of its hazardous waste treatment, storage, or disposal facilities, and each well where it injects fluids underground. Include all springs, rivers and other surface water bodies in the map area. See instructions for precise requirements.

XII. NATURE OF BUSINESS (provide a brief description)

MANUFACTURE OF SILICONE PRODUCTS, INCLUDING FLUIDS, EMULSIONS, SEALANTS AND RUBBERS.

XIII. CERTIFICATION (see instructions)

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this application and all attachments and that, based on my inquiry of those persons immediately responsible for obtaining the information contained in the application, I believe that the information is true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment.

A. NAME & OFFICIAL TITLE (type or print)	B. SIGNATURE	C. DATE SIGNED
B. Bruner Vice President and General Manager	B. Bruner	8/19/82

COMMENTS FOR OFFICIAL USE ONLY

Form 3510-1 (6-80) REVERSE

SWS SILICONES CORPORATION

Attachment A

There may be rain runoff discharges possibly subject to NPDES requirements. The extent to which such storm water discharges should be subject to permitting requirements is presently under discussion with EPA.

SWS SILICONES CORPORATION

Attachment B

Michigan Air Permits

210-75

211-75

441-75

375-76

957-79

37-81

84-81

257-81

494-81

597-81

628-81

658-81

777-81

184-82

337-82

383-82

486-82

525-82

FORM 3 RCRA

U.S. ENVIRONMENTAL PROTECTION AGENCY

HAZARDOUS WASTE PERMIT APPLICATION

Consolidated Permits Program

(This information is required under Section 3005 of RCRA.)

I. EPA I.D. NUMBER: F M I D 0 7 5 4 0 0 6 7 1 (T/A) 1

FOR OFFICIAL USE ONLY

APPLICATION APPROVED	DATE RECEIVED (yr., mo., & day)	COMMENTS

Submitted Date: 5/31/83

Revision No.: 1 (8/27/82)

II. FIRST OR REVISED APPLICATION

A

Place an "X" in the appropriate box in A or B below *(mark one box only)* to indicate whether this is the first application you are submitting for your facility or a revised application. If this is your first application and you already know your facility's EPA I.D. Number, or if this is a revised application, enter your facility's EPA I.D. Number in Item I above.

A. FIRST APPLICATION *(place an "X" below and provide the appropriate date)*

☐ 1. EXISTING FACILITY *(See instructions for definition of "existing" facility. Complete Item below.)*

FOR EXISTING FACILITIES, PROVIDE THE DATE *(yr., mo., & day)* OPERATION BEGAN OR THE DATE CONSTRUCTION COMMENCED *(use the boxes to the left)*

C	YR.	MO.	DAY
8	6 5	0 6	2 1

☐ 2. NEW FACILITY *(Complete item below.)*

FOR NEW FACILITIES, PROVIDE THE DATE *(yr., mo., & day)* OPERATION BEGAN OR IS EXPECTED TO BEGIN

YR.	MO.	DAY

B. REVISED APPLICATION *(place an "X" below and complete Item I above)*

☒ 1. FACILITY HAS INTERIM STATUS

☐ 2. FACILITY HAS A RCRA PERMIT

III. PROCESSES – CODES AND DESIGN CAPACITIES

A. PROCESS CODE – Enter the code from the list of process codes below that best describes each process to be used at the facility. Ten lines are provided for entering codes. If more lines are needed, enter the code*(s)* in the space provided. If a process will be used that is not included in the list of codes below, then describe the process *(including its design capacity)* in the space provided on the form *(Item III-C)*.

B. PROCESS DESIGN CAPACITY – For each code entered in column A enter the capacity of the process.

1. AMOUNT – Enter the amount.
2. UNIT OF MEASURE – For each amount entered in column B(1), enter the code from the list of unit measure codes below that describes the unit of measure used. Only the units of measure that are listed below should be used.

PROCESS	PROCESS CODE	APPROPRIATE UNITS OF MEASURE FOR PROCESS DESIGN CAPACITY
Storage:		
CONTAINER *(barrel, drum, etc.)*	S01	GALLONS OR LITERS
TANK	S02	GALLONS OR LITERS
WASTE PILE	S03	CUBIC YARDS OR CUBIC METERS
SURFACE IMPOUNDMENT	S04	GALLONS OR LITERS
Disposal:		
INJECTION WELL	D79	GALLONS OR LITERS
LANDFILL	D80	ACRE-FEET *(the volume that would cover one acre to a depth of one foot)* OR HECTARE-METER
LAND APPLICATION	D81	ACRES OR HECTARES
OCEAN DISPOSAL	D82	GALLONS PER DAY OR LITERS PER DAY
SURFACE IMPOUNDMENT	D83	GALLONS OR LITERS

PROCESS	PROCESS CODE	APPROPRIATE UNITS OF MEASURE FOR PROCESS DESIGN CAPACITY
Treatment:		
TANK	T01	GALLONS PER DAY OR LITERS PER DAY
SURFACE IMPOUNDMENT	T02	GALLONS PER DAY OR LITERS PER DAY
INCINERATOR	T03	TONS PER HOUR OR METRIC TONS PER HOUR; GALLONS PER HOUR OR LITERS PER HOUR
OTHER *(Use for physical, chemical, thermal or biological treatment processes not occurring in tanks, surface impoundments or incinerators. Describe the processes in the space provided; Item III-C.)*	T04	GALLONS PER DAY OR LITERS PER DAY

UNIT OF MEASURE	UNIT OF MEASURE CODE	UNIT OF MEASURE	UNIT OF MEASURE CODE	UNIT OF MEASURE	UNIT OF MEASURE CODE
GALLONS	G	LITERS PER DAY	V	ACRE-FEET	A
LITERS	L	TONS PER HOUR	D	HECTARE-METER	F
CUBIC YARDS	Y	METRIC TONS PER HOUR	W	ACRES	B
CUBIC METERS	C	GALLONS PER HOUR	E	HECTARES	Q
GALLONS PER DAY	U	LITERS PER HOUR	H		

EXAMPLE FOR COMPLETING ITEM III *(shown in line numbers X-1 and X-2 below)*: A facility has two storage tanks, one tank can hold 200 gallons and the other can hold 400 gallons. The facility also has an incinerator that can burn up to 20 gallons per hour.

C DUP (T/A) 1

LINE NUMBER	A. PROCESS CODE (from list above)	B. PROCESS DESIGN CAPACITY 1. AMOUNT (specify)	2. UNIT OF MEASURE (enter code)	FOR OFFICIAL USE ONLY	LINE NUMBER	A. PROCESS CODE (from list above)	B. PROCESS DESIGN CAPACITY 1. AMOUNT	2. UNIT OF MEASURE (enter code)	FOR OFFICIAL USE ONLY
X-1	S 0 2	600	G		5				
X-2	T 0 3	20	E		6				
1	S 0 1	44,000	G		7				
2	S 0 2	55,000	G		8				
3					9				
4					10				

Continued from the front.

III. PROCESSES *(continued)*

C. SPACE FOR ADDITIONAL PROCESS CODES OR FOR DESCRIBING OTHER PROCESSES *(code "T04")*. FOR EACH PROCESS ENTERED HERE INCLUDE DESIGN CAPACITY.

Submitted
Date: 5/31/83
Revision No.: 1
(8/27/82)
A

V. DESCRIPTION OF HAZARDOUS WASTES

. EPA HAZARDOUS WASTE NUMBER — Enter the four—digit number from 40 CFR, Subpart D for each listed hazardous waste you will handle. If you handle hazardous wastes which are not listed in 40 CFR, Subpart D, enter the four—digit number*(s)* from 40 CFR, Subpart C that describes the characteristics and/or the toxic contaminants of those hazardous wastes.

. ESTIMATED ANNUAL QUANTITY — For each listed waste entered in column A estimate the quantity of that waste that will be handled on an annual basis. For each characteristic or toxic contaminant entered in column A estimate the total annual quantity of all the non—listed waste*(s)* that will be handled which possess that characteristic or contaminant.

. UNIT OF MEASURE — For each quantity entered in column B enter the unit of measure code. Units of measure which must be used and the appropriate codes are:

ENGLISH UNIT OF MEASURE	CODE	METRIC UNIT OF MEASURE	CODE
POUNDS	P	KILOGRAMS	K
TONS	T	METRIC TONS	M

If f[illegible]y records use any other unit of measure for quantity, the units of measure must be converted into one of the required units of measure taking into account the appropriate density or specific gravity of the waste.

. PROCESSES

1. PROCESS CODES:
   For listed hazardous waste: For each listed hazardous waste entered in column A select the code*(s)* from the list of process codes contained in Item III to indicate how the waste will be stored, treated, and/or disposed of at the facility.
   For non—listed hazardous wastes: For each characteristic or toxic contaminant entered in column A, select the code*(s)* from the list of process codes contained in Item III to indicate all the processes that will be used to store, treat, and/or dispose of all the non—listed hazardous wastes that possess that characteristic or toxic contaminant.
   Note: Four spaces are provided for entering process codes. If more are needed: (1) Enter the first three as described above; (2) Enter "000" in the extreme right box of Item IV-D(1); and (3) Enter in the space provided on page 4, the line number and the additional code*(s)*.
2. PROCESS DESCRIPTION: If a code is not listed for a process that will be used, describe the process in the space provided on the form.

OTE: HAZARDOUS WASTES DESCRIBED BY MORE THAN ONE EPA HAZARDOUS WASTE NUMBER — Hazardous wastes that can be described by ore than one EPA Hazardous Waste Number shall be described on the form as follows:

1. Select one of the EPA Hazardous Waste Numbers and enter it in column A. On the same line complete columns B,C, and D by estimating the total annual quantity of the waste and describing all the processes to be used to treat, store, and/or dispose of the waste.
2. In column A of the next line enter the other EPA Hazardous Waste Number that can be used to describe the waste. In column D(2) on that line enter "included with above" and make no other entries on that line.
3. Repeat step 2 for each other EPA Hazardous Waste Number that can be used to describe the hazardous waste.

XAMPLE FOR COMPLETING ITEM IV *(shown in line numbers X-1, X-2, X-3, and X-4 below)* — A facility will treat and dispose of an estimated 900 pounds r year of chrome shavings from leather tanning and finishing operation. In addition, the facility will treat and dispose of three non—listed wastes. Two wastes e corrosive only and there will be an estimated 200 pounds per year of each waste. The other waste is corrosive and ignitable and there will be an estimated 0 pounds per year of that waste. Treatment will be in an incinerator and disposal will be in a landfill.

O Z	A. EPA HAZARD. WASTE NO (enter code)	B. ESTIMATED ANNUAL QUANTITY OF WASTE	C. UNIT OF MEASURE (enter code)	D. PROCESSES 1. PROCESS CODES (enter)	D. PROCESSES 2. PROCESS DESCRIPTION (if a code is not entered in D(1))
-1	K054	900	P	T03 D80	
-2	D002	400	P	T03 D80	
-3	D001	100	P	T03 D80	
-4	D002				included with above

CONTINUE ON PAGE 3

Continued from page 2.
NOTE: Photocopy this page before completing if you have more than 26 wastes to list.

Form Approv Submitted

EPA I.D. NUMBER (enter from page 1)	FOR OFFICIAL USE ONLY	
W M I D 0 7 5 4 0 0 6 7 1 T/A C 1	W DUP T/A C 2 DUP	Date: 5/31/83 Revision No. 1 (8/27/82)

IV. DESCRIPTION OF HAZARDOUS WASTES (continued)

A

LINE NO.	A. EPA HAZARD. WASTE NO. (enter code)	B. ESTIMATED ANNUAL QUANTITY OF WASTE	C. UNIT OF MEASURE (enter code)	D. PROCESSES 1. PROCESS CODES (enter)	D. PROCESSES 2. PROCESS DESCRIPTION (if a code is not entered in D(1))
1	F002	550,000	P	S01 S02	
2	F002	20,000	P	S01	
3	F003	30,000	P	S01	
4	F003	40,000	P	S01 S02	
5	D001	544,000	P	S01 S02	
6	D002	140,000	P	S01	
7	D001				INCLUDED WITH ABOVE
8					
9					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					
26					

EPA Form 3510-3 (6-80)

CONTINUE ON REVERSE

(enter "A", "B", "C", etc. behind the "3" to identify photocopied pages)

V. DESCRIPTION OF HAZARDOUS WASTES *(continued)*

E. USE THIS SPACE TO LIST ADDITIONAL PROCESS CODES FROM ITEM D(1) ON PAGE 3.

Submitted
Date: 5/31/83
Revision No.: 1
(8/27/82)
A

EPA I.D. NO. *(enter from page 1)*		
M I D 0 7 5 4 0 0 6 7 1	T/A	C 6

FACILITY DRAWING

l existing facilities must include in the space provided on page 5 a scale drawing of the facility *(see instructions for more detail).*

. PHOTOGRAPHS

ll existing facilities must include photographs *(aerial or ground—level)* that clearly delineate all existing structures; existing storage, eatment and disposal areas; and sites of future storage, treatment or disposal areas *(see instructions for more detail).*

ACILITY GEOGRAPHIC LOCATION

LATITUDE *(degrees, minutes, & seconds)*	LONGITUDE *(degrees, minutes, & seconds)*
4 1 / 5 6 / 4 8 N	8 3 / 5 7 / 1 3 W

II. FACILITY OWNER

☒ A. If the facility owner is also the facility operator as listed in Section VIII on Form 1, "General Information", place an "X" in the box to the left and skip to Section IX below.

B. If the facility owner is not the facility operator as listed in Section VIII on Form 1, complete the following items:

1. NAME OF FACILITY'S LEGAL OWNER	2. PHONE NO. *(area code & no.)*

3. STREET OR P.O. BOX	4. CITY OR TOWN	5. ST.	6. ZIP CODE
	C G		

. OWNER CERTIFICATION

ertify under penalty of law that I have personally examined and am familiar with the information submitted in this and all attached cuments, and that based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the mitted information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, luding the possibility of fine and imprisonment.

NAME *(print or type)*	B. SIGNATURE	C. DATE SIGNED
L. B. Bruner	L. B. Bruner	8/19/82

OPERATOR CERTIFICATION

ertify under penalty of law that I have personally examined and am familiar with the information submitted in this and all attached ents, and that based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the mitted information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, luding the possibility of fine and imprisonment.

NAME *(print or type)*	B. SIGNATURE	C. DATE SIGNED

CONTINUE ON PAGE 5

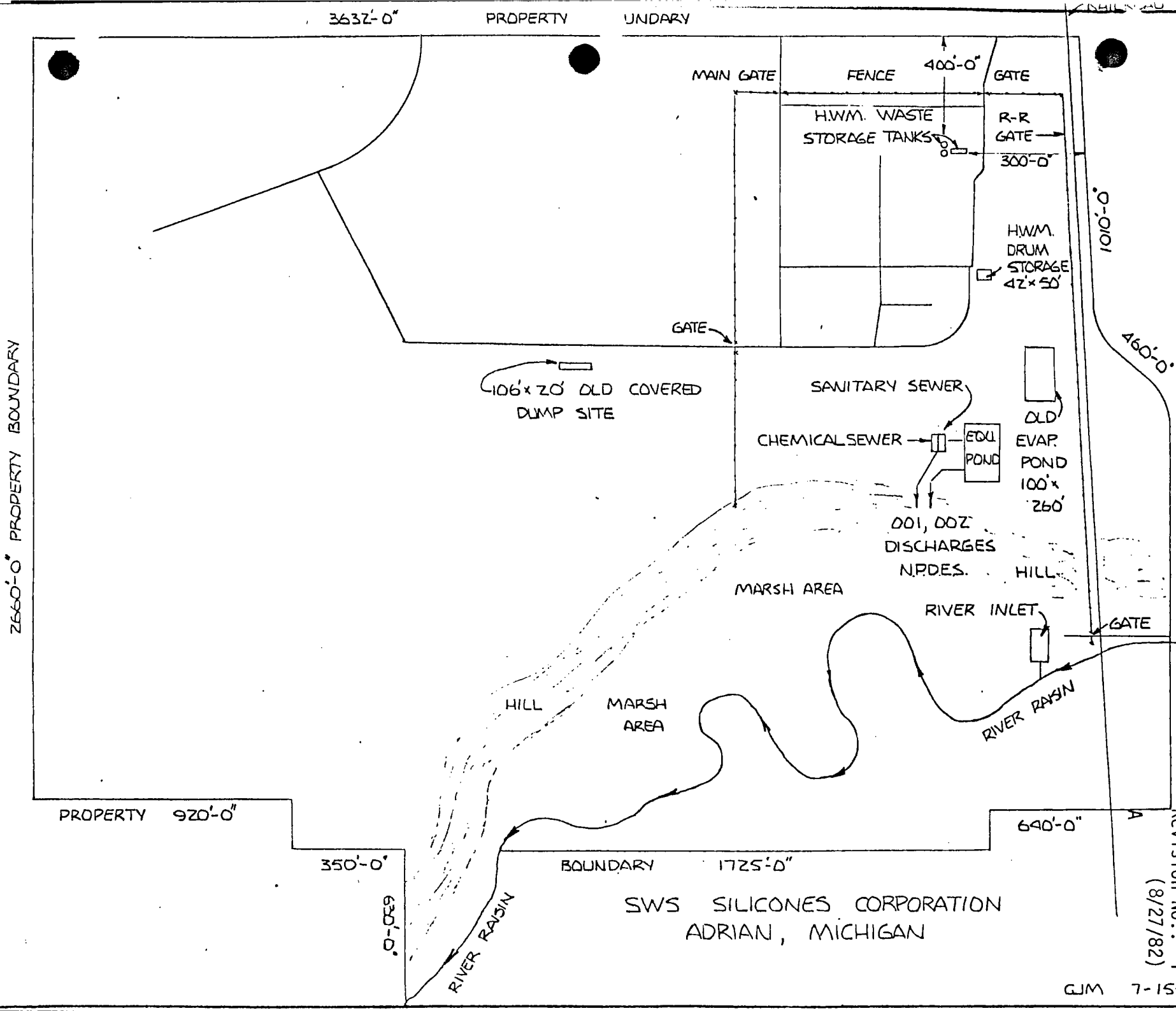


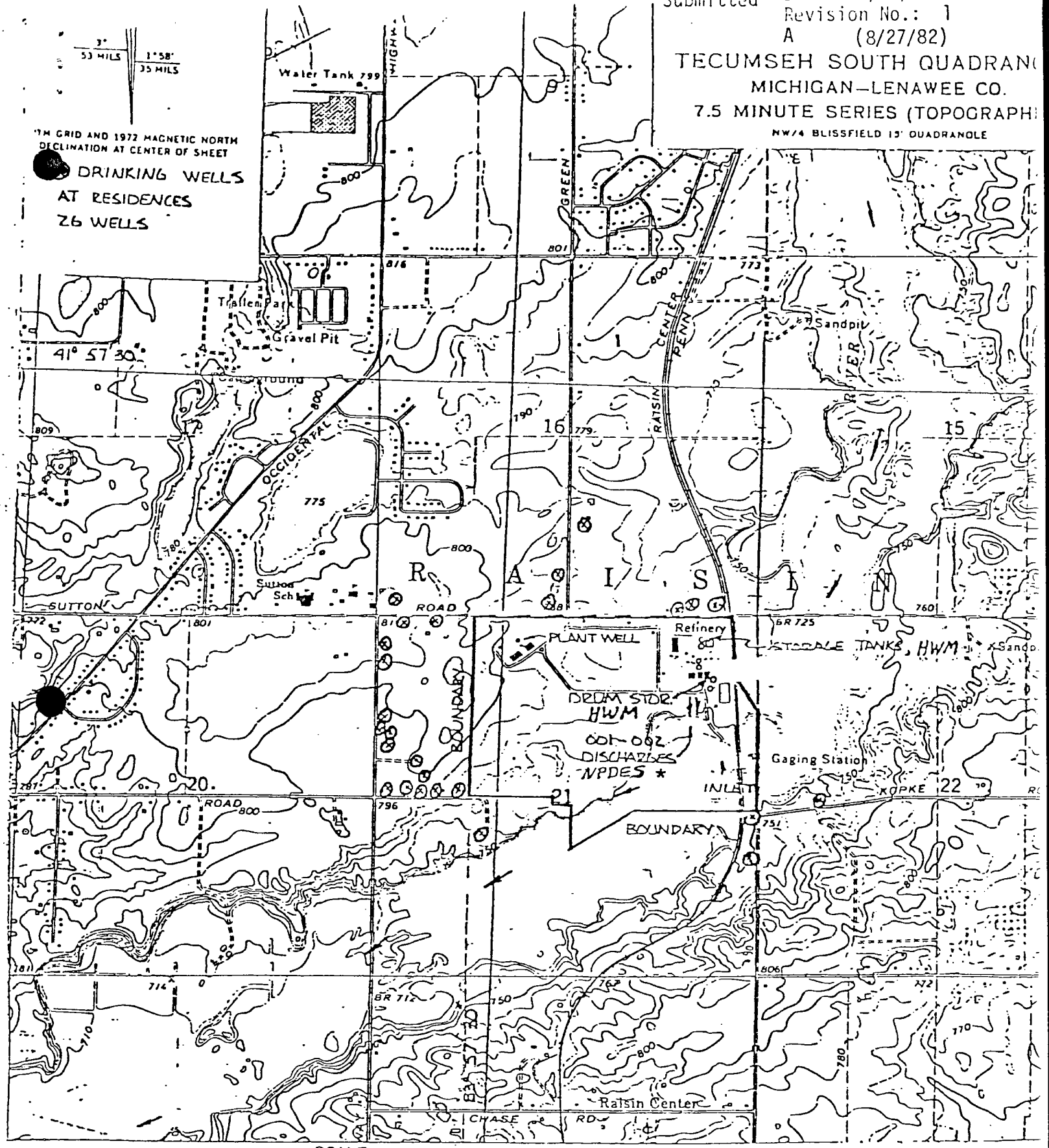
Figure 1

V. FACILITY DRAWING (see page 4)

Submitted
Date: 5/31/83
Revision No.: 1
(8/27/82)

Submitted
Revision No.: 1
A (8/27/82)

TECUMSEH SOUTH QUADRANGLE
MICHIGAN—LENAWEE CO.
7.5 MINUTE SERIES (TOPOGRAPHIC)
NW/4 BLISSFIELD 15' QUADRANGLE



SWS RCRA Plan,
Revised July 13, 1982

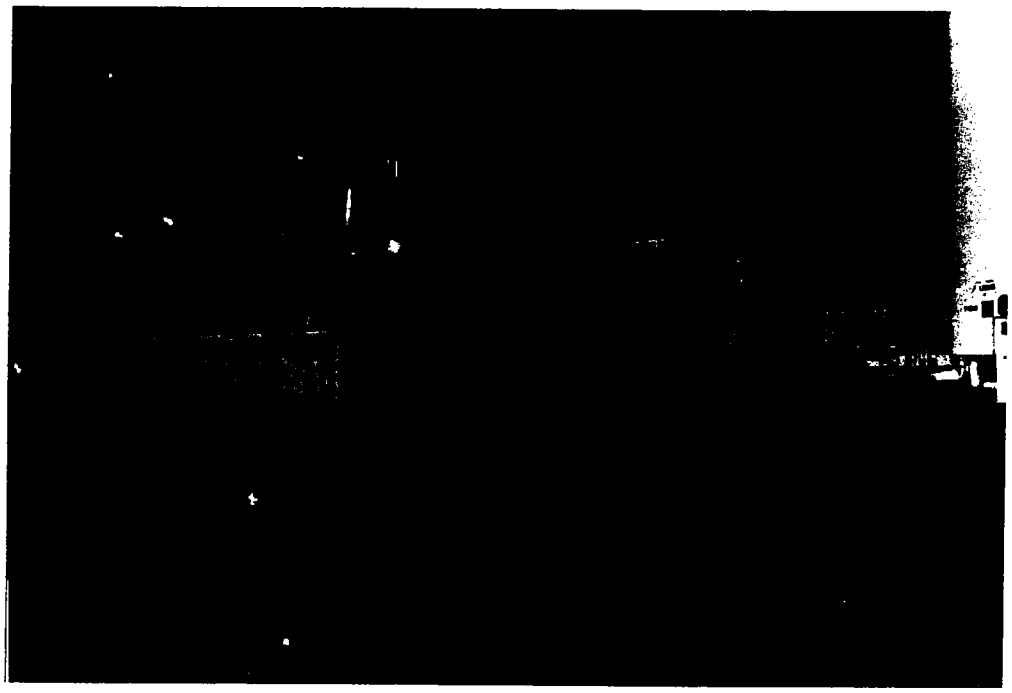
Figure 2 LOCATION MAP
SWS SILICONES CORPORATION ADRIAN MICHIGAN

SWS SILICONES CORPORATION

Covered Waste Tank T-101

July 13, 1982

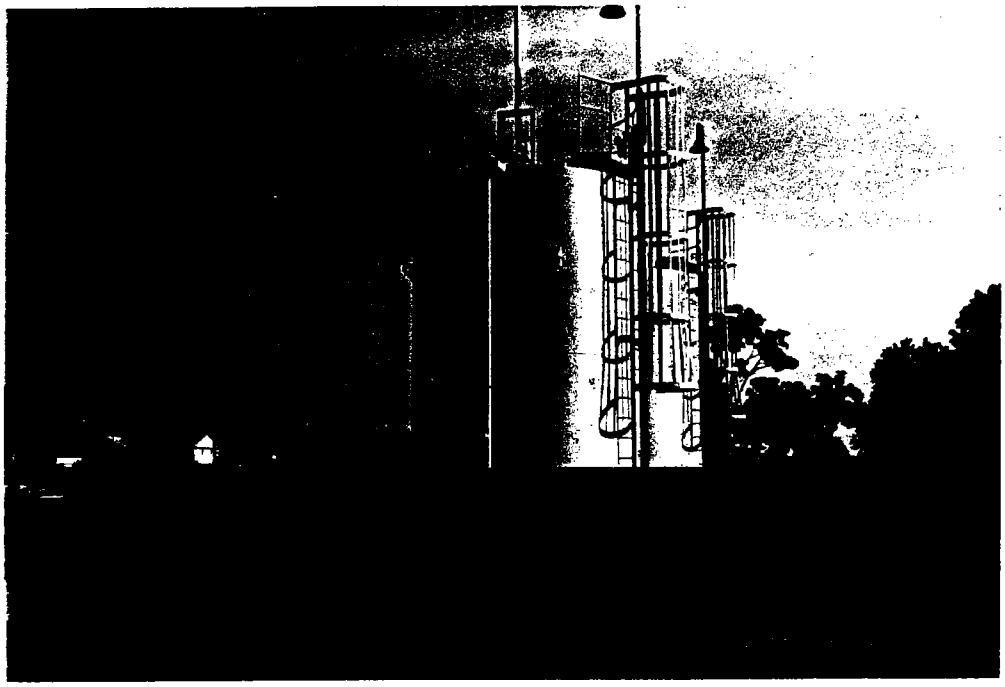
Figure 3



Covered Waste Tanks T-105, T-108

July 13, 1982

Figure 4



SWS SILICONES CORPORATION

Covered Waste Drum Storage

January 4, 1983

Figure 5

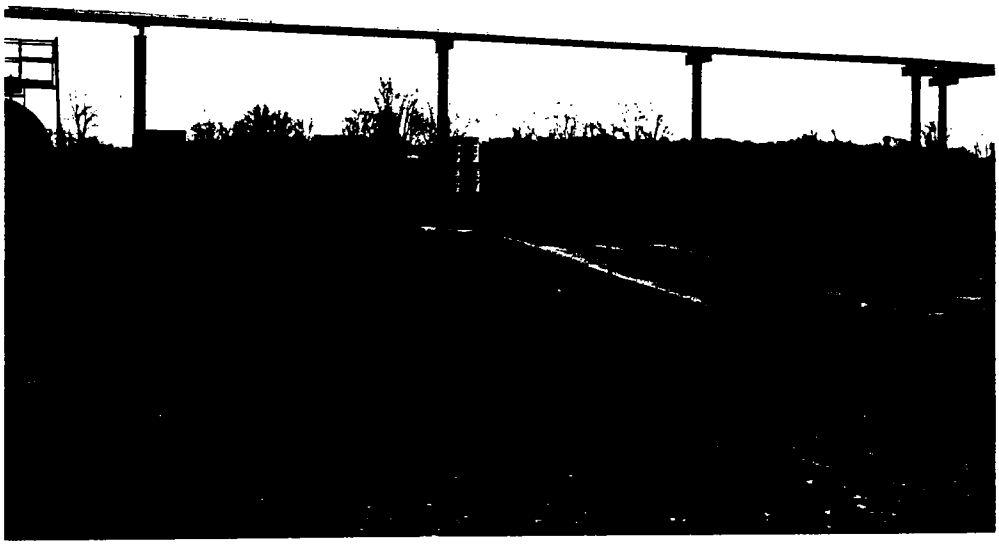


Figure 6

SECTION B

FACILITY DESCRIPTION

B-1 General Description [40 CFR 122.25(a)(1)]

SWS Silicones Corporation is located 4 miles south of Tecumseh, Michigan and 8 miles north of Adrian, Michigan. The street address is:

SWS Silicones Corporation
3901 Sutton Road
Lenawee County
Adrian, Michigan 49221

The mailing address is:

SWS Silicones Corporation
Adrian, Michigan 49221-9355

SWS Silicones Corporation manufactures a variety of silicone products including fluids, emulsions, sealants, antifoams, and rubbers. The company's product line includes several hundred different formulations, many of which are specialty chemicals for specific customers. The plant operates 24 hours per day, 7 days per week and employs approximately 250 people. An additional 150 people are employed at the neighboring Tech Center.

A variety of processes including chemical reaction, distillation, hydrolysis, mixing and polymerization are used. Company operations are divided into four basic manufacturing areas. The polymers area produces various fluids and gums including silicone oils, solvent blends, and some plant intermediates including OH fluids. The Hi-Bay

area produces band ply lubes, outside tire paints, antifoams, emulsifiers, and printing fluids along with plant intermediates for the polymers and RTV Areas. The RTV area produces room temperature vulcanization compounds and silicone greases. The HCR area produces heat curable rubber bases and compounds. An HCR base consists of a fluid or gum mixed with various fumed silicas, fillers, and OH fluids. An HCR compound consists of a base plus a color additive and a catalyst which results in a solid. The resulting solid may be extruded to customer order.

Hazardous wastes are generated by tank cleaning, byproducts generations, spent solvents from production, laboratory solvents, off-specification products and fume recovery.

The contact and party responsible for the hazardous waste management activities at SWS Silicones is:

Gordon C. Philbrook
Environmental Control Coordinator
(517) 263-5711

B-2 Topographic Map [40 CFR 122.25(a)(19)]

Figure 7A is a topographic (7.5 minutes series) map of the Tecumseh-South Quadrangle, Michigan-Lenawee County. This is enclosed in the back pocket. Also, included is Figure 7B which is an aerial photograph of our total property.

Figure 8 is a portion of a map from the 1974 Land Use Atlas of Lenawee County, Michigan by the Region II Planning Commission.

Figure 9 and 10 are topographic maps showing 5-ft. contour intervals of elevation and the 100-year floodplain area, respectively. These maps also show River Raisin.

Continued from page 4.

V. FACILITY DRAWING *(see page 4)*

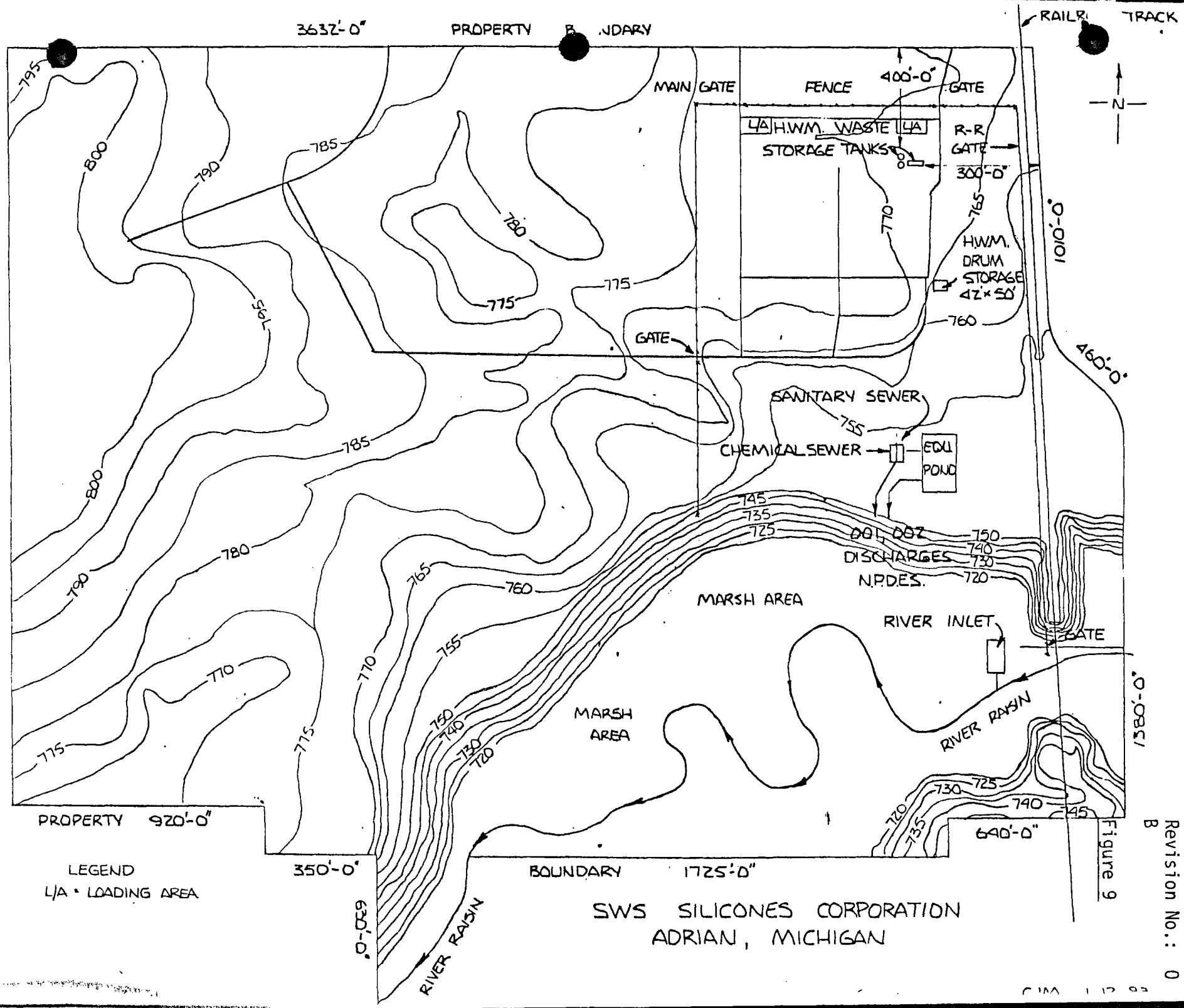


Figure 9

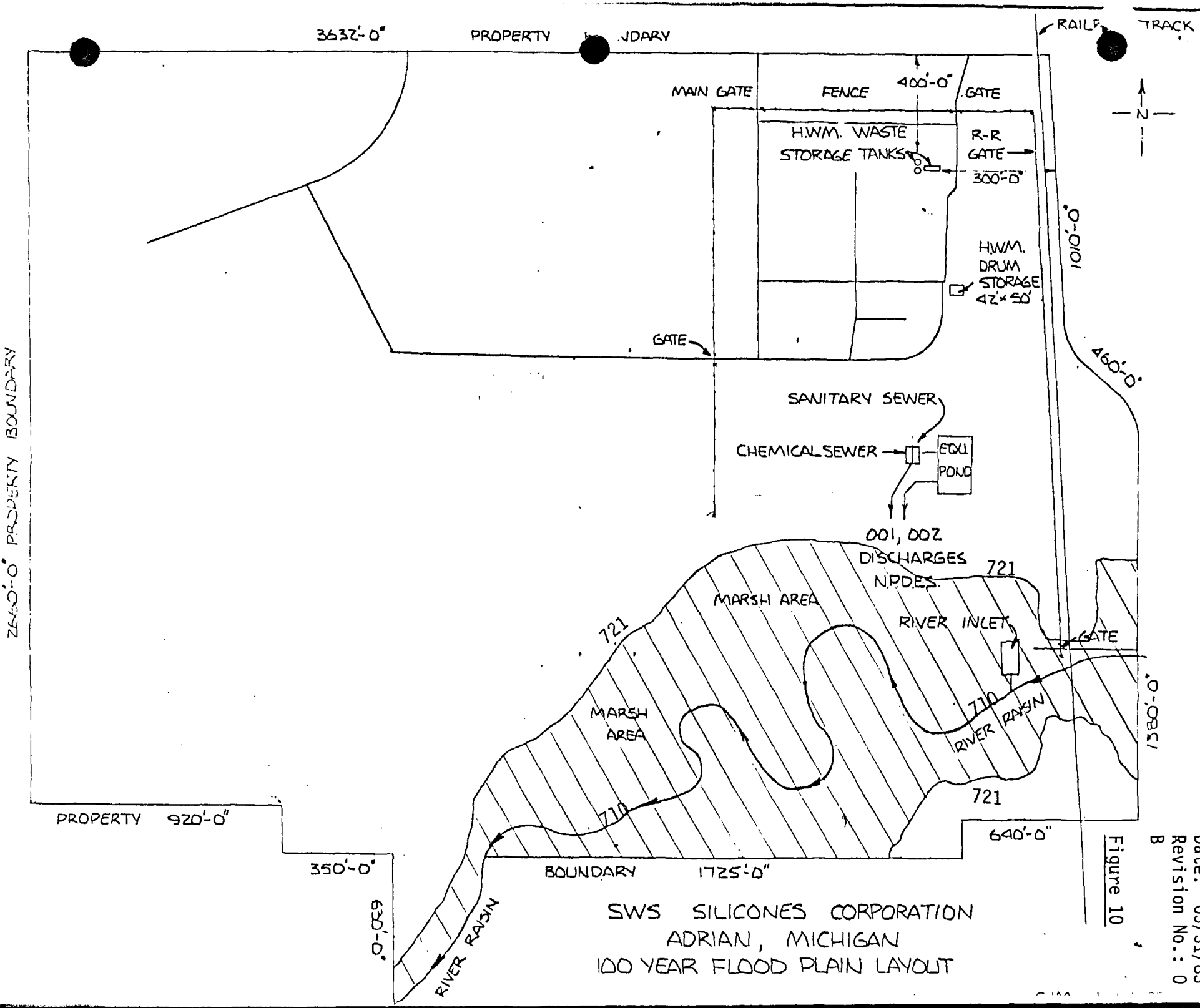
SWS SILICONES CORPORATION
ADRIAN, MICHIGAN

Date: 05/31/83
Revision No.: 0
B

Form Approved OMB No. 158-S80004

Continued from page 4.

V. FACILITY DRAWING (see page 4)



SWS SILICONES CORPORATION
ADRIAN, MICHIGAN
100 YEAR FLOOD PLAIN LAYOUT

Figure 10

Date: 05/31/83
Revision No.: 0
B

Form A, approved OMB No. 158-S80003

Figure 11 is a topographic map of the manufacturing plant area, showing buildings, waste storage areas and other details.

Land Uses: Figure 8 shows surrounding land-use areas. Woods or brush lie south of the facility; farmsteads occupy the north, east and south areas. The west areas have single-family homes. There are no other industries within 1,000 ft. surrounding our facility.

Hazardous Waste Management Facility Boundary: The hazardous waste management facilities consist of the drum storage area (800 55-gallon drums), two 15,000-gallon storage tanks and one 25,000-gallon storage tank (Figures 3, 4, 5, 6 and 11). Figure 10 shows that the location of hazardous waste facilities is outside the 100-year floodplain.

Wind Rose: Figure 12 shows an annual wind rose of meteorological data collected from January 1960 through December 1964 at the Detroit Metropolitan Wayne County Airport. (Detroit is about 60 miles northeast of Adrian). Prevailing winds in the vicinity of the Lenawee County Airport are primarily from the southwest. This condition is similar to that experienced by many airports in southeastern Michigan where wind data is collected and tabulated.

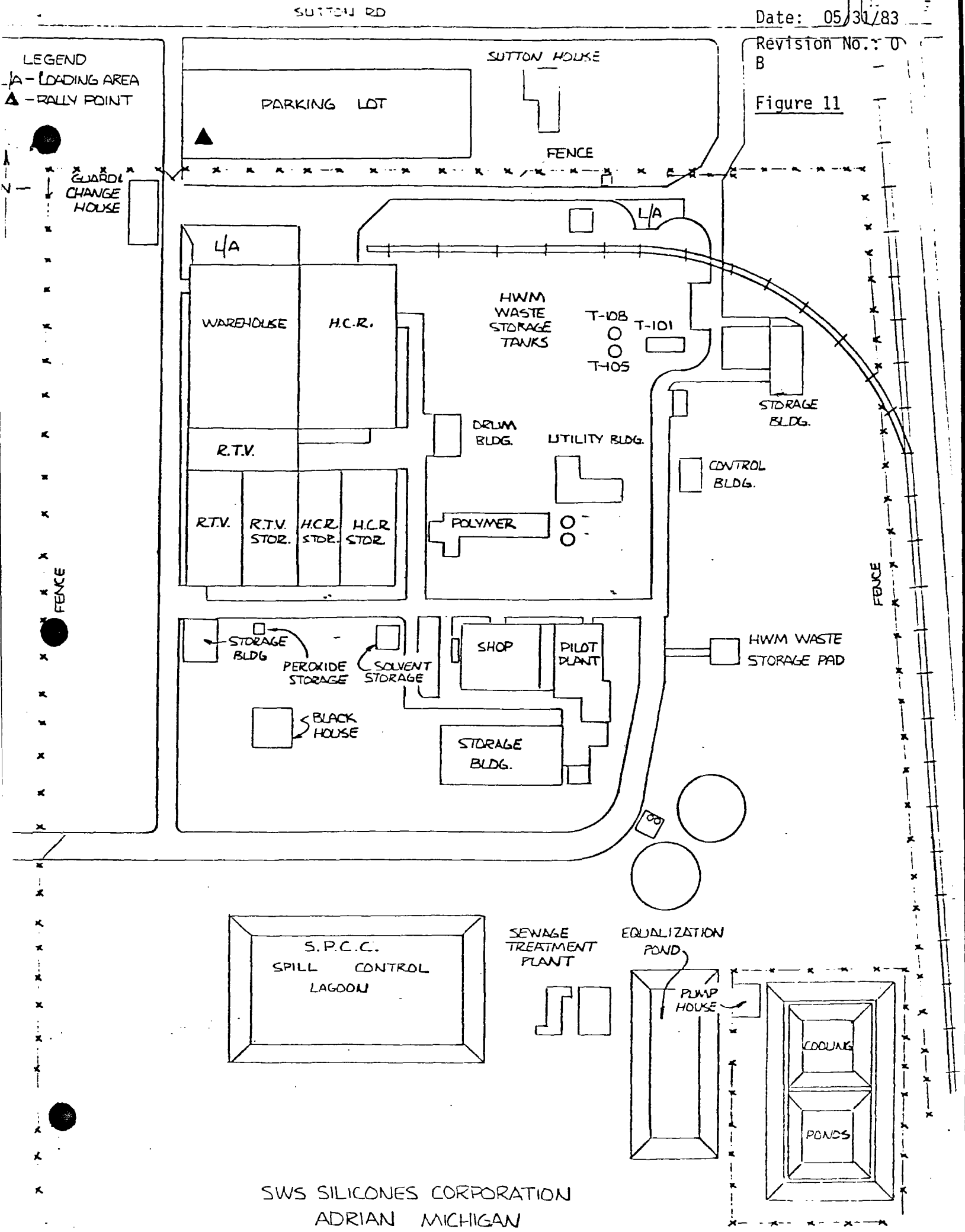
For purposes of this report, wind data collected at the Detroit Metropolitan Wayne County Airport will be used for determining wind coverage for various alternate runway alignments. Figure 12 charts the historic percentages of winds by direction and velocity for both Visual Flight Rule conditions and Instrument Flight Rule conditions.

Temperature and Precipation: Weather conditions have been recorded in Adrian by the National Oceanic and Atmospheric Administration for over 45 years.

Date: 05/31/83

Revision No.: 0
B

Figure 11



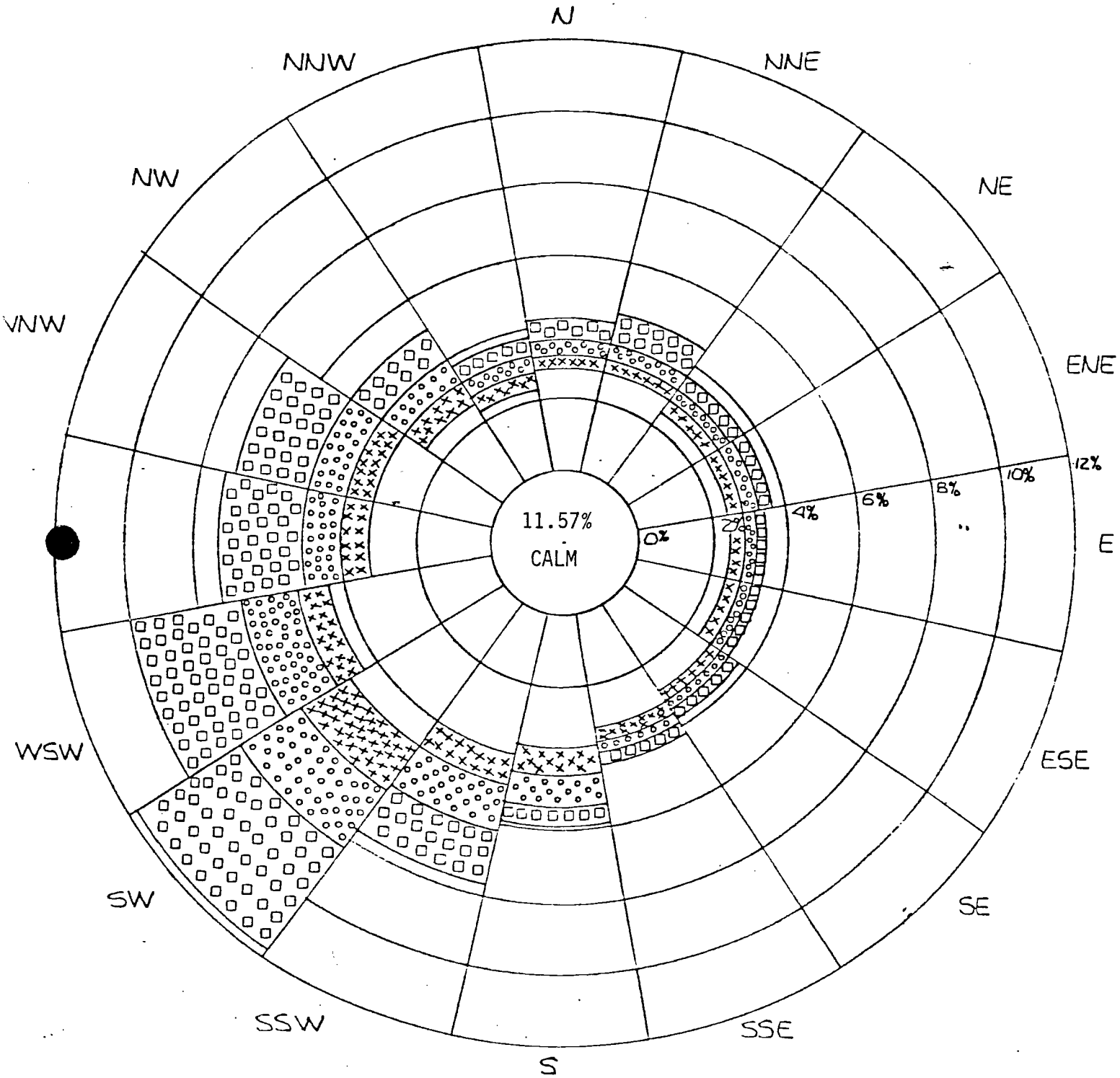
SWS SILICONES CORPORATION
ADRIAN MICHIGAN

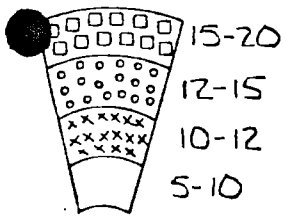
. DETROIT MICH.

11.57% CALM

Date: 05/31/83
Revision No.: 0
B

Figure 12





WIND ROSE

Temperature

Average temperature -

January	24.3°F
June	68.8°F

Mean maximum temperature - hottest month -

July	85.9°F

Mean minimum temperature - coldest month -

January & February	16.1°F

Precipitation

Average annual precipitation -	32.90 inches
Average annual snowfall -	30.50 inches

Access Control: The manufacturing plant area is surrounded by a fence on three sides and by the River Raisin on the south side. A guard house is situated at the main entrance to the plant. The truck entrance gate (approximately 800 feet east of the main entrance) is remotely controlled by the guard at the main gate. Employees must show identification to obtain access; visitors must sign in and out. Access control is discussed in further detail in Section F-1a.

Injection and Withdrawal Wells: The site has no injection wells. There are three withdrawal wells located near the Technical Center (northwest corner of our property). Refer to Figure 2. These wells are used to supply the boiler house water, drinking water, sanitary systems, and for manufactured products. There are approximately 26 drinking wells at residences within 1,000 feet of the plant property.

Buildings; Storage Areas; Other Structures: Figure 11 shows buildings and structures in the manufacturing area, as well as the hazardous waste storage areas.

Recreation Areas: Not applicable.

Runoff Control Systems: Figure 13 shows the plant's storm drain system and the chemical sewer system. The storm waters are collected in ditches and underground pipes which go to the S.P.C.C. (Spill Prevention and Countermeasure Control) lagoon. This water is not contaminated. The chemical sewer waters are collected in ditches and underground pipes which go to the plant chemical sewer treatment system (covered by N.P.D.E.S. permit). Runoff from the hazardous waste storage pad goes to the chemical sewer system. Runoff from the hazardous storage tank area goes to the storm waters system. Section F-4b discusses runoff control in greater detail.

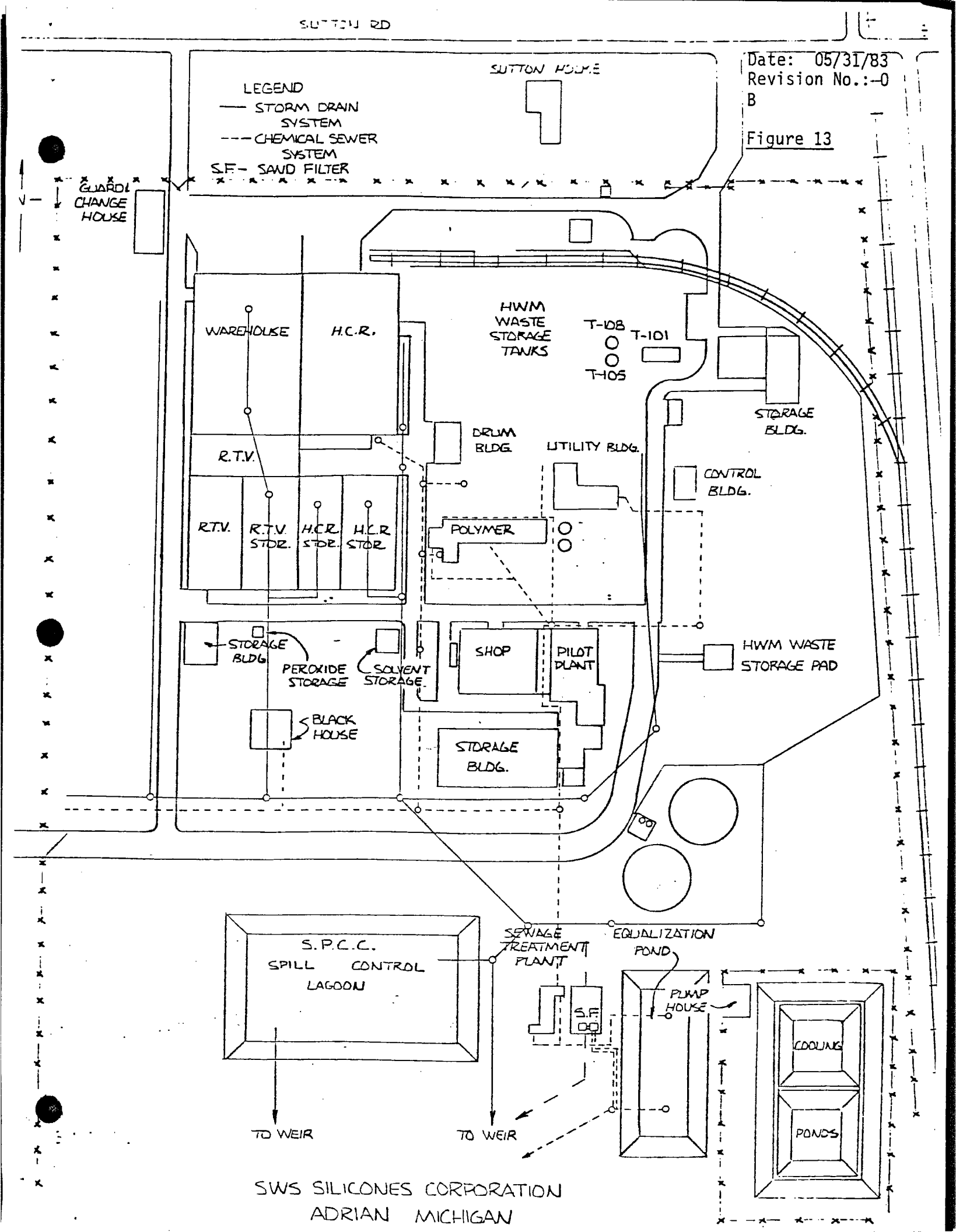
Access and Internal Roads: Figure 14 shows the roads within the plant area.

Storm, Sanitary and Process Sewers: The three sewer systems are independent. The storm waters drain to the S.P.C.C. pond. The chemical sewer system goes to the N.P.D.E.S. treatment system. The sanitary sewer system goes to a packaged activated sludge treatment plant. Please refer to Figure 13.

Loading and Unloading Areas: Concrete loading areas are provided on the north side of the warehouse for drummed hazardous waste. The concrete and paved loading area for bulk hazardous waste is located north of the hazardous storage tank area. Refer to Figure 14.

Fire Control Facilities: There are 9 fire hydrants and 5 hose houses located throughout the facility. See Appendix B-24.

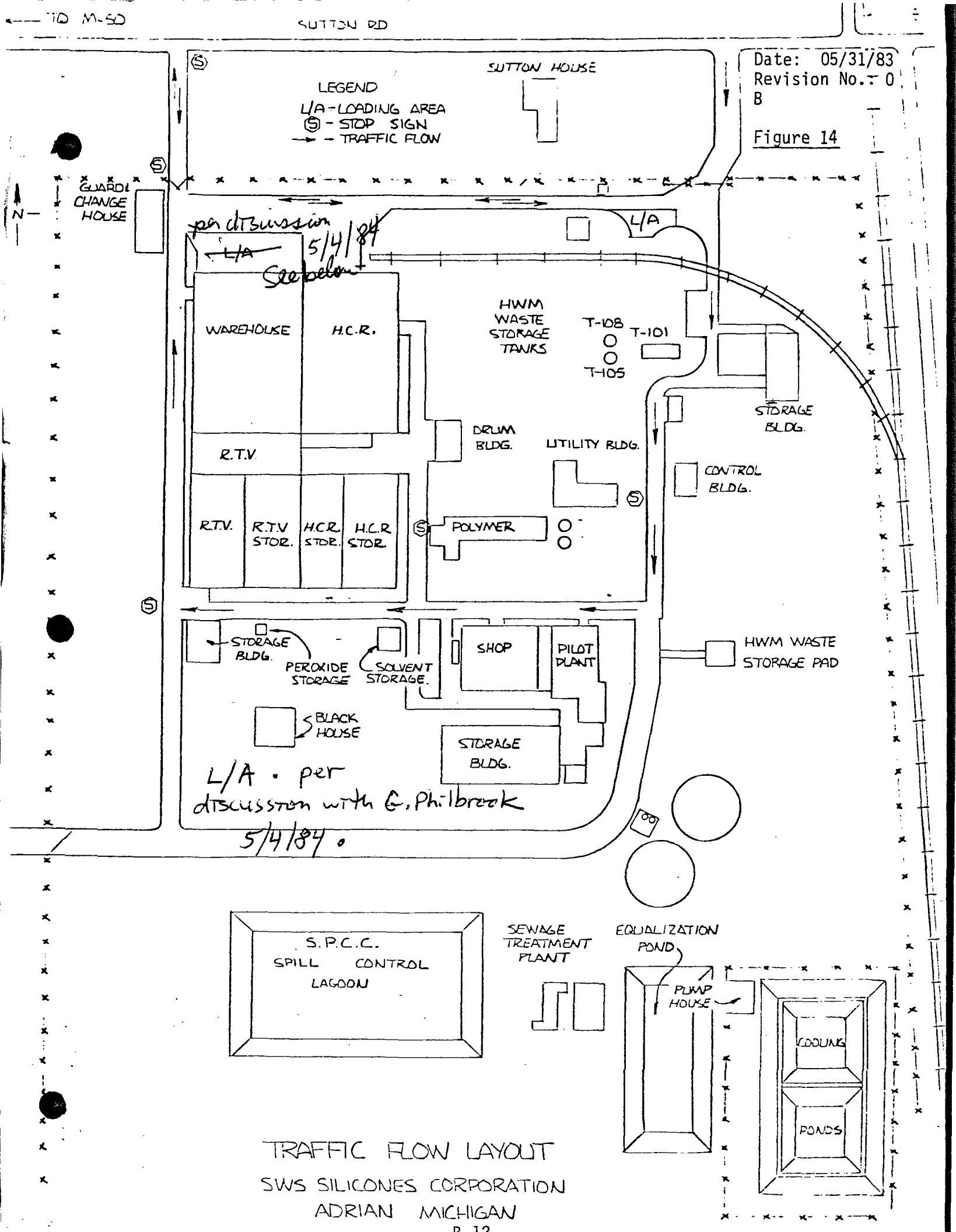
Surface Waters: The only surface water within 1,000 feet of the facility is the River Raisin shown in Figures 7, 8, 9 and 10.



Date: 05/31/83
Revision No.:-0
B

Figure 13

SWS SILICONES CORPORATION
ADRIAN MICHIGAN



TRAFFIC FLOW LAYOUT

SWS SILICONES CORPORATION

ADRIAN MICHIGAN

Flood Control/Drainage Barriers: General drainage on the property is southeasterly toward the River Raisin. All hazardous waste management facilities are located outside the floodplain.

B-3 Location Information [40 CFR 122.25(a)(11) and 264.18]

B-3a Seismic Standard

Because this is an existing rather than a new facility, the seismic standard does not apply.

B-3b Floodplain Standard

SWS Silicones Corporation facility is located west and north of the River Raisin (approximate elevation is 710 feet MSL). The 100 year floodplain elevation at the facility is 721 feet mean sea level (MSL). Figure 10 shows the 100-year floodplain elevation. Figure 15 and 16 are copies of letters from the Michigan Department of Natural Resources (MDNR) confirming the floodplain elevation. The manufacturing plant area is in the range of 760-775 feet elevation.

B-3b(1) Demonstration of Compliance

Our hazardous waste facilities are not in the 100-year floodplain.

B-3b(1)(a) Flood Proofing and Flood Protection Measures

Not applicable.

B-3b(1)(b) Flood Plan

Not applicable.

B-3b(2) Plan for Future Compliance

Not applicable.

B-4 Traffic Patterns [40 CFR 122.25(a)(10)]

Figure 14 shows the onsite traffic pattern. The main road and

parking lots are two-way. Most cars are confined to the parking lot and entrance road. Within the plant, traffic vehicles consist mostly of fork trucks and trucks. An average of 1 to 2 trucks per week enter the plant. About 25 fork trucks are used throughout the plant on a constant basis.

Traffic Control: Traffic is controlled by stop signs and speed limit signs. Refer to Figure 14.

Access Road Surfacing: All roads are constructed of 4 inches of crushed limestone and 4 inches of asphaltic concrete (blacktop).

Load-Bearing Capacity: All roads are designed for a capacity of 200 "daily equivalent 18,000 lbs. per single axle load applications." The empty flat-bed trucks or vans used to remove drum wastes from the loading area have a curb weight of about 27,000 lbs. Assuming removal of 76 drums, the total truck weight is about 69,000 lbs. The bulk tanker trucks used to remove inventory from the tank storage area weigh about 75,000 lbs. total, assuming approximately 4,500-gallon removal of the heavier solvent. Therefore, the facility roads can bear the weight of the trucks, because the weight per axle of the heaviest truck (5 axles) is less than 18,000 lb. per axle, and we are well below the 40 trucks per day allowed.

Traffic Control Signals: None.

Date: 05/31/83
Revision No.: 0
B

Figure 15

STATE OF MICHIGAN

ATURAL RESOURCES COMMISSION
ACOB A. HOEFER
E. M. LAITALA
HILARY F SNELL
PAUL H WENDLER
HARRY H WHITELEY
JOAN L. WOLFE
CHARLES G YOUNGLOVE

WILLIAM G. MILLIKEN, Governor

DEPARTMENT OF NATURAL RESOURCES

STEVENS T. MASON BUILDING
BOX 30028
LANSING, MI 48909
HOWARD A. TANNER, Director

March 25, 1982

Mr. Gordon C. Philbrook
Environmental Control Coordinator
SWS Silicones Corporation
Adrian, Michigan 49221

Re: Service No. 8203 119
Flood Hazard Determination
River Raisin
NE¼ Section 21, T6S, R4E
Raisin Township
Lenawee County

Dear Mr. Philbrook:

This is in response to your March 19, 1982 letter and topographic map requesting flood hazard data for your refinery facility near the River Raisin.

Available information, including flood stage and discharge records from the U.S.G.S. stream gaging station located between the Penn Central Railroad and Raisin Center Highway, indicates that the 100-year flood elevation for the River Raisin at this location is approximately 721, U.S.G.S. datum.

Based upon the topographic information provided, it appears that the plant operating area is above any expected flooding from the River Raisin.

If we can be of further assistance, please feel free to contact us.

Sincerely,

Ted L. Collins

Ted L. Collins
Flood Hazard Regulation
Water Management Division

TLC:mks

MAR 29 1982

Figure 16

January 20, 1983

Mr. Allen DeBus
U. S. Environmental Protection Agency
Region V
111 West Jackson Boulevard
Chicago, Illinois 60604

Re: Service No. 8203 119
River Raisin
NE¼, Section 21, T 6 S, R 4 E
Raisin Township
Lenawee County

Dear Mr. DeBus:

I have been asked by Mr. Philbrook of SWS Silicones Corp. to explain our flood estimate of 721, USGS datum at the above location. Enclosed is a copy of the U.S.G.S. gage data for that area.

From the gage data, note the gage datum is elevation 707.0. The flood of record occurred in June, 1968 with a discharge of 2,900 cfs and a resulting stage of 12.66 feet (elevation 719.66). The gage is directly across the river from SWS Silicones and all data are directly applicable.

The 100-year frequency flood discharge has been calculated by this office at 4,090 cfs. We estimate this would produce a stage of approximately 14 feet, or elevation 721.0. We know from other areas on the River Raisin that flood discharges for the 100-year flood raise stages by about 9 to 10 feet over normal water elevations. This agrees very closely with known water surface elevations at this site of zero flow stage equal to 709.1 and normal flow stage equal to 711.7.

Since SWS Silicones' plants are located at elevations 767 and 772, from 46 to 51 feet above expected flood stage, they are obviously well above any expected flood levels. To require their company to perform a detailed analysis of the riverine system would be very expensive and produce

JAN 24 1983

results refining the flood elevation by only a matter of tenths of a foot.

Should you have any further questions in this regard, please feel free to contact me (517/373-3930).

Sincerely,

Wallace A. Wilson, P.E., Chief
Flood Hazard Regulation
Water Management Division

WAW:cjs

Enclosure: Gage record

cc: G. C. Philbrook

9-197
(Nov. 1.84)

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY
WATER RESOURCES DIVISION

File No. { Washington 4-1757.
Field .....

Description Prepared 9-12-56
(Date)
by A. J. Quigley
Revised by D. E. Bower 11-19-62

Description of Gaging Station on River Raisin near Tecumseh, Michigan

(Prepare description in accordance with outline on back of Form 9-277. Plot cross section to scale. Use Form 9-213A or 9-213E for cross section. Use second page of this form for sketch if room is available, otherwise use Form 9-213C or 9-213H. Initial and date all sheets.)

Location.--Lat 41°56'35", long 83°56'45", in NE¼ sec. 21, T. 6 S., R. 4 E., on right bank, 12 ft downstream from bridge on N. Raisin Cen. Highway, and 4.5 miles south of Tecumseh.

To reach gage from - Tecumseh - At signal light at W. Chicago and South Evans, go south on South Evans 4.5 miles to bridge and gage. (South Evans changes to N. Raisin Cen. Road at city limits).

Established.--Sept. 7, 1956 by A. J. Quigley.

Drainage area.--266 square miles.

Gage.--An F & P digital and a Stevens A 35 recorder in concrete block house and well. Outside gage is wire weight gage located on downstream side of bridge which is 12 ft upstream from gage house. Inside gage is enamel staff gage plate reading from 0 to 16.86 and fastened to downstream wall of well. Reference gage is electric tape gage set on instrument shelf to left of recorder. Well is equipped with three 2-inch intakes the 2 bottom ones of which are connected by 3-way valves to 3 cu ft tank for flushing.

Gage elevations of pertinent parts are as follows:

Bottom of well----------	0 feet
Lower intake, river end------	.6 "
Lower intake, well end-------	1.2 "
Middle intake, river end-----	1.9 "
Middle intake, well end------	2.2 "
Upper intake, river end------	2.7 "
Upper intake, well end-------	3.2 "
Sub-floor----------	7.3 "
Floor of House----------	14.1 "
Instrument shelf----------	17.00"
ETG index----------	17.008"
Check bar----------	17.37"

Date: 05/31/83
Revision No: 0
B

Figure 16
(Page 3)

Datum of gage is 707.0 feet above mean sea level, datum of 1929.

History.--Recording gage started on River Raisin near Adrian about 5.5 miles downstream in October 1953 and has been operating continuously since.

A Stevens recorder operated in present house until Nov. 15, 1962 when the digital recorder was installed.

FEB 5 1983

Channel and control.--Channel and streambed are of mud, sand and small gravel. Main channel is confined to small valley about 1000 ft wide which is generally about 40 ft below surrounding countryside. River wanders throughout valley floor. Both banks are fairly low and covered with small trees and brush. Overflow starts on right bank at about gage height 7 ft. Channel is straight for 50 feet above and 300 feet below station.

Low-water control is-gravel riffle 200 ft below gage and is believed to be fairly permanent.

High-water control is channel and extreme high water is probably railroad bridge abutments 225 ft below gage.

Discharge measurements.--Low-water measurements can be made by wading on control or at almost any section from bridge to 300 ft above bridge up to a stage of about 5.5 ft. High-water measurements can be made from highway bridge 12 ft above gage. Both handrails of bridge are marked with single paint stripe every 5 feet to 40 feet and then every 2 feet to 90 feet. Numerals are painted next to stripe every 10 feet. Initial point is at right bridge abutment.

Floods.--A discharge of 1200 cfs occurred on Mar. 7, 1959 at a gage height of 10.33 ft.

Point of zero flow.--2.1 ft Sept. 10, 1956, probably shifting.

Winter flow.--Stage discharge relation probably affected by ice during extreme cold weather.

Regulation and diversion.--Diurnal fluctuation caused by municipal power-plant at Tecumseh 5.5 miles upstream. A number of other small dams further upstream may have slight effect upon flow.

Accuracy.--Conditions for obtaining gage-height record are excellent. Conditions for measuring discharge are excellent at low stages and fair at high stages due to varying angles.

Cooperation.--City of Adrian, State of Michigan Water Resources Commission.

Sket h.--

Photographs.--In district files.

Reference marks.--RM 1 is chiseled cross on 19th rivet below bridge nameplate in downstream row of rivets at right downstream end of bridge. Elevation 16.116 ft., gage datum.

RM 2 is chiseled cross in I beam encased in right downstream bridge abutment at right edge of gage house walkway. Elevation 14.066 ft., gage datum.

RM 3 is ½" machine bolt in 18" diameter tree 5 ft north of gage house. Bolt is 18" above ground in north side of tree. Elevation 11.535 ft., gage datum.

Date: 05/31/83
Revision No: 0
B
Figure 16
(Page 4)

SECTION C

WASTE CHARACTERISTICS

C-1 Chemical and Physical Analyses [40 CFR 122.25(a)(2)]

List of Hazardous Wastes Stored at Facility: Hazardous wastes are stored at this facility in 55-gallon drum containers, two 15,000-gallon storage tanks and one 25,000-gallon storage tank. Current inventory consists of approximately

90 containers (55-gallon drums)
One 25,000-gallon tank with 8,000 gal.
One 15,000-gallon tank with 1,500 gal.
One 15,000-gallon tank with 400 gal.

Table 1 lists the hazardous wastes stored at the SWS Silicones Corporation manufacturing plant, their associated hazard classification, and the basis for the hazard classification. In most cases, the classification is based on known characteristics of the wastes, such as ignitability and corrosivity. Figures 17 through 32 show the chemical waste characterizations. None of the wastes are incompatible.

TABLE 1

WASTES, ASSOCIATED HAZARDS, AND BASIS FOR HAZARD DESIGNATION

Waste	Hazard	Basis for hazard designation
Drums		
Mixed Alcohol	Ignitable Toxic	Tested flash point 68 - 77°F. Listed waste F003.
Hydrocarbon, Extremely Flammable	Ignitable	Tested flash point 25 - 34°F.
Hydrocarbon, Flammable	Ignitable Toxic	Tested flash point 68 - 77°F. Listed waste F003.
Hydrocarbon, Combustible	Ignitable	Tested flash point 104 - 113°F.
Flammable, Tech Center	Ignitable Toxic	Tested flash point 68 - 77°F. Listed waste F003.
Solvent Sump	Ignitable	Tested flash point 104 - 113°F.
Mineral Spirits	Ignitable	Tested flash point 104 - 113°F.
Polychlorohydrocarbon	Toxic	Listed waste F002.
Non-Combustible, Tech Center	Toxic	Listed waste F002.
ES-40 Lites	Ignitable	Tested flash point 68 - 77°F.
Cyclizer	Corrosive Ignitable	Has pH of >13. Tested flash point 122 - 131°F.
SWS-960	Ignitable	Tested flash point 59 - 68°F.
HCR Vent	Ignitable	Tested flash point 80 - 86°F.
Tanks		
Bulk Ignitables	Ignitable Toxic	Tested flash point 25 - 113°F. Listed waste F002, F003.
Bulk Polychlorohydrocarbon	Toxic	Listed waste F002.
Bulk Mineral Spirits	Ignitable	Tested flash point 104 - 113°F.

ATTACHMENT NO. 1

Date: 05/31/83
Revision No.: 0
C

CHEMICAL WASTE CHARACTERIZATION

Figure 17

PLANT LOCATION

SWS Silicones Corporation Adrian, MI

DESCRIPTION OF WASTE

1 Mixed Alcohol Waste

VOLUME	FREQUENCY	PACKING
4,000 gallons	PER MONTH / (PER YEAR) / ONE TIME	(IN DRUMS) / IN BULK

CIRCLE APPROPRIATE BLOCKS

PHYSICAL STATE @ 70°F: SOLID / (LIQUID) / SEMISOLID	VISCOSITY @ 70°F: (LOW) / MEDIUM / HIGH
LAYERING: (NONE) / BILAYERED / MULTILAYERED	% LAYERING BY VOLUME AT INFINITE SETTLING: ___ % TOP, ___ %, ___, ___ %, ___ % BOTTOM
SUSPENDED SOLIDS: (<5%) / 5-20% / >20% / (WEIGHT) OR VOLUME	DISSOLVED SOLIDS BY WEIGHT: (<5%) / 5-20% / >20%
SPECIFIC GRAVITY @ 60°F: <0.8 / (0.8-1.0) / 1.0-1.2 / 1.2-1.4 / 1.4-1.7 / >1.7	FLASH POINT (OC): (<80°F) / 80-150°F / >150°F / NONE
THOUSANDS OF BTU'S / LB.: <1 / 1-6 / 6-9 / 9-12 / 12-16 / (16-20)	ORGANICALLY BOUND CHLORINE (WT. %): (NONE) / TRACE / 1-10% / 10-30% / >30%
ORGANICALLY BOUND SULFUR (WT. %): (NONE) / TRACE / 0.5-5% % / >5%	pH: 1-4 / 4-7 / (7) / 7-10 / 10-13
TOXICITY: HIGH / MEDIUM / (LOW) / UNKNOWN	OTHER INFORMATION:

PLEASE IDENTIFY AND QUANTIFY ALL KNOWN COMPONENTS

VOLATILE ORGANICS	8-100 % Isopropanol	0-87 % Methanol	%	%
	%	%	%	%
NON VOLATILE ORGANICS	%	%	%	%
ACIDS OR ALKALIS	%	%	%	%
SALTS	%	%	%	%
METALLICS	%	%	%	%
CYANIDES · PESTICIDES · CARCINOGENS · OTHER HAZARDOUS/ TOXICS	%	%	%	%
	%	%	%	%
OTHER	Trace % Silicones	%	%	%

% WATER 0-20	Odor:	Transportation Method Used Truck
CORROSIVENESS: None	Reactivity None	Potential for: A. Bioaccumulation B. Persistence

Basis for Toxicity Evaluation

1 Inhalation
1 Dermal
2 Oral

Approved by [signature]

ATTACHMENT NO. 1

CHEMICAL WASTE CHARACTERIZATION

Date: 05/31/83
Revision No.: 0
C

Figure 18

PLANT LOCATION
SWS Silicones Corporation Adrian, MI

DESCRIPTION OF WASTE

2 Hydrocarbon Waste - Extremely Flammable

VOLUME	FREQUENCY	PACKING
5,000 gallons	PER MONTH / (PER YEAR) / ONE TIME	(IN DRUMS) / IN BULK

CIRCLE APPROPRIATE BLOCKS

PHYSICAL STATE @ 70°F: SOLID / (LIQUID) / SEMISOLID	VISCOSITY @ 70°F: (LOW) / MEDIUM / HIGH
LAYERING: (NONE) / BILAYERED / MULTILAYERED	% LAYERING BY VOLUME AT INFINITE SETTLING: % TOP ___ % ___ % ___ % ___ % BOTTO
SUSPENDED SOLIDS: (<5%) / 5-20% / >20% / (WEIGHT) OR VOLUME	DISSOLVED SOLIDS BY WEIGHT: (<5%) / 5-20% / >20%
SPECIFIC GRAVITY @ 60°F: <0.8 / (0.8-1.0) / 1.0-1.2 / 1.2-1.4 / 1.4-1.7 / >1.7	FLASH POINT (OC): (<80°F) / 80-150°F / >150°F / NONE
THOUSANDS OF BTU'S / LB.: <1 / 1-5 / 5-9 / 9-12 / 12-16 / (16-20)	ORGANICALLY BOUND CHLORINE (WT. %): (NONE) / TRACE / 1-10% / 10-30% / >30%
ORGANICALLY BOUND SULFUR (WT. %): (NONE) / TRACE / 0.5-5% % / >5%	pH: 1-4 / 4-7 / (7) / 7-10 / 10-13
TOXICITY*: HIGH / MEDIUM / (LOW) / UNKNOWN	OTHER INFORMATION:

PLEASE IDENTIFY AND QUANTIFY ALL KNOWN COMPONENTS

VOLATILE ORGANICS	%	5-8% Heptane	%	92% Cyclohexane
	%	%	%	%
NON VOLATILE ORGANICS	%	%	%	%
ACIDS OR ALKALIS	%	%	%	%
SALTS	%	%	%	%
METALLICS	%	%	%	%
CYANIDES - PESTICIDES - CARCINOGENS - OTHER HAZARDOUS/ TOXICS	%	%	%	%
	%	%	%	%
OTHER	Trace% Silicones	%	%	%
% WATER	Odor:	Transportation Method Used	Truck	
CORROSIVENESS: None	Reactivity None	Potential for: A. Bioaccumulation B. Persistence		

*Basis for Toxicity Evaluation

1 Inhalation
1 Dermal
1 Oral

Approved by

ATTACHMENT NO. 1

Date: 05/31/83
Revision No.: 0
C

CHEMICAL WASTE CHARACTERIZATION

Figure 19

PLANT LOCATION

SWS Silicones Corporation Adrian, MI

DESCRIPTION OF WASTE

3 Hydrocarbon Waste - Flammable

VOLUME	FREQUENCY	PACKING
5,000 gallons	PER MONTH / (PER YEAR) / ONE TIME	(IN DRUMS) / IN BULK

CIRCLE APPROPRIATE BLOCKS

PHYSICAL STATE @ 70°F: SOLID / (LIQUID) / SEMISOLID	VISCOSITY @ 70°F: (LOW) / MEDIUM / HIGH
LAYERING: (NONE) / BILAYERED / MULTILAYERED	% LAYERING BY VOLUME AT INFINITE SETTLING: % TOP ___ % ___ % ___ % BOTTOM
SUSPENDED SOLIDS: (<5%) / 5-20% / >20% / (WEIGHT) OR VOLUME	DISSOLVED SOLIDS BY WEIGHT: (<5%) / 5-20% / >20%
SPECIFIC GRAVITY @ 60°F: <0.8 / (0.8-1.0) / 1.0-1.2 / 1.2-1.4 / 1.4-1.7 / >1.7	FLASH POINT (OC): (<80°F) / 80-160°F / >160°F / NONE
THOUSANDS OF BTU'S / LB.: <1 / 1-6 / 6-9 / 9-12 / 12-16 / (16-20)	ORGANICALLY BOUND CHLORINE (WT. %): (NONE) / TRACE / 1-10% / 10-30% / >30%
ORGANICALLY BOUND SULFUR (WT. %): (NONE) / TRACE / 0.5-5% % / >5%	pH: 1-4 / 4-7 / (7) / 7-10 / 10-13
TOXICITY: HIGH / (MEDIUM) / LOW / UNKNOWN	OTHER INFORMATION:

PLEASE IDENTIFY AND QUANTIFY ALL KNOWN COMPONENTS

VOLATILE ORGANICS	0-80% Xylene	50-60% Special Naphtha 66/3	40-50% Hi Flash VM&P Naphtha	%
	%	%	%	%
NON VOLATILE ORGANICS	%	%	%	%
ACIDS OR ALKALIS	%	%	%	%
SALTS	%	%	%	%
METALLICS	%	%	%	%
CYANIDES - PESTICIDES - CARCINOGENS - OTHER HAZARDOUS/ TOXICS	%	%	%	%
	%	%	%	%
OTHER	Trace % Silicones	%	%	%

% WATER	Odor:	Transportation Method Used: Truck
CORROSIVENESS: None	Reactivity: None	Potential for: A. Bioaccumulation B. Persistence

*Basis for Toxicity Evaluation
2 Inhalation
1 Dermal
1 Oral

Approved by [signature]

ATTACHMENT NO. 1

CHEMICAL WASTE CHARACTERIZATION

Date: 05/31/83
Revision No.: 0
C

Figure 20

PLANT LOCATION
SWS Silicones Corporation Adrian, MI

DESCRIPTION OF WASTE

4 Hydrocarbon Waste - Combustible

VOLUME	FREQUENCY	PACKING
7,000 gallons	PER MONTH / PER YEAR / ONE TIME	IN DRUMS / IN BULK

CIRCLE APPROPRIATE BLOCKS

PHYSICAL STATE @ 70°F: SOLID / LIQUID / SEMISOLID	VISCOSITY @ 70°F: LOW / MEDIUM / HIGH
LAYERING: NONE / BILAYERED / MULTILAYERED	% LAYERING BY VOLUME AT INFINITE SETTLING: % TOP ___ % ___ % ___ % BOTTO
SUSPENDED SOLIDS: <5% / 5-20% / >20% / WEIGHT OR VOLUME	DISSOLVED SOLIDS BY WEIGHT: <5% / 5-20% / >20%
SPECIFIC GRAVITY @ 60°F: <0.8 / 0.8-1.0 / 1.0-1.2 / 1.2-1.4 / 1.4-1.7 / >1.7	FLASH POINT (OC): <80°F / 80-150°F / >150°F / NONE
THOUSANDS OF BTU'S / LB.: <1 / 1-6 / 6-9 / 9-12 / 12-16 / 16-20	ORGANICALLY BOUND CHLORINE (WT. %): NONE / TRACE / 1-10% / 10-30% / >30%
ORGANICALLY BOUND SULFUR (WT. %): NONE / TRACE / 0.5-5% % / >5%	pH: 1-4 / 4-7 / 7 / 7-10 / 10-13
TOXICITY*: HIGH / MEDIUM / LOW / UNKNOWN	OTHER INFORMATION:

PLEASE IDENTIFY AND QUANTIFY ALL KNOWN COMPONENTS

VOLATILE ORGANICS	21-100% Kwik Dry	60-100% Mineral Spirits	%	13-100% Solvent 140
	% Naphtha	%	%	%
NON VOLATILE ORGANICS	%	%	%	%
ACIDS OR ALKALIS	%	%	%	%
SALTS	%	%	%	%
METALLICS	%	%	%	%
CYANIDES · PESTICIDES · CARCINOGENS · OTHER HAZARDOUS/ TOXICS	%	%	%	%
	%	%	%	%
OTHER	Trace % Silicones	%	%	%
% WATER	Odor:	Transportation Method Used		Truck
CORROSIVENESS: None	Reactivity None	Potential for: A. Bioaccumulation B. Persistence		

*Basis for Toxicity Evaluation
2 Inhalation
1 Dermal
1 Oral

Approved by _____

ATTACHMENT NO. 1

CHEMICAL WASTE CHARACTERIZATION

Date: 05/31/83
Revision No.: 0
C

Figure 21

PLANT LOCATION

SWS Silicones Corporation Adrian, MI

DESCRIPTION OF WASTE

5 Flammable Waste - Tech Center

VOLUME	FREQUENCY	PACKING
4,000 gallons	PER MONTH / (PER YEAR) / ONE TIME	(IN DRUMS) / IN BULK

CIRCLE APPROPRIATE BLOCKS

PHYSICAL STATE @ 70°F: SOLID / (LIQUID) / SEMISOLID	VISCOSITY @ 70°F: (LOW) / MEDIUM / HIGH
LAYERING: NONE / (BILAYERED) / MULTILAYERED	% LAYERING BY VOLUME AT INFINITE SETTLING: ___ % TOP, ___ %, ___, ___ %, ___, ___ % BOTTO
SUSPENDED SOLIDS: (<5%) / 5-20% / >20% / (WEIGHT) OR VOLUME	DISSOLVED SOLIDS BY WEIGHT: (<5%) / 5-20% / >20%
SPECIFIC GRAVITY @ 60°F: <0.8 / (0.8-1.0) / 1.0-1.2 / 1.2-1.4 / 1.4-1.7 / >1.7	FLASH POINT (OC): (<80°F) / 80-150°F / >150°F / NONE
THOUSANDS OF BTU'S / LB.: <1 / 1-5 / 5-9 / 9-12 / 12-18 / (18-20)	ORGANICALLY BOUND CHLORINE (WT. %): NONE / (TRACE) / 1-10% / 10-30% / >30%
ORGANICALLY BOUND SULFUR (WT. %): (NONE) / TRACE / 0.5-5% % / >5%	pH: 1-4 / (4-7) / 7 / 7-10 / 10-13
TOXICITY*: HIGH / (MEDIUM) / LOW / UNKNOWN	OTHER INFORMATION:

PLEASE IDENTIFY AND QUANTIFY ALL KNOWN COMPONENTS

VOLATILE ORGANICS	15-30 % Xylene	20-60% Isopropanol	0-3 % Acetone	%
	0-20 % Mineral Spirits	0-4% Methanol	%	%
NON VOLATILE ORGANICS	%	%	%	%
ACIDS OR ALKALIS	%	%	%	%
SALTS	%	%	%	%
METALLICS	%	%	%	%
CYANIDES · PESTICIDES · CARCINOGENS · OTHER HAZARDOUS/ TOXICS	%	%	%	%
	%	%	%	%
OTHER	%	10% 15 Siloxanes	%	%

% WATER 5-20	Odor:	Transportation Method Used Truck
CORROSIVENESS: None	Reactivity None	Potential for: A. Bioaccumulation B. Persistence

*Basis for Toxicity Evaluation
2 Inhalation
1 Dermal
1 Oral

Approved by

ATTACHMENT NO. 1

CHEMICAL WASTE CHARACTERIZATION

Date: 05/31/83
Revision No.: 0
C

Figure 22

PLANT LOCATION

SWS Silicones Corporation Adrian, MI

DESCRIPTION OF WASTE

7 Solvent Sump Waste

VOLUME	FREQUENCY	PACKING
14,000 gallons	PER MONTH / (PER YEAR) / ONE TIME	(IN DRUMS) / IN BULK

CIRCLE APPROPRIATE BLOCKS

PHYSICAL STATE @ 70°F: SOLID / (LIQUID) / SEMISOLID	VISCOSITY @ 70°F: (LOW) / MEDIUM / HIGH
LAYERING: (NONE) / BILAYERED / MULTILAYERED	% LAYERING BY VOLUME AT INFINITE SETTLING: ___ % TOP, ___ %, ___, ___ %, ___ % BOTTO
SUSPENDED SOLIDS: (<5%) / 5-20% / >20% / (WEIGHT) OR VOLUME	DISSOLVED SOLIDS BY WEIGHT: (<5%) / 5-20% / >20%
SPECIFIC GRAVITY @ 60°F: <0.8 / (0.8-1.0) / 1.0-1.2 / 1.2-1.4 / 1.4-1.7 / >1.7	FLASH POINT (OC): <80°F / (80-150°F) / >150°F / NONE
THOUSANDS OF BTU'S / LB.: <1 / 1-5 / 5-9 / 9-12 / 12-16 / (16-20)	ORGANICALLY BOUND CHLORINE (WT. %): (NONE) / TRACE / 1-10% / 10-30% / >30%
ORGANICALLY BOUND SULFUR (WT. %): (NONE) / TRACE / 0.5-5% % / >5%	pH: 1-4 / 4-7 / (7) / 7-10 / 10-13
TOXICITY*: HIGH / (MEDIUM) / LOW / UNKNOWN	OTHER INFORMATION:

PLEASE IDENTIFY AND QUANTIFY ALL KNOWN COMPONENTS

VOLATILE ORGANICS	40 % Mineral Spirits	%	%	%
	%	%	%	%
NON VOLATILE ORGANICS	%	%	%	%
ACIDS OR ALKALIS	%	%	%	%
SALTS	%	%	%	%
METALLICS	%	%	%	%
CYANIDES · PESTICIDES · CARCINOGENS · OTHER HAZARDOUS/ TOXICS	%	%	%	%
	%	%	%	%
OTHER	35 % Silicones	%	%	%

% WATER 25	Odor:	Transportation Method Used	Truck
CORROSIVENESS: None	Reactivity None	Potential for: A. Bioaccumulation B. Persistence	

*Basis for Toxicity Evaluation

2 Inhalation
1 Dermal
1 Oral

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ATTACHMENT NO. 1

CHEMICAL WASTE CHARACTERIZATION

Date: 05/31/83
Revision No.: 0
C

Figure 23

PLANT LOCATION
SWS Silicones Corporation Adrian, MI

DESCRIPTION OF WASTE

8 RTV - Mineral Spirit Waste

VOLUME	FREQUENCY	PACKING
33,000 gallons	PER MONTH / (PER YEAR) / ONE TIME	(IN DRUMS) / IN BULK

CIRCLE APPROPRIATE BLOCKS

PHYSICAL STATE @ 70°F: SOLID / (LIQUID) / SEMISOLID	VISCOSITY @ 70°F: (LOW) / MEDIUM / HIGH
LAYERING: (NONE) / BILAYERED / MULTILAYERED	% LAYERING BY VOLUME AT INFINITE SETTLING: ___ % TOP, ___ %, ___, ___ %, ___ % BOTTOM
SUSPENDED SOLIDS: (<5%) / 5-20% / >20% / (WEIGHT) OR VOLUME	DISSOLVED SOLIDS BY WEIGHT: (<5%) / 5-20% / >20%
SPECIFIC GRAVITY @ 60°F: <0.8 / (0.8-1.0) / 1.0-1.2 / 1.2-1.4 / 1.4-1.7 / >1.7	FLASH POINT (OC): <80°F / (80-150°F) / >150°F / NONE
THOUSANDS OF BTU'S / LB.: <1 / 1-5 / 5-9 / 9-12 / 12-16 / (16-20)	ORGANICALLY BOUND CHLORINE (WT. %): (NONE) / TRACE / 1-10% / 10-30% / >30%
ORGANICALLY BOUND SULFUR (WT. %): (NONE) / TRACE / 0.5-5% % / >5%	pH: 1-4 / 4-7 / (7) / 7-10 / 10-13
TOXICITY*: HIGH / (MEDIUM) / LOW / UNKNOWN	OTHER INFORMATION:

PLEASE IDENTIFY AND QUANTIFY ALL KNOWN COMPONENTS

VOLATILE ORGANICS	65-90% Mineral Spirits	%	%	%
	%	%	%	%
NON VOLATILE ORGANICS	%	%	%	%
ACIDS OR ALKALIS	%	%	%	%
SALTS	%	%	%	%
METALLICS	%	%	%	%
CYANIDES · PESTICIDES · CARCINOGENS · OTHER HAZARDOUS/ TOXICS	%	%	%	%
	%	%	%	%
OTHER	Trace% Silicones Iron Oxide Fillers	%	%	%
% WATER 10-30	Odor:	Transportation Method Used	Truck	
CORROSIVENESS: None	Reactivity None	Potential for: A. Bioaccumulation B. Persistence		

*Basis for Toxicity Evaluation
2 Inhalation
1 Dermal
1 Oral

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ATTACHMENT NO. 1

CHEMICAL WASTE CHARACTERIZATION

Date: 05/31/83
Revision No.: 0
C

Figure 24

PLANT LOCATION
SWS Silicones Corporation Adrian, MI

DESCRIPTION OF WASTE

10 Polychlorohydrocarbon Waste

VOLUME	FREQUENCY	PACKING
60,000 gallons	PER MONTH / (PER YEAR) / ONE TIME	(IN DRUMS) / IN BULK

CIRCLE APPROPRIATE BLOCKS

PHYSICAL STATE @ 70°F: SOLID / (LIQUID) / SEMISOLID	VISCOSITY @ 70°F: (LOW) / MEDIUM / HIGH
LAYERING: (NONE) / BILAYERED / MULTILAYERED	% LAYERING BY VOLUME AT INFINITE SETTLING: % TOP ___ % ___ % ___ % BOTTOM
SUSPENDED SOLIDS: (<5%) / 5-20% / >20% (WEIGHT) OR VOLUME	DISSOLVED SOLIDS BY WEIGHT: (<5%) / 5-20% / >20%
SPECIFIC GRAVITY @ 60°F: <0.8 / 0.8-1.0 / (1.0-1.2) / 1.2-1.4 / 1.4-1.7 / >1.7	FLASH POINT (OC): <80°F / 80-150°F / >150°F / (NONE)
THOUSANDS OF BTU'S / LB.: <1 / (1-5) / 5-9 / 9-12 / 12-16 / 16-20	ORGANICALLY BOUND CHLORINE (WT. %): NONE / TRACE / 1-10% / 10-30% / (>30%)
ORGANICALLY BOUND SULFUR (WT. %): (NONE) / TRACE / 0.5-5% % / >5%	pH: 1-4 / (4-7) / 7 / 7-10 / 10-13
TOXICITY: HIGH / MEDIUM / (LOW) / UNKNOWN	OTHER INFORMATION:

PLEASE IDENTIFY AND QUANTIFY ALL KNOWN COMPONENTS

VOLATILE ORGANICS	%	%	%	%
	%	%	%	%
NON VOLATILE ORGANICS	95-100 % 1,1,1 Trichloroethane	%	%	%
ACIDS OR ALKALIS	%	%	%	%
SALTS	%	%	%	%
METALLICS	%	%	%	%
CYANIDES - PESTICIDES - CARCINOGENS - OTHER HAZARDOUS/ TOXICS	%	%	%	%
	%	%	%	%
OTHER	0-5 % Silicones	%	%	%

% WATER None	Odor:	Transportation Method Used Truck
CORROSIVENESS: None	Reactivity None	Potential for: A. Bioaccumulation B. Persistence

*Basis for Toxicity Evaluation
1 Inhalation
1 Dermal
1 Oral

Approved by [signature]

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CHEMICAL WASTE CHARACTERIZATION

Date: 05/31/83
Revision No.: 0
C

Figure 25

PLANT LOCATION
SWS Silicones Corporation, Adrian, MI

DESCRIPTION OF WASTE

11 Non-Combustible Waste

VOLUME	FREQUENCY	PACKING
4,000 gallons	PER MONTH / (PER YEAR) / ONE TIME	(IN DRUMS) / IN BULK

CIRCLE APPROPRIATE BLOCKS

PHYSICAL STATE @ 70°F: SOLID / (LIQUID) / SEMISOLID	VISCOSITY @ 70°F: (LOW) / MEDIUM / HIGH
LAYERING: NONE / BILAYERED / (MULTILAYERED)	% LAYERING BY VOLUME AT INFINITE SETTLING: % TOP ___ % ___ . ___ % ___ . ___ % BOTTO
SUSPENDED SOLIDS: (<5%) / 5-20% / >20% / WEIGHT OR VOLUME	DISSOLVED SOLIDS BY WEIGHT: (<5%) / 5-20% / >20%
SPECIFIC GRAVITY @ 60°F: <0.8 / 0.8-1.0 / (1.0-1.2) / 1.2-1.4 / 1.4-1.7 / >1.7	FLASH POINT (OC): <80°F / 80-150°F / >150°F / (NONE)
THOUSANDS OF BTU'S / LB.: <1 / (1-5) / 5-9 / 9-12 / 12-16 / 16-20	ORGANICALLY BOUND CHLORINE (WT. %): NONE / TRACE / 1-10% / (10-30%) / >30%
ORGANICALLY BOUND SULFUR (WT. %): (NONE) / TRACE / 0.5-5% % / >5%	pH: 1-4 / (4-7) / 7 / 7-10 / 10-13
TOXICITY*: HIGH / MEDIUM / (LOW) / UNKNOWN	OTHER INFORMATION:

PLEASE IDENTIFY AND QUANTIFY ALL KNOWN COMPONENTS

VOLATILE ORGANICS	27 % Chlorinated Solvents	%	%	%
	%	%	%	%
NON VOLATILE ORGANICS	%	%	%	%
ACIDS OR ALKALIS	%	%	%	%
SALTS	%	%	%	%
METALLICS	%	%	%	%
CYANIDES - PESTICIDES - CARCINOGENS - OTHER HAZARDOUS/ TOXICS	%	%	%	%
	%	%	%	%
OTHER	42 % Siloxane	%	%	%

% WATER 31	Odor:	Transportation Method Used Truck
CORROSIVENESS: None	Reactivity None	Potential for: A. Bioaccumulation B. Persistence

*Basis for Toxicity Evaluation
1 Inhalation
1 Dermal
1 Oral

Approved by [signature]

ATTACHMENT NO. 1

CHEMICAL WASTE CHARACTERIZATION

Date: 05/31/83
Revision No.: 0
C

Figure 26

PLANT LOCATION
SWS Silicones Corporation Adrian, MI

DESCRIPTION OF WASTE

12 ES - 40 Lites

VOLUME	FREQUENCY	PACKING
400 gallons	PER MONTH / (PER YEAR) / ONE TIME	(IN DRUMS) / IN BULK

CIRCLE APPROPRIATE BLOCKS

PHYSICAL STATE @ 70°F: SOLID / (LIQUID) / SEMISOLID	VISCOSITY @ 70°F: (LOW) / MEDIUM / HIGH
LAYERING: (NONE) / BILAYERED / MULTILAYERED	% LAYERING BY VOLUME AT INFINITE SETTLING: ___% TOP ___% ___ ___% ___ ___% BOTTOM
SUSPENDED SOLIDS: (<5%) / 5-20% / >20% / (WEIGHT) OR VOLUME	DISSOLVED SOLIDS BY WEIGHT: (<5%) / 5-20% / >20%
SPECIFIC GRAVITY @ 60°F: <0.9 / (0.9-1.0) / 1.0-1.2 / 1.2-1.4 / 1.4-1.7 / >1.7	FLASH POINT (OC): (<80°F) / 80-150°F / >150°F / NONE
THOUSANDS OF BTU'S / LB.: <1 / 1-6 / 6-9 / 9-12 / (12-16) / 16-20	ORGANICALLY BOUND CHLORINE (WT. %): (NONE) / TRACE / 1-10% / 10-30% / >30%
ORGANICALLY BOUND SULFUR (WT. %): (NONE) / TRACE / 0.5-5% % / >5%	pH: 1-4 / (4-7) / 7 / 7-10 / 10-13
TOXICITY*: HIGH / MEDIUM / (LOW) / UNKNOWN	OTHER INFORMATION:

PLEASE IDENTIFY AND QUANTIFY ALL KNOWN COMPONENTS

VOLATILE ORGANICS	0-10 % Ethanol	%	%	%
	%	%	%	%
NON VOLATILE ORGANICS	%	%	%	%
ACIDS OR ALKALIS	%	%	%	%
SALTS	%	%	%	%
METALLICS	%	%	%	%
CYANIDES - PESTICIDES - CARCINOGENS - OTHER HAZARDOUS/ TOXICS	%	%	%	%
	%	%	%	%
OTHER	90-100 % Ethyl Silicate	%	%	%

% WATER None	Odor:	Transportation Method Used Truck
CORROSIVENESS: None	Reactivity None	Potential for: A. Bioaccumulation B. Persistence

*Basis for Toxicity Evaluation
1 Inhalation
1 Dermal
1 Oral

Approved by

ATTACHMENT NO. 1

CHEMICAL WASTE CHARACTERIZATION

Date: 05/31/83
Revision No.: 0
C

Figure 27

LANT LOCATION
SWS Silicones Corporation Adrian, MI

SCRIPTION OF WASTE

19 Cyclizer Waste

LUME	FREQUENCY	PACKING
19,000 gallons	PER MONTH / (PER YEAR) / ONE TIME	(IN DRUMS) / IN BULK

CIRCLE APPROPRIATE BLOCKS

YSICAL STATE @ 70°F: SOLID / LIQUID / (SEMISOLID)	VISCOSITY @ 70°F: LOW / MEDIUM / (HIGH)
YERING: (NONE) / BILAYERED / MULTILAYERED	% LAYERING BY VOLUME AT INFINITE SETTLING: % TOP ___ % ___ % ___ % BOTTO
PENDED SOLIDS: <5% / 5-20% / (>20%) (WEIGHT) OR VOLUME	DISSOLVED SOLIDS BY WEIGHT: <5% / 5-20% / (>20%)
CIFIC GRAVITY @ 60°F: 0.8 / 0.8-1.0 / 1.0-1.2 / 1.2-1.4 / 1.4-1.7 / (>1.7)	FLASH POINT (OC): <80°F / (80-150°F) / >150°F / NONE
OUSANDS OF BTU'S / LB.: <1 / (1-5) / 5-9 / 9-12 / 12-16 / 16-20	ORGANICALLY BOUND CHLORINE (WT. %): (NONE) / TRACE / 1-10% / 10-30% / >30%
ANICALLY BOUND SULFUR (WT. %): E / TRACE / 0.5-5% % / >5%	pH: 1-4 / 4-7 / 7 / 7-10 / (10-13)
ICITY: HIGH / MEDIUM / (LOW) / UNKNOWN	OTHER INFORMATION:

PLEASE IDENTIFY AND QUANTIFY ALL KNOWN COMPONENTS

VOLATILE ORGANICS	%	%	%	%
	%	%	%	%
NON VOLATILE ORGANICS	60-40 % Octadecene	%	%	%
ACIDS OR ALKALIS	%	%	%	%
SALTS	40-60 % Potassium Methyl Siliconate	%	%	%
METALLICS	%	%	%	%
CYANIDES · PESTICIDES · CARCINOGENS · OTHER HAZARDOUS/ TOXICS	%	%	%	%
	%	%	%	%
OTHER	Trace % Siloxanes	%	%	%

% WATER Trace	Odor: Slight	Transportation Method Used Truck
CORROSIVENESS: Very	Reactivity None	Potential for: A. Bioaccumulation B. Persistence

*Basis for Toxicity Evaluation
1 Inhalation
1 Dermal
1 Oral

Approved by

ATTACHMENT NO. 1

CHEMICAL WASTE CHARACTERIZATION

Date: 05/31/83
Revision No.: 0
C

Figure 28

LANT LOCATION
SWS Silicones Corporation Adrian, MI

SCRIPTION OF WASTE

30 SWS - 960 Waste

LUME	FREQUENCY	PACKING
1,000 gallons	PER MONTH / (PER YEAR) / ONE TIME	(IN DRUMS) / IN BULK

CIRCLE APPROPRIATE BLOCKS

YSICAL STATE @ 70°F: SOLID / (LIQUID) / SEMISOLID	VISCOSITY @ 70°F: LOW / (MEDIUM) / HIGH
YERING: (NONE) / BILAYERED / MULTILAYERED	% LAYERING BY VOLUME AT INFINITE SETTLING: ___ % TOP ___ % ___ % ___ % ___ % BOTTO
PENDED SOLIDS: <5% / 5-20% / (>20%) / (WEIGHT) OR VOLUME	DISSOLVED SOLIDS BY WEIGHT: (<5%) / 5-20% / >20%
CIFIC GRAVITY @ 60°F: <0.8 / (0.8-1.0) / 1.0-1.2 / 1.2-1.4 / 1.4-1.7 / >1.7	FLASH POINT (OC): (<80°F) / 80-150°F / >150°F / NONE
OUSANDS OF BTU'S / LB.: <1 / 1-5 / 5-9 / 9-12 / 12-16 / (16-20)	ORGANICALLY BOUND CHLORINE (WT. %): (NONE) / TRACE / 1-10% / 10-30% / >30%
GANICALLY BOUND SULFUR (WT. %): NE / TRACE / 0.5-5% % / >5%	pH: 1-4 / (4-7) / 7 / 7-10 / 10-13
XICITY: HIGH / (MEDIUM) / LOW / UNKNOWN	OTHER INFORMATION: Upon exposure to air, material turns into rubbery solid.

PLEASE IDENTIFY AND QUANTIFY ALL KNOWN COMPONENTS

VOLATILE ORGANICS	30 % Naphtha	%	%	%
	%	%	%	%
NON VOLATILE ORGANICS	%	%	%	%
ACIDS OR ALKALIS	%	%	%	%
SALTS	%	%	%	%
METALLICS	%	%	%	%
CYANIDES - PESTICIDES - CARCINOGENS - OTHER HAZARDOUS/ TOXICS	%	%	%	%
	%	%	%	%
OTHER	10 % Fillers	60% Silicone Fluids	%	%
% WATER None	Odor:	Transportation Method Used	Truck	
CORROSIVENESS: None	Reactivity None	Potential for: A. Bioaccumulation B. Persistence		

*Basis for Toxicity Evaluation

2 Inhalation
1 Dermal
1 Oral

Approved by [signature]

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CHEMICAL WASTE CHARACTERIZATION

Date: 05/31/83
Revision No.: 0
C

Figure 29

PLANT LOCATION
SWS Silicones Corporation Adrian, MI

DESCRIPTION OF WASTE

32 HCR Vent Waste

VOLUME

11,000 gallons

FREQUENCY: PER MONTH | (PER YEAR) | ONE TIME

PACKING: (IN DRUMS) | IN BULK

CIRCLE APPROPRIATE BLOCKS

PHYSICAL STATE @ 70°F: SOLID | (LIQUID) | SEMISOLID

VISCOSITY @ 70°F: LOW | (MEDIUM) | HIGH

LAYERING: NONE | (BILAYERED) | MULTILAYERED

% LAYERING BY VOLUME AT INFINITE SETTLING: ___ % TOP, ___ %, ___, ___ %, ___ % BOTT

SUSPENDED SOLIDS: <5% | 5-20% | >20% | (WEIGHT) OR VOLUME

DISSOLVED SOLIDS BY WEIGHT: (<5%) | 5-20% | >20%

SPECIFIC GRAVITY @ 60°F: <0.8 | 0.8-1.0 | (1.0-1.2) | 1.2-1.4 | 1.4-1.7 | >1.7

FLASH POINT (OC): <80°F | (80-150°F) | >150°F | NONE

THOUSANDS OF BTU'S / LB.: <1 | 1-6 | 6-9 | 9-12 | 12-16 | 16-20

ORGANICALLY BOUND CHLORINE (WT. %): (NONE) | TRACE | 1-10% | 10-30% | >30%

ORGANICALLY BOUND SULFUR (WT. %): (NONE) | TRACE | 0.5-5% % | >5%

pH: 1-4 | 4-7 | 7 | (7-10) | 10-13

TOXICITY*: HIGH | MEDIUM | (LOW) | UNKNOWN

OTHER INFORMATION:

PLEASE IDENTIFY AND QUANTIFY ALL KNOWN COMPONENTS

VOLATILE ORGANICS	<1 % Methanol	%	%	%
	%	%	%	%
NON VOLATILE ORGANICS	%	%	%	%
ACIDS OR ALKALIS	%	%	%	%
SALTS	%	%	%	%
METALLICS	%	%	%	%
CYANIDES · PESTICIDES · CARCINOGENS · OTHER HAZARDOUS/ TOXICS	%	%	%	%
	%	%	%	%
OTHER	Trace % Triethylamine	% Trace Organic Peroxides	5-20 % Siloxane Lites	5-30 % SiO_2 Filler
% WATER 60-80	Odor:	Transportation Method Used Truck		
CORROSIVENESS: None	Reactivity None	Potential for: A. Bioaccumulation B. Persistence		

*Basis for Toxicity Evaluation

1 Inhalation
1 Dermal
1 Oral

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CHEMICAL WASTE CHARACTERIZATION

Date: 05/31/83
Revision No.: 0
C

Figure 30

PLANT LOCATION
SWS Silicones Corporation Adrian, MI

DESCRIPTION OF WASTE

40 Bulk Ignitables Waste

VOLUME	FREQUENCY	PACKING
21,400 gallons	PER MONTH / (PER YEAR) / ONE TIME	IN DRUMS / (IN BULK)

CIRCLE APPROPRIATE BLOCKS

PHYSICAL STATE @ 70°F: SOLID / (LIQUID) / SEMISOLID	VISCOSITY @ 70°F: (LOW) / MEDIUM / HIGH
LAYERING: NONE / (BILAYERED) / MULTILAYERED	% LAYERING BY VOLUME AT INFINITE SETTLING: % TOP ___ % ___ . ___ % ___ . ___ % BOTT
SUSPENDED SOLIDS: <5% / 5-20% / >20% / (WEIGHT) OR VOLUME	DISSOLVED SOLIDS BY WEIGHT: <5% / 5-20% / >20%
SPECIFIC GRAVITY @ 60°F: <0.8 / (0.8-1.0) / 1.0-1.2 / 1.2-1.4 / 1.4-1.7 / >1.7	FLASH POINT (OC): (<80°F) / 80-150°F / >150°F / NONE
THOUSANDS OF BTU'S / LB.: <1 / 1-5 / 5-9 / 9-12 / 12-16 / (16-20)	ORGANICALLY BOUND CHLORINE (WT. %): NONE / TRACE / (1-10%) / 10-30% / >30%
ORGANICALLY BOUND SULFUR (WT. %): NONE / TRACE / 0.5-5% % / >5%	pH: 1-4 / (4-7) / 7 / 7-10 / 10-13
TOXICITY*: HIGH / (MEDIUM) / LOW / UNKNOWN	OTHER INFORMATION:

PLEASE IDENTIFY AND QUANTIFY ALL KNOWN COMPONENTS

VOLATILE ORGANICS	2 % Aromatic Hydrocarbons	40-60 % Aliphatic Hydrocarbons	%	%
	%	%	%	%
NON VOLATILE ORGANICS	0-4 % 1,1,1 trichloroethane	%	%	%
ACIDS OR ALKALIS	%	%	%	%
SALTS	%	%	%	%
METALLICS	%	%	%	%
CYANIDES - PESTICIDES - CARCINOGENS - OTHER HAZARDOUS/ TOXICS	%	%	%	%
	%	%	%	%
OTHER	40-60 % Siloxanes	%	%	%

% WATER 2-5	Odor:	Transportation Method Used Tanker Truck
CORROSIVENESS: None	Reactivity None	Potential for: A. Bioaccumulation B. Persistence

*Basis for Toxicity Evaluation
2 Inhalation
1 Dermal
2 Oral

Approved by

ATTACHMENT NO. 1

CHEMICAL WASTE CHARACTERIZATION

Date: 05/31/83
Revision No.: 0
C

Figure 31

LANT LOCATION
SWS Silicones Corporation Adrian, MI

SCRIPTION OF WASTE
41 Bulk Polychlorohydrocarbon Waste

LUME
60,000 gallons

FREQUENCY: PER MONTH | (PER YEAR) | ONE TIME

PACKING: IN DRUMS | (IN BULK)

CIRCLE APPROPRIATE BLOCKS

YSICAL STATE @ 70°F: SOLID | (LIQUID) | SEMISOLID

VISCOSITY @ 70°F: (LOW) | MEDIUM | HIGH

YERING: (NONE) | BILAYERED | MULTILAYERED

% LAYERING BY VOLUME AT INFINITE SETTLING: ___ % TOP, ___ %, ___ %, ___ % BOTTO

PENDED SOLIDS: (<5%) | 5-20% | >20% | (WEIGHT) OR VOLUME

DISSOLVED SOLIDS BY WEIGHT: (<5%) | 5-20% | >20%

CIFIC GRAVITY @ 60°F: <0.8 | 0.8-1.0 | (1.0-1.2) | 1.2-1.4 | 1.4-1.7 | >1.7

FLASH POINT (OC): <80°F | 80-150°F | >150°F | (NONE)

OUSANDS OF BTU'S / LB.: <1 | (1-5) | 5-9 | 9-12 | 12-16 | 16-20

ORGANICALLY BOUND CHLORINE (WT. %): NONE | TRACE | 1-10% | 10-30% | (>30%)

GANICALLY BOUND SULFUR (WT. %): (E) | TRACE | 0.5-5% % | >5%

pH: 1-4 | (4-7) | 7 | 7-10 | 10-13

XICITY: HIGH | MEDIUM | (LOW) | UNKNOWN

OTHER INFORMATION:

PLEASE IDENTIFY AND QUANTIFY ALL KNOWN COMPONENTS

VOLATILE ORGANICS	%	%	%	%
	%	%	%	%
NON VOLATILE ORGANICS	95-100 % 1,1,1 trichloroethane		%	%
ACIDS OR ALKALIS	%	%	%	%
SALTS	%	%	%	%
METALLICS	%	%	%	%
CYANIDES - PESTICIDES - CARCINOGENS - OTHER HAZARDOUS/ TOXICS	%	%	%	%
	%	%	%	%
OTHER	0-5 % Siloxanes	%	%	%

% WATER None | Odor: | Transportation Method Used Tanker Truck

CORROSIVENESS: None | Reactivity None | Potential for: A. Bioaccumulation B. Persistence

*Basis for Toxicity Evaluation
1 Inhalation
1 Dermal
1 Oral

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ATTACHMENT NO. 1

CHEMICAL WASTE CHARACTERIZATION

Date: 05/31/83
Revision No.: 0
C

Figure 32

PLANT LOCATION
SWS Silicones Corporation Adrian, MI

DESCRIPTION OF WASTE

42 Bulk Mineral Spirits Waste

VOLUME	FREQUENCY	PACKING
33,000 gallons	PER MONTH / (PER YEAR) / ONE TIME	IN DRUMS / (IN BULK)

CIRCLE APPROPRIATE BLOCKS

PHYSICAL STATE @ 70°F: SOLID / (LIQUID) / SEMISOLID	VISCOSITY @ 70°F: (LOW) / MEDIUM / HIGH
LAYERING: (NONE) / BILAYERED / MULTILAYERED	% LAYERING BY VOLUME AT INFINITE SETTLING: ___ % TOP, ___ %, ___, ___ %, ___, ___ % BOTT
SUSPENDED SOLIDS: <5% / 5-20% / >20% / (WEIGHT) OR VOLUME	DISSOLVED SOLIDS BY WEIGHT: (<5%) / 5-20% / >20%
SPECIFIC GRAVITY @ 60°F: <0.8 / (0.8-1.0) / 1.0-1.2 / 1.2-1.4 / 1.4-1.7 / >1.7	FLASH POINT (OC): <80°F / (80-150°F) / >150°F / NONE
THOUSANDS OF BTU'S / LB.: <1 / 1-6 / 6-9 / 9-12 / 12-16 / (16-20)	ORGANICALLY BOUND CHLORINE (WT. %): (NONE) / TRACE / 1-10% / 10-30% / >30%
ORGANICALLY BOUND SULFUR (WT. %): (NONE) / TRACE / 0.5-5% % / >5%	pH: 1-4 / 4-7 / (7) / 7-10 / 10-13
TOXICITY*: HIGH / (MEDIUM) / LOW / UNKNOWN	OTHER INFORMATION:

PLEASE IDENTIFY AND QUANTIFY ALL KNOWN COMPONENTS

VOLATILE ORGANICS	65-90 % Mineral Spirits	%	%	%
	%	%	%	%
NON VOLATILE ORGANICS	%	%	%	%
ACIDS OR ALKALIS	%	%	%	%
SALTS	%	%	%	%
METALLICS	%	%	%	%
CYANIDES · PESTICIDES · CARCINOGENS · OTHER HAZARDOUS/ TOXICS	%	%	%	%
	%	%	%	%
OTHER	2-5 % Siloxanes	% Trace Iron Oxide	% Trace SiO_2 Fillers	%

% WATER 10-30	Odor:	Transportation Method Used Tanker Truck
CORROSIVENESS: None	Reactivity None	Potential for: A. Bioaccumulation B. Persistence

*Basis for Toxicity Evaluation
2 Inhalation
1 Dermal
1 Oral

Approved by [signature]

The following wastes are generated as a result of general cleanup in the plant for the various batch mixing tanks and reactors:

Mixed Alcohol (Figure 17)
Hydrocarbon, Extremely Flammable (Figure 18)
Hydrocarbon, Flammable (Figure 19)
Hydrocarbon, Combustible (Figure 20)
Solvent Sump (Figure 22)
Mineral Spirits (Figures 23 and 32)
Polychlorohydrocarbon (Figures 24 and 31)

The following wastes are generated as by-products or wastes from various plant processes:

Mixed Alcohol (Figure 17)
Hydrocarbon, Extremely Flammable (Figure 18)
ES-40 Lites (Figure 26)
Cyclizer (Figure 27)
SWS-960 (Figure 28)
HCR Vent (Figure 29)

Also, the following wastes are generated from the Technical Center Laboratories:

Flammable Waste, Tech Center (Figure 21)
Non-Combustible Waste (T.C.) (Figure 25)

Bulk polychlorohydrocarbon waste (Figure 31) is the same as drummed Polychlorohydrocarbon Waste (Figure 24). In general, the majority of this waste is stored in the 25,000-gallon storage tank, T-101. The volume of 60,000 gallons indicated in both Figures 24 and 31, is the total overall volume per year. The Bulk polychlorohydrocarbon waste is sold to a solvent reclaimer.

Bulk Ignitables Wastes (Figure 30) is a combination of the following drummed wastes:

Mixed Alcohol (Figure 17)
Hydrocarbon - Extremely Flammable (Figure 18)
Hydrocarbon - Flammable (Figure 19)
Hydrocarbon - Combustible (Figure 20)
ES-40 Lites (Figure 26)

The volume of 21,400 gallons for Bulk Ignitables Waste (Figure 30) is the accumulative total of the above annual volumes. The majority of this waste is in bulk form (T-105) and is disposed at a cement kiln or at an incinerator.

Bulk Mineral Spirits Waste (Figure 32) is the same as drummed Mineral Spirits Waste (Figure 23). In general, the majority of this waste is stored in the 15,000-gallon storage tank, T-108. The volume of 33,000 gallons indicated in both Figures 23 and 32, is the total overall volume per year. The majority of this waste is stored in bulk form, and is disposed at a cement kiln or at an incinerator.

Waste Handling: All drummed wastes are labeled; the label describes the contents of each drum and its associated hazard (corrosivity, toxicity or ignitability). Bulk tank, T-101 is labeled "Polychloro-hydrocarbon." Bulk tank, T-105, is labeled "Flammable." Bulk tank, T-108, is labeled "Combustible." This practice informs workers handling these wastes of the associated hazards so that the appropriate precautions can be taken.

Some examples of appropriate precautions include: grounding drums, tote tanks or trucks during transfer operations; no smoking; and wearing protective equipment such as gloves, hard hats, safety glasses and safety shoes.

Details regarding the tanks, containers, storage areas, and personnel training are presented in other sections of this application. General information and hazardous characteristics of the waste types are included in Appendix A.

C-2 Waste Analysis Plan [40 CFR 122.25(a)(3)]

C-2a Parameters and Rationale

Table 2 shows the hazardous wastes stored at the facility, the analytical parameters that apply to each, and the rationale for their selection.

C-2b Test Methods

Table 3 shows the test methods that are used to measure the analytical parameters. All test methods are from EPA approved methods.

C-2c Sampling Methods

Table 4 lists methods used to sample hazardous wastes.

C-2d Frequency of Analyses

As shown on Table 5, each waste is analyzed annually. Wastes generated at this facility do not change significantly. Additional analyses will be performed if a process change should affect the hazardous characteristics of a waste.

C-2e Additional Requirements for Waste Generated Offsite

This facility only stores on-site generated wastes; therefore, requirements for wastes received from off-site generators do not apply. This facility does not treat nor dispose any wastes on-site.

TABLE 2

PARAMETERS AND RATIONALE FOR THEIR SELECTION

Hazardous Waste	Parameter	Rationale
Drums		
Mixed Alcohol	Flash point, Methanol	This waste is ignitable. Practical flash point of 68-77°F. This is also a listed toxic waste (F003).
Hydrocarbon, Extremely Flammable	Flash point	This waste is ignitable. Practical flash point of 25-34°F.
Hydrocarbon, Flammable	Flash point, Xylene	This waste is ignitable. Practical flash point of 68-77°F. This is also a listed toxic waste (F003).
Hydrocarbon, Combustible	Flash point	This waste is ignitable. Practical flash point of 104-113°F.
Flammable, Tech Center	Flash point, Xylene Acetone	This waste is ignitable. Practical flash point of 68-77°F. This is also a listed toxic waste (F003).
Solvent Sump	Flash point	This waste is ignitable. Practical flash point of 104-113°F.
Mineral Spirits	Flash point	This waste is ignitable. Practical flash point of 104-113°F.
Polychlorohydrocarbon	1,1,1 trichloroethane	This is a listed toxic waste (F002)
Non-Combustible, Tech Center	1,1,1 trichloroethane	This is a listed toxic waste (F002)
ES-40 Lites	Flash point	This waste is ignitable. Practical flash point of 68-77°F.
Cyclizer	pH, Flash point	This waste has a pH value greater than 13, making it a corrosive waste. Also this waste is ignitable with a practical flash point of 122-131°F.
SWS-960	Flash point	This waste is ignitable. Practical flash point of 59-68°F.
HCR Vent	Flash point	This waste is ignitable. Practical flash point of 80-86°F.
Tanks		
Bulk Ignitables	Flash point. Methanol 1,1,1 trichloroethane Xylene	This waste is ignitable. Practical flash point of 25-113°F. Listed toxic waste F002, F003.
Bulk Polychlorohydrocarbon	1,1,1 trichloroethane	This is a listed toxic waste (F002)
Bulk Mineral Spirits	Flash point	This waste is ignitable. Practical flash point of 104-113°F.

TABLE 3

PARAMETERS AND TEST METHODS

Parameter	Test Method	Reference
pH	Electrometric	--
Flash point	Pensky-Martens Closed Cup Tester Tag Closed Cup Tester	ASTM Standards D-93-81 or E-134-81 D-56-81
1,1,1-tri-chloroethane	GC/MS	Purgeable Hydro-carbons-Method 601 Federal Register, Vol. 44, No. 233, p. 69468
Acetone Methanol Xylene	NMR or GC	Purgeable Hydro-carbons - Method 601 Federal Register, Vol. 44, No. 233, p. 69468

TABLE 4

METHODS USED TO SAMPLE HAZARDOUS WASTES

Hazardous Waste	Sampling Method	Description of Sampling	Reference of Sampler
Drummed Wastes*	"Coliwasa" Composite Liquid Waste Sampler	Representative composite samples from random drums.	"Samplers and Sampling Procedures for Hazardous Waste Streams", EPA 600/2-80-018, January 1980.
Storage Tank Wastes*	Sampling a Storage Tank from "Samplers and Sampling Procedures for Hazardous Waste Streams", EPA 600/2-80-018, January 1980. (If annual sample is required.)	Representative composite tank outlet samples at the beginning and end of each tanker shipment.	"Samplers and Sampling Procedures for Hazardous Waste Streams", EPA 600/2-80-018, January 1980.

*Refer to Table 2.

TABLE 5

FREQUENCY OF ANALYSES

Hazardous Waste	Analysis	Frequency
Drums:		
Mixed Alcohol	Flash Point Methanol	Annually
Hydrocarbon, Extremely Flammable	Flash Point	Annually
Hydrocarbon, Flammable	Flash Point Xylene	Annually
Hydrocarbon, Combustible	Flash Point	Annually
Flammable, Tech Center	Flash Point Xylene Acetone	Annually
Solvent Sump	Flash Point	Annually
Mineral Spirits	Flash Point	Annually
Polychlorohydrocarbon	1,1,1-trichloroethane	Annually
Non-Combustible, Tech Center	1,1,1-trichloroethane	Annually
ES-40 Lites	Flash Point	Annually
Cyclizer	Flash Point pH	Annually
SWS-960	Flash Point	Annually
HCR Vent	Flash Point	Annually
Tanks:		
Bulk Ignitables	Flash Point Methanol 1,1,1-trichloroethane xylene	Every shipment OR annually
Bulk Polychlorohydrocarbon	1,1,1-trichloroethane	Every shipment OR annually
Bulk Mineral Spirits	Flash Point	Every shipment OR annually

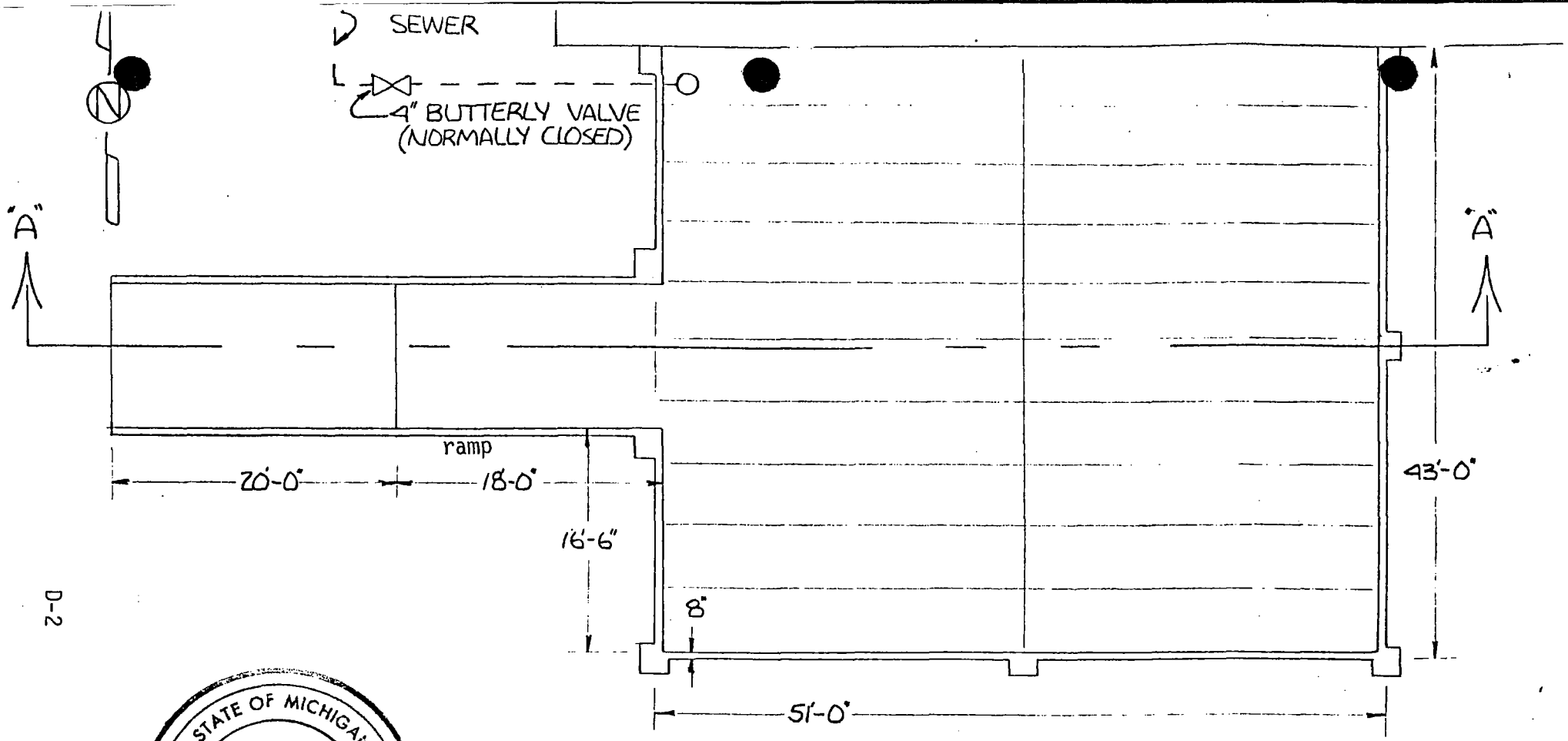
SECTION D

PROCESS INFORMATION

D-1 Containers [40 CFR 122.25(b)(1)]

D-1a Containers

The maximum inventory of drums in storage at any given time during the operating life of the facility is not expected to exceed 300 drums. (The maximum allowable number of drums, according to E.P.A. regulations, would be 800 drums). The container storage area, which is located outdoors at the east end of the facility currently holds approximately 90 containers. Drummed wastes, listed on Table 1, all contain free liquids. Consequently, specific information provided in this section will follow a format required for containers storing free liquids. There is 2,100 ft^2 in the container storage area, 60 ft^2 for ramp area (inside storage area), and approximately 940 ft^2 for aisle space. The remaining approximately 1,100 ft^2 is the actual storage area. A plan layout drawing of the Hazardous Waste Storage Pad is provided in Figure 33. Stacked to a maximum of three drums high, the container storage area may hold a capacity of approximately 800 drums (according to EPA regulations). However, the maximum capacity according to Michigan Department of Natural Resources Regulations is 300 drums. The average inventory of drums at any given time is approximately 90-100 drums.



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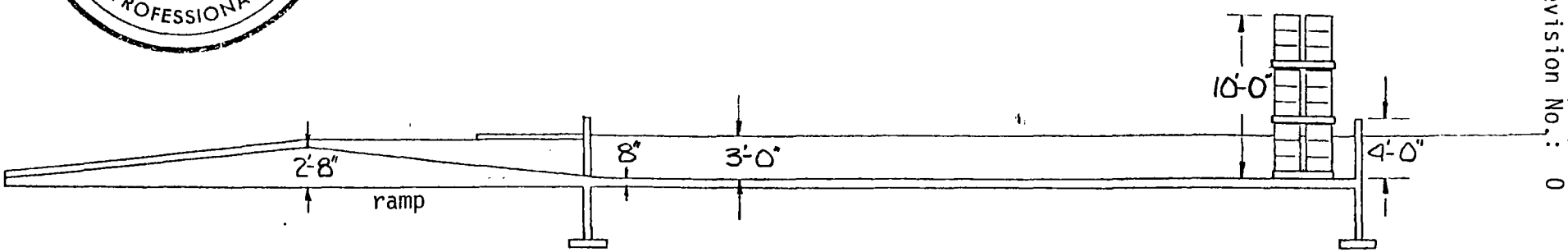
SWS SILICONES CORP.
PLAN LAYOUT HAZARDOUS WASTE STORAGE PAD
SCALE 3/32" = 1'-0"



SECTION "A"-"A" HAZARDOUS WASTE STORAGE PAD
SCALE 3/32" = 1'-0"

Figure 33

CJM 2-8-82

Date: 05/31/83
Revision No.: 0
D

D-1a(1) Description of Containers

Steel 55-gallon drums are used at the facility to store the wastes mentioned above in D-1a. The drums are constructed of low carbon steel that meet U.S. Department of Transportation Specification No. 17E. Some drums, used for in-plant storage and transfer operations, are steel drums in good condition. Cyclizer Waste (Figure 27) and HCR Vent Waste (Figure 29) are stored in white D.O.T. 17H open head drums. These drums are protected against corrosion by epoxy phenolic linings.

Steel or aluminum 400-500 gallon tote containers (12x12x12 gauge thickness) are used in transferring spent solvents from satellite production areas to the bulk storage tanks, within three days. These containers are properly labeled and sealed.

D-1a(2) Container Management Practices

Prior to transfer to the container storage area, wastes generated in the production areas are placed in the proper drums, sealed, dated and labeled according to Department of Transportation regulations for hazardous materials. Production area operators transfer drummed wastes by forklift trucks from the production areas to a "hold area". At this "hold area," the Warehouse operators sort out hazardous and non-hazardous wastes, and transfer these drums to the appropriate container storage areas. This procedure is completed within three days.

At SWS Silicones Corporation, there are no sources of ignition, such as an open flame.

The drums are stored on pallets to elevate them from contact with standing liquids, and if necessary, the drums are stacked as high as 10 feet (3 drums). Sufficient aisle space of at least 4 feet, every other row, is maintained at all times, and the container storage area

is inspected regularly (see Section F-2).

D-1a(3) Secondary Containment System Design and Operation

The container storage area pad is constructed of concrete, designed for loads of 28 lb/in^2. A 4-ft.-high concrete curb lines three sides and a 3-ft.-high curb lines one side of the storage pad perimeter.

There is a 2-ft. high entrance ramp to the pad. This pad will provide a holding capacity of 31,000 gallons, or more than 150 percent of the total volume held by the estimated maximum inventory. The concrete pad is presently in good condition, free of any gaps, holes or cracks. The base of the storage area is constructed of 8-in. thick concrete, reinforced with 6" x 6" wire mesh. The total storage pad is slightly sloped toward the sump area at the northwest corner. The pad will be regularly inspected as discussed in Section F-2 to ensure that it remains impervious and in good condition. The sump area has a drain valve connecting to the chemical sewer. This drain valve is normally closed. After inspection, it is opened to drain rainwater [see Section D-1a(4)].

Run-on is prevented from entering the containment area by the pad walls, and by the fact that the land surrounding the area is graded to encourage drainage away from the area.

D-1a(4) Removal of Liquids From Containment System

The container storage area has a holding capacity of approximately 31,000 gallons. The pad walls and the 2-ft.-high ramp provides a containment area for precipitation, leaks or spills. The drain valve, which is normally closed, connects the pad sump area to the

chemical sewer system. This valve is opened ONLY for stormwater, whenever necessary. Hazardous wastes do not enter the chemical sewer system. The chemical sewer system goes to the NPDES treatment system.

Any spills of drummed material will be pumped into drums and disposed properly off-site.

D-1b Containers Without Free Liquids

SWS Silicones Corporation does not currently manage containers without free liquids. Therefore, Permit Application Sections D-1b, D-1b(1), D-1b(2), D-1b(3), and D-1b(4) are not applicable.

D-2 Tanks [40 CFR 122.25(b)(2)]

D-2a Description of Tanks

One 25,000-gallon horizontal tank, designated as T-101, provides storage for spent 1,1,1-trichloroethane solvent waste. Two 15,000 gallon vertical tanks, designated as T-105 and T-108, provide storage for mixed ignitable solvent wastes and mineral spirits waste, respectively. T-101 has been fabricated and stamped in accordance with ASME Code Section VIII. T-105 and T-108 have been fabricated and stamped in accordance with API STD 650 Code. The design ratings for T-101 are 200 psi and 150°F. The design ratings for both T-105

and T-108 are 0.5 psi and ambient temperature.

The maximum allowable stress values (in tension) are 13,750 psi for T-101, and 12,650 psi for T-105 and T-108. The following describes the wastes stored in each tank:

	Waste	Specific Gravity	Vapor Pressure (mm Hg @ 20°C)
T-101	Bulk Polychlorohydro-carbon Waste	1.2	100
T-105	Bulk Ignitables Waste	0.96	100*
T-108	Bulk Mineral Spirits Waste	0.80	0.5

*This vapor pressure value is for cyclohexane, one of the major components in this mixed Bulk Waste. See section C for further details on waste characteristics.

Table 6 provides the individual tank dimensions and physical characteristics. Copies of the tank drawings are presented in Figures 34 and 35.

D-2b Tank Corrosion and Erosion

Storage tanks, T-101, T-105, and T-108 have no internal linings. The solvent wastes in these tanks have a pH range of 5-9. The external tank shells do have white protective paint coatings to

TABLE 6

PHYSICAL CHARACTERISTICS OF STORAGE TANKS

Item	Tank Identification No.		
	T-101	T-105	T-108
Orientation	horizontal	vertical	vertical
Capacity, gallons	25,000	15,000	15,000
Dimensions, in.			
Straight side	492	216	216
Diameter (O.D.)	120	143	143
Shell thickness, in.			
design	1.125	0.25	0.25
actual	1.109	0.25	0.25
Material	Mild Steel	Mild Steel	Mild Steel

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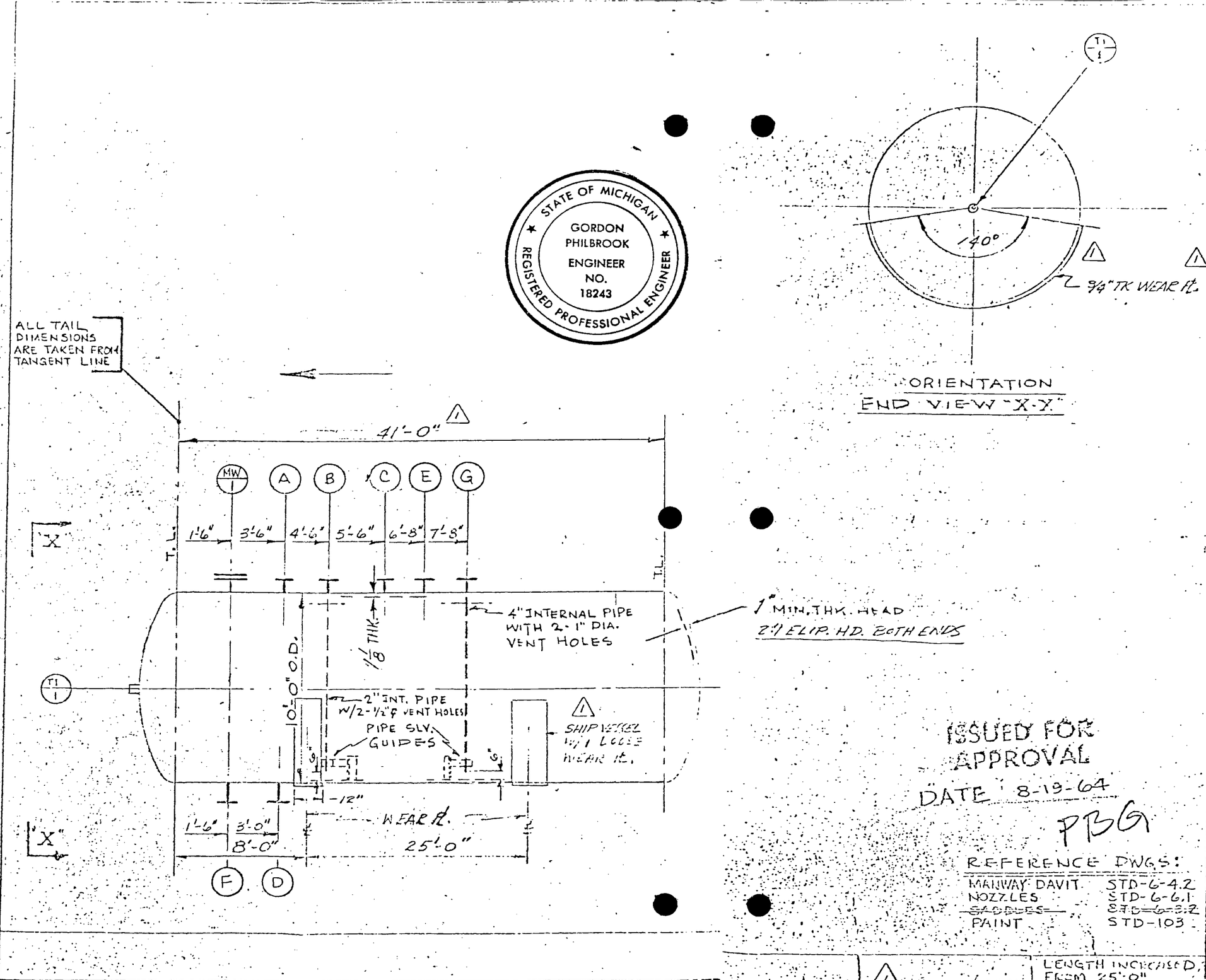

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ISSUED FOR APPROVAL
DATE 8-19-64
PBG

REFERENCE DWGS:

MANWAY DAVIT	STD-6-4.2
NOZZLES	STD-6-6.1
~~SADDLES~~	~~STD-6-3.2~~
PAINT	STD-103

1 WEAR PL ADDED. WGTS. RECALCULATED. LENGTH INCREASED FROM 25'-0" CAP. WAS 15,000 GALS

DESIGN DATA

CODE	ASME SEC VIII
OPER. SPEC.	STAUFFER
DESIGN PRESS.	200 PSIG
OPER. PRESS.	
STRESS RELIEVING	NONE
WELD EXAMINATION	SPOT X-RAY
JOINT EFFICIENCY	SHELL 85 HEADS 100
CORR. ALLOWANCE	SHELL (1/16") PLATE 1/16"
LINING	NONE
HYDROSTATIC TEST	PER CODE
FIRE PROOFING	— THK — SQ. FT.
INSULATION	NONE THK — SQ. FT.
SANDBLAST	OUTSIDE
PAINT	PER STAUFFER SPEC Nº 103
EMPTY WEIGHT	74,300 LB
OPERATING WEIGHT	267,800 LB
TEST WEIGHT	288,500 LB
CAPACITY	25,000 GAL

BILL OF MATERIAL

ITEM	MATERIAL	SOURCE
SHELL	ASTM-A285-GR C	VENDOR
HEADS	ASTM-A285-GR C	
NOZZ NECKS	ASTM-A106-GR A&B	
NOZZ FLGS	ASTM-A181-GR I	
GASKET	1/16" COMP ASB	
BOLTS	ASTM-A193 GR B7	
NUTS	ASTM-A194 CL 2H	VENDOR
SADDLES	ASTM-A285 GR C	VENDOR

MK	SIZE	RTG	FCG	DESCRIPTION
G	4"	150#	RF	LIQUID LEV CONN
T1-1	3/4"	3000#	SOCK WELD	TEMP CONN
MW-1	24"	150#	RF	MAN WAY
F	1 1/2"	↓	↓	FEED PUMP CONN
E	2"			R/V CONN
D	3"			DRAIN CONN
C	1"			HP INLET CONN
B	2"			INLET CONN
A	2"	150#	RF	VAPOR CONN

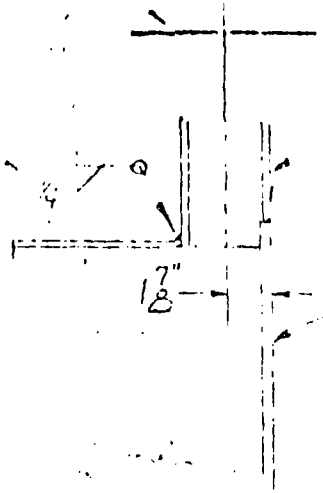
NOZZLE SCHEDULE

STAUFFER CHEMICAL CO.
ENG. DEPT. CHAUNCEY, N.Y.

T-101 - AREA "D"

ADRIAN MICHIGAN

DRN. D.F.	CHKD.	DATE 8/19/64
DWG. NO. SK-2012	JOB NO. 94-62	ISSUE P1



DET. [illegible]
(1) PER TANK

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Figure 35: T-105 and T-108 Drawi

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341-3
REV-4

[illegible] A-283-C
[illegible] IN & OUT
[illegible] HOLES STRADDLE [illegible]
[illegible] CENTERLINES
[illegible] TO BE SAND BLASTED
& [illegible] STAUFFER SPEC.
[illegible]
PAINT [illegible] PRIMER PR-825-8031

[illegible] WOOD COVERS FOR
[illegible] PROTECTION
MARK TANKS WITH TAG NUMBERS
TEST TANKS WITH AIR IN ACCORDANCE
WITH A.P.I. 650

NOZZLE SCHEDULE		
MARK	SIZE	SERVICE
A	2"	INLET CONN
B	2"	PUMP OUTLET CONN
C	1"	LEVEL INDICATOR
D	3"	DRAIN
MW	24"	MANWAY
V	3"	VACUUM BREAKER

REF. [illegible]
S-1 — NOZZS. & ATTACH.
A-649 — LADDER & PLATFORM
D 1195 — A.P.I. LABEL BRACKET

TWO (2) REQ'D.
(1) TAG T-105 AREA [illegible]
(1) TAG T-108 AREA [illegible]

10	5/8" [illegible]	
1	LADDER 16 [illegible]	400#
1	TANK	11,000#
SHIPPING LIST FOR (1) TANK		

CAPACITY 14800 GAL. EA.
WT. FILLED WATER 135,000 LB. EA.
SHIPPG. WT. 11000 LB. EA.

WO 94 62

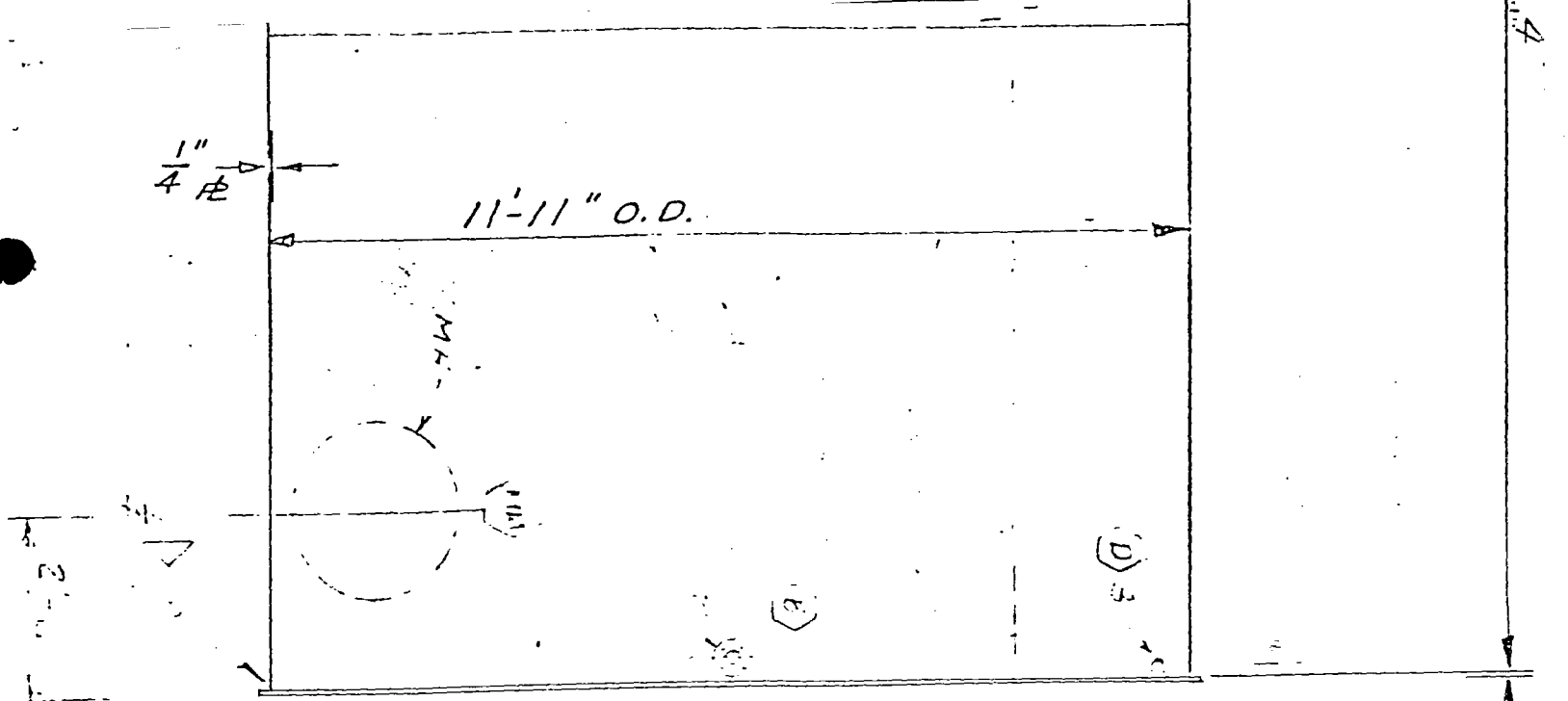
4	REVISED TEST	[illegible]	1-14-65
3"	ADD LIFT LUGS & [illegible]	[illegible]	12-[illegible]
2	WAS DUAL [illegible]	[illegible]	
1	[illegible] WAS [illegible]	[illegible]	

BUFFALO TANK DIVISION
BETHLEHEM STEEL COMPANY

T-105 &
T-108

STAUFFER CHEMICAL COMPANY
CHARLESTON, N.Y.

DATE [illegible]	CUST. ORDER [illegible]	DRAWING B-10[illegible]2
DRAWN [illegible]	CONTRACT	



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Revision No.: 01
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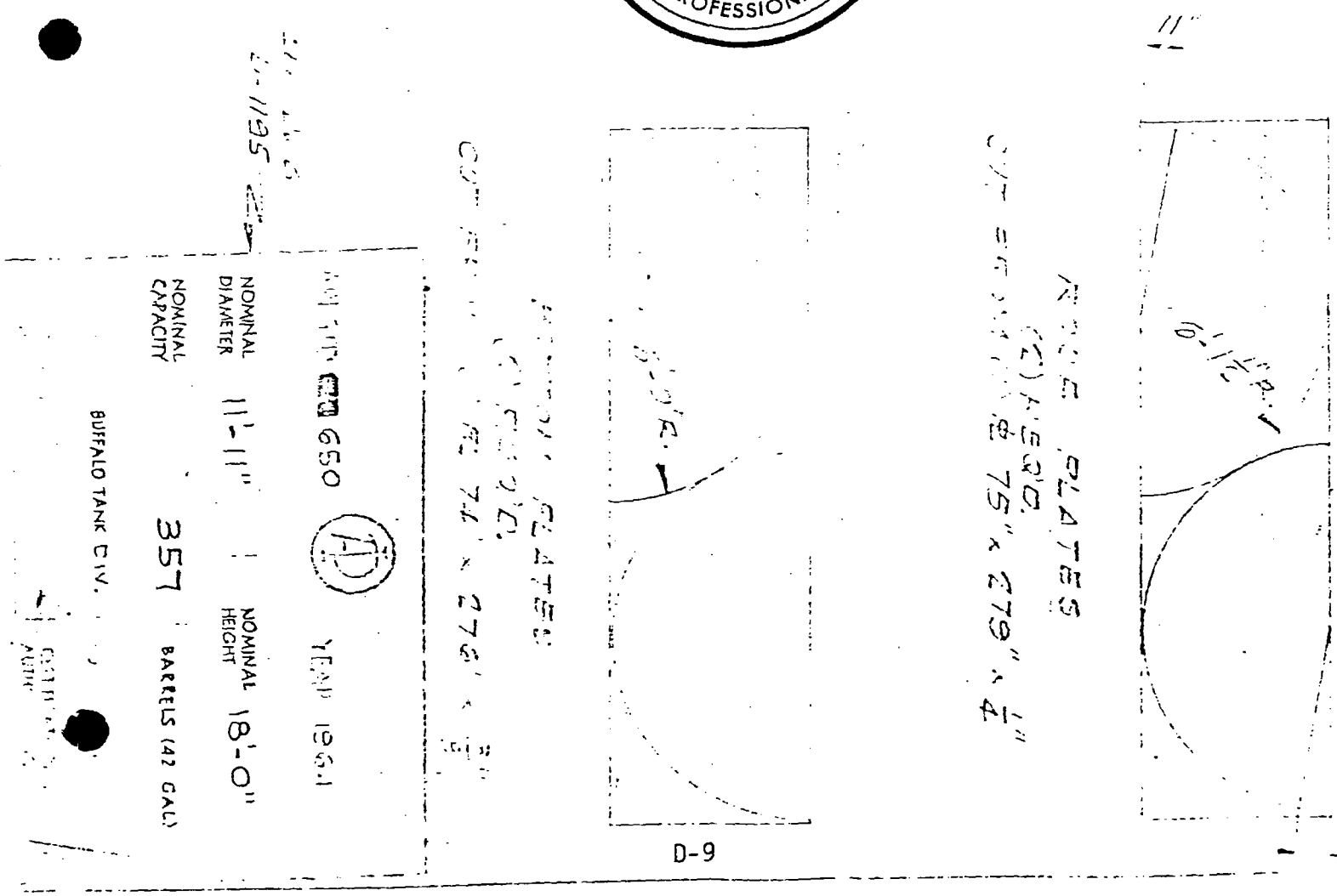
Figure 35 T-105 and T-108 Drawing (page 2)



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Revision No.: 01
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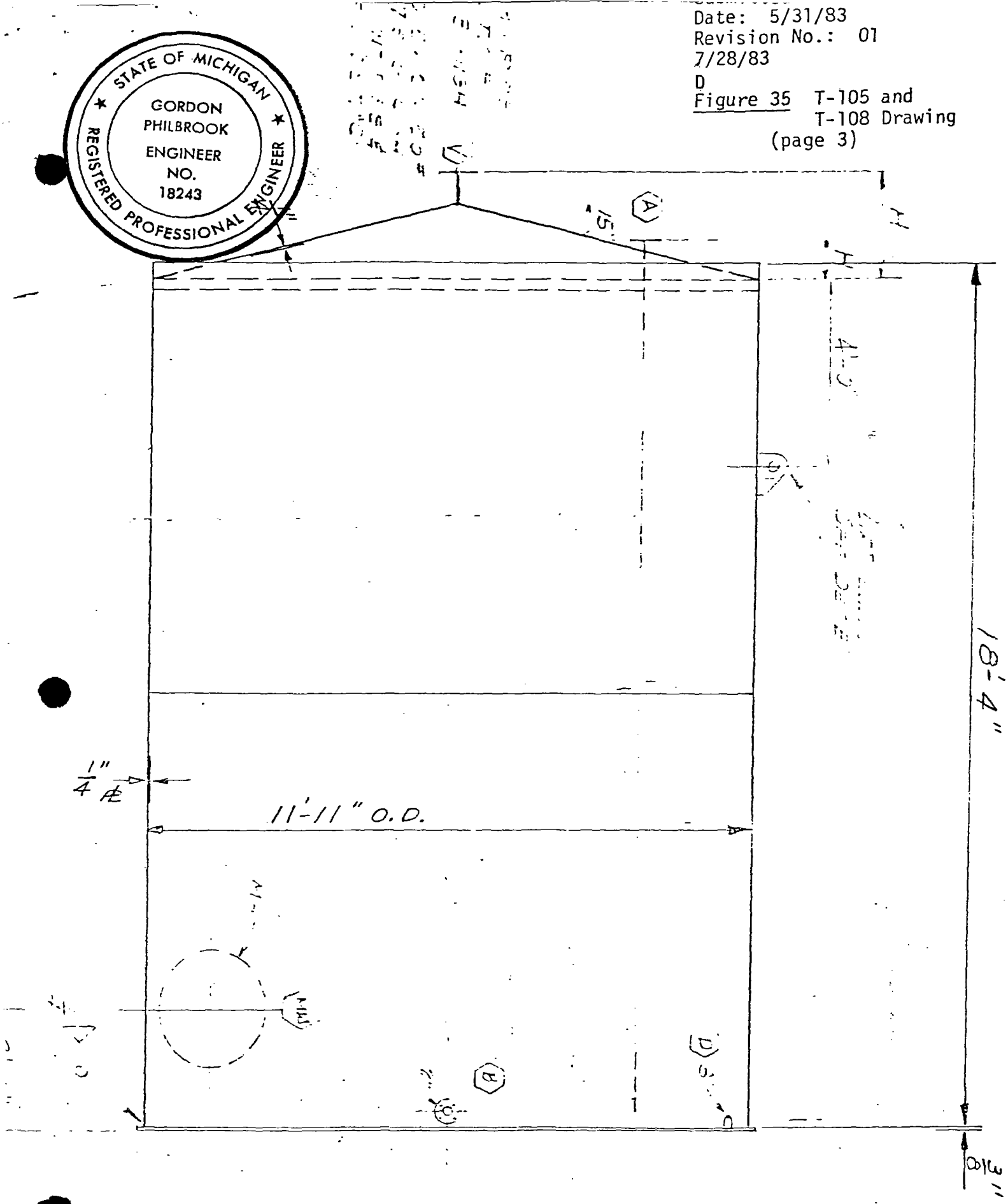
Figure 35 T-105 and T-108 Drawing (page 3)

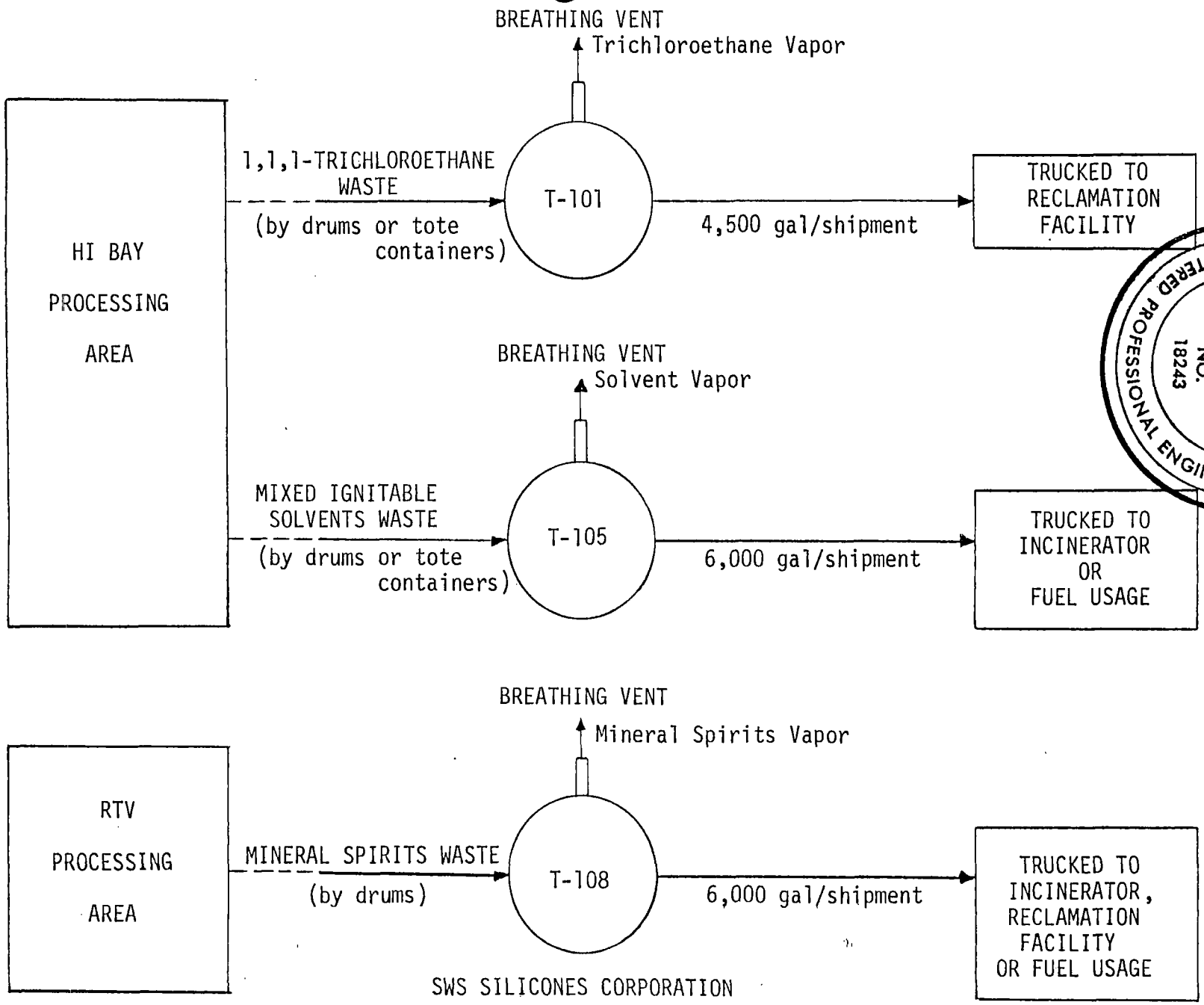


resist corrosion. According to manufacturer specifications, the corrosion allowance for the service life of the tanks is 1/16 inch.

D-2c Tank Management Practices

A simplified process flow diagram for all three tanks is shown in Figure 36. Also, a piping and instrumentation diagram showing the three storage tanks, instrumentation, and valving is presented in Figure 37.

T-101: Spent 1,1,1-trichloroethane solvent wastes, generated from the HiBay processing area, are transported via drums and tote containers to T-101. When there is a sufficient volume, the solvent waste is pumped to a tanker (by use of an air-operated diaphragm pump) and transported to a licensed reclamation facility. The T-101 storage tank is situated on a 28-ft by 64-ft concrete pad, surrounded by a 3½ to 4-ft-high, 6-inch reinforced concrete wall. The pad base is 4 inches thick and reinforced with 6 x 6 - #6 rods. The T-101 storage tank, oriented horizontally, is supported by two saddles (reinforced by 1" rods) and which set on concrete slabs (also reinforced by 1" rods). The dimension of the slabs is 4' x 12 1/2'x 1 1/4' thick. The load bearing capacities are 3,000 psi for the support slabs and 1,350 psi for the pad base. The volume in T-101 is accurately recorded in a log book every time there is a drum or tote container transfer. This batch-wise process would take at least six months to fill the tank. However, usually there is a shipment before the tank gets two-thirds full. Methods to prevent overfilling of T-101 include accurate inventory control (batch-wise filling only of one drum or one 450-gallon tote-tank at a time), and level sight glass.



SWS SILICONES CORPORATION

Figure 36 Process Flow Diagram

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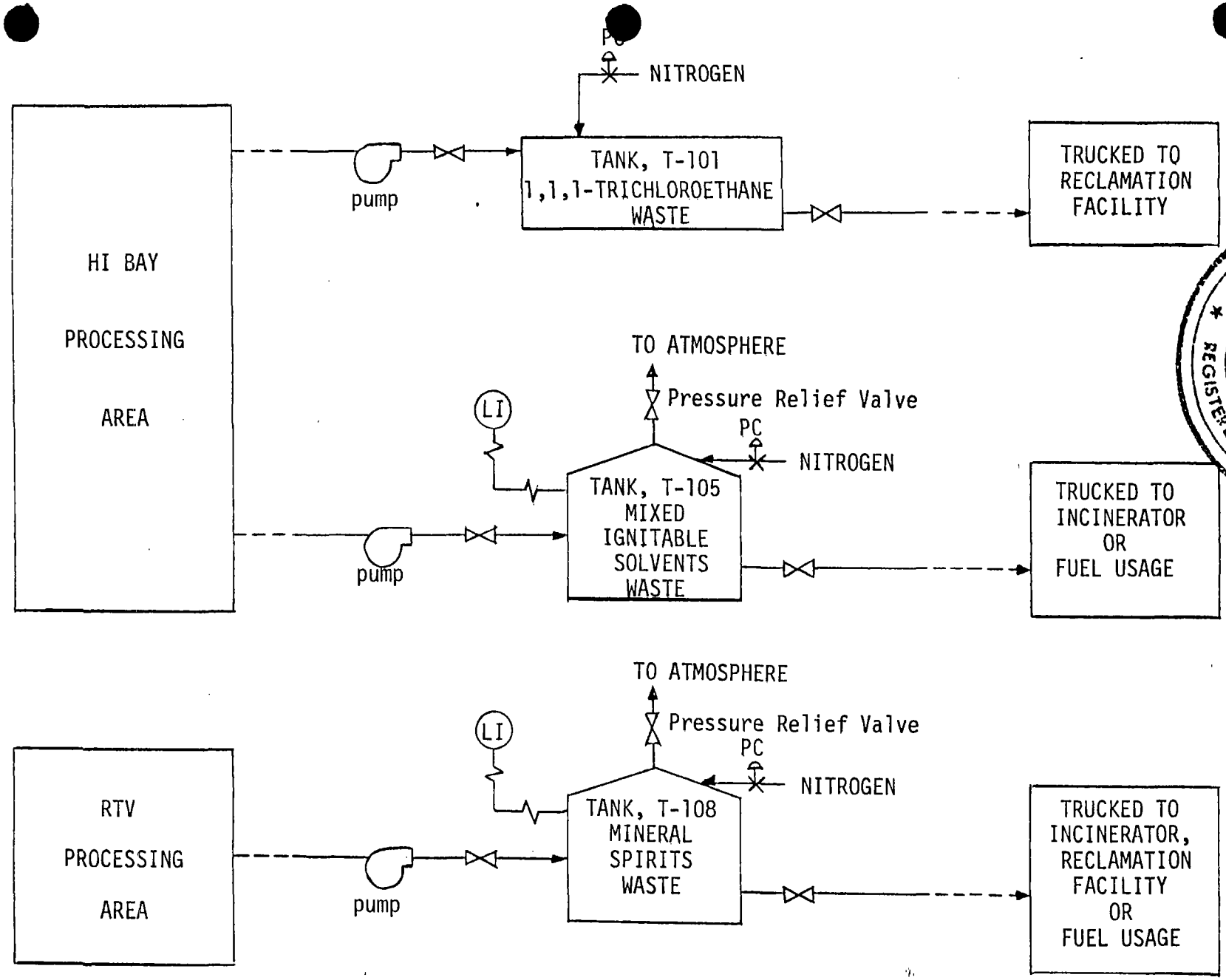

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NOTE:
(LI) Level Indicator
PC Pressure Control

SWS SILICONES CORPORATION

Figure 37 Piping and Instrumentation Diagram for Hazardous Waste Storage in Tanks

Date: 5/31/83
Revision No.: 0
D

T-105: Mixed ignitable solvent wastes, generated from the HiBay processing area, are transported via drums and tote containers to T-105. When there is a sufficient volume, the solvent waste is pumped to a tanker (by use of an air-operated diaphragm pump) and transported either to an incinerator facility or to an approved facility to be used as a fuel.

T-108: Mineral Spirits Waste, generated from the RTV (Room Temperature Vulcanizing) processing area, are transported via drums to T-108. When there is a sufficient volume, the solvent waste is pumped to a tanker (by use of an air-operated diaphragm pump) and transported to an incinerator facility, an approved facility for fuel usage, or a reclamation facility.

The T-105 and T-108 storage tanks are situated on a 32½-ft by 62-ft concrete pad, surrounded by a 4-ft-high, 6-inch reinforced concrete wall. There is a 6-inch concrete wall separating the two tanks. The portion of the concrete pad directly underneath the tanks is 8-inches thick and reinforced with 6 x 6-6/6 wire. The remaining concrete pad area is 4-inches thick and reinforced with 6 x 6 x 6 mesh. The load bearing capacities are 2,500 psi for the portion directly underneath the tanks, and 28 psi for the remaining area of the concrete pad. The pressure relief valves installed on T-105 and T-108 are rated at 0.5 psi. T-105 and T-108 have mechanical float level indicators, which are inspected weekly. The volumes in both tanks are accurately recorded in log books every time there is a transfer. This batch-wise process would take at least six

months to fill the tanks. However, usually there is a shipment before the tanks get two-thirds full.

Methods to prevent overfilling of T-105 and T-108 include accurate inventory control (batch-wise filling only of one drum or one 450-gallon tote-tank at a time), float level indicators, and special overflow drain pipes to the diked area pad.

D-3 Waste Piles [40 CFR Sections 122.25(b)(4), 264.250, 264.251, 264.252, 264.253]

SWS Silicones Corporation does not have any waste piles. Thus, Section D-3 is not applicable.

D-4 Surface Impoundments [40 CFR Sections 122.25(b)(3) and 264.220-264.223]

SWS Silicones Corporation does not manage a surface impoundment; therefore, Section D-4 is not applicable.

D-5 Incinerators [40 CFR Sections 122.25(b)(5) and 264.340-264.351]

SWS Silicones Corporation does not manage an incinerator; therefore, Section D-5 is not applicable.

E

SECTION E

GROUND WATER MONITORING SYSTEMS

[40 CFR Section 265.90-265.94]

The requirements for ground water monitoring are not applicable to a storage facility such as SWS Silicones Corporation, which stores containers and tanks (not intended for on-site disposal).

SECTION F

PROCEDURES TO PREVENT HAZARDS

F-1 Security [40 CFR Sections 122.25(a)(4) and 264.14]

F-1a Security Procedures and Equipment

In addition to the general security provisions of fencing, gates, and guards discussed below, several other features contribute to the safety and security of the facility. Ample lighting is provided throughout the site, and an internal telephone system (with phones in most plant areas) is provided. The same telephone system is used for outside communications.

Employees are required to show identification badges when reporting to work, and visitors and contractors must obtain visitors' passes and must sign a log sheet (Figure 38).

F-1a(1) 24-hour Surveillance System

Security at SWS Silicones Corporation is maintained by a staff of trained security guards, who monitor entry and exit from the plant, and conduct plant tours within the plant premises.

Date: 5/31/83
Revision No.: 0
F
Figure 38

SWS SILICONES CORPORATION

VISITOR'S LOG

Date _____

PASS NO.	TIME IN / OUT	NAME	COMPANY AND ADDRESS	PARTY TO SEE

The main truck entrance gate, at the east end of the north plant fence, is operated by remote control from the guard house. The guard house is occupied by one guard 24 hours a day, seven days a week, except for the periodic plant tours on off-day-shifts at which time the gate remains locked. Guards normally work an 8-hour shift.

F-1a(2) Barrier and Means to Control Entry

F-1a(2)(a) Barrier

The entire operational facility is enclosed on three sides within a 7-ft-high, chain-link fence topped by three strands of barbed wire. The fourth (south) side of the plant is protected by the River Raisin and swamp lands.

The fence has five gates: one main entrance gate operated by the guard service; one remotely-controlled truck entrance gate; one old railroad gate which is locked and not used; one dirt-road gate at the southeast corner, which is locked and very seldom used; and one dirt-road gate at the southwest corner, which is locked and used only for back-road travel from the plant to the Technical Center area.

F-1a(2)(b) Means to Control Entry

As discussed in Section F-1a(1), entry to the facility is controlled by a guard stationed at the main entrance gate. Employees are required to show identification cards (which have their pictures on them) when entering the plant. Visitors and

contractors must have visitors' passes and sign a log sheet.

F-1a(3) Warning Signs

Signs which are legible from a distance of 25 feet are posted at the fence gates and several other fence locations around the facility. Two signs are on fence posts at the south area of the plant. These signs are visible from all angles of approach, and bear the legend "Danger - Unauthorized Personnel Keep Out". There is a well enforced plant policy which forbids smoking in all areas, except office areas, lunch rooms, and the maintenance shop.

F-1b Waiver

SWS Silicones Corporation does not request a waiver of the requirements stated in Part 264.14(a)(1) and (2) regarding injury to intruder and violation by intruder.

F-2 Inspection Schedule [40 CFR Sections 122.25(a)(5), 264.15]

F-2a General Inspection Requirements

SWS Silicones Corporation conducts regular inspections of the facility for equipment malfunctions, structural deterioration, operator errors, and discharges that could cause or lead to the release of hazardous waste constituents and adversely affect the environment or threaten human health.

F-2a(1) Types of Problems

Table 7 presents the schedule for inspecting the container

TABLE 7

INSPECTION SCHEDULE

Area/Equipment	Specific Item	Types of Problems	Frequency of Inspection
Container Storage Area	Container placement and stacking	Aisle space, height of stacks	Weekly
	Sealing of containers	Open lids	Weekly
	Labeling of containers	Improper identification, date missing	Weekly
	Containers	Corrosion, leakage, structural defects	Weekly
	Pallets	Damaged	Weekly
	Base or foundation	Cracks, spalling, uneven settlement, erosion, wet spots	Weekly
	Dikes	Cracks, deterioration	Weekly
	Drain area, drain valve	Corrosion, deterioration, leaks	Daily
	Debris and refuse	Clogged drain, aesthetics	Weekly
	Ramp	Cracks, spalling, uneven settlement, erosion	Weekly
Tank Storage Area and Ancillary Equipment	Dike	Cracks, deterioration	Weekly
	Base or foundation	Cracks, spalling, uneven settlement, erosion, wet spots	Weekly
	Drain area	Leaks, deterioration	Daily
	Pipes	Leaks, corrosion or deterioration	Weekly
	Valves	Leaks, corrosion or deterioration	Weekly
	Pumps	Power, clogging	Weekly
	Level indicator	Sticking, malfunction, reading	Daily
	Surrounding Area	Leaks	Weekly
Tanks	Ladder	Damaged, structural stability	Weekly
	Foundation/Structural supports	Cracks, spalling, uneven settlement, erosion, wet spots	Weekly
	Pipe connections	Corrosion, cracks, distortion	Weekly
	Protective coating	Rust spots, blisters, film lifting	Weekly
	Tank shell	Corrosion, discoloration, cracks, buckles, bulges, leaks	Weekly
	Tank roof	Malfunction of seals, corrosion	Weekly
	Nozzles	Cracks, corrosion, leaks	Weekly
	Tank shell	Thickness	Yearly
	Internal inspection	Tank integrity, corrosion, cracks	Yearly
	Overflow Pipe	Leaks	Daily

Submitted
Date: 5/31/83
Revision No.: 01
7/28/83
F

storage area, the tank storage area and the tanks. Provided with each item is a list of problems normally encountered.

F-2a(2) Frequency of Inspection

Also provided in Table 7 is a recommended frequency of inspection for each item.

F-2b Specific Process Inspection Requirements

F-2b(1) Container Inspection

Inspections of the container storage area will be conducted per the inspection schedule provided in Table 7. Results of each inspection will be recorded on inspection log sheets entitled "Container Storage Area Weekly Inspection Log Sheet" (Table 8). Information requested on the log sheets includes the inspector's name and title, date, item of inspection, typical problems encountered, status of the item, observations, and the date and nature of repairs and remedial action.

The inspection sheets are kept in a three-ring binder at the Warehouse department. The inspector (a department supervisor) is required to check the status of each item and indicate whether its condition is acceptable or unacceptable. If the status of a particular item is unacceptable, appropriate and complete information is recorded, including date and nature of repairs and remedial action.

F-2b(2) Tank Inspection

CONTAINER STORAGE AREA WEEKLY INSPECTION LOG SHEET

(Hazardous Waste Storage Pad)

Inspector's name/title_____

Date of Inspection_____(month/day/year)

Item	Types of problems	Status (✓) Acceptable	Status (✓) Unacceptable	Observations	Date and nature of repairs/remedial action
Container placement and stacking	Aisle space, height of stacks				
Sealing of containers	Open lids				
Labeling of containers	Improper identification, date missing				
Containers	Corrosion, leakage structural defects				
Pallets	Damaged				
Base or foundation	Cracks, spalling, uneven settlement erosion, wet spots				
Dikes	Cracks, deterioration				
Drain area, drain valve	Corrosion, deterioration, leaks				
Debris and refuse	Clogged drain, aesthetics				
Ramp	Cracks, spalling, uneven settlement erosion				

Table 8
(page 1)

Table 8
(page 2)

WAREHOUSE DEPARTMENT

Hazardous Waste Storage Pad

SWS Silicones Corporation
RCRA Plan
Inspection Plan and Log

Inspect drum storage area weekly, looking for leaks and/or drum deterioration.

Any problems are to be reported immediately to management. An inspection log will be kept in the Warehouse area. This will include dates of inspections, inspector, problems found and remedial action taken. These records must be kept for at least 3 years.

The drain area (and the drain valve) should be checked daily.

Tank inspections will be conducted per the inspection schedule provided in Table 7. Results of each inspection will be recorded on inspection log sheets entitled "Tank Storage Area and Ancillary Equipment Weekly Inspection Log Sheet" (Table 9). Upon completion of the log sheets, they will be inserted in inspection log three-ring binders previously discussed in Section F-2b(1). The T-101 and T-105 inspection log binders are kept in the Hi Bay production area. The T-108 inspection log binder is kept in the RTV production area.

F-2b(3) Waste Pile Inspection

Not Applicable.

F-2c Remedial Action

If inspections reveal that non-emergency maintenance is needed, they will be completed as soon as possible to preclude further damage and reduce the need for emergency repairs. If a hazard is imminent or has already occurred at any time, remedial action will be taken immediately. SWS Silicones Corporation personnel will notify the appropriate authorities per the Contingency Plan (see Section G) and initiate remedial actions. In the event of an emergency involving the release of hazardous constituents to the environment, efforts will be directed towards containing the hazard, removing it, and subsequently decontaminating the affected area. Refer to Contingency Plan for further details.

TANK STORAGE AREA AND ANCILLARY EQUIPMENT WEEKLY INSPECTION LOG SHEET

T-101, T-105, T-108 (circle one)

Inspector's name/title_____

Date of inspection_____(month/day/year)

Item	Types of problems	Status (✓) Acceptable	Status (✓) Unacceptable	Observations	Date and nature of repairs/remedial action
Tank Storage Area & ancillary equipment:					
Dike	Cracks, deterioration				
Base or foundation	Cracks, spalling, uneven settlement, erosion, wet spots				
Drain area	Leaks, deterioration				
Pipes	Leaks, corrosion, or deterioration				
Valves	Leaks, corrosion, or deterioration				
Pumps	Power, clogging				
Level Indicator	Sticking, malfunction, reading				
Surrounding Area	Leaks				
Tanks:					
Ladder	Damaged, structural stability				
Foundation/Structural Supports	Cracks, spalling, uneven settlement, erosion, wet spots				
Pipe connections	Corrosion, cracks, distortion				
Protective coating	Rust spots, blisters, film lifting				
Tank shell	Corrosion, discoloration, cracks, buckles, bulges, leaks				
Tank Roof	Malfunction of seals, corrosion				
Nozzles	Cracks, corrosion, leaks				
Overflow Pipe	Leaks				

Submitted
Date: 5/31/83
Revision No.: 01
7/28/83
F
Table 9
(page 1)

Table 9
(page 2)

HI BAY AREA

T-101

SWS Silicones Corporation
RCRA Plan
Inspection Plan and Log

A Department Supervisor will inspect around the T-101 tank once per week, and whenever loading or unloading the tank. Look for leaks around pump and tank; inspect equipment, and inspect dike for erosion or malfunction. Look for operator errors, spills, or any other environmental problem.

Any problems are to be reported immediately to management. An inspection log will be kept in the Operator area. This will include dates of inspections, inspector, problems found, and remedial action taken. These records must be kept for at least 3 years.

The drain area should be inspected daily. Internal inspection of the tank and the tank shell thickness should be checked annually.

Table 9
(page 3)

HI BAY AREA

T-105

SWS Silicones Corporation
RCRA Plan
Inspection Plan and Log

A Department Supervisor will inspect around the T-105 tank once per week, and whenever loading or unloading the tank. Look for leaks around pump and tank; inspect equipment, and inspect dike for erosion or malfunction. Look for operator errors, spills, or any other environmental problem.

Any problems are to be reported immediately to management. An inspection log will be kept in the Operator area. This will include dates of inspections, inspector, problems found, and remedial action taken. These records must be kept for at least 3 years.

The drain area should be inspected daily. Internal inspection of the tank and the tank shell thickness should be checked annually.

Table 9
(page 4)

RTV AREA

T-108

SWS Silicones Corporation

RCRA Plan

Inspection Plan and Log

A Department Supervisor will inspect around the T-108 tank once per week, and whenever loading or unloading the tank. Look for leaks around pump and tank; inspect equipment, and inspect dike for erosion or malfunction. Look for operator errors, spills, or any other environmental problem.

Any problems are to be reported immediately to management. An inspection log will be kept in the Operator area. This will include dates of inspections, inspector, problems found, and remedial action taken. These records must be kept for at least 3 years.

The drain area should be inspected daily. Internal inspection of the tank and the tank shell thickness should be checked annually.

F-2d Inspection Log

Inspection logs are maintained for each calendar year in three-ring binders at the appropriate departments. After an inspection, each log sheet is filed in the appropriate binder, which provides a case history of a particular item. The inspection log notebook for the container storage area is always kept at the Warehouse Supervisor's office. The inspection notebooks for T-101 and T-105 are always kept at the Hi Bay Supervisor's office. The inspection log notebook for T-108 is always kept at the RTV Supervisor's office. Table 8 and 9 are copies of the inspection log sheets. Also included with these tables are the instructions for inspection logs.

F-3 Waiver of Preparedness and Prevention Requirements [40 CFR Sections 122.25(a)(6), 264.32, and 264.35]

SWS Silicones Corporation does not wish to request a waiver of the preparedness and prevention requirements under 40 CFR Section 264 Subpart C. Requirements of this subpart are primarily addressed in Section D, Section F, and Section G of this application.

F-3a Equipment Requirements

Internal and external communications, emergency equipment, and fire control equipment are discussed in Section F and Section G.

F-3b Aisle Space Requirements

Aisle space requirements are addressed in Sections D-1a(2), F-5c,

and G.

F-4 Preventive Procedures, Structures, and Equipment
[40 CFR Section 122.25(a)(8)]

F-4a Loading Operations

Loading operations at the facility take place at the Warehouse loading area and at the tank storage loading area. (See Figure 14).

Waste generated in the processing area are collected into drums or tote containers, and transported by fork trucks to the appropriate storage area. Then, drummed wastes are transported by fork trucks to the appropriate loading area for outside shipment. Wastes from the tank storage area are piped directly to the loading area (Figure 14). During loading operations spills are unlikely; however, in the event of an accident, the material will be contained with standard industrial absorbants, absorbent pads, dirt or other means. Contaminated materials will be hauled to a permitted hazardous waste landfill and affected areas of the facility and equipment will be decontaminated.

There are no unloading operations at SWS Silicones Corporation.

F-4b Runoff

Runoff from the container storage area is collected in a 100-gallon sump at the northwest corner of the pad. After determining

that there has not been any spills or leaks, a manual valve (which is normally closed) is opened to let the runoff go to the chemical sewer treating system. If a spill or leak has been determined, or suspected, the liquid will be analyzed and then the material will be either sent to the chemical sewer or drummed for off-site disposal, depending on the analysis.

Runoff from the storage area of the three tanks would be contained in each of the three diked areas. After determining that there has not been any spills or leaks, manual valves (which are normally closed) are opened to let the runoff go to the SPCC (Spill Prevention, Control, and Countermeasures) pond. If a spill or leak has been determined, or suspected, the liquid will be analyzed and then, the material will be either sent to the SPCC pond or drummed for off-site disposal, depending on the analysis.

F-4c Water Supplies

Ground water contamination is prevented by eliminating the discharge of hazardous materials onto the unprotected ground. The container storage area, the tank storage area, and the warehouse loading area, are constructed of concrete bases, dikes, and drain valves to contain leaks, spills, and precipation. The truck loading area is on a concrete pad which would catch small spills. Large spills would drain to a ditch which connects to the S.P.C.C. pond recovery system.

F-4d Equipment and Power Failure

There is no electrical equipment at the container storage area

and the tank storage area. Plant air failure would not affect the operation of hazardous waste practices since the whole operation is a batch process.

F-4e Personnel Protection Equipment

General information on the chemical components of the wastes in the containers and tanks is provided in Appendix A (General Information and Hazardous Characteristics of Wastes) and Figures 17-32. The data presents information on various chemicals regarding toxicity, fire, and explosion hazards. All plant personnel are equipped with safety shoes, hard hats, safety glasses, and respirators. Further details are presented in the Contingency Plan, Section G. Use of protective equipment is covered in the initial and annual Personnel Training Programs (see Section H), which satisfies the Occupational Safety and Health Standards of 29 CFR Part 1910 Subpart I - Personal Protective Equipment.

F-5 Prevention of Reaction of Ignitable, Reactive, and Incompatible Wastes [40 CFR Sections 122.25(a)(9), 122.25(b)(1)(iii), 122.25 (b)(2)(vi), 122.25(b)(4)(i)(c)(4), 122.25(b)(4)(ii)(b)(1), 264.17, 264.21, 264.23, 264.176, 264.177, 264.198, 264.199, 264.256, 264.257]

F-5a Precautions to Prevent Ignition or Reaction of Ignitable or Reactive Wastes

The container storage area and the T-105 and T-108 tank storage areas are the only areas on the facility property where ignitable wastes are stored. No reactive wastes are handled or stored at the facility. The containers, as discussed in Section D-1a(1),

are compatible with the contained wastes; therefore the only source of ignition is external to the containers and tanks. The container storage and tank storage areas are remotely located from the operating areas of the plant. Sparkproof tools are used on all containers and tanks storing ignitable materials.

F-5b General Precautions for Handling Ignitable or Reactive Wastes or Accidently Mixing Incompatible Wastes

General precautions for handling ignitable or reactive wastes were discussed above. SWS Silicones does not have any incompatible wastes.

F-5c Management of Ignitable or Reactive Wastes in Containers

Precautions taken in the container storage area to prevent accidental fire and explosion include proper storage of containers (e.g. stacking, aisle space, and labeling and sealing of containers), dikes, and sump areas.

Prior to storage, each container is sealed, labeled and dated. This prevents precipitation from entering the drum, and identifies the contents of the container and the date wastes were generated. Containers are stored on pallets to minimize contacts with precipitation, leaks, or spills, and they are never stacked more than three containers high. A minimum of four feet is maintained in the aisles to allow access for inspections. The container

storage area is located approximately 300 feet from the closest company property line (Figure 11), which is in compliance with the National Fire Code Standards for outdoor storage of containers holding ignitable wastes.

F-5d Management of Incompatible Wastes in Containers

SWS Silicones Corporation has no incompatible wastes. Thus, this Section F-5d is not applicable.

F-5e Management of Ignitable or Reactive Wastes in Tanks

Precautions taken in the tank storage area to prevent accidental fire and explosion include proper storage (e.g. nitrogen padding and grounding), and diking. The tank storage area is located 375 feet from the closest company property line (Figure 11), which is in compliance with the National Fire Code Standards for "Flammable and Combustible Liquids Codes" for vertical tanks with emergency relief venting. The facility provides protection for exposures by location within the jurisdiction of the Raisin Township Fire Department and by operation of its own trained personnel.

F-5f Management of Incompatible Wastes in Tanks

SWS Silicones Corporation has no incompatible wastes. Thus, this Section F-5f is not applicable.

F-5g Management of Ignitable or Reactive Wastes in Waste Piles

SWS Silicones Corporation does not have any waste piles. Therefore, this Section F-5g is not applicable.

F-5h Management of Incompatible Wastes in Waste Piles

SWS Silicones Corporation does not have any waste piles. Therefore, this Section F-5h is not applicable.

F-5i Management of Ignitable Wastes in Tanks

The T-105 and T-108 tanks have a controlled nitrogen pad of about 0.5 PSIG. If the gaseous volume is increased by liquid removal or by temperature drop, nitrogen will automatically bleed into the tank to maintain the pad pressure. Alternately, when the gaseous volume is reduced, some nitrogen (and vapors) are automatically released from the tank, so as not to exceed the 0.5 PSIG. We have a Michigan Department of Natural Resources air permit for the vent releases.

The tanks are well grounded. The fill piping is a dip tube which discharges to the bottom of the tank, thus avoiding static electricity problems. The tanks are located in a remote area from the plant production processes.

SECTION G

CONTINGENCY PLAN

G-1 General Information [40 CFR 122.25(a)(7)]

This contingency plan is for SWS Silicones Corporation located at 3901 Sutton Road, Lenawee County, Adrian, Michigan 49221. SWS Silicones Corporation manufactures a variety of silicone products, including fluids, emulsions, sealants, antifoams and rubbers. Mr. Joseph Calamungi is the Director of Manufacturing, and he may be reached at (517) 263-5711 from 8:00 a.m. to 4:30 p.m. on weekdays, and at (517) 263-9300 at other times. Mr. Gordon Philbrook is the Environmental Control Coordinator, and he may be reached at (517) 263-5711 from 8:00 a.m. to 4:30 p.m. on weekdays, and at (517) 467-4329 at other times. Mr. James Barancin is the Production Manager and the primary emergency coordinator. He may be reached at (517) 263-5711 from 8:00 a.m. to 4:30 p.m. on weekdays, and at (517) 547-5462 at other times.

SWS Silicones Corporation stores hazardous wastes in two locations. A tank storage area with three tanks is used to store 1,1,1-trichloroethane waste solvent (25,000-gallon), Mixed Ignitable Solvent Waste (15,000-gallon), and Mineral Spirits Solvent Waste (15,000-gallon). A container storage area has an estimated maximum storage capacity of 300 drums. A general site plan and a full description of the facility is contained in [illegible] A description of the wastes is contained in Section C.

G-2 Emergency Coordinators [40 CFR 122.25(a)(7), 264.52(d) and 264.55]

If an emergency situation develops at the facility, the discoverer should contact an emergency coordinator listed below. James Barancin, primary Emergency Coordinator, should be contacted first.

EMERGENCY COORDINATORS

Name	Title	Home address	Work phone no.	Home phone no.
James Barancin	Production Manager	13600 Rome Rd. Manitou Beach	517-263-5711 Ext. 366	517-547-5462
James Lorenzen	Engineering Manager	4451 Kiowa Ct. Adrian	517-263-5711 Ext. 215	517-265-8341

The primary emergency coordinator, and alternate, have complete authority to commit all resources of the company, in the event of an emergency. App. B-2 lists organizations that could possibly be contacted by the Emergency Coordinator in the event of an emergency.

G-3 Implementation of the Contingency Plan [40 CFR 122.25(a)(7) and 264.51(b)]

The decision to implement the contingency plan depends upon whether or not an imminent or actual incident could threaten human health or the environment. The contingency plan will be implemented in the following situations: fire, explosion or uncontrolled spills.

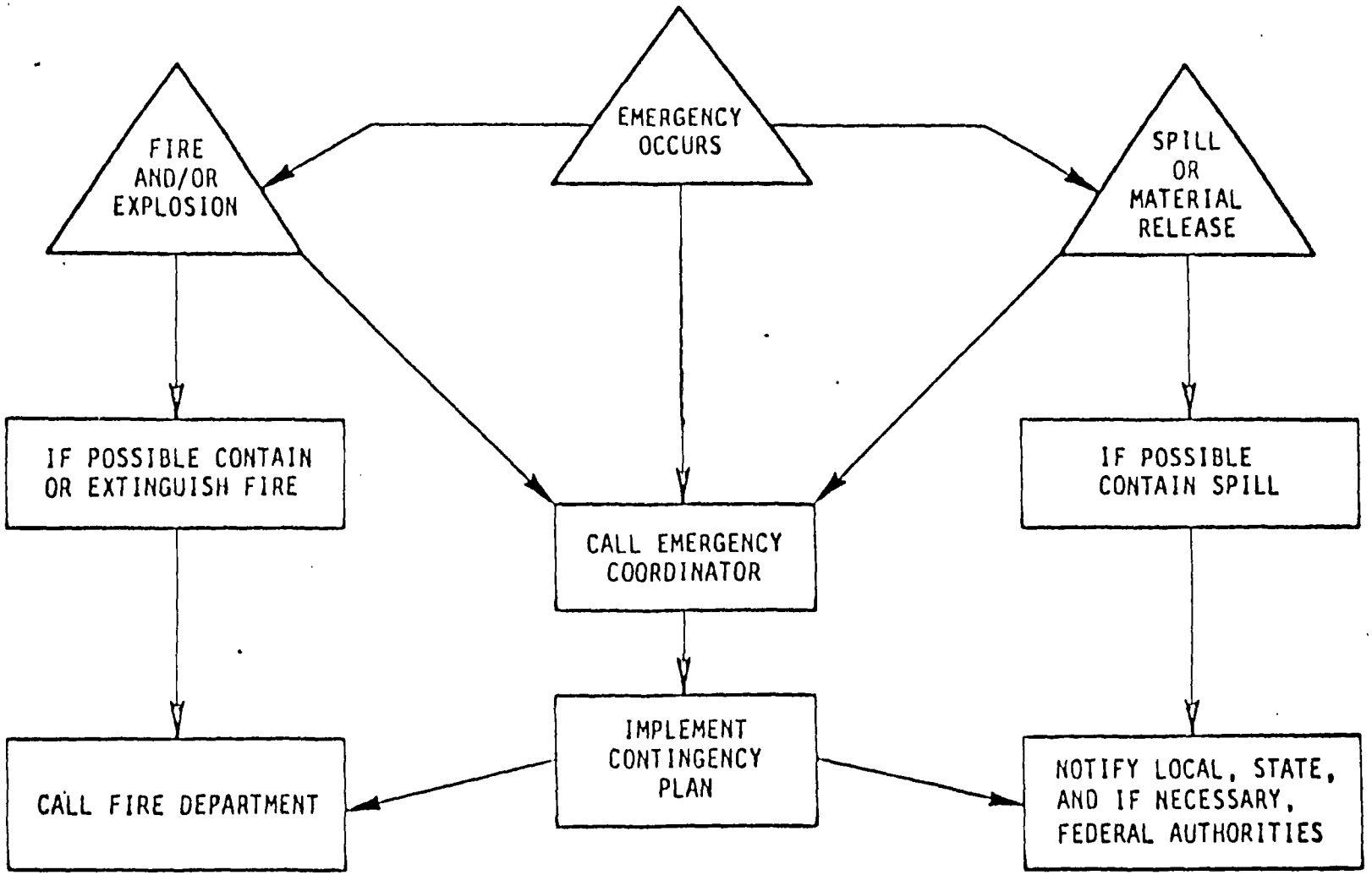
G-4 Emergency Response Procedures [40 CFR 122.25(a)(7), 264.52(a), 264.56, 264.171, 264.194(c), 264.255 and 264.258]

G-4a Notification

In the event of an emergency situation, the emergency coordinator will be notified first; subsequently, all appropriate facility personnel, federal, state or local agencies, and fire or police departments will also be notified. (See Figure 39 and Appendix B.)

G-4b Identification of Hazardous Wastes

The emergency coordinator will immediately identify the character, exact source, amount and area extent of release. The initial identification method will be to utilize visual analysis of the material and location



SWS SILICONES CORPORATION

Figure 39 Overview of Emergency Action Plan

of the release. All containers are labeled as to their contents and are stored in distinct locations on the pad. The three storage tanks are identified and labeled as to their contents. If for some reason the released material cannot be identified, samples will be taken for chemical analysis.

G-4c Assessment

The emergency coordinator and the Environmental Control Coordinator will assess possible hazards, both direct and indirect, to human health or the environment.

G-4d Control Procedures

Potential emergencies fall under two general classifications: (1) fire and/or explosions, and (2) spills or material release. Natural disasters, such as tornadoes are assumed to fall into one of these two classifications. An overview of the Emergency Action Plan is described in Figure 39.

Fire and/or Explosion

The procedures for this type of emergency are outlined in Appendix B, pages 1-17. Figure 11 shows the rally point for the manufacturing plant. Plant Classification of Fires and Plant Fire Protection System are described in Appendix B, pages 18-24. This includes sketch, SK-8-3 (Appendix B-24), which describes the underground fire lines and the locations of various post indicator valves, fire hydrants and hose houses.

Spills or Material Release

Emergency procedures due to spills or material release will be handled in the same manner as described in Appendix B, pages 1-17. When appropriate, the Federal and State Agencies, as listed in Appendix B, will be notified.

As called for in regulations developed under the Comprehensive Environmental Liability and Compensation Act of 1980 (Superfund), our practice is to report a spill of a pound or more of any hazardous material for which a reportable quantity has not been established and which is listed under the Solid Waste Disposal Act, Clean Air Act, Clean Water Act, or TSCA. We also follow the same practice for any substances not listed in the Acts noted above but which can be classified as a hazardous waste under RCRA. In addition, SWS Silicones Corporation is negotiating a Spills Control Contract with A.C.E.S. (Associated Chemical and Environmental Services Inc.). A copy of the latest agreement is in Appendix C.

Most waste spills and leaks are easily contained within the dikes and sumps provided in the tank area. Small spills occurring in a diked area are flushed with plenty of water, to the sump provided in that area. If necessary, a portable sump pump is used to pump the diluted waste material into 55-gallon drums. Procedures for handling large spills were discussed earlier in this section.

G-4e Prevention of Recurrence or Spread of Fires, Explosions or Releases

Actions to prevent the recurrence or spread of fires, explosions or releases include stopping processes and operations, collecting and containing released waste, and recovering or isolating containers. The onsite training manual addresses the specific actions to be taken in an emergency. In addition, if the facility stops operations in response to an emergency, the emergency coordinator will monitor valves, pipes, and other equipment for leaks, pressure build up, gas generation or ruptures.

G-4f Storage and Treatment of Released Material

Immediately after an emergency, the emergency coordinator and the Environmental Control Coordinator will make arrangements for off-site treatment, storage, or disposal of recovered waste, contaminated soil, surface water, or any other contaminated material. Refer to A.C.E.S. Contract, Appendix C.

G-4g Incompatible Wastes

SWS Silicones Corporation does not have any incompatible wastes. Therefore, this section G-4g does not apply.

G-4h Post-Emergency Equipment Maintenance

After an emergency event, all emergency equipment listed in section G5 will be cleaned so that it is fit for use or it will be replaced. Before operations are resumed an inspection of all safety equipment will be conducted as discussed in section F-2. The Regional Administrator, state, and local authorities will be notified that post-emergency equipment maintenance has been performed and operations will be resumed.

G-4i Container Spills and Leakage

Refer to section G-4d for a discussion of emergency response procedures for container spills and leakage. Please refer to SPCC (Spill Prevention Control and Countermeasure) Plan, Appendix D.

G-4j Tank Spills and Leakage

Refer to section G-4d for a discussion of tank spills and leakage emergency response procedures. Please refer to SPCC (Spill Prevention Control and Countermeasure) Plan, Appendix D.

G-4k Waste Piles

SWS Silicones Corporation does not have any waste piles. Therefore, this section G-4k is not applicable.

G-5 Emergency Equipment [40 CFR 122.25 (a)(7) and 264.52(e)]

The underground fire lines and the locations of various post indicator valves, fire hydrants and hose houses are shown in Sketch, SK-8-3, Appendix B-24. Also available for fire control are the portable fire extinguishers as shown in Appendix B, pages 25-29. Fire Axe Locations are in the following six locations (Refer to SK-8-3, App. B-24):

Fire truck
Hi Bay first floor
Monomers Control Room
HCR
Guard House
Polymers hallway

The emergency equipment kept in the five fire houses is listed on the operator's overall Fire Protection System Log sheet, App. B-30. First aid supplies are located at the First Aid station at the Guard House. In addition, there is a full-time (8:00 a.m. - 4:30 p.m., Monday - Friday) nurse with first aid supplies located at the Sutton House office building. Emergency eyewash fountains and showers are located throughout the plant. Protective clothing and equipment is provided to protect employees during normal and emergency operations. Hard hats, protective eyewear, and steel-toed boots or shoes are the minimum protective clothing required.

G-6 Coordination Agreements [40 CFR 122.25(a)(7), 264.52(c) and 264.37]

SWS Silicones Corporation has made the following agreements to assist in response to emergency situations.

1. An agreement is being made with a local disposal facility, A.C.E.S. to provide a tank truck on a 24-hour basis.

2. Copies of the contingency plan has been given to the local police and fire departments.

AMENDMENT

This Amendment, dated this 1st day of July 1983, amends the Trust Agreement entered into by SWS Silicones Corporation and Continental Illinois National Bank & Trust Co. dated October 4, 1982 as follows:

1. Schedule A is amended by deleting the amount "$62,200" therein and substituting the amount "$75,000" in its place and by deleting the date "February 18, 1982" therein and substituting the date "March 31, 1983" in its place.

2. Schedule B is amended by deleting the amount "$62,200" therein and substituting the amount "$75,000" in its place.

Except for the foregoing amendments, the Trust Agreement shall remain in full force and effect.

In witness whereof, the parties hereto have executed this Amendment as of the day and year above written.

CONTINENTAL ILLINOIS NATIONAL BANK & TRUST COMPANY OF CHICAGO

By: [signature]

Title: SECOND VICE PRESIDENT

SWS SILICONES CORPORATION

By: [signature]

Title: Vice President & General Manager

READ AND APPROVED:

ENVIRONMENTAL PROTECTION AGENCY

By: [signature]

Title: Environmental Specialist

The following organizations have submitted letters outlining their capabilities to assist us in an emergency situation:

Raisin Township Fire Department (Page App. B-31)
Lenawee County Sheriff's Office (Page App. B-33)
Emma L. Bixby Hospital (Page App. B-34)
Herrick Memorial Hospital (Page App. B-36)
Dr. Charles Heffron, Company Physician (Page App. B-37)

G-7 Evacuation Plan [40 CFR 122.25(a)(7), 264.52(f)]

The evacuation plan is outlined in the following overview:

I. Evacuation routes and gathering points.

A. In the event of a plant evacuation, all personnel will muster in front of the guard house (north side off of the roadway).

1. The routes to follow for evacuation will follow the arrows on the attached map. (Figure 40). The route in general will be by the main roadway, which circles the plant. The direction to take will depend on the wind and the amount of smoke, if any, during the evacuation.

B. Departmental evacuations will muster in the following areas:

1. Hi Bay upon hearing the departmental alarm will meet in front of the Maintenance Shop.

2. Polymers and Process Control departments will meet at the south end of Fluids, outside.

3. The Warehouse and HCR departments, because of the close proximity, will respond to the same departmental alarm. These two departments will meet, off the roadway, at the north side of the guard house.

4. RTV will meet along the fence line directly west of the department.

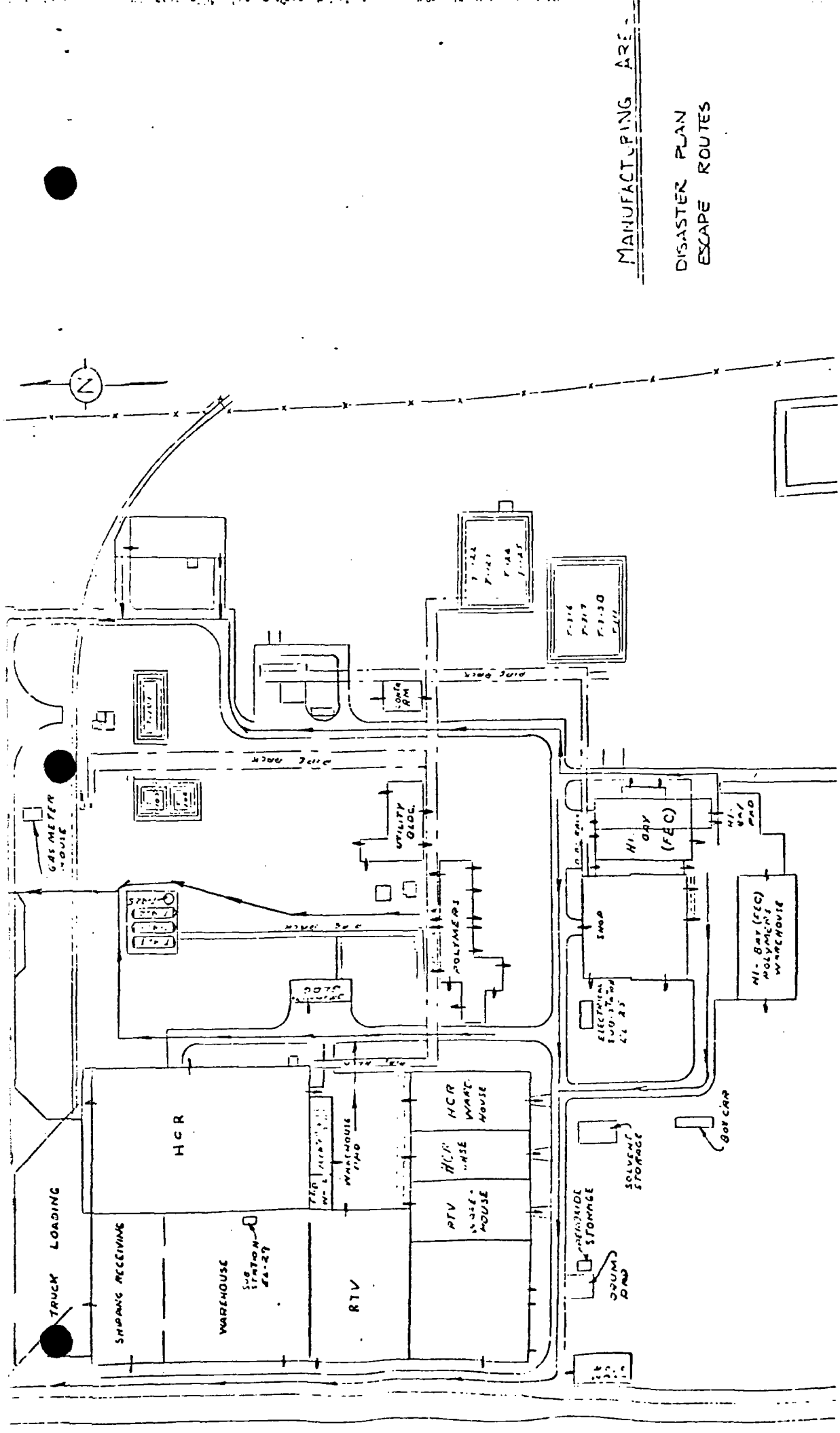
C. In the event of a tornado "take cover" alert each department will take cover in the areas as designated in the tornado section.

II. Alarm Systems

A. Total plant evacuation will be initiated via the plant emergency phone system.

Date: 5/31/83
Revision No.: 0
G

Figure 40



1. In the event an emergency is out of control in a department, the plant will be evacuated.

2. The evacuation alarm will be given over the emergency phone. Each department will then sound their evacuation horn and assemble for a head count at their designated location.

3. The departments will then evacuate to the front gate in departmental groups.

B. Departmental evacuations will be conducted by a continuous blast of the departmental air horns.

C. Take cover for a tornado will be given by a continuous blast of the N_2 horns located on top of Hi Bay and in the piperack by the 4000 OH tanks.

D. Announcement for fires will be given over the paging system along with activation of the emergency phone system.

III. Head counts will be handled by individual departments as outlined in their respective section.

IV. In the event of a plant wide evacuation, the Polymer Shift foreman will be responsible for closing the main gas valve on his way out. The senior polymer operator will be responsible in his absence.

G-8 Required Reports [40 CFR 122.25(a)(7), 264.56(d), 264.56(i) and 264.73(b)(4)]

As required by section 264.56(J), any emergency event (e.g., fire, explosion, etc.) that requires implementing the contingency plan will be reported in writing within 15 days to the EPA Regional Administrator. A reporting form for emergency events is shown in Figure 41.

In addition to these reporting requirements for state and Federal authorities, SWS Silicones Corporation also has internal reporting requirements. The

Figure 41

REPORTING FORM FOR EMERGENCY EVENTS

Name, address, and phone number of owner or operator

Name, address, and phone number of facility

Date, time, and type of incident (e.g., fire, explosion, etc.)

Name and quantity of material(s) involved

Extent of injuries (if any)

Assessment of actual or potential hazards to human health or the environment (if applicable)

Estimated quantity and disposition of material recovered from the incident

Send to:
Valdas Adamkus
U.S. EPA, Region V
Regional Administrator (EPA)
230 South Dearborn, 13th Floor
Chicago, Illinois 60606
Karl J. Klepitsch, Jr., Chief
Waste Management Branch
U.S. EPA, Region V
230 South Dearborn
Chicago, Illinois 60604

Sample reporting form for emergency events.

following incidents require that an incident report be completed and returned to the Corporate safety director at the end of every month:

1. All Fires
2. Unusual gas or vapor releases
3. Chemical spills of more than 10 gallons (or smaller volumes if highly toxic materials are involved)
4. All injuries (serious injuries are reported within 24 hours)
5. All equipment damage due to malfunction or operating error (Property/Liability)
6. All "near misses" of the above variety that could have had serious consequences

Amendments to the Contingency Plan

The contingency plan will be reviewed and immediately amended, if necessary, whenever:

1. The facility permit is revised
2. The plan fails in an emergency
3. The facility changes in its design, construction, operation, maintenance, or other circumstances in a way that materially increases the potential for fires, explosions, or releases of hazardous waste or hazardous waste constituents, or changes in the response necessary in any emergency
4. The list of emergency coordinators change
5. The list of emergency equipment changes

SECTION H

PERSONNEL TRAINING

H-1 Outline of Training Program [40 CFR Sections 122.25(a)(12) and 264.16]

H-1a Job Titles and Duties

All production area operators and warehouse operators and supervisory personnel are directly involved with the handling of waste. Management responsibilities involving compliance with RCRA regulations but not involving actual handling of the wastes are split between the Environmental Control Coordinator, Production Manager, and the Director of Manufacturing. The Production Manager, James Barancin, is the Emergency Coordinator. Maintenance personnel work in the waste handling area, but they do not handle wastes directly. The duties, responsibilities, and qualifications of each position follow:

Date: 5/31/83
Revision No.: 0
H

Position Title: Environmental Control Coordinator

Name of employee: Gordon C. Philbrook

Position Responsibilities and Duties:

- Training of plant personnel in the proper handling of raw materials, intermediates, finished products, and waste byproducts.
- Responsible for all air, water, and solid waste control systems on the site.
- Obtains all required permits and licenses or modifications of same from local, state, and Federal regulatory bodies.
- Resolves problems involving permits and licenses from local, state, and Federal regulatory agencies.
- Notifies proper authorities in emergency situations.
- Reports to Director of Manufacturing.
- Regularly inspects plant grounds and all facilities for status of air, water, and solid/hazardous waste emissions and controls.
- Consults with plant foremen on questions involving emergency action.
- Drafts and submits to Director of Manufacturing all required reports to EPA or the State.

Experience and Qualifications

- B.S. degree in Chemical, Civil, or Environmental Engineering. B.S. Degree in Chemistry also acceptable.
- 1-3 years experience in industrial or municipal pollution control management.
- Training and/or experience in hazardous waste management is desirable.

Date: 5/31/83
Revision No.: 0
H

JOB DESCRIPTION

Chemical Operator A & Boiler Utility
****

An employee must satisfy the following criteria before he may be promoted to the A classification.

1. An "A" operator must be able to initiate and complete the manufacture of product, given the operating instructions, with a minimum of supervision by the foreman.

2. The employee must have been trained and have demonstrated an understanding in all of the following procedures:

a. Warehousing - The employee must be able to fill out all the necessary papers to log materials into or out of storage. He must be familiar with all location codes and must know the proper procedures for storage (ie. stacking, spacing, etc.).

b. Process Logs - The employee must be fully indoctrinated in the method of filling out process log sheets and the reasons for the importance.

c. Materials Handling - The employee must be familiar with all hazardous materials used within the department, including MIOSHA label requirements, grounding procedures, inert atmosphere padding, and required personal protective equipment.

d. Waste Handling - The employee must be knowledgable in the proper handling and storage of all wastes generated in his department. He must be familiar with all label requirements, proper packaging, and must be able to respond to a spill as defined in the plant's RCRA plan.

Date: 5/31/83
Revision No.: 0
H

e. The employee must be familiar with the use and care of all personal protective equipment.

f. The employee must be familiar with the emergency action plan and his roll in it.

JOB DESCRIPTION

Chemical Operator B
****

An employee who is classified as a chemical operator "B" is in the process of training towards the "A" classification. Therefore, the job description of a "B" operator will expand correspondingly to the training he has received up to and including the "A" operator level.

The jobs assigned a "B" operator will be defined by the foreman and the extent that he is on his own and totally responsible for his actions will depend on the degree of training and experience he has on the particular assignment.

Date: 5/31/83
Revision No. 0
H

JOB DESCRIPTION

Warehouseman A

RECEIVED MAY 18 1981

An employee must satisfy the following criteria before he may be promoted to the "A" classification.

1. Receive all inbound material. Verify material and quantity. Prepare Count Sheet, Receiving Report, Receiving Log. Prepare log books for materials received for R & D, Maintenance and Sutton House.

2. Deliver all received goods to appropriate area assigned by Warehouse Floor Foreman.

3. Prepare orders for shipment, using shipping data form, locate material to ship, clean, label and load on trucks. (stencil, stack and palletize if necessary)

4. Carry out necessary housekeeping to maintain a clean and orderly area.

5. Follow directions to do whatever is necessary for a safe and efficient operation.

6. Prepare labels and stencils needed to prepare orders for shipment.

7. Knowledgeable in the proper handling and storage of all wastes, hazardous and non hazardous, shipped out in drums. Must be familiar with all labeling requirements, proper packaging, and must be able to respond to a spill as defined in the plant RCRA plan.

8. Must be familiar with the use and care of all personal protective equipment.

9. Familiar with the emergency action plan and his role in it.

JOB DESCRIPTION

Warehouseman B

An employee who is classified as a warehouseman "B" is in the process of training towards the "A" classification. Therefore, the job description of a "B" operator will expand correspondingly to the training he has received up to and including the "A" warehouseman level.

The jobs assigned a "B" warehouseman will be defined by the foreman and the extent that he is on his own and totally responsible for his actions will depend on the degree of training and experience he has on the particular assignment.

H-1b Training Content, Frequency, and Technique

The program developed at SWS Silicones Corporation for training employees in the safe handling of hazardous wastes is shown in Appendix E. Provisions are made for updating or revising the text as necessary to ensure compliance with the terms of the RCRA permit.

During the training program, employees are instructed on (1) the hazardous nature of chemicals and chemical wastes in general, (2) the purpose of RCRA and importance of maintaining compliance with RCRA regulations, (3) the hazardous nature of the wastes being stored in the facility, (4) proper handling and storage procedures for wastes, (5) emergency procedures and contingency plan.

The program is used as the basis or framework for training SWS Silicones Corporation personnel in the proper procedures, equipment, and systems to be used in managing hazardous wastes.

A brief description of each section of the training manual follows:

Introduction

This section of the program introduces SWS Silicones Corporation employees to the general classes and characteristics of chemicals and chemical wastes that can be hazardous to health and property. In this context, the terms toxicity, reactivity, corrosivity, and ignitability are defined. It is SWS Silicones Corporation's policy that each employee handling chemical substances (raw materials, finished products, by-products, and wastes) respect them and be aware of these potential hazards. The company's policy on the use of protective clothing and safety equipment to prevent accidental worker exposures and releases to the environment of hazardous chemicals and wastes is introduced.

The authority for regulating hazardous wastes under the Resource Conservation and Recovery Act (RCRA) also is discussed. The regulatory framework for classifying hazardous wastes, setting operational standards, and permitting procedures and achieving compliance is explored. The RCRA permit for SWS Silicones Corporation (once it is received) will also be studied to be sure that each employee is familiar with its terms.

Storage of Hazardous Wastes at SWS Silicones Corporation

This section focuses on the types of hazardous wastes that are handled and stored at SWS Silicones Corporation, normal/routine storage operations, and procedures for maintaining compliance with the RCRA permit (e.g., waste analysis, recordkeeping, inspections, and security).

Training for normal or routine operating conditions includes the following topics:

- Proper operation and maintenance of the storage facility.
- Scheduled inspections.
- Purpose and use of security and communications systems.
- Monitoring requirements for tracking and recording the operations of the facility.
- Recordkeeping requirements and procedures.

Emergency and Contingency Plans

The third section of the training program provides detailed instruction on steps to be taken in the event of an emergency such as a waste spill or fire, or damage from wind and storms. The emergency coordinator is clearly identified, as are emergency phone numbers and directions for locating and using onsite emergency equipment, alarms, and communications.

Contingency plans are also detailed. (See Appendix B)

This program is used in classroom training for both introductory training and annual review. All personnel involved with hazardous waste are required to complete this program in addition to on-the-job training. Also personnel receive a classroom review training session once a year. A record system for both initial and annual training is kept at the Personnel Department which will include:

a. Job titles and name of employee

b. Job descriptions, including skills, education, and duties

c. Training done

This is supplemented with attendance by the Environmental Control Coordinator at seminars and conferences involving hazardous waste management.

H-1c Training Director

The personnel training program is directed by Mr. Gordon C. Philbrook, the plant Environmental Control Coordinator. Mr. Philbrook has been with SWS Silicones Corporation/Stauffer for 21 years. He received a B.S. degree in Chemical Engineering from the University of California in 1957. He has been trained in all aspects of Hazardous Waste Management and attended various seminars on this subject. Records of his previous and ongoing training are kept on file at the personnel office.

H-1d Relevance of Training to Job Position

Mr. Gordon C. Philbrook, the plant Environmental Control Coordinator, is responsible for teaching hazardous waste management procedures to all waste handling personnel. Mr. James Barancin, Emergency Coordinator is responsible for the contingency plan implementation.

H-1e Training for Emergency Response

This training program is designed to ensure that personnel not only handle hazardous wastes in a safe manner but also properly respond to emergency situations. The program trains hazardous waste handling/management personnel to maintain compliance under both normal operating conditions and emergency conditions.

Training elements addressing nonroutine and emergency situations (unscheduled shutdowns and startups related to storms, fires, explosions, spills) include:

- Procedures for locating, using, inspecting, repairing, and replacing facility emergency and monitoring equipment
- Emergency communication procedures and alarm systems
- Response to fires and explosions
- Response to ground water contamination incidents and procedures for containing, controlling, and mitigating spills
- Shutdown of operations

- Procedures for evacuation of nearby areas

Trained plant personnel are on standby for initial response to all fires and other general plant emergencies. For more information contact SWS Silicones Corporation's safety officer, Thomas Degnan at 517-263-5711.

H-2 Implementation of Training Program [40 CFR Sections 122.25 (a)(12) and 264.16]

The director of the training program and all current waste-handling personnel have been fully trained at the time of this submittal. In the future, all new personnel will complete this training program within 6 months of assignment to the hazardous waste storage facility or within 6 months of their date of employment, whichever is later. No employee hired to work at this facility will work unsupervised prior to completion of the training program.

Employees are required to meet annually for review and update of this training program and to discuss and study the following subjects:

1) All hazardous wastes currently being handled at the facility, noting any changes in waste type, volume, source, characteristics, or location that have occurred during the past year.

2) The status of storage and operating conditions and procedures, noting any areas where there are problems or potential for problems. Employees

participate in developing effective solutions.

3) The requirements contained in the facility's RCRA permit, noting any changes that have occurred during the past year. Areas where maintenance of compliance is a problem are identified and discussed, and effective solutions are sought.

4) Incidents that have occurred in the past year that warranted use of contingency plans and/or emergency action. This review focuses on the cause of the incident and identification of steps to be taken to prevent or to ensure better handling of such events in the future.

The annual review will also utilize the facility's report to EPA, which is required every two years, as a working document for the review.

Records documenting the job title for each position, job descriptions, names of employees, and completed training programs (both introductory and review) will be kept onsite in the personnel office of SWS Silicones Corporation. These records will be kept until closure of the facility for current employees and for 3 years from the date of the individual employee's termination for former employees.

SECTION I

CLOSURE PLANS, POST-CLOSURE PLANS, AND FINANCIAL REQUIREMENTS

I-1 Closure Plans [40 CFR 122.25(a)(13), 264.111, 264.122, 264.113, 264.178, 264.197, and 264.258]

Refer to Appendix F.

I-1a Closure Performance Standard

This closure plan was designed to ensure that the facility will not require further maintenance and controls, minimizes or eliminates threats to human health and the environment, and avoids escape of hazardous waste, hazardous waste constituents, leachate, contaminated rainfall, or waste decomposition products to the ground or surface waters or to the atmosphere. The entire site will be regraded subsequent to closure to prevent erosion. The following sections discuss in detail efforts to be made at SWS Silicones Corporation to satisfy the closure performance standard.

I-1B Partial and Final Closure Activities

SWS Silicones Corporation expects to perform partial closure only when the storage tanks require replacing (in about 20 years), and when the container storage pad requires replacing (in about 40 years). Our procedures for final closure of the storage tanks and the container storage pad are described in further detail in sections I-1d(1) and I-1d(2). However, in the event that future circumstances or decisions force us to discontinue our hazardous waste tank storage or hazardous waste container storage activities, Sections I-1d(2) and I-1d(1) of the closure plan present

our procedures for final closure of each of the two storage areas. Any modifications to our existing facility equipment, structures, instruments or procedures related to the management of the two distinct portions of the facility will result in SWS Silicones Corporation updating and revising the closure plan accordingly.

At a maximum we expect the operation to consist of storage of 500 drums and 3 tanks during the life of the facility. Section I-1c of the closure plan describes the maximum inventory of wastes in storage at any given time during the operating life of SWS. SWS will secure permission to dispose of its wastes and enter into contractual agreements with off-site disposal companies.

I-1c Maximum Waste Inventory

The following table shows the maximum inventory of wastes in storage at any given time during the operating life of SWS for 500 containers, and 3 tanks.

Container Storage:		500 drums
Tanks:	T-101 (1,1,1-trichloroethane)	10,000 gallons
	T-105 (Ignitables)	9,000 gallons
	T-108 (Mineral Spirits)	9,000 gallons
		28,000 gallons total

I-1d Inventory Removal and Disposal or Decontamination of Equipment

Following waste removal, all piping to and from the three storage tanks will be decontaminated. The work will be supervised and performed using qualified SWS Silicones Corporation personnel or by an outside contractor. Personnel will be equipped with head protection, gloves and boots resistant to solvents. Both the wrists and ankles will be taped (electrical tape) to protect against upward and inward splash. Full face respirators with organic vapor filter cartridges that seal directly to the mask will be used when necessary.

During the decontaminating process, spills and wash waters will be placed in 55-gallon steel recovery drums. Strict supervision will include provision for no open flames, hot surfaces, or smoking to be present in and surrounding the work areas.

The 2-in lines which transport the waste in and out of the storage tanks will be cleaned. Positive displacement pumps, used to pump the wastes to tankers, and valves will be cleaned. All contaminated wash waters, generated as a result of the cleaning process, will be pumped by a positive displacement pump into 55-gallon drums or a tanker truck, and transported to an approved off-site facility.

Soils in the facility are not expected to be contaminated by the waste storage at SWS Silicones Corporation.

I-1d(1) Closure of Containers

All the drum containers in the SWS Silicones Corporation container storage area will first be removed for transport to an approved off-site facility. The drums will be moved utilizing a forklift.

The container storage area will then be decontaminated with a series of detergent washes and all waste water and residues generated will be collected in the sumps and, if laboratory analysis indicates that the waste is hazardous, the material will be pumped from the sump area into 55-gallon drums or tanker trucks and sent for off-site disposal to an approved facility. If laboratory analysis shows no evidence of contamination, waste water and residues in the holding sumps will be discharged to the chemical sewer system.

After thorough decontamination, the storage pad will be used for other uses than for storage of hazardous wastes.

An independent professional engineer will certify completion of the closure.

I-1d(2) Closure of Tanks

The 1,1,1-trichloroethane solvent (T-101) is pumped to a tanker and the waste is transported to a reclamation facility. Bulk Ignitable Solvents (T-105) and Bulk Mineral Spirits (T-108) are pumped to tanks and transported to either an incinerator facility or to a facility for fuel usage.

First, the waste outlet valves will be opened to allow waste residuals remaining on the bottom to drain from the tanks. The waste will be drained from the tanks into 55-gallon steel recovery drums located directly beneath the outlet. When filled, the drums will be sealed and sent off-site by truck to an approved disposer.

A steam cleaning unit will be rented to decontaminate the tanks. This process will generate residues in the form of contaminated wash waters. The waste outlet valves will again be opened and contaminated wash waters will be drained into 55-gallon steel recovery drums, sealed, and sent off-site by truck to an approved disposal facility. All the ancillary equipment associated with the tank will be similarly decontaminated. The equipment to be decontaminated includes pumps, piping inlets and piping exits. The pipes will be decontaminated by steam cleaning. Any visible spills or leakage detected during the decontamination process will immediately be cleaned up as discussed in Section I-1d.

The tanks, piping, and associated equipment will then be purged with air. After thorough decontamination, the tanks will be used for other uses than to store hazardous wastes.

An estimated $65,910 (February, 1983 cost estimate) will be needed to close the SWS Silicones Corporation hazardous waste storage facilities. The closure costs are presented in Appendix F. Activities include removal of waste inventory, decontamination, disposal of wash solvents, and closure certification.

The assumptions made in the cost estimate are indicated in Appendix F. This closure cost estimate will be kept on file at the SWS facility. It will be revised whenever a change in the closure plan affects the cost of closure. It will be adjusted annually (from the date of its original development) to reflect changes in closure cost brought about by inflation. The Department of Commerce's Annual Implicit Price Deflator for Gross National Product will be used to make this adjustment.

I-5 Financial Assurance Mechanism for Closure [40 CFR Sections 122.25(a)(1), 264.143, and 264.151]

I-5c Closure Letter of Credit

SWS Silicones Corporation has established a closure Letter of Credit and Trust Agreement as the selected financial assurance mechanism at the Continental Illinois National Bank and Trust Company. An originally signed duplicate of the Letter of Credit and Trust Agreement was sent to the Regional Administrator by certified mail (Appendix G). A copy of the Letter of Credit and the Trust Agreement is attached as Appendix G. We are currently in the process of increasing the amount of the Letter of Credit and Trust Agreement to reflect the latest annual adjustment of the closure cost.

I-6 Post-Closure Cost Estimate [40 CFR Sections 122.25(a)(16) and 264.144]

Since all wastes will be disposed of offsite, there will be no post-closure activities or costs.

An independent professional engineer will certify completion of the closure.

I-1d(3) Closure of Waste Pile

SWS Silicones Corporation does not have any waste piles. Therefore, this section I-1d(3) is NOT applicable.

I-1e Schedule for Closure

Within 90 days after receipt of the final volume of hazardous wastes, final closure activities will be initiated. Completion of closure will be within 180 days of this occurrence. The Regional Administrator will be notified by SWS Silicones Corporation 180 days before beginning final closure. Final closure will be supervised and certified by an independent professional engineer, in addition to the owner or operator.

I-1f Extensions for Closure Time

SWS Silicones Corporation will not require an extension for closure time.

I-2 Post-closure Plans [40 CFR 122.25(a)(13)]

Post-closure care will not be needed for this facility because this is not a disposal facility.

I-3 Notice in Deed and Notice to Local Land Authority [40 CFR 122.25(a)(14)]

Because SWS Silicones Corporation is only a hazardous waste storage facility and not a disposal facility, notation is not necessary in the deed informing potential purchasers of restrictions associated with a disposal site, as required by 40 CFR 264.120.

I-4 Closure Cost Estimate [40 CFR 122.25(a)(15) and 264.142]

The closure cost information presented is submitted in accordance with the requirements of 40 CFR 122.25(a)(15), 264.142, and 264.143.

I-7 Financial Assurance Mechanism for Post-Closure [40 CFR Sections 122.25(a)(16) and 264.145]

Since all wastes will be disposed of offsite, there will be no post-closure activities or costs.

I-8 Liability Insurance [40 CFR Sections 122.25(a)(17) and 264.147]

I-8a Sudden Insurance [40 CFR Sections 264.147(a), 264.151(i), and 264.151]

SWS Silicones Corporation has obtained liability insurance for sudden and accidental occurrences in the amount of $1 million per occurrence with an annual aggregate of $2 million exclusive of legal defense costs. An originally signed certificate of liability insurance has been sent to the Regional Administrator by certified mail (Appendix G). The certificate is worded as specified in 40 CFR 264.151(g), (see Appendix G).

I-8b Nonsudden Insurance

SWS Silicones Corporation is a storage facility, therefore, no liability insurance is required for a nonsudden accidental occurrence.

I-8c Financial Test

SWS Silicones Corporation has an insurance policy for sudden and accidental occurrences, therefore, the financial test is not necessary.

I-8d Variance Procedures

SWS Silicones Corporation will not request the Regional Administrator for a reduction of liability amounts.

I-8e Adjustment Procedures

If the Regional Administrator increases the amounts of liability coverage or elects to improve nonsudden liability coverage requirements, SWS Silicones Corporation will immediately seek an adjustment to the insurance policy discussed above.

I-9 State Assumption of Responsibility [40 CFR 264.150]

SWS Silicones Corporation will not request state assumption of the legal or financial responsibilities.

SECTION J

OTHER FEDERAL LAWS

Information will be provided in accordance with the requirements of 40 CFR Part 122.25 (a)(20) at the request of the EPA Region V office. At this time, however, we believe this facility is in compliance with the following Federal laws; Wild and Scenic Rivers Act, National Historic Preservation Act of 1966, Endangered Species Act, Coastal Zone Management Act, and the Fish and Wildlife Coordination Act.

CERTIFICATION

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this document and all attachments and that, based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment.

Date: 5/23/83

Signature: Leonard B. Bruner
Leonard B. Bruner
Vice President and General Manager

APPENDIX A

GENERAL INFORMATION AND HAZARDOUS CHARACTERISTICS OF WASTES

Excerpted from: Dangerous
Properties of Industrial
Materials, Fifth Edition, 1979
by N. Irving Sax

ACETONE. Syns: *dimethyl ketone, ketone propane, propanone.* Colorless liquid, fragrant mintlike odor. CH_3COCH_3, mw: 58.08, mp: −94.6° bp: 56.48°, ulc = 90, flash p: 0°F (CC), lel = 2.6%, uel = 12.8%, d: 0.7972 @ 15°, autoign. temp. (color): 869°F, vap. press: 400 mm @ 39.5°, vap. d: 2.00.

Acute tox data: Oral LD_{50} (rat) = 9750 mg/kg; dermal LD_{50} (rabbit) = 20,000 mg/kg; ip LD_{50} (mouse) = 1297 mg/kg; inhal TC_{LO} (human) = 500 ppm ⟶ eye symptoms. [*3*]

THR = MOD via oral, ip and inhal routes; VERY LOW via dermal route. Acetone is narcotic in high conc. In industry, no injurious effects from its use have been reported, other than the occurrence of skin irr resulting from its de-fatting action, or headache from prolonged inhal. A food additive permitted in food for human consumption. A common air contaminant. [*109*]

Fire Hazard: Dangerous, when exposed to heat or flame or oxidizers. Can react violently with ($CHCl_3$ + a base), CrO, $Cr(OCl)_2$, (nitric + acetic acid), (nitric + sulfuric acid), NOCl, nitrosyl perchlorate, nitryl perchlorate, permonosulfuric acid, potassium tert-butoxide, NaOBr, (sulfuric acid + potassium dichromate), (thio-diglycol + hydrogen peroxide), trichloromelamine. [*19*]

Explosion Hazard: Mod, when vapor is exposed to flame.

Disaster Hazard: Dangerous, due to fire and explosion hazard, can react vigorously with oxidizing materials.

To Fight Fire: CO_2, dry chemical, alcohol foam.

CYCLOHEXANE. Syns: *hexahydrobenzene, hexamethylene.* Colorless mobile liquid, pungent odor. C_6H_{12}, mw: 84.16, mp: 6.5°, bp: 80.7°, fp: 4.6°, flash: p: −4°F, ulc: 90–95, lel = 1.3%, uel = 8.4%, d: 0.7791 @ 20°/4°, autoign. temp.: 473°F, vap. press: 100 mm @ 60.8°, vap. d: 2.90.

Acute tox data: Oral LD_{50} (mouse) = 1297 mg/kg. [*3*]

THR = MOD irr via inhal and oral routes. Irr to skin. See also cycloparaffins.

Fire Hazard: Dangerous, when exposed to heat or flame; can react with oxidizing materials.

Spont Heating: No.

Explosion Hazard: Mod, in the form of vapor when exposed to flame. When mixed hot with liquid N_2O_4 an explosion resulted. [*19*]

To Fight Fire: Foam, CO_2, dry chemical, spray, fog.

HEPTANE. Syns: *heptyl hydride, dipropyl methane.*
Colorless liquid. $CH_3(CH_2)_5CH_3$, mw: 100.20, bp: 98.52, lel = 1.05%, uel = 6.7%, fp: −90.5°, flash p: 25°F (CC), d: 0.684 @ 20°/4°, autoign. temp.: 419°F, vap. press: 40 mm @ 22.3°, vap. d: 3.45.

Acute tox data: Inhal TC_{LO} (human) = 1000 ppm, for 6 min ⟶ CNS symptoms. [*3*] Human inhal of 5000 ppm for 1/4 hr ⟶ marked vertigo, incoordination and hilarity. 5000 ppm for 7 min ⟶ marked vertigo, incoordination, hilarity. 5000 ppm for 4 min ⟶ marked vertigo, inability to walk straight, hilarity. 3500 ppm for 4 min ⟶ mod vertigo. 2000 ppm for 4 min ⟶ slight vertigo.

THR = MOD via inhal. Irr to the respiratory tract. Narcotic in HIGH conc. CNS irr.

Fire Hazard: Dangerous, when exposed to heat or flame.

Spont Heating: No.

Explosion Hazard: Mod, when exposed to heat or flame. Violent reaction with (P + Cl). [*19*]

Disaster Hazard: Dangerous, upon exposure to heat or flame; can react vigorously with oxidizing materials.

To Fight Fire: Foam, CO_2, dry chemical.

ISOPROPYL ALCOHOL. Syns: *dimethyl carbinol, sec-propyl alcohol, isopropanol.* Clear colorless liquid, slight odor. $CH_3CHOHCH_3$, mw: 60.09, mp: −88.5°–−89.5°, bp: 80.3°, lel = 2.0%, uel = 12%, flash p: 53°F, d: 0.7854 @ 20°/4°, vap. d: 2.07, ulc: 70.

Acute tox data: Dermal LD_{50} (rabbit) = 16,000 mg/kg; oral LD_{50} (rat) = 5840 mg/kg; ip LD_{50} (mouse) = 933 mg/kg; oral LD_{50} (dog) = 6000 mg/kg. [*3*]

THR = LOW via dermal and MOD via oral and ip routes. The single LD for a human adult = about 250 ml. [*20*] An irr to the eyes. [*87*] Acts as a local irr and in high conc as a narcotic. It can cause corneal burns and often eye damage. It has good warning properties because it causes a mild irr of the eyes, nose and throat, at conc levels of 400 ppm. It may induce a mild narcosis, the effects of which are usually transient, and it is somewhat less toxic than the normal isomer, but twice as volatile. It is not considered an important toxic hazard. There is some evidence that personnel can acquire a slight tolerance to this material, and single or repeated applications of it on the skin of rats, rabbits, dogs or human beings induced no untoward effects. It acts very much like ethanol in regard to absorption, metabolism and elimination but with a stronger narcotic action. Chronic injuries due to it have been detected in animals. Workers producing isopropyl alcohol show an excess of sinus cancers and laryngeal cancers. This may all or in part be due to the by-product, isopropyl oil. [*81, 87*] Humans have ingested up to 20 ml diluted with water and noticed only a sensation of heat and slight lowering of the blood pressure. There are, however, reports of serious illness from as little as 10 ml taken internally. A food additive permitted in food for human consumption. [*109*] A common air contaminant. Absorbed by skin.

Fire Hazard: Dangerous, when exposed to heat, flame or oxidizers.

Spont Heating: No.

Explosion Hazard: Mod, when exposed to heat or flame. Reacts violently with (H_2 + Pd), nitroform, oleum, $COCl_2$, potassium-*tert*-butoxide. [*19*]

Disaster Hazard: Dangerous; keep away from heat and open flame; can react vigorously with oxidizing materials.

To Fight Fire: CO_2, dry chemical, alcohol foam.

METHYL ALCOHOL. Syn: *methanol*. Clear, colorless, very mobile liquid. CH_3OH, mw: 32.04, bp: 64.8°, lel = 6.7%, uel = 36%, ulc: 70, fp: −97.8°, flash p 52°F, d: 0.7913 @ 20°/4°, autoign. temp.: 725°F, vap. press: 100 mm @ 21.2°, vap. d: 1.11.

Acute tox data: Oral LD_{50} (rat) = 13,000 mg/kg; $scLD_{50}$ (mouse) = 9800 mg/kg; inhal LC_{50} (monkey) = 1000 ppm; dermal LD_{50} (rabbit) = 20,000 mg/kg. [*3*]

THR = LOW via oral, sc and dermal; MOD via inhal routes. Methyl alcohol possesses distinct narcotic properties. It is also a slight irr to the mu mem. Its main toxic effect is exerted upon the nervous system, particularly the optic nerves and possibly the retinae. The effect upon the eyes has been attributed to optic neuritis, which subsides but is followed by atrophy of the optic nerve. Once absorbed, methyl alcohol is only very slowly eliminated. Coma resulting from massive exposures may last as long as 2–4 days. In the body, the products formed by its oxidation are formaldehyde and formic acid, both of which are toxic. Because of the slowness with which it is eliminated, methyl alcohol should be regarded as a cumulative poison. Though single exposures to fumes may cause no harmful effect, daily exposure may result in the accumulation of sufficient methyl alcohol in the body to cause illness. [*100*]

Severe exposures may cause dizziness, unconsciousness, sighing respiration, cardiac depression, and eventually death. Where the exposure is less severe, the first symptoms may be blurring of vision, photophobia and conjunctivitis, followed by the development of definite eye lesions. There may be headache, gastrointestinal disturbances, dizziness and a feeling of intoxication. The visual symptoms may clear temporarily, only to recur later and progress to actual blindness. Irr of the mu mem of the throat and respiratory tract, peripheral neuritis, and occasionally, symptoms referable to other lesions of the nervous system have been reported. The skin may become dry and cracked due to the solvent action of methyl alcohol.

Methyl alcohol is a common air contaminant. It is used as a food additive permitted in foods for human consumption. [*109*]

Fire Hazard: Dangerous, when exposed to heat, flame or oxidizers.

Spont Heating: No.

Explosion Hazard: Mod, when exposed to flame. Violent reaction with CrO_3, (I + ethanol + HgO), $Pb(ClO_4)_2$, $HClO_4$, P_2O_3, (KOH + $CHCl_3$), (NaOH + $CHCl_3$). [*19*]

Disaster Hazard: Dangerous, upon exposure to heat or flame; can react vigorously with oxidizing materials.

To Fight Fire: Alcohol foam.

NAPHTHA (PETROLEUM). See petroleum spirits.

NAPHTHA, SAFETY SOLVENT.
See stoddard solvent.

NAPHTHA, SOLVENT. See naphtha (coal-tar).

NAPHTHA, V.M.&P. Syns: *benzine*, 76° *naphtha*. Volatile liquid. bp: 100°-140°, flash p: 20°F (CC), d: 0.67-0.80, lel = 0.9% @ 212°F, uel = 6.0% @ 212°F, autoign. temp.: 450°F.
THR = See petroleum spirits.
Fire Hazard: Dangerous, when exposed to heat or flame.
Explosion Hazard: Mod, when exposed to flame.
Disaster Hazard: Dangerous, upon exposure to heat or flame; can react vigorously with oxidizing materials.
To Fight Fire: Foam, CO_2, dry chemical.

NAPHTHA, V.M.&P., 50° FLASH. Insol in water. flash p: 50°F, autoign. temp.: 450°F, lel = 0.9%, uel = 6.7%, d: < 1, vap. d: 4.1, bp: 115°-143°. (flash p and autoign. temp. will vary depending on the manufacturer.)
THR = See also petroleum spirits.

NAPHTHA, V.M.&P., HIGH FLASH. Insol in water. flash p: 85°F, autoign. temp.: 450°F, lel = 1.0%, uel = 6.0%, d: < 1, vap. d: 4.3, bp: 138°-165°. (flash p and autoign. temp. will vary depending on the manufacturer.)
THR = See also petroleum spirits.

1-OCTADECENE. Syns: *1-octadecyne, hexadecyl acetylene.* $HC{:}C(CH_2)_{15}CH_3$, mw: 250.5, mp: 26°, bp: 180° @ 15 mm, d: 0.7884 @ 20°/4°, flash p: > 212°F, autoign. temp.: 482°F.

THR = U.

Fire Hazard: Slight, when exposed to heat or flame; can react with oxidizing materials.

To Fight Fire: Foam, water spray, fog, CO_2.

to flame, can react vigorously with oxidizing materials.

To Fight Fire: CO_2, dry chemical.

α-TRICHLOROETHANE. Syns: *1,1,1-trichloroethane, methyl chloroform.* Colorless liquid. CH_3CCl_3, mw: 133.42, bp: 74.1°, fp: −32.5°, flash p: none, d: 1.3492 @ 20°/4°, vap. press: 100 mm @ 20.0°.

Acute tox data: ip LD_{50} (mice) = 4700 mg/kg; oral LD_{50} (dog) = 750 mg/kg; oral LD_{50} (rabbit) = 5660 mg/kg; [*3*] 920 ppm for 70 min ⟶ CNS effects in humans; inhal LC_{LO} (man) = 27000 mg/m^3 for 10 min. [*3*]

THR = MOD via ip and oral routes. Causes a proarrhythmic activity which sensitizes the heart to epinephrine-induced arrhythmias. This sometimes will cause a cardiac arrest particularly when this material is massively inhaled as in drug abuse for euphoria. [*115*] Reacts violently with acetone, N_2O_4, O_2, O_2 liquid, Na, NaOH, Na-K alloy. [*19*] Narcotic in HIGH conc.

Disaster Hazard: Dangerous; see chlorides.

p-XYLENE. Syn: *p-xylol.* Clear liquid. $C_6H_4(CH_3)_2$, mw: 106.2, bp: 138.3°, lel = 1.1%, uel = 7.0%, fp: 13.2°, flash p: 83°F (TOC), d: 0.8611 @ 20°/4°, vap. press: 10 mm @ 27.3°, vap. d: 3.66, autoign. temp.: 986°F.

Acute tox data: Oral LD_{50} (rat) = 5000 mg/kg; ip LD_{LO} (rat) = 2000 mg/kg; sc LD_{LO} (rat) = 5000 mg/kg; inhal LC_{LO} (mice) = 3460 ppm. [*3*]

THR = MOD via oral, ip, sc and inhal routes. A common air contaminant.

Fire Hazard: Dangerous, when exposed to heat or flame; can react with oxidizing materials.

Explosion Hazard: Mod, in the form of vapor, when exposed to heat or flame.

To Fight Fire: Foam, CO_2, dry chemical.

APPENDIX B

SWS RCRA PLAN - CONTINGENCY PLAN

SWS SILICONES CORPORATION
RCRA PLAN

OUTSIDE EMERGENCY CALL NUMBERS
****

	TELEPHONE NUMBER	SPEED CALL #
ABLE EQUIPMENT RENTAL, Toledo, Ohio	70-419-865-5530	
ADT, Jackson, Michigan	9-1-782-1825	638
AMBULANCE - Sheriff's Department, Adrian, Michigan	9-263-4684	603
AMBULANCE - (also Fire Department)	9-263-2324	603
BAILEY METER COMPANY, Detroit, Michigan	9-1-313-356-1500	
CATALYTIC OF TOLEDO (Major Repairs) Toledo, Ohio	7-0-419-693-4441	
CONSUMERS POWER (Electrical and Gas), Adrian, Mich.	9-265-6145	607
FIRE DEPARTMENT (Raisin Township), Adrian, Michigan	9-263-2324	603
GUARD SERVICE, Adrian, Michigan(SE Security, Inc.)	9-263-2818	
HIGHWAY PATROL, Clinton, Michigan	9-263-0033	604
HOSPITAL - (Emma L. Bixby), Adrian, Michigan	9-263-0711	601
INDUSTRIAL ELECTRIC (Electrical Products) Adrian, MI	9-265-7108	
PHYSICIAN - Dr. Charles Heffron, Adrian, Michigan	9-265-2175	605
POISON CONTROL CENTER, Adrian, Michigan	9-263-2412	602
at night after 9:00 P.M. call Ann Arbor	9-1-313-764-5102	
or Toledo	7-0-419-382-3435	
WILLIAM FERREL, INC. (Repair Heat) Toledo, Ohio	7-0-419-531-4451	
PLANT EXECUTONE, Phone tie-in	181	
SHERIFF'S DEPARTMENT, Adrian, Michigan	9-263-4684	603
R & D EXECUTON, Phone tie-in	182	
POLYMERS AREA, FIRE ALARM HOT LINE PHONE	222	
TOLEDO WEATHER	7-0-419-936-1212	
NATIONAL RESPONSE CENTER	9-1-800-424-8802	
MICHIGAN POLLUTION EMERGENCY ALERT SYSTEM	9-1-373-7660	
EPA (Spill Emergency)	9-1-800-292-4706	
MICHIGAN DNR (Spill Emergency)	9-1-313-379-9692	
HOSPITAL - (Herrick Memorial), Tecumseh, Michigan	9-423-2141	

SWS SILICONES CORPORATION

RCRA PLAN

PLANT MANUFACTURING PERSONNEL PHONE NUMBERS
****

	PLANT EXT.	HOME PHONE
GUARD	201	
DIRECTOR OF MANUFACTURING J. Calamungi	376	9-263-9300
ENGINEERING MANAGER (Alternate Emergency Coordinator) J. W. Lorenzen	215	9-265-8341
PRODUCTION MANAGER (Emergency Coordinator) J. M. Barancin	366	9-1-547-5462
PLANT ENGINEER L. R. Andre	217	9-423-5758
ASSISTANT PLANT ENGINEER L. C. Ausderau	225	9-263-4402
MAINTENANCE SUPERINTENDENT J. M. O'Connor	268	9-1-313-453-0523
MAINTENANCE FOREMEN L. Flanagin	284	9-263-7998
K. E. Iffland	322	9-1-486-2656
POLYMERS SUPERINTENDENT J. C. Shull	271	9-423-6183
POLYMERS FOREMAN M. Mininger	270	9-265-7326
SEMI-WORKS (HI BAY) SUPERINTENDENT S. R. Dery	259	7-0-419-472-1810
SEMI-WORKS (HI BAY) FOREMAN B. E. Weekley	264	9-423-4848
RTV SUPERINTENDENT G. Zubke	237	9-263-4862
RTV FOREMAN J. E. Sanders	289	9-265-8557

	PLANT EXT.	HOME PHONE
HCR SUPERINTENDENT		
G. Neice	295	9-263-2034
HCR FOREMAN		
N. Prather	279	9-265-5482
WAREHOUSE SUPERINTENDENT		
V. Sharp	230	9-265-5713
SHIPPING SUPERVISOR		
P. E. Brosamer	319	9-467-2739
RESEARCH		
G. R. Wolf	325	9-1-456-7108
R & D MAINTENANCE		
L. L. McClain	330	9-423-5382
PUBLIC RELATIONS		
J. Calamungi	376	9-263-9300
L. B. Bruner	213	9-1-313-428-8605
G. C. Philbrook	361	9-467-4329
ENGINEERING DEPARTMENT		
W. F. Clark	223	9-1-349-2591
L. J. Zuzek	287	9-263-7976
ENVIRONMENTAL		
G. C. Philbrook	361	9-467-4329

Contingency Plan and Emergency Procedures

Definitions and Coverage

WHAT IS A DISASTER?

Any event which could cause serious injury, loss of life, serious loss of production and loss of facilities, or environmental losses, both inside the plant area as well as to adjoining property and communities.

WHAT IS THE DISASTER CONTROL PLAN?

Disaster control plan is an organized procedure to effectively cope with a disaster or major emergency.

The plan covers:

a. Immediate action by personnel on duty.

b. Activation of disaster plan.

1. FIRST ANNOUNCEMENT

A. Anyone observing an emergency should sound the alert by broadcasting over the Executone system "NOW HEAR THIS! NOW HEAR THIS! (EMERGENCY) in the _____ area! Then repeat the whole message. Speak loudly and clearly. If you are near a phone you can dial 181 and announce directly on the Executone system, also. You should also call the Polymers foreman or the Process Control operator on their special phone, number 222 and report the emergency. The "181" system and the "222" system will be tested once per week.

B. The Polymers foreman or the Process Control operator, upon learning of an emergency, either from the Executone or from the telephone, will activate the "RED" phone system and announce over that phone the emergency and location. NOTE: during nights or weekends, use of the "RED" phone system could be eliminated, since it's effectiveness would be low.

C. The Polymers foreman will also send someone to blow the steam whistle; three short blasts, repeat 2 more times. This whistle will be tested once a week.

D. Also, the air whistle in the Hibay area can be blown.

E. If the emergency has not been announced over the Executone yet, the Polymers foreman or Process Control operator will now do so.

II. ACTION, PHASE I (Disaster NOT announced, yet)

A. A Head Count will be started immediately in all plant areas (see Section on Head Count). As soon as an emergency team member checks in for Head Count, he should then report to the Emergency Team.

B. The Emergency Team will go directly to the emergency scene, if in the plant. Otherwise, the team will go to the emergency vehicle. The emergency vehicle will wait up to 2 minutes, then proceed to the emergency scene. If the emergency is in the R & D area, only staff personnel will go in the emergency vehicle.

C. On hearing the emergency alarm, either the HCR foreman or the RTV foreman, depending on the location of the emergency, will go to the guard house to direct traffic, and call outside help as directed. During nights or weekends, either the HCR/RTV foreman or the Polymers/Hi Bay foreman, will go to the guard house.

D. The Process Control operator will go to the Guard House and open up the First Aid Station.

III. ACTION PHASE II

A. Normally, the first supervisor on the emergency scene would be the Shift Foreman. Any other supervisor might also be first. If any supervisor, on the scene, decides that a disaster is occurring, he would then activate the disaster plan on his own cognition, as follows:

IV. SECOND ANNOUNCEMENT

A. The supervisor or his designee would broadcast over the Executone system: "NOW HEAR THIS! NOW HEAR THIS! THIS IS A DISASTER ALERT. There is an (EMERGENCY) in the _____area." Then repeat the whole message. Speak loudly and clearly. If you are near a phone you can dial 181 and announce directly on the executone system, also. You should also call the Polymers foreman so he can announce the disaster both over the Executone and over the "RED" phone system. NOTE: During nights or weekends, use of the 222 "RED" phone line could be eliminated, since it's effectiveness would be low.

B. The shift foreman or the supervisor could also start the disaster announcement by calling the HCR or RTV foreman at the Guard House. This man would then call the Polymers foreman to have him announce the disaster on the 222 "RED" phone line, and would also use the 181 Executone system.

C. The DISASTER PLAN is now in effect:

V. ACTION, DISASTER PLAN

A. The foreman at the Guard House would then do the following:

1). Call Fire Department, 263-2324.

2). Call Sheriff's Department, for ambulance standby, 263-4684.

3). Call the disaster officers in order, until he locates one and tells him of the disaster emergency (these are listed on Page 5 of the general section). For Environmental problems, he will call the Emergency Coordinator.

4). Does any other calls as the shift foreman directs, such as
(1) The highway patrol for traffic control or evacuation or
(2) The hospital for standby, etc. (phone numbers on page 4).

B. All Plant areas will shut down as quickly as possible.

C. All "outside" personnel (vendors, contractors, visitors, etc.) will immediately WALK to the Guard House. No vendor vehicles will be driven, unless at the direction of the disaster officer in charge. All trucks, which are unloading or loading, will shut off their valves and secure the operation. Contractors and vendors should leave their keys in their vehicles.

D. The telephones and intercom are to be used for emergency messages only.

E. The foreman or supervisor in charge will make every effort to fight the disaster utilizing the emergency team and any other personnel available, until the Emergency Coordinator or a disaster officer arrives on the scene.

VI. DUTIES OF DISASTER OFFICERS OR EMERGENCY COORDINATOR

As soon as he is notified, the disaster officer or his assistant will proceed as follows:

1). Make certain that all necessary emergency outside aid has been called. If not, make arrangements to have this done. This includes traffic control or evacuation of surrounding plant areas.

2). Have foreman at the Guard House proceed to call all personnel on the disaster committee, including all area superintendents and general foreman.

3). Proceed to plant site.

4). Make sure that evacuation of plant personnel and care for injured is underway.

5). Make sure that all steps are being taken to control the disaster and then establish a disaster control center.

6). Complete shutting down operations affected by the disaster.

7). Inspect the area to make a preliminary survey of the cause, nature, and extent of the disaster.

8). Notification of disaster will then be made by the Director of Manufacturing to the following:

Vice President and General Manager

9). Arrange to notify families of injured employees. This must be done before any leak to the media.

10). Communications with outside media will be made by the following personnel only:

Director of Manufacturing
Vice President and General Manager

11). Meet with all supervisors, who should now be at the plant, appraise the situation and make plans to make necessary repairs and resume operations.

12). Arrange for necessary information and instructions concerning raw materials, incoming materials, supplies, customers, and neighboring property owners.

VII. DUTIES OF ASSISTANT DISASTER OFFICERS

1. In the absence of the disaster officers, he will assume the duties of the disaster officer, up to step 7 in previous section VI.

2. When a disaster officer arrives, the assistant disaster officer will then assist the shift foreman in any way possible, so that the shift foreman can concentrate on the emergency team and fighting the disaster.

3. Establish the communications center, if the disaster officer hasn't yet done so.

VIII. RESCUE OPERATIONS OFFICER

1. As soon as he is notified, he will proceed to the plant site, check with the disaster officer.

2. Make necessary arrangements to call his assigned assistants, if they have not already been contacted.

3. Proceed to the disaster area and appraise the situation.

4. Check with the shift foreman on the status of the Head Count. If not completed, he will contact all areas and complete the count. He will also check with the guard for any movements of personnel.

5. Notify the maintenance department of your needs, that is additional personnel, equipment, etc.

6. Coordinate rescue operations with the Medical and Evacuation officer.

IX. MEDICAL AND EVACUATION OFFICER

1. As soon as he is notified, he will proceed to the plant site and check with the disaster officer and/or the rescue operations officer.

2. Make necessary arrangements to call his assigned assistant, if he has not already been contacted.

3. Arrange for ambulance and hospital service, if needed, and hasn't already been called.

4. Establish first aid center. The process control operator should have done this.

5. Evacuate plant personnel, and if necessary, carry out evacuation of neighboring people, with the help of the police.

X. TRAFFIC CONTROL AND SECURITY OFFICERS

1. As soon as they are notified, they will proceed to the plant site, and check with the disaster officer.

2. Make necessary arrangements to call his assigned assistant, if he has not already been contacted.

3. Work in conjunction with the police to block off roads when necessary.

4. Direct incoming outside assistance to the proper place.

5. Direct plant personnel to police the perimeter of the plant, especially to watch all other gates and observe any problems, such as trespassing of outsiders, etc.

6. Prevent local sightseers and unauthorized people (photographers, newspaper, radio, etc.) from entering the plant premises.

7. Establish security guards at all plant gates.

XI. COMMUNICATIONS AND MAINTENANCE OFFICER

1. As soon as he is notified, he will proceed to the plant site, and check with the disaster officer.

2. Make necessary arrangements to call his assigned assistants, if they have not already been contacted.

XI. COMMUNICATIONS AND MAINTENANCE OFFICER (CONTINUED)

3. Establish a communication center, if the disaster officer hasn't already done so. This will consist of the following:

   a. The warehouse van and the plant managers truck are the primary communication vehicles. Each is equipped with FM-2-way radios. One of these, usually the WH van, should be located in the area of the disaster, to provide a communication link with the communication center at Sutton House radio.

      Upon his arrival, the Communications Officer should establish contact with the WH van and with the plant managers vehicle.

   b. In addition to the 2-way mobile radios, there is a hand held walkie-talkie in Sutton House, (on the Engineering and Production Manager's desk) which should be picked up by the Traffic Control officer for use at the Guard House.

4. He will also provide necessary maintenance personnel and equipment as required.

XII. AREA GENERAL FOREMEN

1. As soon as they are notified, they will proceed to the plant site, and obtain a quick briefing from one of the disaster cfficers.

2. They will immediately go to their own areas and proceed as follows:

3. Make sure a Head Count has been made and reported. If not, do so.

XII. AREA GENERAL FOREMEN (CONTINUED)

4. Find out the extent of the disaster as it affects their area, and take necessary action.

5. Assure that their area is secure, that an orderly and safe shutdown is underway or completed.

6. Then, and only then, should they get involved at the disaster site for assistance.

XIII. HEAD COUNT

A. During Daytime on Weekdays

In each plant area the general foreman will both do a Head Count and check out his area. He will remain in his area until he is satisfied of the above 2 conditions. In this respect, he must always be aware of which of his men are on the emergency team and have left for their duties.

Each general foreman must develop his own system for getting a quick and accurate Head Count of his area.

The general foreman will then notify the rescue operations officer of his area status, both as to Head Count and as to condition. He can do this by:

1. Sending a "runner".
2. Contacting the communications center, if one has been established.
3. He will notify the shift foreman, in the absence of the rescue operations officer.

XIII. HEAD COUNT (CONTINUED)

B. DURING NIGHTS OR WEEKENDS

During shifts, the senior operator in each area must do the Head Count. Here again a procedure for doing this quickly and accurately must be established by the general foreman. The senior operator will report his results to the shift foreman.

XIV. ENDING

When the emergency or disaster is over, this should be announced over the executone system(s) and "RED" phone when appropriate.

XV. DISASTER PLAN

Refer to plant Disaster Plan for more information, sketches, etc.

EMERGENCY COORDINATOR

Required Emergency Coordinator

A. On the facility premises or available to respond to the facility in a short time.

B. Responsible for coordinating all emergency response measures with authority to commit the resources needed to carry out the contingency plan.

C. Must be thoroughly familiar with:
   1. The facility's contingency plan
   2. Operations and acitvities
   3. Location and characteristics of waste
   4. Location of all records
   5. Facility layout.

Additional Responsibilities of the Emergency Coordinator (and the owner/operator)

A. Whenever there is an imminent or actual emergency situation he must immediately:
   1. Activate internal facility alarms on communication systems to notify all facility personel
   2. Notify appropriate State or local agencies if their help is needed.

B. Whenever there is a release, fire or explosion he must immediately:
   1. Identify the character, exact source, amount, and real extent of any released materials using observation, facility records or manifests, and, if necessary, by chemical analysis.

C. Concurrently he must:
   1. Assess possible hazards (ex. the effects of any toxic, irritating, or asphyxiating gases), and the effects of surface run-offs of wastes(including water or chemical agents used to fight fire).

D. Whenever the release could threaten human health or the environment outside the facility he must:

1. Immediately notify appropriate local authorities if he believes that evacuation of local areas may be necessary.
2. Immediately notify the on-scene coordinator for that area (in the applicable regional contingency plan) or the National Response Center (800-424-8802) and provide a report detailing:
   a. Name and telephone number of reporter
   b. Name and address of facility
   c. Time and type of incident (e.g. release, fire)
   d. Name and quantity of materials involved, to the extent known.
   e. The extent of injuries, if any, and
   f. The possible hazards to human health, or the environment, outside the facility.

E. Take measures such as stopping processes and operations, collecting and containing released waste, and removing or isolating containers, necessary to stop the occurrence, re-occurrence, or spread of fires, explosions or releases.

F. If the facility stops operations, monitor for leaks, pressure buildups, gas generation, or ruptures in valves, pipes, or other equipment (as appropriate).

G. Immediately after an emergency, treat or store recovered waste, contaminated soil or surface water, or other material. Such recovered material may have to be handled as a hazardous waste.

H. Immediately after an emergency, do not allow incompatible waste to be treated, stored, or disposed with released materials until cleanup procedures are completed; and clean emergency equipment before operations are resumed.

I. Before operations are resumed, notify the Regional Administrator and State and local authorities that Subsection H above has been comlied with.

J. The owner or operator must note in the operating record the time, date, and details of any incident which implement the contingency plan; and within 15 days after the incident, submit a written report to the Regional Administrator detailing:

1. Name, address, and telephone number of owner or operator.
2. Name, address, and telephone number of the facility
3. Date, time, and type of incident (e.g. fire, explosion)
4. Name, and quantity of material(s) involved
5. The extent of injuries, if any
6. As assessment of actual or potential hazards to human health or the environment, where this is applicable, and
7. Estimated quantity and disposition of recovered material that resulted from the incident.

CLASSIFICATION OF FIRES AND RATING OF PORTABLE FIRE EXTINGUISHERS

The basic types of fires are Classes A,B,C, and D as defined in the following paragraphs.

CLASS A fires are fires in ordinary combustible materials, such as wood, cloth, paper, rubber, and many plastics.

CLASS B fires are fires in flammable liquids, gases, and greases.

CLASS C fires are fires which involve energized electrical equipment where the electrical nonconductivity of the extinguishing media is of importance. (When electrical equipment is deenergized, extinguishers for Clas A or B fires may be used safely.).

CLASS D fires are fires in combustible metals, such as magnesium, titanium, zirconium, sodium, and potassium.

Certain combustible metals and reactive chemicals require special extinguishing agents or techniques. If there is doubt, applicable NFPA standards should be consulted or reference made to NFPA No: 49.

Portable fire extinguishers are classified for use on certain classes of fires and rated for relative extinguishing effectiveness at a temperature of plus 70 degrees Fahrenheit by nationally recognized testing laboratories. This is based upon the preceding classification of fires and the fire-extinguishment potentials as determined by fire tests.

The classification consists of a LETTER which indicates the Class of fire on which an extinguisher has been found to be effective, preceded by a rating NUMERAL (Class A and B only) which indicates the relative extinguishing effectiveness.

(continued).....

For extinguishers rated on Class B fires, the rating NUMERAL is also a proportional indication of the square-foot area of flammable liquid fire (of appreciable depth) which a trained operator can extinguish. (NOTE: appreciable depth is defined as a depth of liquid greater than 1/8 inch.).

For extinguishers classified for use on Class C fires, no NUMERAL is used since Class C fires are essentially either Class A or B fires involving energized electrical wiring and equipment. The size of the different suitable extinguishers installed should be commensurate with the size and extent of the Class A and/or B components of the electrical hazard or containing equipment being protected.

For extinguishers classified for use on Class D fires, no NUMERAL is used. The relative effectiveness of these extinguishers for use on specific combustible metal fires is detailed on the extinguisher nameplate.

Extinguishers which are effective on more than one Class of fire have multiple LETTER and NUMERAL-LETTER classifications and ratings.

The classification and rating is found on the label of Underwriters' Laboratories, Inc. and Underwriters' Laboratories of Canada, which is affixed to the extinguisher.

EXAMPLE: An extinguisher is rated and classified 4-A:16 B:C. This indicates the following:

1). It should extinguish approximately twice as much Class A fire as a 2-A (2-1/2 gallon water) extinguisher.
2). It should extinguish approximately sixteen times as much Class B fire as a 1-B extinguisher.
3). It should extinguish approximately 16 square feet of flammable liquid fire of appreciable depth when used by an operator trained in the use of the specific extinguisher.
4). It is suitable for use on energized electrical equipment.

PLANT FIRE PROTECTION SYSTEM

Training Aids: SWS Drawing SK #8 -3, Page 32A

INTRODUCTION

Our plant has a well designed fire protection system, and if properly used should extinguish or control any fire that occurs. We have a water supply, fire pumps, underground fire loop, sprinkler systems, fire trucks, and associated equipment.

WATER SUPPLY AND PUMPS

We have two (2) cooling water ponds, each of which contain approximately 750,000 gallons of water. Of this amount, 500,000 gallons are reserved for the two (2) fire pumps. This is governed by the fact that the fire pumps are longer than the cooling water pumps. When water is being drawn from these ponds to fight a fire, water is pumped into the ponds from the river water intake pump, which is rated at 500 gpm. Water may also be added through a four (4) inch well water makeup line. The river water makeup line will open automatically as the pond level drops, but the well water makeup line must be opened manually.

We have two (2) vertical turbine fire pumps located in our pump house. Each pump is capable of 2,000 gpm at 175 psi pressure. These pumps are set to come on automatically if the pressure drops in the fire mains. The electric pump comes on when the pressure drops to 145 psi, and the diesel comes on at 125 psi. We have an electric pump and a diesel driven pump. In the event of a fire during power outage, the diesel pump must be run.

These pumps whould start automatically in the event of a pressure drop in the fire main, but if the pressure switches should malfunction, either pump can be started manually. How to start and shut down these pumps will be pointed out on our tour.

UNDERGROUND FIRE MAINS: Refer to SWS SK-8-3, entitled "underground fire line", see page 32A

Start in the lower ~~left~~ RIGHT hand corner, where it says " from pumping station". This shows that there are paralled 12" underground lines coming from the pump house and tying into our 10" underground at PIV7 and PIV8. In the event of a rupture in one of these 12" lines, it can be isolated and pressure maintained through the other line. The lower 12" line on the sketch can be isolated by closing PIV7 & PIV8 and the northern most 12" valve in the pump house. The upper 12" line or sketch can be isolated by closing PIV6 & PIV7 and the southern most 12" gate valve in the pump house.

It should be pointed out here that anytime a post indicator valve is closed, the number of turns needed to close it should be counted and recorded. It should take the same number of turns to open this valve (usually 30 to 32 turns). Anytime a post indicator valve is closed, the Safety and Loss Department, in Westport, must be notified. They will want to know why it was closed and the estimated time that it will be closed.

FIRE HYDRANTS: Our fire hydrants are equipped with 2 - 2-1/2" nozzles. Most of these have one side reduced to 1-1/2" and have a 1-1/2" hose attached. It is important when using a hydrant that it is opened all the way. All hydrants have weep holes located underground. There are two (2) leather seals that cover these when the hydrant is not opened fully.

If the hydrant is not opened fully, water will flow out of these holes. Upon closing the hydrant, disconnect one side and place the palm of your hand over the opening. If the hydrant is draining properly, you should feed a vacuum forming.

SPRINKLER SYSTEMS: The following areas in our plant are protected by sprinkler systems: Hi Bay, RTV, Reactor structure, Silicon warehouse, northeast corner of maintenance, Polymers, HCR, the new warehouse, the Polymers-Hi Bay warehouse, the HCR warehouse, and the RTV warehouse.

Most of these areas, with the exception of the Monomers reactor structure, have temperature sensitive heads. This means that the sprinkler heads have a temperature rating (usually 180°F) at which point the solder melts and they spray water. In case of a fire only the sprinkler heads which get hot will go off. In the reactor structure, we have a deluge system. When a heat sensitive head is heated up, all of the heads will spray water, blanketing the structure with water.

Where a plant is protected by a well designed and maintained system of automatic sprinklers, the fire brigades work is simplified in a majority of fires. In all cases, where sprinklers operate on a fire, they should not be shut down until the supervisor in charge of the emergency brigade has determined that the fire is completely under control. Premature closing of the sprinkler supply valves has been a leading cause of major fire losses in industry.

All of our sprinkler systems have a post indicator valve by which the various systems may be shut off. After a sprinkler system has been tripped and the fire is out, this valve may be shut off to stop the water flow while replacing sprinkler heads. THIS VALVE SHOULD ONLY BE SHUT UNDER THE DIRECTION OF THE FIRE MARSHAL.

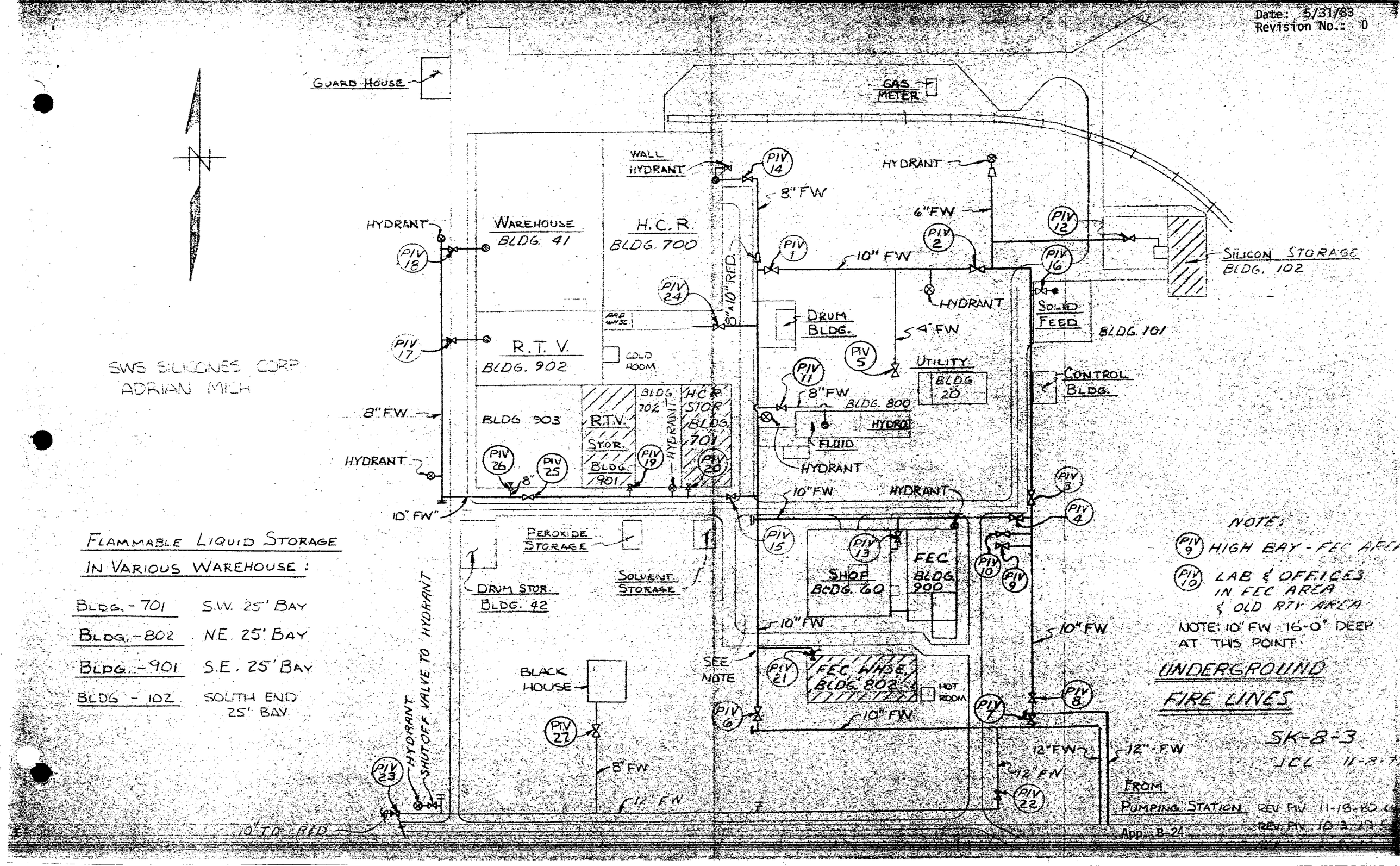
PLANT FIRE TRUCK: We have a 1968 Chevy pickup equipped as an emergency vehicle. Some of the equipment on this vehicle consists of: two (2) Scott Air Pacs; eight (8) gas masks; one (1) 300 pound dry chemical extinguisher; five (5) 30 pound extinguishers; an oxygen bottle and mask; 2-1/2" fire hose; and a monitor nozzle with 150' of hose attached. There

PLANT FIRE TRUCK (CONTINUED)

Is also a radio so that communications can be set up with walkie-talkies and the Sutton House radio system.

To use the 300 pound dry chemical extinguisher that is on the truck only one valve needs to be opened, this is the valve on the nitrogen cylinder. As soon as this valve is opened, it pressurizes the dry chemical and this unit is ready for use.

Date: 5/31/83
Revision No.: 0



FIRE EXTINGUISHERS

NUMBER	LOCATION		SIZE
1	Guard House	Bldg. 5	SP-A-30
2	Guard House Gas Pump		SP-A-20
3			
4	DSA Row 18	Bldg. 41	20A
5	DSA Door 2	Bldg. 41	20A
6	DSA Row 1	Bldg. 41	20A
7			
8			
9			
10			
11			
12	Middle; C-21	Bldg. 41	30A
13	Middle; C-10	Bldg. 41	30A
14	Middle; T-1	Bldg. 41	SPA 30
15	Middle; E-17	Bldg. 41	SPA 30
16	Middle; E-9	Bldg. 41	30
17	Middle; Small Pkg. Cage	Bldg. 41	30
18	Middle; S-16	Bldg. 41	20A
19			
20			
21			
22			
23			
24	RTV East Overhead Door	Bldg. 902	20A
25	RTV East next to Men's Room	Bldg. 902	30
26	RTV Solvent Room	Bldg. 902	20
27	RTV Lab	Bldg. 902	20
28	RTV West Wall	Bldg. 902	30
29	RTV Red Room West	Bldg. 902	30
30	RTV Red Room East	Bldg. 902	30
31	RTV New Bldg. East	Bldg. 902	20
32	RTV New Bldg. West	Bldg. 902	20
33	RTV New Bldg. South Wall	Bldg. 902	
34	RTV New Exp. West	Bldg. 903	20
35	RTV New Exp. East	Bldg. 903	20
36	RTV Warehouse; North	Bldg. 901	30
37	RTV Back Warehouse; South	Bldg. 901	30
38			
39			
40			
41			
42			
43	AR Building; North	Bldg. 42	20
44			
45			
46	CO_2 Label Room	Bldg. 700	I
47	Outside Label Room	Bldg. 700	20
48	HCR; North	Bldg. 700	20
49	HCR Office	Bldg. 700	30
50	HCR R-601	Bldg. 700	30
51	HCR M-603; North	Bldg. 700	30
52	HCR M-603; South	Bldg. 700	30

FIRE EXTINGUISHERS

NUMBER		LOCATION		SIZE
55		HCR M-704; West	Bldg. 700	20
56		HCR Ext - 704	Bldg. 700	20
57		HCR ML-704	Bldg. 700	20
58		HCR ML-702	Bldg. 700	20
59		HCR South Wall ML-703	Bldg. 700	30
60		HCR Hisil Room	Bldg. 700	20
61		HCR Chiller Room	Bldg. 700	20
62		HCR Y-400 Next to D_3 Tank		30
63		HCR; 2nd Deck Y-400		20
64		HCR; 2nd Deck Y-400 Railing		
65		HCR; 3rd Deck Y-400 Railing		30
66		HCR Bldg. 701 North	Bldg. 701	30
67		HCR; South Warehouse	Bldg. 701	20
68		HCR; South Warehouse	Bldg. 702	30
69				
70				
71				
72				
73				
74		Solvent Storage; North	Bldg. 44	30
75		Oil & Grease	Bldg. 44	20
76				
78		Drum Bldg. Polymers	Bldg. 801	20
79		Poly T-422; Ground Tank Farm		20
80		Poly T-425; Ground Tank Farm		20
81		Poly T-509 C; Ground		30
82		Poly T-814; Ground		20
83		Poly T-815; Ground		500
84		Poly T-815; 2nd Level		30
85		Poly T-512 B; 2nd Level		20
86		Poly T=831; 2nd Level		20
87				
88				
89		Poly Office Hallway	Bldg. 800	30
90	CO_2	Poly Electrical Breaker Room		
91				
92		Poly Fluids R-803; Ground	Bldg. 800	20
93		Poly Fluids R-805; Ground	Bldg. 800	30
94		Poly Fluids T-862; Ground	Bldg. 800	20
95		Poly Fluids Stairway; 2nd Level	Bldg. 800	20
96		Poly Fluids West Door; 2nd Level	Bldg. 800	30
97		Poly Fluids T-861; 2nd Level	Bldg. 800	30
98		Poly Fluids T-862; 2nd Level	Bldg. 800	30
99		Poly Fluids T-905; 2nd Level		30
100		Poly Fluids Roof; 1st Level	Bldg. 800	30
101		Poly Fluids C-803; 2nd Level	Bldg. 800	30
102		Poly Fluids C-803; 3rd Level	Bldg. 800	30
103		Poly Fluids C-803; Top Level	Bldg. 800	30
104				
105				
106		Process Control Lab; North Door	Bldg. 800	20

FIRE EXTINGUISHERS

NUMBER	LOCATION		SIZE
107	Process Control Lab; South Hood	Bldg. 800	10
108	Process Control Lab; Cyclics Door	Bldg. 800	20
109	Process Control Lab; Office Door	Bldg. 800	10
110			
111			
112	Poly Cyclics; Ground South C-502 & C-503		20
113	Poly Cyclics; 2nd Level C-502 & C-503		20
114	Poly Cyclics; 2nd Level C-502 & C-503		10
115	Poly Cyclics; 3rd Level C-502 & C-503		20
117	Poly Cyclics; Top Level C-502 & C-503		10
118	Poly Cyclics; Top Level C-502 & C-503		10
119	Poly Cyclics; Top Level C-505 & C-506		20
120	Poly Cyclics; 6th Level C-505 & C-506		20
121	Poly Cyclics; 5th Level C-505 & C-506		20
122	Poly Cyclics; 4th Level C-505 & C-506		20
124	Poly Cyclics; 2nd Level C-505 & C-506		20
125	Poly Cyclics; Ground Wall West	Bldg. 800	30
126	Poly Cyclics; Ground Wall East	Bldg. 800	30
27	Poly Cyclics; East Door 2nd Level	Bldg. 800	30
[illegible]	Poly Cyclics; West Door 2nd Level	Bldg. 800	30
129	Poly Cyclics; T-406 2nd Level	Bldg. 800	20
130	Poly Cyclics; T-406 3rd Level	Bldg. 800	20
131	Poly Cyclics; T-406 4th Level	Bldg. 800	10
132	Poly Cyclics; Roof T-503 ovhd	Bldg. 800	10
133	Poly Cyclics; Roof T-516 ovhd	Bldg. 800	10
134	Fluids T-808; South of Poly Cyclics	Bldg. 800	20
135	M-601 Jet Platform	Bldg. 700	20
136			
137			
138			
139			
140	Boiler House Southwest Corner	Bldg. 20	150
141	Boiler House; West Wall	Bldg. 20	20
143	Boiler House; Northeast Corner	Bldg. 20	10
144	Boiler House; Southeast Corner	Bldg. 20	20
145	FU-102		30
146	FU-101		20
147			
148			
149			
150	C-301; Ground		20
151	T-304; Ground		20
[illegible]	T-354; Ground		20
153	T-317; 2nd Level East		30
154	T-317; 2nd Level East		30
155	T-122; Ground West		30
156	North Control Room; Solvent Storage		20
157	North Control Room; Solvent Storage		20
158	North Control Room; between Offices	Bldg. 100	10

FIRE EXTINGUISHERS

NUMBER	LOCATION		SIZE
160 CO_2	Control Room South Breaker Room	Bldg. 100	
161	Control Room North Door	Bldg. 100	20
163	Monomers C-202 Ground		20
164	Monomers C-203 Ground		20
165	Monomers R-101 Ground		20
166	Monomers Solids Feed North Wall; Ground	Bldg. 101	20
167	Monomers Solids Feed West Wall; Ground	Bldg. 101	20
168	Monomers Solids Feed East Door; 2nd	Bldg. 101	20
169	Monomers R-101; 2nd Level		20
170	Monomers Solids Feed; 3rd Level	Bldg. 101	20
171	Monomers Solids Feed; 4th Level	Bldg. 101	10
172	Monomers R-101; 3rd Level		20
173	Monomers R-101; 4th Level	Bldg. 101	20
174	Monomers R-101; 5th Level		20
175	Monomers R-101; 6th Level		20
176	Monomers R-101; 7th Level		20
177	Monomers T-101		500
178	Monomers Bldg. 102 Southwest		30
180			500
[illegible]	Monomers HCl Watch Bldg. #23		
182	Fire House #1 Northside		10
183			
184			
185			
186			
187			
188			
189	Hi Bay North Personnel Door; Ground	Bldg. 900	10
190	Hi Bay Outside Ladies Room; Ground	Bldg. 900	20
191	Hi Bay Breaker Room; Ground	Bldg. 900	
192	Hi Bay South Door		20
193	Hi Bay Bottleroom; North; Ground	Bldg. 900	20
194	Hi Bay Bottelroom; South; Ground	Bldg. 900	20
195	Hi Bay Ribbon Blender; 2nd Level	Bldg. 900	20
196	Hi Bay T-962; 2nd Level	Bldg. 900	20
197	Hi Bay Locker Area; 2nd Level	Bldg. 900	10
198	Hi Bay Training Room Door; East	Bldg. 900	10
199	Hi Bay Training Room Door; West	Bldg. 900	20
200	Hi Bay Training Room Door; Hallway	Bldg. 900	20
201	Hi Bay Training Room Door; Hallway	Bldg. 900	10
202	Hi Bay R-902; Ground Level	Bldg. 900	30
203		Bldg. 900	30
204		Bldg. 900	10
[illegible]	Hi Bay R-910; Ground Level; West	Bldg. 900	20
[illegible]	Hi Bay M-916; Ground Level	Bldg. 900	20
207	Hi Bay T-942; Ground Level	Bldg. 900	20
208	Hi Bay M-922; Ground Level	Bdlg. 900	20
209	Hi Bay T-927; 2nd Level	Bldg. 900	20
210	Hi Bay M-922; 2nd Level	Bldg. 900	20
211	Hi Bay ML Pump Room; South	Bldg. 900	20

SWS Silicones Corporation

FIRE EXTINGUISHERS

NUMBER	LOCATION		SIZE
212	Hi Bay ML Pump Room; North	Bldg. 900	20
213	Hi Bay Gas Pump	Bldg. 900	20
214	Hi Bay R-902; 2nd Level	Bldg. 900	20
215	Hi Bay R-905; 2nd Level	Bldg. 900	20
216	Hi Bay R-903; 2nd Level	Bldg. 900	20
217	Hi Bay R-903; 3rd Level	Bldg. 900	10
218	Hi Bay R-905; 3rd Level	Bldg. 900	10
219	Hi Bay R-901; 4th Level	Bdlg. 900	20
220	Hi Bay R-905; 4th Level	Bldg. 900	20
221	Hi Bay R-903; 4th Level	Bldg. 900	10
222	Hi Bay Warehouse East	Bldg. 802	20
223	Hi Bay Warehouse West	Bldg. 802	20
224	Hi Bay Little Breaker Room	Old Hi Bay	CO_2
225	Hi Bay Breaker Room Outside Entrance South		CO_2
226	Hi Bay 942; 2nd Level West Post		
227	Hi Bay Warehouse; Northwest Corner		20
228	Between Breaker Room West of 905		
229	Hi Bay R-905 East of ML Door		20
230	Engineering South Door	Bldg. 60	10
31	Engineering Water Fountain	Bldg. 60	10
[illegible]	Engineering North Door	Bldg. 60	10
233			
234	North Door Ground Level Maint.	Bldg. 60	30
235	Northwest Door Maint; Ground Level	Bldg. 60	30
236	Maint. Instrument Shop	Bdlg. 60	10
237	Maint. South Door	Bldg. 60	10
238	Maint. Southwest Door	Bldg. 60	30
239	Maint. Office Trailer	Bldg. 60	20
240	Fire Truck		
241	Fire Truck		20
242	Fire Truck		300
243	Maint. Tool Crib; Ground Bottom Stairway	Bldg. 60	10
244	Maint. Tool Crib; 2nd Level Top Stairway	Bldg. 60	20
245	Fire Truck		30
246	Fire Truck		10
247			
248			
249	Sanitary Sewer Bldg. Door		30
252			
253			
254			
55	Cooling Water Pump House West Door	Bldg. 22	20
[illegible]	Cooling Water Pump House East Door	Bldg. 22	20
257	Sutton House Hallway; 1st Floor		10
258	Sutton House Kitchen; 1st Floor		20
259	Sutton House Basement		10
260	Sutton House Hallway; 2nd Floor		10
261	Sutton House Office; 3rd Floor		10

FIRE HOUSES

	1	2	3	4	5
00' HOSE					
½" FOG NOZZLE					
½" FOG NOZZLE					
1½" X 1½" NOZZLE					
½" X 1½" SIAMESE					
IG BEAM LIGHT			N.A.		
DJUSTABLE DRANT WRENCH					
½" GATE VALVE					
IRE AX					
' PIKE POLE					
ROW BAR					
' ROPE					
SPANNER IRENCHES					
HOSE STRAPS	N.A.				
½" + 1½" GASKETS					
EANLINESS					

WET SPRINKLER SYSTEMS

	VALVE OPEN	VALVE SEALED	PRESS. ABOVE	PRESS. BELOW
WAREHOUSE (OLD)				
WAREHOUSE (NEW)				
HI BAY NORTH				
HI BAY SOUTH				
FLUIDS				
RTV				
RTV WHSE.				
MAINT.				
RTV Addition				

	VALVE OPEN	VALVE SEALED	AIR PRESS.	WATER PRESS.
MICA WHSE.				
HI BAY WHSE.				
HCR WHSE				
FILLER TREAT				

FIRE DIESEL

ENGINE HOURS	
FUEL SUPPLY	
BATTERY WATER	
BATTERY CHARGER	

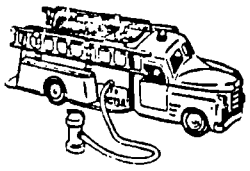
VALVE No.	OPEN	SE
1		
2		
3		
4		
5		
6		
7		
8		
9		
10		
11		
12		
13		
14		
15		
16		
17		
18		
19		
20		
21		
22		
23		
24		

FIRE PUMP (ELEC.)

PUMP TESTED		25	
PUMP DISCHARGE		26	

Date: 5/31/83
Revision No.: 0

RAISIN TOWNSHIP FIRE DEPARTMENT



Submitted
Date: 5/31/83
Revision No.: 01
8/1/83

July 22, 1983

Mr. Gordon Philbrook
c/o SWS Silicones
Stauffer Chemical Corp.
Adrian , Michigan 49221

Mr. Philbrook:

In response to your request of July 5,1983 I am sending you an updated letter with our current status listed.

1. Personell.

Raisin Township Fire Department currently consists of 45 members on a paid call basis broke down as follows.

1 - - Chief
2 - - Assistant chief's
2 - - Rescue captains
4 - - Fire Captains
36 - - Fireman & Rescue persons

Overall training includes 66 hour firemanship training, Officer training, rescue training, extrication courses, C.P.R. , Emergency medical technicians, overdose aid training, radiological training, hazardous materials courses and other related courses as they are made available.

2. Equipment: 10 vehicles as listed below.

81-1 Pumper tanker w/ 1000 gpm pump and 1000 gallons of water. This unit carries a deluge gun capable of discharging 1000 gmp.
81-2 Pumper tanker w/ 750 gpm pump and 1500 gallons of water. This unit has foam capability.
81-3 Combination 4 wheel drive grass rig and light rescue. This unit capable of handling most rescue situations.
81-4 Pumper w/ 750 gpm pump and 650 gallons of water.
81-5 Tanker w/ 350 gpm auxillary pump and 1500 gallons of water.
81-6 4 wheel drive vehicle -- grass rig with snowplow for situations in bad weather.
81-7 Main rescue unit with capability of treating many victims. This unit has the capability of direct communications with local hospitals.Forceable entry equipment up to and including the " jaws of life " are carried in this unit.
81-91 Ambulance New in 1981
81-92 Ambulance New in 1980
81-93 Ambulance New in 1980

JUL 27 1983

3. In addition to the equipment listed above we have the ability and capability of handling any and all situation which may occur. Self contained breathing apparatus is carried and would be used whenever the situation warranted.

As in the past SWS personell would act in an official capacity to help us control any situation that would occur.

Raisin Township personell will enter any building deemed safe for entry in the event of an emergency.

Our response time to your facility at the corner of Raisin Ctr Hwy and Sutton Rd should be 3-5 minutes under normal conditions.

In addition to the equipment owned and operated by the Township of Raisin, Mutual aid contracts in Lenawee County would put at our disposal, the knowledge and resources of eighteen other fire departments who would respond as required. Their dispatch would be accomplished through the command post of the Raisin Township Fire Department.

Respectfully,

Carl F Wagner

Carl F Wagner

Raisin Township Fire Chief

MEMBER
National Sheriffs' Association
Michigan Sheriffs' Association

Sheriff's Department
LENAWEE COUNTY
405 N. WINTER ST.
ADRIAN, MICH. 49221

SHERIFF
RICHARD L. GERMONIJ
UNDERSHERIFF
RONALD R. WEILER
Phone: 517-263-0524

Submitted
Date: 5/31/83
Revision No.: 01
8/1/83

July 6, 1983

Mr. Gordon Philbrook
SWS Silicones Corp.
3000 Sutton Rd.
Adrian, MI 49221

Dear Mr. Philbrook:

In the event of an emergency situation at your facility which would affect the health, well-being and property of surrounding residents and motorists, the Lenawee County Sheriff's Department and Office of Emergency Services would take the necessary actions in conjunction with the area Fire Departments to protect the life and health of the citizens and their property.

This would include invoking emergency disaster plans and annexes, (ACT 207 P.A. 1941, Act 390 P.A. 1976).

Immediate action to be taken would be to assess the potential threat, define the radius of evacuation, assign personnel to contact potential evacuees, traffic control and establish mass care shelters.

Sincerely,

Bruce Lucey

Bruce Lucey, Captain
Deputy Director
Emergency Services

BL/es

JUL 7 1983

SWS Silicones Corporation
ADRIAN, MICHIGAN 49221 · TELEPHONE (517) 263-5711

Date: 5/31/83
Revision No.: 0

December 29, 1980

Mr. Paul Nelson, Administrator
Emma L. Bixby Hospital
818 Riverside Avenue
Adrian, MI. 49221

Dear Mr. Nelson:

In accordance with the new Hazardous Wastes Management rules and regulations recently (11/19/80) pulmugated by the U.S. Environmental Protection Agency, we must have a contingency plan which includes arrangements agreed-to by local hospitals, in the event of a plant emergency, such as fires or explosions, involving hazardous wastes.

Our understanding is that Bixby Hospital can and would provide the following services, when appropriate:

1. The Emergency Room is available 24 hours/day.
2. Doctors are available or on call 24 hours/day at the Hospital.
3. There are emergency shower facilities at the Hospital Emergency Room area.
4. There would be communications between the Hospital, the Sheriff's department and the Ambulance service.
5. The Hospital has a heliport.
6. The Hospital maintains a 24 hour/day Poison Control center for information and advise concerning poisons and chemicals. ?

Please review our comments if you agree or have any suggestions please call me at 263-5711 Ext. 361. Your assistance is greatly appreciated in this matter.

Yours truly,

SWS SILICONES CORPORATION

Gordon C. Philbrook
Environmental Control Coordinator

SWS RCRA Plan, page 114
Revised 1/20/81

GCP:ceh
cc: J. Calamungi

Submitted
Date: 5/31/83
Revision No.: 01
8/1/83

EMMA L. BIXBY HOSPITAL

818 RIVERSIDE AVENUE ADRIAN, MICHIGAN 49221

AREA 517 263-0711

BOARD OF TRUSTEES

BETTY L. SKILLMAN, PH.D.
CHARLES E. GROSS
GRACE MILEY
H. LYMAN DUNLAP
RICHARD GILMARTIN, M.D.
REX MARTIN
ROBERT MEYERS

PAUL E NELSON, F.A.C.H.A.
President

July 6, 1983

Mr. Gordon C. Philbrook
Environmental Control Coordinator
SWS Silicones Corporation
Adrian, Michigan 49221

Dear Mr. Philbrook:

In reply to your letter of July 5, 1983 concerning your plant Emergency Contingency Plan, and updating of same, Bixby Hospital can and will provide the six services as outlined in your letter of December 29, 1980.

If we may be of further service, please do not hesitate to contact me.

Sincerely,

Jay E. Kreuzer

Jay E. Kreuzer
Executive Vice President

JEK:prc

cc: Patricia Lamb, M.D.
Medical Director, Emergency Room

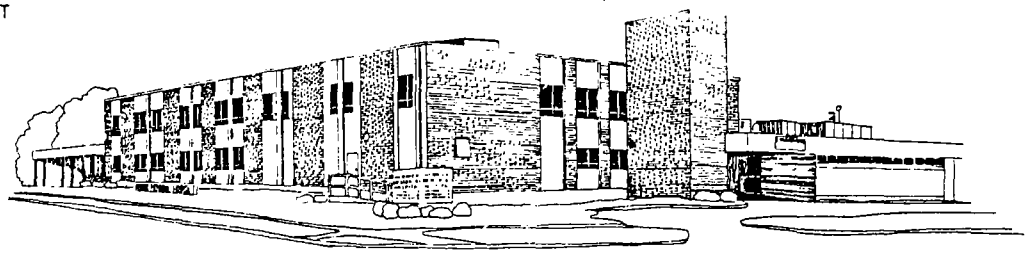
JUL 8 1983

Submitted
Date: 5/31/83
Revision No.: 01
8/1/83

HERRICK MEMORIAL HOSPITAL

500 E. POTTAWATAMIE STREET
TECUMSEH, MICHIGAN 49286
(517) 423-2141

WILLIAM R. GROOVER
ADMINISTRATOR



July 8, 1983

Mr. Gordon Philbrook
Environmental Control Coordinator
Stauffer Chemical - SWS Silicons Corporation
Sutton Road
Adrian, Michigan 49221

Dear Gordon:

This letter is to assure you that within the limits of our capability we will be glad to care for any sick or injured personnel coming from your plant day or night.

Our Emergency Room is manned twenty-four (24) hours a day with physicians and we also have laboratory and x-ray personnel on-call around the clock.

In addition to the above we have the ability to land a Life Flight helicopter near our Emergency Room which carries a doctor and nurse for transferring patients to other Medical Centers as needed.

If you have any questions or comments please feel free to call me at any time.

Sincerely yours,

W. Groover

W. Groover

cc: Emergency Room
- Outpatient

WG:zw

JUL 13 1983

Date: 9/2/83
Revision: 1

ADRIAN, MICHIGAN 49221 • TELEPHONE (517) 263-5711

August 24, 1983

Richard H. Gascoigne M.D.
Mill Road
Adrian, Michigan 49221

Dear Dr. Gascoigne:

In accordance with the Hazardous Wastes Management rules and regulations pulmugated by the U.S. Environmental Protection Agency, we must have a contingency plan which includes arrangements agreed to by local agencies, in the event of a plant emergency, such as fires, explosions or spills, involving hazardous wastes.

Our understanding is that you will provide assistance through the Bixby Hospital emergency room as outlined in the Lenawee County Disaster Plan procedure.

Please acknowledge this letter, along with any other appropriate comments.

Yours truly,

SWS SILICONES CORPORATION

Gordon C. Philbrook

Gordon C. Philbrook
Environmental Control Coordinator

GCP:pb 83-165

cc: J. Calamungi
T. E. Degnan
H. Kim

Dear Gordon
Sd be happy to help in any way.
Rick

SEP 2 1983

APPENDIX C

SPILLS CONTROL CONTRACT WITH A.C.E.S.

C

AGREEMENT

THIS AGREEMENT is made this 1st day of November by and between SWS Sillicones Corp. and Associated Chemical and Environmental Services, Inc. ("ACES"), an Ohio corporation.

W I T N E S S E T H, that:

WHEREAS, ACES has the expertise, equipment, aircraft and personnel necessary to respond quickly and evaluate, contain and clean-up Discharges safely and in accordance with applicable government regulations; and

WHEREAS, SWS and ACES desire that ACES provide such services to SWS in accordance with the terms of this Agreement;

NOW, THEREFORE, in consideration of the mutual promises and agreements herein set forth SWS and ACES hereby agree as follows:

I. DEFINITIONS

1.1 In this Agreement the following expressions shall have the meanings thereafter appearing:

(a) "Substance" shall mean any material or substance, including (without limitation) any hazardous material regulated from time to time by the U.S. Department of Transportation and any substance regulated from time to time by U.S. Environmental Protection Agency, or Michigan Department of Natural Resources.

(b) "Clean-up" shall mean to control, neutralize, decontaminate, treat, or change any Substance so as to render it nonhazardous.

(c) "Discharge" shall mean any spilling, leaking, condition of or condition caused by any Substance which wishes ACES to clean-up.

(d) "Contract Area" shall mean the continental United States, including Alaska, all inland waters and all coastal waters up to three miles from shore.

(e) "Primary Contract Area" shall mean the Contract Area east of and including North Dakota, South Dakota, Nebraska, Kansas, Oklahoma and Texas.

(f) "Secondary Contract Area" shall mean the Contract Area other than the Primary Contract Area.

II. ENGAGEMENT

2.1 SWS may, from time to time engage ACES, and ACES hereby commits to "accept such engagement" to clean up Discharges occuring in the Contract Area, in accordance with the terms and conditions contained in this Agreement. The relationship of ACES to SWS shall be that of an independent contractor.

2.2 SWS retains the right to have any Discharge cleaned up by its own employees "or by a third party".

III. TERM

3.1 This Agreement shall become effective upon execution and shall remain in effect for two years; provided, however, that either party may terminate this Agreement at any time upon sixty days' written notice.

In the event either party defaults in the performance of its obligations hereunder and fails to correct such default within three (3) days after notice thereof by the non-defaulting party, the non-defaulting party may immediately terminate this Agreement.

3.2 Termination of this Agreement for any reason, whether at the end of the term or otherwise, shall not relieve ACES of its responsibility to complete the clean-up and disposal of any Discharge of which it was notified before the effective date of the termination, nor shall it relieve either party of any obligations then accrued hereunder, or which extend beyond the term hereof.

IV. CLEAN UP

4.1 SWS may engage ACES to clean up a Discharge at any time by calling (419)-726-1521. The Director of Health and Safety and The Corporate Traffic Director are authorized to make such engagement. SWS shall provide ACES with such information as SWS has reasonably available concerning the location of the Discharge and the identity of the Substance(s) involved, and such other information as ACES may reasonably request as necessary to provide all services called for by this Agreement.

4.2 Upon receipt of instructions to Clean-up any Discharge, ACES shall commence Clean-up at the site of the Discharge as quickly as possible and in any event within eight hours after receipt of such instructions or, for a Discharge in the Secondary Contract Area, within such time as is agreed upon when ACES accepts the engagement.

4.3 ACES shall provide all necessary transportation, supervision, personnel, equipment and materials and shall clean-up the Discharge to the extent possible using the best practices and the best available technology. ACES shall perform the Clean-up in a diligent and cost-efficient manner employing such personnel and equipment and working such hours as is necessary to protect health and the environment with respect to both its own employees and the general public.

4.4 ACES shall notify SWS immediately upon its arrival at the site of the Discharge and shall remain available to answer any questions SWS might have concerning the Discharge and Clean-up. In addition, as soon as possible (but not later than 24 hours) after arriving at the site, ACES shall provide SWS with:

(a) Description of the Discharge and its estimated environmental effects;

(b) A description of the steps taken and to be taken with respect to the Clean-up and disposal of the Discharge;

(c) An estimate of the cost of the services provided and to be provided; and

(d) A list of any government or agency representatives who have visited the site of the Discharge or reviewed the Clean-up operation and a discussion of any instructions or comments given by such persons.

Significant changes in the information supplied shall be reported to SWS as soon as known by ACES. Each such report shall be made to Mr. Gordon Philbrook at (517) 263-5711 and to any designated SWS representative at the site. ACES shall promptly confirm all reports to SWS in writing, and shall supply copies of all daily logs. SWS may, at any time and for any reason, discontinue the clean-up of any Discharge by notifying ACES at the site of the Clean-up or by calling (419) 726-5120; provided, however, that any such discontinuation will not relieve SWS of its obligation to pay for services already provided. Each of the persons specified in Section 4.1 is authorized to order such a discontinuation.

4.5 ACES shall perform the Clean-up in complete compliance with all applicable federal, state and local laws and regulations and, subject to the restrictions on the disclosure of confidential information described in Article VIII, shall cooperate fully with any government official or representative having jurisdiction over the Clean-up unless advised otherwise by SWS.

4.6 ACES will advise SWS promptly of all notifications of the Discharge required by federal, state or local laws or regulations and if SWS requests, will make such notifications.

4.7 ACES will dispose of the Substance or Substances and any other materials collected in the Clean-up as and where directed by SWS.

4.8 Upon completion of the Clean-up and disposal, ACES shall provide SWS with a written report of the services provided, including:

(a) A description of the Discharge;

(b) An itemized description of the services performed, including the cost of each;

(c) A description of any disposal, including the amount received on behalf of SWS for salvage; and

(d) A list of the government or agency representatives who visited the site of the Discharge or reviewed the Clean-up operation and a discussion of any instructions or comments given by such persons.

(e) A list of all Government Agencies to which it has made notifications pursuant to paragraph 4.6 above.

ACES shall also provide SWS with copies of any logs or other records it maintains concerning the clean-up not previously sent to SWS.

V. FEES

5.1 SWS shall pay ACES for the services provided under this Agreement at the rates specified on Exhibit A hereto. Terms of payment shall be five percent (5%) 20 days/net 30 days from the date the invoice is received. An additional two percent (2%) discount shall be allowed for all services except those provided by ACES' subcontractors.

5.2 All invoices shall be itemized, setting forth in detail the charges for labor and equipment attributable to each Clean-up operation except that for operations requiring more than seven days to complete, interim invoices may be submitted every seven days and shall be paid in accordance with this Article V.

5.3 The fees established in this Article V shall not be increased during the first year of this Agreement. For services rendered during the second year of this Agreement, the fees payable hereunder may be increased to the extent ACES' published rate sheet is increased for customers generally; provided, however, that the total amount due on any invoice for services rendered during the second year shall not exceed by more than ten percent (10%) the total amount that would be due for the same services under the current rate schedule.

V.I. REPRESENTATIONS

6.1 ACES represents that it is qualified to perform the Clean-up and disposal services contemplated by this Agreement, that it will employ only qualified personnel and hire only qualified subcontractors, and that it and each of its subcontractors and agents has all permits, licenses and authorizations necessary to perform such services.

ACES shall insure that all employees of ACES and of ACES' subcontractors, are given adequate safety instructions and equipped with adequate safety equipment for handling any substance with which they may come in contact.

VII. RESPONSIBILITY AND INDEMNIFICATION

7.1 The parties recognize the potential risks of injury to persons and property in the clean-up of Discharges and acknowledge the expertise of ACES in assessing and handling such risks. In recognition of that expertise, in view of ACES' responsibility for Clean-up and in consideration of the rates paid hereunder, ACES shall be solely responsible for all of its work in connection with this Agreement. Notwithstanding any other provision in this Agreement, SWS shall not be liable for any loss, damage or injury sustained by ACES, its employees or agents in connection with this Agreement. ACES shall indemnify, defend and save harmless SWS from and against any and all claims for fines, penalty, loss, damage or injury, and any expense (including without limitation costs of settlement and reasonable attorneys' fees) resulting therefrom, in any way relating to the Clean-up or disposal of any Discharge and/or the performance or non-performance by ACES hereunder whether based on negligence, breach of warranty or strict tort liability or otherwise, except to the extent any such loss, damage or injury is caused by SWS failure to advise ACES of latent dangerous conditions created by negligent acts of SWS employees, known to SWS and not reasonably ascertainable by ACES. The provisions of this Section VII shall survive termination, expiration or cancellation of this Agreement.

VIII. SECRECY

8.1 In connection with the services to be provided by ACES under this Agreement, SWS may disclose confidential information, including (without limitation) that relating to the identity, composition and properties of the Substances (the "Information"). This Information is proprietary to SWS, is secret and confidential, and constitutes assets of great value.

8.2 Any Information disclosed by SWS is disclosed for the limited purpose of assisting ACES in providing the services contemplated by this Agreement. ACES shall keep any and all Information confidential and in strict secrecy, and shall not disclose the Information to any government official, representative or agency or to any other third party or parties (including parent companies, subsidiaries or affiliates) without the written consent of SWS. ACES shall immediately refer any requests by government or agency representatives for the Information to SWS.

ACES shall use the Information only for the purpose of providing services under this Agreement and shall grant access to the Information only to those employees of ACES as are reasonably necessary to accomplish that purpose.

8.3 Upon request by SWS, ACES shall return to SWS the Information and all writings provided by SWS or prepared by ACES that contain the Information, including all excerpts, summaries, reproductions and copies thereof.

IX. PERFORMANCE BOND

9.1 ACES shall promptly purchase a performance bond, from a company acceptable to SWS, for the Clean-up of each Discharge that ACES estimates will cost more than $50,000.00.

X. INSURANCE

10.1 ACES shall procure and maintain, at its expense, during the term of this Agreement, at least the following insurance, covering all obligations and activities performed under this Agreement, including any work performed by any subcontractor:

TYPE	LIMITS
Workers' Compensation; Employer's Liability	Statutory; minimum limits of $500,000 each injury/occupational disease
Comprehensive General Liability Insurance, including Contractual and Independent Contractors Liability and Automobile Liability	Bodily injury and death: $3,500,000 combined single limit Property damage: $3,500,000 combined single limit

Before disposing of any Substance(s) under this Agreement, ACES shall supply evidence to SWS that the facility receiving the Substance(s) maintains such Environment Impairment Liability Insurance as may be required by SWS.

ACES shall not begin any operations under this Agreement until it has obtained all the insurance listed above and has furnished SWS with certificates of such insurance and, if requested by the Company, copies of the policies. Each certificate shall contain a statement of the coverage under the policy, including a statement of blanket contractual coverage with respect to this Agreement, a waiver of subrogation with respect to SWS, and a statement of the insurer's obligation to notify SWS of any change in or cancellation of any policy covered thereunder at least ten (10) days prior thereto. Compliance or lack of compliance with this Section X shall in no way relieve ACES from its obligations of responsibility and indemnification provided in Section VII.

XI. GENERAL

11.1 Neither party shall be liable to the other for any delay in performance hereunder caused by an act of God, explosion, war or act of a foreign enemy, or any other unforseen cause beyond the control of such party; provided, however, that the parties recognize the importance of prompt, diligent action in performing the services contemplated by this Agreement and agree to make every effort to perform such services according to the terms hereof. Each party agrees to provide the other with immediate notice of the existence or anticipated existence of any condition that may affect its performance under this Section 11.1.

11.2 ACES may, with prior written consent, subcontract to qualified persons all or part of the services to be provided hereunder; provided, however, that ACES shall remain responsible for the provision of such services in accordance with the terms hereof, including, without limitation, the provision of public liability insurance in accordance with section 10.1 covering the subcontractor.

11.3 Except for discussions with government officials or representatives in accordance with Section 4.5, ACES shall not disclose information concerning a Discharge or clean-up operation to anyone other than SWS personnel.

11.4 All written notices and reports to be made or given under this Agreement shall be delivered by certified mail, return receipt requested, to the address set forth opposite the signature of the receiving party at the end of this Agreement, or at such other address as such party shall hereafter designate.

11.5 This Agreement supersedes all prior agreements and understandings between the parties hereto relating to all or any part of the subject matter hereof, and there are no written or oral terms, conditions or representations made by either party other than those contained herein.

11.6 No waiver by any party of any breach by the other party of any term or condition of this Agreement to be performed by such other party shall be deemed a waiver of any prior or subsequent breach of such term or condition or of any similar or dissimilar term or condition.

11.7 This Agreement shall be governed by and interpreted under the law of the State of Ohio.

IN WITNESS WHEREOF, the parties have caused this agreement to be executed by their respective officers thereunto duly authorized as of the date first above written.

SWS SILICONES CORPORATION

BY: _____

TITLE _____

_____

_____

_____

ATTN: _____

ASSOCIATED CHEMICAL AND
ENVIRONMENTAL SERVICES, INC. (ACES)

BY: _____

TITLE _____

FONDESSY ENTERPRISES, INC.
ASSOCIATED CHEMICAL AND ENVIRONMENTAL SERVICES
876 OTTER CREEK ROAD P.O. BOX 7571 OREGON, OHIO 43616
(419) 726-1521 (24 HOURS)

1982 PERMIT LISTING April 8, 1982

I Fondessy Enterprises, Inc.
876 Otter Creek Road
Oregon, Ohio 43616

	RCRA	OHIO
Landfill	OHD 045243706	03-48-0092
Landfarm	OHD 045243706	03-48-0092
Transporter	OHD 045243706	PUCO #51-HW, ICC #37806-EX

II ACES
876 Otter Creek Road
Oregon, Ohio 43616

	RCRA	OHIO
Transporter	OHD 045247905	PUCO #51-HW, ICC #37806-EX

III FEI Landfarm Site #2
Cedar Point & Wynn Road
Oregon, Ohio 43616

	RCRA	OHIO
Landfarm	OHD 000721415	03-48-0094

IV FEI Landfarm Site #3
Dupont Road
Oregon, Ohio 43616

	RCRA	OHIO
Landfarm	OHD 000721423	03-48-0093

2/02/82 F/A EQUIPMENT LIST PAGE 1

EQUIPMENT#	DESCRIPTION
2-2044.55	D-65P WIDETRACK KOMATSU
2-3001.53	CAT D6B DOZER & WINCH
2-3004.52	54 CAT BULLDOZER
2-3007.56	CAT D8 DOZER
2-3008.56	CAT D8H CRAWLER DOZER
2-3010.59	58 CAT D9 DOZER
2-3824.56	D-85E KOMATSU DOZER
2-5002.54	CAT D6C DOZER
2-5011.59	57 CAT D9 DOZER
2-5018.58	75 IH-TD8C-DOZER-6-WAY
2-5019.57	76 IH TD8E DOZER 6 WAY
2-5020.55	D6D CAT DOZER LGP
2-5023.50	79 D3 CAT WIDETRACK DOZER
2-5024.50	79 D-3 CAT DOZER
2-5113.51	79 CAT TRASH COMPACTOR
4-3306.41	75 J.D. 410 BACKHOE
4-3307.41	75 J.D. 410 BACKHOE
4-4310.42	78 JCB BACKHOE
4-4606.46	78 INSLEY CRAWLER BACKHOE
4-5304.41	73 J.D. 410 BACKHOE
4-5312.43	FORD 730-20 ENDLOADER
4 [illegible]605.46	GRADALL CRAWLER
4-6[illegible]0.40	'69 J. D. 400 BACKHOE
5-1435	72 SUPERIOR MOTOR HOME
5-4300	73 BOSTON WHALER
5-4301	'73 BOSTON WHALER SIG.ENG
5-4840	77 CHEVY STA WAGON
5-4842	79 CHEVROLET STN.WGN.
5-4843	'80 FORD LTD SEDAN
5-4924	OIL MOP MACHINE
5-5063	78 FORD BRONCO
5-6241	79 GMC JIMMY 4-WHL DRIVE
-3707	LEROI AIR COMPRESSOR
-3708	INGERSOL AIR COMPRESSOR
-3709	LEROI AIR COMPRESSOR
-3711	LEROI AIR COMPRESSOR
-3713	WESTINGHOUSE AIR COMP.
-4715	LEROI AIR COMPRESSOR
-4716	KELLOG AIR DRYER
-5705	GARDNER-DENVER AIR COMP.
-5706	GARDNER-DENVER AIR COMP.
-6710	GARDNER-DENVER AIR COMP.
-3400L11	48 BAY CITY TRK CRANE
-3400U11	48 BAY CITY TRK CRANE
-3402L12	68 LIMA TRK CRANE
- 02U12	65 TON LIMA TRK CRANE
-3[illegible]14	69 LIMA 900T TRK CRANE
3411U14	69 LIMA 900T TRK CRANE
3413L16	LINKBELT HC 238
3413U16	73 LINKBELT HC 238

EQUIPMENT#	DESCRIPTION
10-3502.25	GROVE RT 60 CRANE
10-4515.24	GROVE RT58 CRANE
10-5412L34	GROVE TMS375LP CRANE
10-5412U34	GROVE TMS375LP CRANE
10-5503.24	74 GROVE HYD CRANE
10-5513.26	72 PETTIBONE HYD CRANE
10-5514.27	77 GROVE RT620S CRANE
10-5516.31	78 GROVE RT75S CRANE
10-5603.39	P&H CRAWLWER CRANE
10-6020L37	1980 GROVE HYDRA CRANE
10-6020U37	1980 GROVE HYDRA CRANE
10-6401L14	71 LIMA 900T TRK CRANE
10-6401U14	71 LIMA 900T TRK CRANE
10-6402L14	71 LIMA 900TA TRK CRANE
10-6402U14	71 LIMA 900TA TRK CRANE
10-6403L13	70 LIMA TRK CRANE
0-6403U13	70 LIMA TRK CRANE
0-6405L17	77 LINKBELT HC258
0-6405U17	77 LINKBELT HC258
0-6503.25	69 PETTIBONE HYD CRANE
-6505.24	74 GROVE HYD CRANE
0-[illegible]8L35	71 GROVE HYD. CRANE
0-6508U35	71 GROVE HYD. CRANE
0-6511L33	74 P&H HYDRACRANE
0-6511U33	74 P&H HYDRACRANE
0-6514L26	73 PETTIBONE HYD. CRANE
0-6514U26	73 PETTIBONE HYD CRANE
0-6515L36	74 GROVE TM650T HYD CRANE
0-6515U36	74 GROVE TM650T HYD CRANE
0-6516.15	100 TON CRAWLER CRANE
0-6517.27	78 GROVE RT620S CRANE
0-6518.18	LS98 CRAWLER CRANE
0-6519.24	GROVE RT58 CRANE
0-6520.23	GROVE STEVEDORE
2-1924	TOW MOTOR FORK LIFT
2-3101.62	CAT LOADER CRAWLER
2-3103.65	71 CAT 977L ENDLOADER
2-3109.64	CAT 966 ENDLOADER
2-3110.66	988 CAT ENDLOADER
2-4115.68	BROWN BEAR 1 TRA. W/AUGER
2-4311.67	79 SWINGER LOADER
2-4951	IH FORKLIFT
2-5102.63	CAT 955K ENDLOADER
2-5108.65	77 CAT 977L ENDLOADER
2-5109.65	71 977K CAT ENDLOADER
5[illegible].61	CAT 950 ENDLOADER
2-5[illegible].60	CAT 910 LOADER
-3201.70	CAT 12 GRADER
-3203.70	CAT 12 GRADER
-3204.70	CAT 14 GRADER

/02/82 F/A EQUIPMENT LIST PAGE 3

QUIPMENT#	DESCRIPTION
4-3259.49	DODGE WAYNE ST. SWEEPER
4-3260.49	DODGE WAYNE ST. SWEEPER
6-1900.69	FABRICATED LIGHT PLANT
6-1901.69	FABRICATED LIGHT PLANT
6-1902.69	FABRICATED LIGHT PLANT
6-1909.69	OVERLOWE LIGHT PLANT
6-4904.69	ALLMAND LIGHT PLANT
6-4905.69	ALLMAND LIGHT PLANT
6-4906.69	ALLMAND LIGHT PLANT
6-4907.69	OVERLITE LIGHT PLANT
6-4908.69	OVERLITE LIGHT PLANT
6-4932.69	SUN LITE TOWER LT. PLT.
6-4933.69	SUN LITE TOWER LT. PLT.
6-4934.69	SUN LITE TOWER LT. PLT.
6-5903.69	GENERATOR LIGHT PLANT
6-5910.69	OVERLOWE LIGHT PLANT
6-5911.69	OVERLOWE LIGHT PLANT
8-1910.99	4 INCH GORMAN RUPP PUMP
8-1917.99	3 INCH GORMAN RUPP PUMP
8-1918.99	BARNES SUBMERSIBLE PUMP
1919.99	3 INCH GORMAN RUPP PUMP
3-19[illegible].99	4 INCH GORMAN RUPP PUMP
3-19[illegible].99	3 INCH GORMAN RUPP PUMP
3-4911.99	4 INCH GORMAN RUPP PUMP
3-4912.99	4 INCH GORMAN RUPP PUMP
3-4913.99	4 INCH GORMAN RUPP PUMP
3-4914.99	4 INCH GORMAN RUPP PUMP
3-4915.99	6 INCH GORMAN RUPP PUMP
3-4923.99	4 INCH GORMAN RUPP PUMP
3-4925.99	4 INCH GORMAN RUPP PUMP
3-4926.99	6 INCH GORMAN RUPP PUMP
3-4930.99	3 IN GORMAN RUPP SUB PUMP
3-4931.99	GORMAN RUPP SUBMRSBLE PMP
-4960.99	4" MARLOWE PUMP
-4961.99	HYDRAULIC PLASTONIC PUMP
-4962.99	ELECTRIC PLASTONIC PUMP
-4963.99	4" GR.(FABRICATED) PUMP
-5920.99	8 INCH CRISAFULLI PUMP
-1440.72	ROME HARROW PLOW
-3251.71	WABCO ELEV. SCRAPER
-3255S71	TS14-SCRAPER
-3255T71	TS14-SCRAPER
-3256.72	CAT 70 PULL SCRAPER
-3258.72	CAT 70 PULL SCRAPER
-5210.72	ROME HARROW PLOW
.004.84	78 GMC TANDEM DUMP TRUCK
-10[illegible].84	78 GMC TANDEM DUMP TRUCK
-1007.84	78 GMC TANDEM DUMP TRUCK
-1011.83	72 IH TANDEM DUMP TRK.
-1012.83	72 IH TANDEM DUMP TRK.

02/02/82 F/A EQUIPMENT LIST PAGE 4

EQUIPMENT#	DESCRIPTION
22-1016.84	73 GMC TANDEM DUMP TRUCK
22-1017.84	73 GMC TANDEM DUMP TRUCK
22-1018.84	73 GMC TANDEM DUMP TRUCK
22-1019.84	73 GMC TANDEM DUMP TRUCK
22-1020.84	73 GMC TANDEM DUMP TRUCK
22-1123.81	67 IH SA DUMP TRK.
22-1126.91	55 GMC LUBE TRUCK
22-1127.91	69 GMC-VALUE VAN
22-1131.92	62 GMC FUEL TANKER
22-1134.77	64 IH-OIL TANKER
22-1136.93	78 FORD SERVICE TRK
22-1190.81	78 GMC SA DUMP TRK.
22-1191.81	67 FORD SA DUMP TRK
22-1250.93	69 CHEVROLET PICKUP TRUCK
22-1251.93	71 CHEVROLET PICKUP TRUCK
22-1264.93	78 FORD 4X4 PICKUP TRK
22-1350.73	60 IH SA TRACTOR
22-1357.73	62 IH SA TRACTOR
22-1361.74	66 MACK TANDEM TRACTOR
22-1365.94	69 IH TANDEM FLATBED
22-1371.74	72 MACK TANDEM TRACTOR
2102.95	75 MACK REFUSE PACKER
2-[illegible]06.96	70 CCC ROLL OFF TRK.
2-2107.96	72 CCC ROLLOFF TRUCK
2-2109.95	77 CCC REFUSE PACKER
2-2110.96	77 CCC ROLL OFF TRK
2-2114.95	73 GMC REFUSE PACKER
2-2115.96	74 MACK ROLLOFF
2-2116.96	74 CCC ROLL OFF TRK
2-2117.96	77 CCC ROLL OFF TRK
2-2118.95	78 CCC REFUSE PACKER
2-2119.95	78 CCC REFUSE PACKER
2-2120.95	'81 MACK FRONT-END PACKER
2-2127.97	59 GMC DEMPSEY DUMPSTER
2-2129.97	67 GMC DUMPSTER
2-2133.97	77 INT. SINGLE AXLE TRACT
2-4035.76	71 GMC VAC TRK.
2-4036.76	71 GMC VAC TRK.
2-4039.80	70 FORD FLATBED TRUCK
2-4041.94	MACK TANDEM AXLE FLATBED
2-4042.76	76 GMC VAC TRK.
2-4043.76	76 GMC VAC TRK.
2-4045.76	52 GMC 6X6 VAC TRK.
2-4047.77	71 FORD FUEL TANKER
2-4048.78	1980 MACK VACUUM TRUCK
4049.78	1981 MACK VACUUM TRUCK
4[illegible]0.78	'80 FORD VAC TK, 3360 GAL
2-4[illegible]6.80	GMC FLATBED TRK
2-4059.93	77 GMC CREW CAB PICKUP
2-4060.93	78 FORD SUPER CAB PICKUP

02/02/82 F/A EQUIPMENT LIST PAGE 5

EQUIPMENT#	DESCRIPTION
22-4062.93	78 FORD 4-WD PICKUP TRK
22-4063.93	'81 FORD PICK UP TRUCK
22-4066.74	67 MACK TANDEM TRACTOR
22-4070.94	73 IH TANDEM FLATBED
22-4072.74	78 GMC TDM TRACTOR
22-4073.74	78 GMC TDM TRACTOR
22-4074.74	73 GMC TANDEM TRACTOR
22-4075.74	72 MACK TANDEM TRACTOR
22-4131.74	77 INTERNATIONAL TRACTOR
22-4143.93	78 FORD 4 WHEEL DRIVE VAN
22-4144.93	78 FORD CLUB VAN
22-4927.93	77 JEEP PICKUP 4X4
22-4928.93	77 JEEP PICKUP 4X4
22-5021.81	70 IH DUMP TRK.
22-5022.81	70IH DUMP TRK
22-5028.77	65 FORD FUEL TANKER
22-5029.23	68 FORD TANDEM BOOM TRK
22-5043.93	74 CHEVY PICKUP
22-5044.93	76GMC PICKUP TRK
22-5046.80	65 FORD STAKE TRUCK
[illegible]-5047.80	68 FORD FLATBED TRUCK
[illegible]48.80	70 CHEVY FLATBED TRK.
22-[illegible]50.74	65 IH TANDEM TRACTOR
22-5052.74	67 WHITE TANDEM TRACTOR
22-5053.93	72 CHEVY PICKUP TRK
22-5058.74	67 WHITE TANDEM TRACTOR
22-5064.93	1977 AMC JEEP CJ-7
22-5067.74	74 MACK TDM TRACTOR
22-5068.74	74 MACK TANDEM TRACTOR
22-5069.80	69 GMC FLATBED TRUCK
22-5076.74	72 MACK TANDEM TRACTOR
22-5925	WARD LEFRANCE FIRE ENGINE
22-6101.74	67 MACK TANDEM TRACTOR
22-6103.74	67 MACK TANDEM TRACTOR
22-6105.80	71 GMC FLATBED TRK.
22-6120.80	66 FORD COVERED VAN
22-6121.80	79 GMC 1 TON STAKE TRUCK
22-6122.74	71 MACK TANDEM TRACTOR
22-6129.80	'81 GMC STAKE TRUCK
22-6130.74	77 INTERNATIONAL TRACTOR
4-1401.86	61 OTTAWA LOWBOY TRL.
4-1402.87	64 NELSON LOWBOY TRL.
4-1403.87	68 FONTAINE LOWBOY TRL.
4-1404.88	69 NELSON LOWBOY TRL.
4-1405	FRUEHAUF TOOL TRL.
[illegible]406	51 TRAILMOBILE TANKER
4-[illegible]7	70 TRAILMOBILE FLATBED
4-1409	FRUEHAUF TOOL TRL.
4-1412	FRUEHAUF OFFICE TRL.
4-1415	72 LITTLE DUDE BOAT TRL.

EQUIPMENT#	DESCRIPTION
24-1418	B & K TRI-AXLE TRL.
24-1425	70 TANDEM BOOM TRL.
24-1426	NELSON TAG AXLE TRL.
24-1436	TRAILMOBILE 40'FLATBED
24-2108	ANCHOR PAC ROLLOFF TRL.
24-4010	WHITEHEAD CAR CARRIER
24-4013	38' OIL SPILL TRL.
24-4014	63 FRUEHAUF VAN TRL.
24-4016	57 HEIL TANKER TRL.
24-4017	62 FRUEHAUF VAN TRL.
24-4019	COMISSARY TRL.
24-4020	FRUEHAUF VAN TRL.
24-4021	TANDEM BOOM TRL.
24-4022	TANDEM BOOM TRL.
24-4023	TANDEM BOOM TRL.
24-4024	TANDEM BOOM TRL.
24-4025	HOMEMADE BOOM TRL.
24-4026	80 ACE OIL BOOM TRAILER
24-4027	BOAT TRL.
24-4028	68 FLATBED TRL.
4029	69 KENTUCKY VAN TRL.
4-[illegible]0	69 KENTUCKY VAN TRL.
4-4[illegible]1	DECONTAMINATION TRL. 1980
4-4032.79	'76 VACUUM TRAILER UNIT
4-4033	1972 WELLES TRAILER
4-4040.75	71 SKID VAC-TRL MOUNT
4-5031	67 FRUEHAUF DUMP TRL.
4-5032.88	78 NELSON LOWBOY TRL.
4-5033.98	70 FRUEHAUF TANKER TRL
4-5034.98	70 FRUEHAUF TANKER TRL
4-5099	ATLANTIC OFFICE TRL.
4-5429	77 BOWSMAN TRL.
4-5431	4-AXLE UTILITY TRL.
4-5432.98	'70 FRUEHAUF TRAILER
4-6110.87	65 FONTAINE LOWBOY TRL.
4-6111.89	64 FRUEHAUF FLATBED TRL.
4-6112	TANDEM BOOM TRL.
4-6113	TANDEM BOOM TRL
4-6114	TANDEM BOOM TRL
4-6117	HOMEMADE BOOM TRL.
4-6118	80 HOMEMADE BOOM TRL.
4-6119	80 HOMEMADE BOOM TRL.
4-6123	80 HOMEMADE BOOM TRL.
4-6124	80 HOMEMADE BOOM TRL.
4-6125	80 HOMEMADE BOOM TRL.
6126	80 HOMEMADE BOOM TRL.
4-6[illegible]	HOMEMADE BOOM TRAILER
4-6128	HOMEMADE BOOM TRAILER
5-4200	80 LOG SPLITTER
5-4600.79	E-Z PACK BARREL CRUSHER

02/02/82 F/A EQUIPMENT LIST PAGE 7

EQUIPMENT#	DESCRIPTION
26-5308.45	JOHN DEERE 2020 FARM TRAC
28-1700	200 AMP LINCOLN WELDER
28-1701	200AMP AC-DC WELDER
28-1703	300 AMP HOBART WELDER
28-1704	HOBART WELDER
28-1705	MILLER WELDER
28-1706	MILLER WELDER
28-4750	MILLER WELDER
99999	GENERAL RERAIR NUMBER

309 RECORDS PROCESSED

APPENDIX D

OIL AND HAZARDOUS SUBSTANCES
SPILL PREVENTION CONTROL AND COUNTERMEASURE
(SPCC) PLAN

D

OIL AND HAZARDOUS SUBSTANCES
SPILL PREVENTION CONTROL AND COUNTER MEASURE PLAN

February 3, 1984
-Revision-

I. Objective

The objective of this plan is to prevent the discharge of any oils, gasolene, petrochemicals or hazardous substances to the River Raisin. This shall entail any means required, during a spill incident, even including shutdown of manufacturing operations, until the discharge effluent meets all requirements under the law.

II. Coverage

The materials covered by this plan will be comprised of fuel oil, gasolene, lubricating oils, heat transfer oil (mobiltherm), petrochemicals, items on the Michigan Water Resources Commission Critical Materials Register, and items on the EPA Hazardous Substances list, which are used at the Adrian facility.

III. Facility Drainage

A. Flow from all plant processing areas will, via a network of ditches and culverts, be directed to a closed lagoon or discharged through an API style oil separator, and from the separator to a 2MM gallon pond before discharge to the river. Flow from the pond will be closely monitored and operation of the separator checked on a routine basis.

B. All other drainage within the plant flows naturally to a pond containing 750,000 gallons of water designed to trap floating fluids. The discharge water from the trap is periodically released to the river. The same pond permits total containment of 3.0MM gallons of contaminated water.

IV. Oil Storage (Refer to Table I)

Fuel oil could be stored in underground tanks, but these two tanks are presently inactive. Diesel fuel is stored in three small underground tanks. Mobiltherm is stored in drums prior to use and also in a 3,000 gallon surge tank, which is part of the hot oil system. Gasolene is stored in two underground tanks and one above-ground tank. One of the underground tanks is being phased out.

V. Petrochemical Storage (Refer to Table II)

Most petrochemicals are stored in drums in production area warehouses. There is one 6,000 gallon underground tank, T-920, for mineral spirits storage. Hazardous wastes, containing petrochemicals, are stored in drums on the special concrete hazardous waste storage pad, and also in two tanks, T-108 and T-105, which have a concrete dike and concrete pad system to prevent spillage loss.

VI. Storage Containers

A. All material used in the construction of the storage tanks is suitable for materials being stored.

B. All buried tanks are adequately protected against corrosion. A periodic level reading is done in order to detect any leakage in the underground storage tanks. A special semi-annual "level-test" will be done on all active underground tanks.

C. The above ground mobiltherm surge tank undergoes constant checking by operating personnel. Also, an inspection form is filled out by an engineer every month.

1. This surge tank is located next to one of the drainage ditches as outlined in Section III.

D. The hazardous waste storage drums and tanks are inspected weekly as per RCRA regulations.

VII. Facility Transfer Operations, Piping, and In-Plant Process

A. All piping containing oil or critical materials is above ground.

B. All piping supports and pipe racks are designed to meet the U.S.A.S. B31 1.0 Standards.

C. All piping and valving is continually inspected by operating personnel.

D. All vehicles entering the plant are warned of any hazards associated with the areas of the plant to which they will be traveling.

E. The pumps and other equipment used in the hot oil system are designed for the temperatures involved and pressure up to 300 psi.

F. Water used in cooling these pumps and related equipment is either retained in the plant closed cooling system or discharged through the API separator described in Section IIIA.

G. Loading and unloading of oil and critical materials are monitored to avoid spills, and drainage from these areas is controlled by the spill pond.

VIII. Inspections and Records

Any occurrence which involves the loss to the ground of five (5) gallons or more of oil will be recorded. The engineering department inspects all oil use and storage locations monthly as well as the various ponds and ditches for possible contamination.

Any occurrence which involves a loss of the "Reportable Quantity" of any hazardous substance will be reported and recorded, as appropriate.

IX. Security

A. The entire plant is enclosed by fencing and the River Raisin, and the operation is continuous.

B. The critical valves and connections used in transfer and circulating are inspected continually.

C. Facility lighting is adequate to allow early detection of any spill.

X. Personnel Training and Spill Prevention Procedures

All personnel involved in the transfer of oil or chemicals are continually instructed as to the safe and proper procedures to follow. Training will also include the simulation of pollution incidents and contingency plan procedures. All personnel involved in handling materials with pollution potential are instructed to report any loss of control of these materials to their shift foreman. The reporting sequence thereafter is:

General Foreman (if available)
Area Superintendent
Production Manager
Environmental Control Coordinator
Director of Manufacturing
Vice President and General Manager

Each individual must take preventative or corrective action to the fullest extent of his authority.

The Production Manager or Director of Manufacturing, or his designate, or the Environmental Control Coordinator shall solicit outside help as needed, and will supply notice and pertinent information when necessary to government agencies as their jurisdiction dictates:

Michigan Pollution Emergency Alert System	800-292-4706
Michigan Department of Natural Resources	517-788-9598
Lenawee County Drain Commissioner	263-8831
Lenawee County Sheriff	263-4684
Michigan State Police	263-0033
U. S. Coast Guard (National Response Center)	800-424-8802

See attached instructions for notifying pollution control and other regulatory authorities.

STATE OF MICHIGAN
GORDON PHILBROOK
ENGINEER NO. 18243
REGISTERED PROFESSIONAL ENGINEER

Certified by:
Gordon C. Philbrook
Gordon C. Philbrook
Environmental Control Coordinator
Professional Engineer
State of Michigan
PE 18243
February 3, 1984

GCP:jjf

Table I

List of Oil Storage Tanks

All Underground

Tank	Capacity	Location
T-150 A	30,000 Gal. (1)	North of Boiler House
T-150 B	30,000 Gal. (1)	North of Boiler House
T-80 A	500 Gal.	South of C W Pump House
T-80 B	500 Gal.	South of C W Pump House
T-151	500 Gal.	North of Boiler House

(1) The two 30,000 gal. oil storage tanks are empty and are inactive at the present time (disconnected from system).

List of Gasoline Tanks

Tank	Capacity	Location
T-921	1,500 Gal. (2)	Underground, East of Hi Bay
---	550 Gal.	Underground, Guard House
---	275 Gal.	Above-ground, Maintenance

(2) This tank is being emptied and will not be used for gasolene or petrochemical storage.

List of Mobiltherm Storage (Above-Ground)

Item	Capacity	Location
T-158	3,000 Gal.	By Mobiltherm Furnaces
Storage Pad	12 Drums	South of T-101

GCP
2/03/84

Table II
List of Petrochemicals Storage

Petrochemical	Container	Average Storage, Lbs.	Location
Mineral Spirits	T-920	24,000	04, Underground
Mineral Spirits	55 gal. drum	32,700	03/04/05
Naphthas	55 gal. drum	30,700	03/04/05
Hydrocarbons	55 gal. drum	4,600	04
Xylene	55 gal. drum	1,500	03
Olefins	55 gal. drum	11,300	03/04
Mineral Spirit Waste	55 gal. drum	50,000	04
Bulk Mineral Spirit Waste	T-108	75,000	32
Ignitible Solvents Waste	55 gal. drum	50,000	04
Bulk Ignitables Waste	T-105	75,000	32

GCP
2/03/84

SWS SILICONES CORPORATION

Date: 02/03/84
Revision No.: 1

OIL AND HAZARDOUS SUBSTANCES

SPILL PREVENTION CONTROL AND COUNTER MEASURE PLAN

Department_____ Date_____ Time_____

	Yes	No
1. Floors and drain ditches clean?		
2. Nozzles, fittings, and lines to storage tanks free from leaks?		
3. Insulated tanks show no signs of leakage?		
4. Operating oil pumps seals free from leaks?		
5. Tank supports in good condition?		
6. Have all leaks and unusual conditions been reported to Production Manager immediately?		

Inspected by:_____

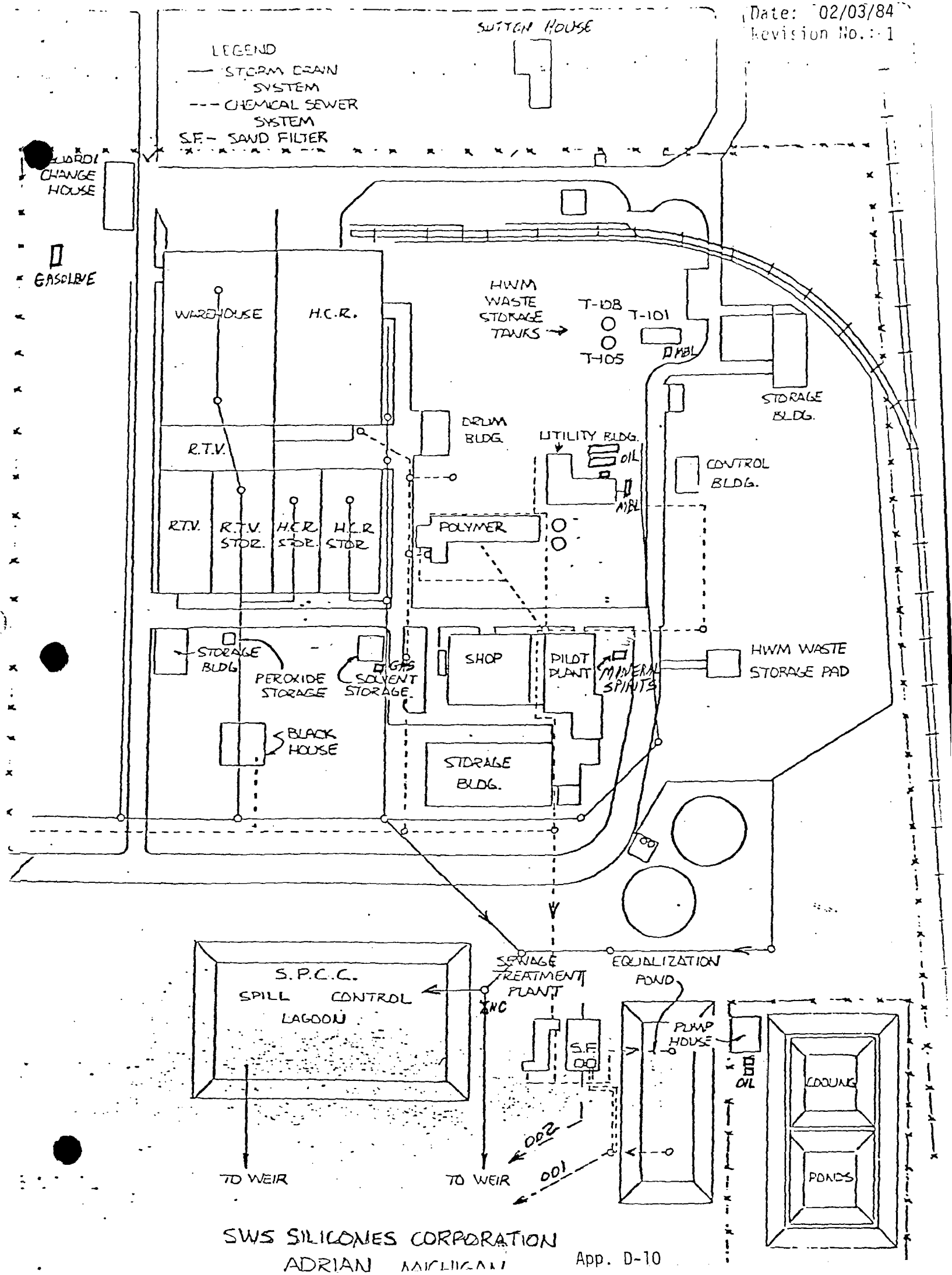
Additional remarks: _____

_____

_____

OHSSPCIR
February 3, 1984

Date: 02/03/84
Revision No.: 1



SWS SILICONES CORPORATION
ADRIAN MICHIGAN

App. D-10

In a transportation accident reporting to pollution control agencies and other reg
authorities is the responsibility of the carrier. Therefore, any required notif
ations should be made by the carrier. Be certain to advise the carrier of these
esponsibilities.

Spills of oils and many chemicals, or other releases of these materials to air, wa
r the ground, have to be reported under various federal laws. In addition state and
ocal rules may apply, and there is the obvious need to notify local authorities in ord
o protect life and property and to advise of actions taken to minimize potential for i
ury to persons and the environment. All remedial action possible should be taken to
inimize the impact of any release.

Noxious Gases - If the release is of sufficient size it may require immediate evac
ion of nearby people and animals downwind. In such case, immediately notify the near
ce agency or fire department for assistance. Also notify local or state air pollu-
on control authorities of what has happened, what material is involved and what steps
ve been taken to minimize injury to humans and the environment.

Oil Spills which reach any body of water are to be reported immediately by radio
phone to the National Response Center 800-424-8802. Additionally these reports shoul
made to local authorities.

Hazardous Chemicals as defined by any federal regulation are to be reported to the
ional Response Center when any loss to the environment (air, water or ground) exceeds
"Reportable Quantity." Hazardous chemical "spills" may be solid, liquid or gaseous.
Reportable Quantity varies from 1 lb. to 5,000 lbs. depending upon the material.

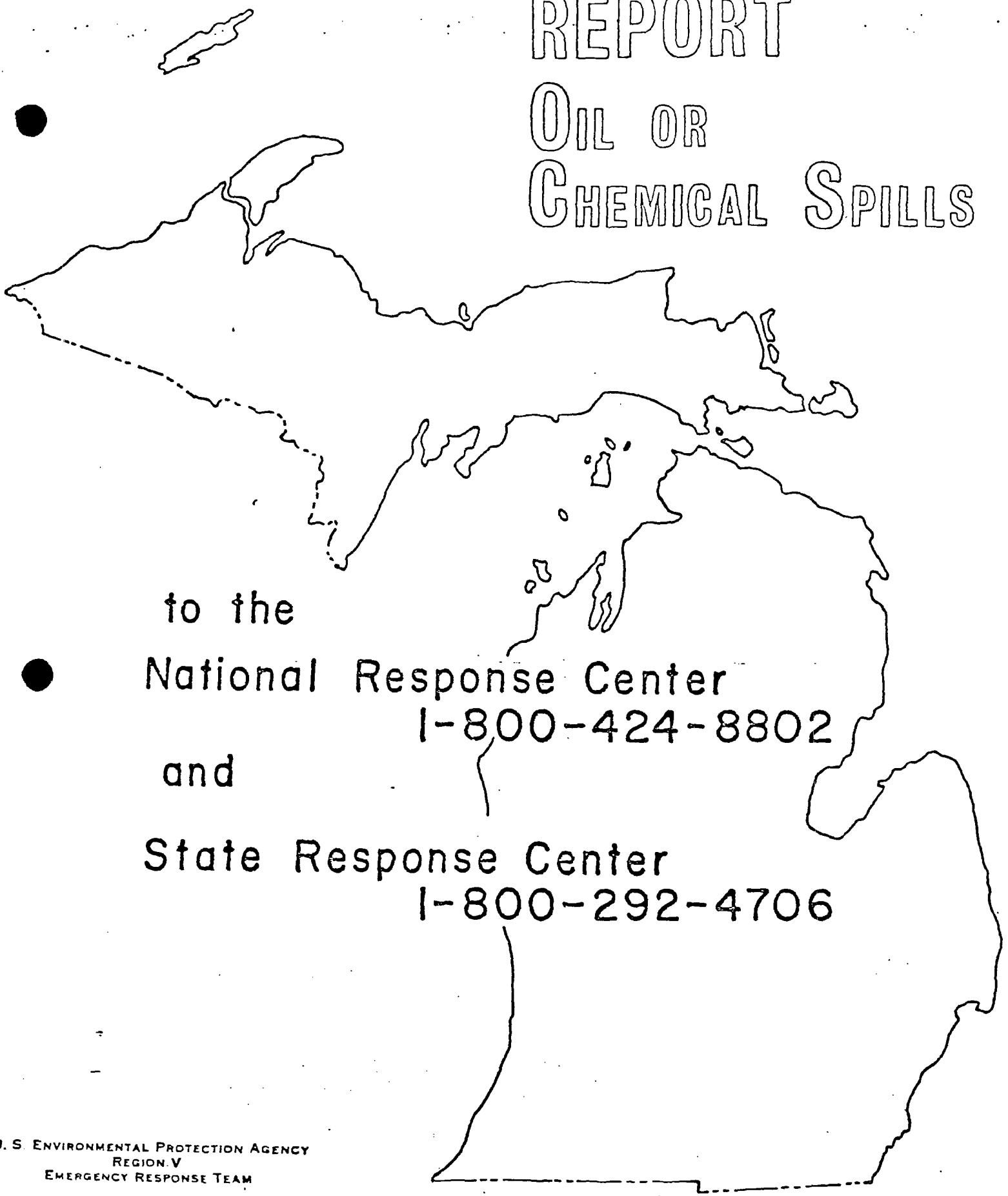
Stauffer personnel seeking assistance in determining reportability based on amount
eased or questions of when, how or who to notify at a regulatory agency call the
ro ntal Control Department at Westport 203-222-3228. During non-business hours
l:

D. McGrade 203-264-9957 or
T. J. Sayers 203-874-2858 or
J. D. Sheehan 203-375-4107

Date: 02/03/84
Revision No.: 1

IN THIS AREA

REPORT
OIL OR CHEMICAL SPILLS



to the

National Response Center
1-800-424-8802

and

State Response Center
1-800-292-4706

U. S. ENVIRONMENTAL PROTECTION AGENCY
REGION V
EMERGENCY RESPONSE TEAM

ROSS E. POWERS
OIL AND HAZARDOUS MATERIALS COORDINATOR

AN SUPPORT BRANCH
GROH ROAD
E ILE, MICH. 48138
313/678-8500

SWS SILICONES CORPORATION

RCRA HAZARDOUS WASTES

Personnel Training Plan

****

I. RCRA Requirements on Personnel Training
   A. Personnel file
   B. Annual requirement
II. Types of Covered Wastes
   A. RCRA Classifications - Definitions
III. SWS Silicones - Covered Wastes
   A. RCRA Classifications
IV. Waste Analysis Plan
   A. Sampling, Analyses
V. Covered Waste Descriptions
   A. Locations
VI. Handling Procedures
VII. Protective Equipment
VIII. Labeling
   A. Hazardous Waste Labels
IX. Contingency (Disaster Plan)
   A. Alarm Procedures
   B. Notification Procedures
X. Inspection Records
XI. Recordkeeping

RCRA

WASTE CLASSIFICATIONS
****

Ignitable	D001
Corrosive	D002
Reactive	D003
EP Toxic	DXXX
Hazardous Wastes from Non-Specific Sources	F002, F003

COVERED WASTES

WASTE NO.	WASTE NAME	AREA
1	Mixed Alcohol	Hi Bay
2	HC, Extremely Flammable	Hi Bay
3	HC, Flammable	Hi Bay
4	HC, Combustible	Hi Bay
5	Solvent Waste, Tech Center	Tech Center
7	Solvent Sumpwaste	Polymers
8	Mineral Spirits	RTV
12	ES 40 Lites	Hi Bay
30	SWS-960	RTV
10	Polychlorohydrocarbon	Hi Bay
11	Non-Flammable, Tech Center	Tech Center
19	Cyclizer	Polymers
32	HCR Vent	HCR
See 3	Mobiltherm Lites	Utility
--	Ignitables, Bulk	T-105 - Hi Bay
--	Mineral Spirits, Bulk	T-108 - RTV
--	1,1,1 trichloroethane, Bulk	T-101 - Hi Bay

NON-COVERED WASTES
(for reference only)

6	Chemical Sewer	Utility
13	Emulsion and R/A	Hi Bay & Tech Ctr.
26	Tire Paint	Hi Bay
27	Mobiltherm	Utility
14	RTV II	RTV
15	Mica and Talc	Hi Bay
16	Cured RTV	RTV
18	Inert Filter Cake	Polymers
23	RTV I	RTV
24	Band Ply Lube	Hi Bay

SWS SILICONES CORPORATION

TABLE I

Date: 5/31/83
Revision No.: 0

Covered Wastes

EPA Hazard Waste #	Material	Container	Lbs. Storage	Lbs./yr. Amount
F002	Contains 1,1,1-trichloroethane			
	# 10 Polychlorohydrocarbon	Drums	(1)	550,000
		or T-101	240,000	-----
	# 11 Non-flammable, Tech Center	Drums	(1)	20,000
	Subtotal			570,000
F003	Contains acetone, methanol, xylene			
	# 5 Solvent, Tech Center	Drums	(1)	30,000
	# 3 HC Flammable (Some)	Drums	(1)	10,000
	# 1 Mixed Alcohol Waste	Drums	(1)	30,000
	Subtotal			70,000
D001	Ignitables			
	# 2 HC, Extremely Flammable	Drums	(1)	36,000
	# 3 HC, Flammable (Some)	Drums	(1)	28,000
	# 4 HC, Combustible	Drums	(1)	48,000
	# 7 Solvent Sump	Drums	(1)	99,000
	# 8 RTV Mineral Spirits	Drums	(1)	240,000
	#12 ES40 Lites	Drums	(1)	3,000
	#30 SWS-760	Drums	(1)	10,000
	#32 HCR Vent	Drums	(1)	80,000
	OR Items 1, 2, 3, 4, 8 and 12	T105,T108	290,000	-----
	Subtotal		-----	544,000
D002	Corrosives			
	#19 Cyclizer Waste	Drums	(1)	140,000
	Subtotal			140,000
	TOTALS		680,000	1,324,000

Notes:

(1) Total drum storage estimated at 300 drums (about 150,000 lbs.). Drum storage limited by Act 64 (diking for 150%).

SWS SILICONES CORPORATION

RCRA HAZARDOUS WASTES
PERSONNEL TRAINING

Slide 1

We are here to discuss the new EPA law on hazardous waste management which was passed on May 19, 1980 and went into effect on November 19, 1980. This is the RCRA Act (Resource Conservation and Recovery Act).

This Act says that all personnel who handle hazardous waste must receive training by May 19, 1981. New employees must receive training within six months. Any employee who has not received the training can not handle hazardous wastes, unless supervised. Also the training must be repeated annually.

In order to verify the training, a form will be put in your personnel files indicating when you last had the training and on what hazardous wastes. That is why it is important to sign the attendance list provided.

Slide 1 shows the outline of subjects to be discussed today. This will take about 40 minutes.

Slide 2

The RCRA Act has classified four categories of wastes and also has various lists of chemicals. If a waste is on any of the lists, it is a hazardous waste.

Ignitable (D001). If the flash point is below 140° F. Flash point is the temperature at which a liquid will ignite, if there is an open flame or spark present. Most of our wastes are hazardous because of this classification.

Corrosive (D002). If the pH is ≤ 2 (very acidic, such as the maintenance condenser wash solution) or if the pH is ≥ 12.5 (very caustic, such as cyclizer waste).

Reactive (D003). This is a solid waste that is unstable, explosive; if it reacts violently with water, if it can give off toxic gases or fumes, if it is a cyanide or sulfide waste, etc. Fortunately, we do not have any such wastes at our plant.

Date: 5/31/83
Revision No.: 0

EP Toxicity (DXXX). This is a metals leaching criteria. First a sample of a solid is leached with a pH 5" solution (to simulate rainfall washing thru a buried waste). Then the leach water is analyzed for various heavy metals; arsenic, barium, cadmium, chromium, lead, mercury, selenium and silver; and also for six pesticides, if they could be present. The maximum amount of an item is 100 X the drinking water standard, which is still very low numbers; ppm and ppb range. We do not have any wastes which are this category at our plant.

Non-specific sources. These are chemicals which are on EPA's lists. We do have some of these: 1,1,1 trichloroethane, xylene, acetone (lab only), and methanol. These will be covered in more detail later today.

Slide 3

This is an overall list of the hazardous wastes (RCRA Covered Wastes) which we have at our plant (top table). These will be discussed in more detail later.

Also shown, so you won't think I forgot them, is a list of ten non-hazardous wastes (bottom table). There are no RCRA regulations on these wastes.

Slide 4

This is a list of our hazardous wastes, listed by classification.

The wastes that have an SWS #, such as #10, #1, etc., will be discussed in detail soon.

Note the total maximum storage of hazardous wastes in drums, reported to RCRA, is 300. In actual practice, we will have far less than that. In fact, we presently only have about 100 drums of hazardous wastes at our plant.

Slide 5

This is the Waste Analysis Plan which covers which samples to take, and when, and what "to look for".

(1) Note that the Tech Center must keep a record of waste analyses for three years. It is important that all waste samples from the plant be labelled properly with a "WASTE SAMPLE" on the tag.

(2) These six wastes can change a lot, so we need to keep track of them; if the composition changes too much, we may need to get new classifications and new permits.

(3) We are going to store the Hi Bay solvent, 1,1,1 trichloroethane (also known as methyl-chloroform and as chlorothene NU) in the bulk tank, T-101. This spent solvent will be sold to a solvent reclaimer in Chicago.

We are going to store the Hi Bay and RTV ignitable liquid wastes in T-108 and T-105, respectively. These spent solvents will be shipped to a cement kiln in Ohio, to be used as a fuel there.

Slide 6

This is a description of Waste #1, Mixed Alcohol Waste. This is hazardous due to low flash point, around 70° F. But also this waste may contain methanol, which is on the EPA list, and is classified as F003.

A word about toxicity. There are three kinds - inhalation, dermal, and ingestive. Then there are three levels of toxicity - low (#1), medium (#2) and high (#3). We have no high toxicity wastes at our plant! We do have a few medium toxicity wastes. This waste, Mixed Alcohol, is a low toxicity waste. This comes from the Hi Bay area and will be part of the T-108 bulk system for the cement kiln fuel.

Slide 7

This is a description of waste #2; Hydrocarbon Waste - Extremely Flammable. This is hazardous due to low flash point (30° F.). This waste is a low toxicity waste. This comes from the Hi Bay area and will go to the T-108 bulk tank.

Slide 8

This is a description of waste #3; Hydrocarbon Waste - Flammable. THis has a low flash point (70° F.), but also may contain xylene (F003 type). This is a medium toxicity waste, comes from the Hi Bay area and will also go to the T-108 bulk tank.

Slide 9

This is a description of waste #4; Hydrocarbon Waste - Combustible. This has a low flash point (110° F.). This is a medium toxicity waste, comes from the Hi Bay area and will also go to the T-108 bulk tank.

Date: 5/31/83
Revision No.: 0

Slide 10

This is a description of waste #5; Solvent Waste - Tech Center. This is hazardous due to low flash point (70° F.), but may also contain xylene or acetone (F003 type). This waste is a medium toxicity waste. This comes from the Tech Center and will be sent out in drums to be incinerated. In the future, we may see if we can combine this waste in the bulk tanks, T-108.

Slide 11

This is a description of waste #7; Solvent Sump Waste. This is hazardous due to the low flash point (100° F.). This is a medium toxicity waste. This comes from the Polymers area and will be sent out in drums to be incinerated.

Slide 12

This is a description of waste #8; Mineral Spirit Waste. This is hazardous due to the low flash point (109° F.). This is a low toxicity waste, comes from the RTV area, and will go to the T-105 bulk tank.

Slide 13

This is a description of waste #10; Polychlorohydrocarbon Waste. (Also known as 1,1,1 trichloroethane or chlorothene NU or methyl chloroform). This is hazardous due to being on the EPA list (F002). This is a medium toxicity waste, comes from the Hi Bay area, and goes to the T-101 bulk tank, for reclaiming in Chicago.

Slide 14

This is a description of waste #11; Non-Combustible Waste, Tech Center. This is hazardous because it contains some 1,1,1 trichloroethane solvent (F002 type). This is a medium toxicity waste, comes from the Technical Center, and will be shipped out in drums for incineration.

Slide 15

This is a description of waste #12; ES-40 Lites Waste. This is hazardous due to low flash point (70° F.). This is a low toxicity waste, comes from the Hi Bay area and will be sent to the T-108 bulk tank.

Slide 16

This is a description of waste #19; Cyclizer Waste. This is hazardous mainly because of very high pH ($>$ 13, i.e., very caustic), but also because of the solvent, the flash point is low (132° F.). This is a low toxicity waste, comes from the Polymers area, and must be sent out in drums for secured-landfill burial.

Slide 17

This is a description of waste #30; SWS-960 Waste. This is hazardous due to low flash point (65° F.). This is a medium toxicity waste, comes from the RTV area, and is sent out in drums for secured-landfill burial or possibley incineration.

Slide 18

This is a description of the waste in the T-101 bulk tank. This solvent will be sent out, by bulk truck, to a solvent reclaimer in Chicago.

Slide 19

This is a description of the waste in the T-108 bulk tank. These solvents will be sent out, by bulk truck, to a cement kiln in Ohio.

Slide 20

This is a description of the waste in the T-105 bulk tank. This solvent will also be sent out, by bulk truck, to a cement kiln in Ohio.

(Back to) Slide 1, for rest of training.

Handling Procedures and Protective Equipment

These procedures should be provided on an "every day" basis by your foremen and supervisors. The same techniques used to handle plant chemicals (acids, solvents, raw materials, etc.) would be used for these hazardous wastes. This would include grounding, clothing, equipment, etc.

Labeling

It is required by law to properly label the drums before putting them on the storage pad. This includes the name label (white label for each type of waste), the red flammability label (if flash point is below 100° F.) and the corrosive label (if the material is corrosive; like cyclizer waste.

The warehouse personnel will put the yellow "HAZARDOUS WASTE" lable on the drum during 'staging' since they must write the manifest number on the label. All hazardous wastes must have the yellow label before shipment.

Contingency Plan

Again, these procedures should be provided on an "every-day" basis by your foremen and supervisors. You should know what to do and how to sound the alarm for any fire, explosion, spill, etc.

There are some changes being made concerning "sounding the alarm". Six telephones are being installed in the outer areas of the plant, so you can use the "181" or "222" alarm method, easier and quicker.

1. pump house
2. API separator - pH meter house
3. New waste wash-water treating building
4. Nitrogen storage tanks (by the 3 solvent storage tanks)
5. Solid storage building, NE corner of plant

Also, we have reactivated the boiler house steam whistle. Also, we are installing air/nitrogen horns in various plant areas.

In case of any disaster or emergency, sound the alarm! Then contact a supervisor, and start the disaster procedure.

Inspection Records and Record keeping

We are required by law to keep a log book on each of the tanks involved in hazardous waste handling.

Also we have inspection books on each of the tanks and on the drum storage area.

G. C. Philbrook
May 1981
Revised February 1983

Attachment: 20 slides

Closure Plan
****

I. Tanks

It is estimated that the tanks will require closure in about 20 years, (2001). Generally, tanks containing hazardous waste materials will be emptied to tank trucks for removal and disposal of contents. Only Michigan, US EPA, and Stauffer-approved haulers will be used. Only US EPA and Stauffer-approved disposers will be used.

Tanks and ancillary equipment will then be decontaminated by washing the tank, piping, pump, and associated equipment with three increments of water and industrial detergent. The washing agent will be recirculated and pumped by high pressure lance. Washings will be put in drums for disposal by an approved hauler and disposer.

The tanks, piping, and associated equipment will then be purged with air. The entire schedule of closure should take about 4 months.

The tanks can then be used for other purposes than to store hazardous wastes.

An independent professional engineer will certify completion of the closure.

II. Drum Storage

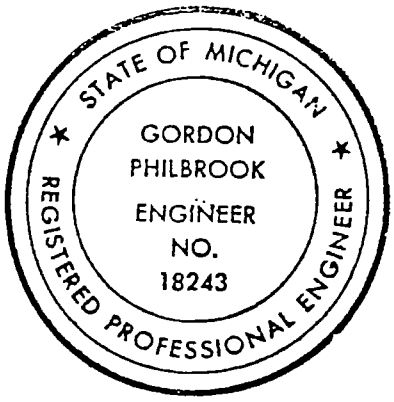
It is estimated that the storage pad will require closure in about 40 years, (2021). Generally, drum storage areas will be emptied by the removal of the drums to an approved disposer. Only Michigan, US EPA and Stauffer-approved haulers will be used. Only US EPA, Stauffer and possibly Michigan, approved disposers will be used.

The drum pad will be washed with water and industrial detergent. Washings will be put in drums for disposal by an approved hauler and disposer, if contaminated. Otherwise, the washings will go to the chemical sewer. The entire schedule of closure should take about 3 months.

After thorough decontamination, the storage pad will be used for other uses than for storage of hazardous wastes.

An independent professional engineer will certify completion of the closure.

See attached forms for closure plan tanks and drum storage areas.



Certified by

Gordon C. Philbrook

Gordon C. Philbrook
SWS SILICONES CORPORATION
Environmental Control Coordinator

Professional Engineer
State of Michigan
PE 18243
May 3, 1981
Revised February 9, 1983
Revised January 30, 1984

SWS SILICONES CORPORATION

CLOSURE PLAN

Tanks
****

DATE 5/3/81 TAG NO. T-101

CAPACITY 25,000 gallon MATERIAL OF CONSTRUCTION steel

MAXIMUM USUALLY STORED 10,000 gallon

MISCELLANEOUS horizontal; 200 PSIG pressure rating, 4" breathing vent with nitrogen pad

NATURE OF CONTENTS 1,1,1 trichloroethane waste solvent

UNLOADING METHOD Wilden pump thru a GAF-type filter to a bulk truck

WHEN CLOSED unknown, estimated 20 years (2001)

CLOSURE COST $5,290

SWS SILICONES CORPORATION

CLOSURE PLAN

Tanks

****

DATE 5/3/81 TAG NO. T-105

CAPACITY 14,900 gallon MATERIAL OF CONSTRUCTION steel

MAXIMUM USUALLY STORED 9,000 gallon

MISCELLANEOUS vertical, 3" vac/0.5 PSIG pressure rating, 4" breathing vent w/nitrogen pad; 8" relief valve

NATURE OF CONTENTS various Hi Bay ignitable waste solvents

UNLOADING METHOD Wilden pump thru a GAF-type filter to a bulk truck

WHEN CLOSED ~~unknown, estimated 20 years (2001)~~

CLOSURE COST $5,810

SWS SILICONES CORPORATION

CLOSURE PLAN

Tanks
****

DATE 5/3/81 TAG NO. T-108

CAPACITY 14,900 gallon MATERIAL OF CONSTRUCTION steel

MAXIMUM USUALLY STORED 9,000 gallon

MISCELLANEOUS vertical, 3" vac/0.5 PSIG pressure rating, 4" breathing vent w/nitrogen pad; 8" relief valve

NATURE OF CONTENTS RTV mineral spirits waste solvent

UNLOADING METHOD Wilden pump thru a GAF-type filter to a bulk truck

WHEN CLOSED unknown, estimated 20 years (2001)

CLOSURE COST $5,810

SWS SILICONES CORPORATION

CLOSURE PLAN

Drum Storage Area
****

DATE 5/3/81 AREA 2,500 Ft^2

AREA DESCRIPTION Hazardous Waste pad; E of Hi Bay area

MAXIMUM NUMBER OF DRUMS USUALLY STORED 500

WHEN CLOSED unknown, estimated 40 years (2021)

CLOSURE COST $44,500

TOTAL CLOSURE COST

T-101	$ 5,290
T-105	5,810
T-108	5,810
East pad	44,500
TOTAL	$61,410

COST ESTIMATE, TANKS:

T-101

1. Sell 10,000 gallon (but, no credit)	$ 0
2. Freight, 3 x $900	2,700
3. Cleaning solvent	1,210
4. Solvent disposal	360
5. Two (2) operators	780
6. Cleaning pump	240
NET COST	$5,290

T-105 (& T-108)

1. Haul by Systech 9,000 gal x $.423/gallon	$3,810 each
2. Cleaning solvent	730
3. Two (2) operators	730
4. Solvent disposal	300
5. Cleaning pump	240
NET COST	$5,810 each

Drum Pad

1. Remove drums 500 x $85	$42,500
2. Decontamination	2,000
	$44,500

SWS SILICONES CORPORATION

Closure Plan

1982 Addendum

$$\text{Inflation adjustment factor} = \frac{193.58}{177.36} = 1.091$$

Closure Cost = $56,990 x 1.091 = $62,180

GCP
2/18/82

SWS SILICONES CORPORATION

Closure Plan

1983 Addendum

Inflation adjustment factor = $\frac{207.23}{195.51}$ = 1.06

Closure Cost = $62,180 x 1.06 = $65,910

GCP
2/9/83

SWS SILICONES CORPORATION

CLOSURE PLAN

1984 Addendum

$$\text{Inflation adjustment factor} = \frac{216.37}{206.88} = 1.0458$$

$$\text{Closure Cost} = \$65{,}910 \times 1.0458 = \$68{,}930$$

GCP
2/27/84

APPENDIX G

LETTER OF CREDIT, TRUST AGREEMENT AND LIABILITY INSURANCE CERTIFICATE

BCC: L. B. Bruner
W. P. Pagano
W. J. Raver
G. C. Philbrook
C. J. Miley

October 6, 1982

Regional Administrator
Region V
U.S. EPA
230 South Dearborn Street
Chicago, Illinois 60604

Re: RCRA Financial Requirements

Dear Sir:

On June 30, 1982, Alexander & Alexander of New York, Inc. wrote your office to inform you of their intended effort to secure closure cost ($62,200) insurance coverage for our facility (MID075400671, SWS Silicones Corporation, Sutton Road, Adrian, Michigan 49221). Subsequently, we have determined that it would be better to satisfy our RCRA financial assurance requirements through use of a Letter of Credit and Standby Trust Fund. We have secured this coverage and have had the following documents submitted to you by Continental Illinois National Bank, as evidence, and for your information and use:

1. A Letter of Credit for $62,200 (LC#6234888), issued by Continental Illinois National Bank, dated 10/4/82.

2. An "Originally Signed Duplicate" of the Standby Trust Agreement between SWS Silicones and Continental Illinois National Bank.

If you have any questions regarding this submission, please call us.

Very truly yours,

SWS SILICONES CORPORATION

J. Calamungi
Director of Manufacturing

JC:pm

CERTIFIED MAIL

CABLE ADDRESS:
Comil Bank Telex 02-5233
TELEPHONE (312) 923-5946

IMPORTANT! PLEASE
SIGN ON REVERSE SIDE

CONTINENTAL BANK
CONTINENTAL ILLINOIS NATIONAL BANK AND TRUST COMPANY OF CHICAGO
231 SOUTH LA SALLE STREET CHICAGO ILLINOIS 60693

Revision No.: 0
Agreement

ISSUE DATE 10/4/82

IRREVOCABLE DOCUMENTARY CREDIT NUMBER 6234888

APPLICANT
SWS SILICONES CORPORATION
3901 SUTTON ROAD
ADRIAN, MICHIGAN 49221

BENEFICIARY
ENVIRONMENTAL PROTECTION AGENCY
REGION V
230 SOUTH DEARBORN STREET
CHICAGO, ILLINOIS 60604

AMOUNT
US$ 62,200.00
SIXTY TWO THOUSAND TWO
HUNDRED AND 00/100
U.S. DOLLARS

EXPIRY
10-05-83
October 05, 1983
AT OUR COUNTERS

DEAR SIR(S),

We hereby establish our Irrevocable Standby Letter of Credit No. 6234888 in your favor, at the request and for the account of SWS Silicone Corporation up to the aggregate amount of Sixty-Two Thousand Two Hundred U.S. Dollars 62,200.00, available upon presentation of;

(1) Your sight draft, bearing reference to this letter of credit No. 6234888, and;

(2) Your signed statement reading as follows: "I certify that the amount of the draft is payable pursuant to regulations issued under authority of the Resource Conservation and Recovery Act of 1976 as amended."

This letter of credit is effective as of October 5, 1982, and shall expire on October 5, 1983, but such expiration date shall be automatically extended for a period of one year on October 5, 1983, and on each successive expiration date, unless, at least 120 days before the current expiration date, we notify both you and SWS Silicone Corporation by certified mail that we have decided not to extend this letter of credit beyond the current expiration date. In the event you are so notified, any unused portion of the credit shall be available upon presentation of your sight draft for 120 days after the date of receipt by both you and SWS Silicone Corporation, as shown on the signed return receipts.

Whenever this letter of credit is drawn on under and in compliance with the terms of this credit, we shall duly honor such draft upon presentation to us, and we shall deposit the amount of the draft directly into the standby trust fund of SWS Silicone Corporation in accordance with your instructions.

We certify that the wording of this letter of credit is identical to the wording specified in 40 CFR 264.151(d) as such regulations were constituted on the date shown immediately below.

Please be advised that there have been no changes to date in the wording for trust agreements set forth in 40 CFR 264.151(a)(1) from that shown in Federal Register, Vol. 47 No. 67 dated April 7, 1982.

We hereby engage with you that your drawings in conformity with the terms of this letter of credit will be duly honored on presentation.

** This documentary credit is subject to the "Uniform Customs and Practice for Documentary Credits" (1974 revision) International Chamber of Commerce (Publication No. 290).

CONTINENTAL ILLINOIS NATIONAL BANK AND TRUST COMPANY OF CHICAGO

For Cashier

For Cashier

** GLC:djs **

NON-NEGOTIABLE COPY

PLEASE ADDRESS ALL CORRESPONDENCE TO:
Continental Illinois National Bank and Trust Company of Chicago
Letters of Credit - 1580
231 South La Salle Street
Chicago Illinois 60693

No. 173564

TRUST AGREEMENT

Trust Agreement, the "Agreement" entered into as of October 7, 1982 by and between SWS Silicones Corporation, a Delaware corporation, the Grantor, and Continental Illinois National Bank & Trust Co. of Chicago, a national banking corporation, the "Trustee."

WHEREAS, the United States Environmental Protection Agency, "EPA", an agency of the United States Government, has established certain regulations applicable to the Grantor, requiring that an owner or operator of a hazardous waste management facility shall provide assurance that funds will be available when needed for closure and/or post-closure care of the facility.

WHEREAS, the Grantor has elected to establish a trust to provide all or part of such financial assurance for the facilities identified herein.

WHEREAS, the Grantor, acting through its duly authorized officers, has selected the Trustee to be the trustee under this agreement and the Trustee is willing to act as trustee.

Now, Therefore, the Grantor and the Trustee agree as follows:

Section 1. Definitions.

As used in this Agreement:

(a) The term "Grantor" means the owner or operator who enters into this Agreement and any successors or assigns of the Grantor.

(b) The term "Trustee" means the Trustee who enters into this Agreement and any successor Trustee.

Section 2. Identification of Facilities and Cost Estimates.

This Agreement pertains to the facilities and cost estimates identified on attached Schedule A.

Section 3. Establishment of Fund.

The Grantor and the Trustee hereby establish a trust fund, the "Fund" for the benefit of EPA. The Grantor and the Trustee intend that no third party have access to the Fund except as herein provided. The Fund is established initially as consisting of the property, which is acceptable to the Trustee, described in Schedule B attached hereto. Such property and any other property subsequently transferred to the Trustee is referred to as the Fund, together with all earnings and profits thereon, less any payments or distributions made by the Trustee pursuant to this Agreement. The Fund shall be held by the Trustee, IN TRUST, as hereinafter provided. The Trustee shall not be responsible nor shall it undertake any responsibility for the amount or adequacy of, nor any duty to collect from the Grantor, any payments necessary to discharge any liabilties of the Grantor established by EPA.

Section 4. Payment for Closure and Post-Closure Care.

The Trustee shall make payments from the Fund as the EPA Regional Administrator shall direct, in writing to provide for the payment of the costs of closure and/or post-closure care of the facilities covered by this Agreement. The Trustee shall reimburse the Grantor or other persons as specified by the EPA Regional Administrator from the Fund for closure and post-closure expenditures in such amounts as the EPA Regional Administrator shall direct in writing. In addition, the Trustee shall refund to the Grantor such amounts as the EPA Regional Administrator

SCHEDULE A

This Agreement demonstrates financial assurance for the following cost estimates for the following facility.

U.S. EPA I.D.#	Facility Name & Address	Cost Estimates for Which Financial Assurance is Being Demonstrated by This Agreement
MID075400671	SWS Silicones Corp. Sutton Road; Adrian, Michigan 49221	Closure $62,200

The cost estimate listed here was last adjusted on February 18, 1982.

SCHEDULE B

The fund is established initially as consisting of $1.00, and a standby letter of credit with Continental Illinois in the amount of $62,200.

specifies in writing. Upon refund, such funds shall no longer constitute part of the Fund as defined herein.

Section 5. Payments Comprising the Fund.

Payments made to the Trustee for the Fund shall consist of cash or securities acceptable to the Trustee.

Section 6. Trustee Management.

The Trustee shall invest and reinvest the principal and income of the Fund and keep the Fund invested as a single fund, without distinction between principal and income, in accordance with general investment policies and guidelines which the Grantor may communicate in writing to the Trustee from time to time, subject, however, to the provisions of this Section. In investing, reinvesting, exchanging, selling, and managing the Fund, the Trustee shall discharge his duties with respect to the trust fund solely in the interest of the beneficiary and with the care, skill, prudence, and diligence under the circumstances then prevailing which persons of prudence, acting in a like capacity and familiar with such matters, would use in the conduct of an enterprise of a like character and with like aims; except that:

(i) Securities or other obligations of the Grantor, or any other owner or operator of the facilities, or any of their affiliates as defined in the Investment Company Act of 1940, as amended, 15 U.S.C. 80a-2.(a), shall not be acquired or held, unless they are securities or other obligations of the Federal or a State government;

(ii) The Trustee is authorized to invest the Fund in time or demand deposits of the Trustee to the extent insured by an agency of the Federal or State government; and

(iii) The Trustee is authorized to hold cash awaiting investment or distribution uninvested for a reasonable time and without liability for the payment of interest thereon.

Section 7. Commingling and Investment.

The Trustee is expressly authorized in its discretion:

(a) To transfer from time to time any or all of the assets of the Fund to any common, commingled, or collective trust fund created by the Trustee in which the Fund is eligible to participate, subject to all of the provisions thereof, to be commingled with the assets of other trusts participating therein; and

(b) To purchase shares in any investment company registered under the Investment Company Act of 1940, 15 U.S.C. 80a-1 et seq., including one which may be created, managed, underwritten, or to which investment advice is rendered or the shares of which are sold by the Trustee. The Trustee may vote such shares in its discretion.

Section 8. Express Powers of Trustee.

Without in any way limiting the powers and discretions conferred upon the Trustee by the other provisions of this Agreement or by law, the Trustee is expressly authorized and empowered:

(a) To sell, exchange, convey, transfer, or otherwise dispose of any property held by it, by public or private sale. No person dealing with the Trustee shall be bound to see to the application of the purchase money or to inquire into the validity or expediency of any such sale or other disposition.

(b) To make, execute, acknowledge, and deliver any and all documents of transfer and conveyance and any and all other instruments that may be necessary or appropriate to carry out the powers herein granted;

(c) To register any securities held in the Fund in its own name or in the name of a nominee and to hold any security in bearer form or in book entry, or to combine certificates representing such securities with certificates of the same issue held by the Trustee in other fiduciary capacities, or to deposit or arrange for the deposit of such securities in a qualified central depositary even though, when so deposited, such securities may be merged and held in bulk in the name of the nominee of such depositary with other securities deposited therein by another person or to deposit or arrange for the deposit of any securities issued by the United States Government, or any agency or instrumentality thereof, with a Federal Reserve bank, but the books and records of the Trustee shall at all times show that all such securities are part of the Fund;

(d) To deposit any cash in the Fund in interest-bearing accounts maintained or savings certificates issued by the Trustee, in its separate corporate capacity, or in any other banking institution affiliated with the Trustee, to the extent insured by an agency of the Federal or State government; and

(e) To compromise or otherwise adjust all claims in favor of or against the Fund.

Section 9. Taxes and Expenses.

All taxes of any kind that may be assessed or levied against or in respect of the Fund and all brokerage commissions incurred by the Fund shall be paid from the Fund. All other expenses incurred by the Trustee in connection with the administration of this Trust, including fees for legal services rendered to the Trustee, the compensation of the Trustee to the extent not paid directly by the Grantor, and all other proper charges and disbursement of the Trustee shall be paid from the Fund.

Section 10. Annual Valuation.

The Trustee shall annually, at least 30 days prior to the anniversary date of establishment of the Fund, furnish to the Grantor and to the appropriate EPA Regional Administrator a statement confirming the value of the Trust. Any securities in the Fund shall be valued at market value as of no more than 60 days prior to the anniversary date of establishment of the Fund. The failure of the Grantor to object in writing to the Trustee within 90 days after the statement has been furnished to the Grantor and the EPA Regional Administrator shall constitute a conclusively binding assent by the Grantor, barring the Grantor from asserting any claim or liabiilty against the Trustee with respect to matters disclosed in the statement.

Section 11. Advice of Counsel.

The Trustee may from time to time consult with counsel, who may be counsel to the Grantor, with respect to any question arising as to the construction of this Agreement or any action to be taken hereunder. The Trustee shall be fully protected, to the extent permitted by law, in acting upon the advice of counsel.

Section 12. Trustee Compensation.

The Trustee shall be entitled to reasonable compensation for its services as agreed upon in writing from time to time with the Grantor.

Section 13. Successor Trustee.

The Trustee may resign or the Grantor may replace the Trustee, but such resignation or replacement shall not be effective until the Grantor has appointed a successor trustee and this successor accepts the appointment. The successor trustee shall have the same powers and duties as those conferred upon the Trustee hereunder. Upon the successor trustee's acceptance of the appointment, the Trust shall assign, transfer, and pay over to the successor trustee the funds and properties then constituting the Fund. If for any reason the Grantor cannot or does not act in the event of the resignation of the Trustee, the Trustee may apply to a court of competent jurisdiction for the appointment of a successor trustee or for instructions. The successor trustee shall specify the date on which it assumes administration of the trust in a writing sent to the Grantor, the EPA Regional Administrator, and the present Trustee by certified mail 10 days before such change becomes effective. Any expenses incurred by the Trustee as a result of any of the acts contemplated by this Section shall be paid as provided in Section 9.

Section 14. Instructions to the Trustee.

All orders, requests, and instructions by the Grantor to the Trustee shall be in writing, signed by such persons as are designated in the attached Exhibit A or such other designees as the Grantor

may designate by amendment to Exhibit A. The Trustee shall be fully protected in acting without inquiry in accordance with the Grantor's orders, requests, and instructions. All orders, requests, and instructions by the EPA Regional Administrator to the Trustee shall be in writing, signed by the EPA Regional Administrators of the Regions in which the facilities are located, or their designees, and the Trustee shall act and shall be fully protected in acting in accordance with such orders, requests, and instructions. The Trustee shall have the right to assume, in the absence of written notice to the contrary, that no event constituting a change or a termination of the authority of any person to act on behalf of the Grantor or EPA hereunder has occurred. The Trustee shall have no duty to act in the absence of such orders, requests, and instructions from the Grantor and/or EPA, except as provided for herein.

Section 15. Notice of Nonpayment.

The Trustee shall notify the Grantor and the appropriate EPA Regional Administrator, by certified mail within 10 days following the expiration of the 30-day period after the anniversary of the establishment of the Trust, if no payment is received from the Grantor during that period. After the pay-in period is completed, the Trustee shall not be required to send a notice of nonpayment.

Section 16. Amendment of Agreement.

This Agreement may be amended by an instrument in writing executed by the Grantor, the Trustee, and the appropriate EPA Regional Administrator, or by the Trustee and the appropriate EPA Regional Administrator of the Grantor ceases to exist.

Section 17. Irrevocability and Termination.

Subject to the right of the parties to amend this Agreement as provided in Section 16, the Trust shall be irrevocable and shall continue until terminated at the written agreement of the Grantor, the Trustee, and the EPA Regional Administrator, or by the Trustee and the EPA Regional Administrator, if the Grantor ceases to exist. Upon termination of the Trust, all remaining trust property, less final trust administration expenses, shall be delivered to the Grantor.

Section 18. Immunity and Indemnification.

The Trustee shall not incur personal liability of any nature in connection with any act or omission, made in good faith, in the administration of this Trust, or in carrying out any directions by the Grantor or the EPA Regional Administrator issued in accordance with this Agreement. The Trustee shall be indemnified and saved harmless by the Grantor or from the Trust Fund, or both, from and against any personal liability to which the Trustee may be subjected by reason of any act or conduct in its official capacity, including all expenses reasonably incurred in its defense in the event the Grantor fails to provide such defense.

Section 19. Choice of Law.

This Agreement shall be administered, construed, and enforced according to the laws of the State of California.

Section 20. Interpretation.

As used in this Agreement, words in the singular include the plural and words in the plural include the singular. The descriptive

headings for each Section of this Agreement shall not affect the interpretation or the legal efficacy of this Agreement.

In Witness Whereof the parties have caused this Agreement to be executed by their respective officers duly authorized and their corporate seals to be hereunto affixed and attested as of the date first above written. The parties below certify that the wording of this Agreement is identical to the wording specified in 40 CFR 264.151(a)(1) as such regulations were constituted on the date first above written.

SWS SILICONES CORPORATION

By: _____

Title: V.P. and GENERAL MANAGER

Attest:

_____

CONTINENTAL ILLINOIS
NATIONAL BANK & TRUST
COMPANY OF CHICAGO

By: _____

Title: Vice President

Attest:

_____
Trust Officer

STATE OF MICHIGAN)
)
COUNTY OF LENAWEE)

The foregoing instrument was acknowledged before me this 17th day of September, 1982 by L. B. Bruner, an officer of SWS Silicones Corporation, a Delaware corporation, on behalf of the corporation.

Priscilla M. Wilt
Notary Public
Lenawee County, Michigan

My Commission Expires

PRISCILLA M. WILT
Notary Public
LENAWEE COUNTY, MI
MY COMM. EXPIRES 7-16-85

EXHIBIT A

GRANTOR: STAUFFER CHEMICAL COMPANY

TRUSTEE: CONNECTICUT BANK & TRUST CO.

List of personnel authorized by Grantor to issue orders, requests and instructions to Trustee:

Any two of the following Stauffer personnel
Director, Environmental Control
Assistant Treasurer
Assistant Director, Law Dept.

Stauffer Chemical Company
Westport, Connecticut 06881 / Tel. (203) 222-3000 / Cable "Staufchem"

CERTIFIED MAIL, RETURN RECEIPT REQUESTED

July 9, 1982

Regional Administrator
Region V
U. S. Environmental Protection Agency
230 South Dearborn Street
Chicago, Illinois, 60604

Re: RCRA Financial Requirements

Dear Sir:

In accordance with Section 265.147 of the April 16, 1982 amendments to RCRA, we are hereby submitting a signed duplicate Certificate of Liability Insurance as demonstration of liability coverage for the following Stauffer hazardous waste management facility which is located in a state in your region that does not have RCRA Phase I authorization:

- MID075400671; SWS Silicones Corp., Sutton Road, Adrian, MI 49211

If you have any questions regarding the enclosed material, please call me at 203-222-3230.

Sincerely,

William P. Pagano/rcg

W. P. Pagano, Administrator
Environmental Control Dept.

WPP/rcg
Attachment
cc: J. Calamungi
G. Philbrook
W. Winans

JUL 15 1982

INSURANCE COMPANY OF NORTH AMERICA
GROUP OF INSURANCE COMPANIES

Date: 5/31/83
Revision No.: 0

(This Certificate of Insurance neither affirmatively nor negatively amends, extends or alters the coverage, limits, terms or conditions of the policies it certificates.)

HAZARDOUS WASTE FACILITY
CERTIFICATE OF POLLUTION LIABILITY INSURANCE

Insurance Company of North America, (the Insurer) of 1600 Arch Street Philadelphia, PA, hereby certifies that it has issued pollution liability insurance covering bodily injury and property damage to Stauffer Chemical Company (the Insured), of Westport, Connecticut, in connection with the Insured's obligation to demonstrate financial responsibility under 40 CFR 264.147 or 265.147. The coverage applies at

SWS Silcones Corp.
Sutton Road, Adrian, MI 49211 MID075400671

for sudden accidental occurrences

The limits of liability are $ 1,000,000 and $ 2,000,000 annual aggregate, exclusive of legal defense costs. The coverage is provided under policy number ISLG00025380 issued on 1/15/82. The effective date of said policy is 1/15/82.

The insurance hereby certified is either primary or excess insurance, as indicated by "X" for the limits shown:

☒ The insurance hereby certified is primary and the Insurer shall not be liable for amounts in excess of $ 1,000,000 ,$ 2,000,000 annual aggregate, exclusive of legal defense costs.

☐ The insurance hereby certified is excess and the Insurer will not be liable for amounts in excess of $ _____ ,$ _____ annual aggregate, exclusive of legal defense costs, in excess of the underlying limits of $ _____.

2. The Insurer further certifies the following with respect to the insurance described in Paragraph 1:

(a) Bankruptcy or insolvency of the Insured shall not relieve the Insurer of its obligations under the policy.

(b) The primary Insurer is liable for the payment of amounts within any deductible applicable to the policy, with a right of reimbursement by the Insured for any such payment made by the Insurer. This provision does not apply with respect to that amount of any deductible for which coverage is demonstrated as specified in 40 CFR 264.147 (f) or 265.147 (f).

(c) Whenever requested by a Regional Administrator of the U.S. Environmental Protection Agency (EPA), the Insurer agrees to furnish to the Regional Administrator a signed duplicate original of the policy and all endorsements.

(d) Cancellation of the insurance, whether by the Insurer or the Insured, will be effective only upon written notice and only after the expiration of sixty (60) days after a copy of such written notice is received by the Regional Administrator(s) of the EPA Region(s) in which the facility(ies) is (are) located.

(e) Any other termination of the insurance will be effective only upon written notice and only after the expiration of thirty (30) days after a copy of such written notice is received by the Regional Administrator(s) of the EPA Region(s) in which the facility(ies) is (are) located.

I hereby certify that the wording of this instrument is identical to the wording specified in 40 CFR 264.151 (j) as such regulation was constituted on the date first above written, and that the Insurer is licensed to transact the business of insurance, or eligible to provide insurance as an excess or surplus lines insurer, in one or more States.

John Santapaola
(Signature of authorized representative of Insurer)

John Santapaola
(Type name)

Account Manager
(Title), Authorized Representative of

Insurance Company of North America
(name of Insurer)

127 John Street New York, New York 10038
(Address of Representative)

LD-8C54 Printed in U.S.A.

Waste Mgmt Div.
5H-13

MID 075 400 671

CONTINENTAL BANK

CONTINENTAL ILLINOIS NATIONAL BANK AND TRUST COMPANY OF CHICAGO • TRUST AND INVESTMENT SERVICES
30 NORTH LA SALLE STREET, CHICAGO, ILLINOIS 60693

April 26, 1983 MID 075400671

U.S. Environmental Protection Agency
Region V
Attn: Regional Administrator
230 South Dearborn Street
Chicago, IL 60604

Dear Sir:

SWS Silicones Corporation Trust Fund
re: United States Environmental Protection Agency
Escrow Account No. 16-00024-2

Effective April 29, 1983 I will no longer be the administrator of your Escrow Account since I will be leaving the Bank in May for a life of leisure. The administration of your account will be handled by Mr. Leland Hansen. He is a most capable administrator with years of experience in the Bank. His direct telephone number is (312) 828-6888.

It has been a pleasure working with you these past years.

Very truly yours,

Le Roy T. Lorenz

Le Roy T. Lorenz
Escrow Administrator

LTL:vf

RECEIVED
MAY 4 1983

RECEIVED

WASTE MANAGEMENT BRANCH

APR 29 12 37 PM '83

SWS Silicones Corporation
ADRIAN, MICHIGAN 49221 • TELEPHONE (517) 263-5711

February 24, 1983

Chief Engineer
Michigan Department of Natural Resources
Surface Water Quality Division
P. O. Box 30028
Lansing, Michigan 48909

Re: SWS Silicones Corporation,
NPDES Permit MI 0026034,
Hydrogeological Investigation

Gentlemen:

This letter responds to Special Condition number 6 (six) of our NPDES permit, and is a submittal of findings concerning the Hydrogeological Investigation of the "old drum burial site" area of our plant.

Please refer to our letter to the Department of Natural Resources dated September 10, 1982 and to the letter from R. E. Schrameck of the Department of Natural Resources dated November 9, 1982.

Attached is the following data:

1. Stauffer inter-office memo from B. S. McClellan, Senior Hydrogeologist, dated 2/14/83, and entitled "Estimate of Mass Loading, Phase II Hydrogeologic Investigation, Old Disposal Area, SWS, Adrian, Michigan."

2. Table I, "M-Well Analysis," which is the result of sampling the four "M" wells on January 5, 1983.

3. Gilbert/Commonwealth study, dated August, 1982, and entitled "Hydrogeologic Investigation of Disposal Area, SWS Silicones Corporation, Adrian, Michigan." Note that portions of this report were submitted to the Department of Natural Resources in our September 10, 1982 letter.

This report completes the phase II Hydrogeological Investigation, required by our NPDES permit. Please refer to our letter dated December 23, 1982, concerning the findings of the evaporation-settling pond portion of this study.

Yours truly,

SWS SILICONES CORPORATION

Gordon C. Philbrook

Gordon C. Philbrook
Environmental Control Coordinator

GCP:pb 83-30, certified

cc: J. Calamungi
S. Eldredge, DNR, Jackson District; certified
B. S. McClellan*
T. J. Sayers*
R. E. Schrameck, DNR, Grosse Ile; certified*
*No G/C report

bcc: (no G/C report)
J. M. Barancin
B. P. Dennis
G. L. Ford
H. Kim
G. H. Meyer, Meyer & Kir
G. R. Wolf

Stauffer CHEMICALS

INTER-OFFICE CORRESPONDENCE

Westport

Adrian

G.C. Philbrook

cc: J. Calamungi
G.L. Ford
D. McGrade
T.J. Sayers

B.S. McClellan
Sr. Hydrogeologist

2/14/83

Estimate of Mass Loading
Phase II Hydrogeologic
Investigation
Old Disposal Area, SWS
Adrian, Michigan

This report presents an estimate of mass loading from the old disposal area to the river. This work has been conducted in response to a request for calculation of the "flow volume of the affected ground water" and "a projection of the anticipated spread through the ground" made in the November 9, 1982 letter from R.E. Schrameck of Michigan DNR.

The data presented in this report is based on information provided in the August, 1982 report Hydrogeologic Investigation of Disposal Area, prepared by Gilbert/Commonwealth and the results of analyses performed on ground-water samples collected from the "M" series wells on January 5, 1982. The August, 1982 report by Gilbert/Commonwealth was previously submitted to the Michigan DNR in September, 1982 and is here after referred to as the G/C report. The January, 1983 analytical results are attached.

In order to estimate the mass loading it was necessary to estimate the discharge rate (volume/unit time) of ground water which flows past and under the disposal area and discharges to the river or adjoining swampy flood plain area. The discharge rate was estimated using the expression

$$Q = KIA$$

Where:

Q = discharge rate in unit volume per unit time
K = the hydraulic conductivity
I = the hydraulic gradient
A = the cross-section area through which flow occurs

The hydraulic conductivity and hydraulic gradient are provided in the G/C report and are 6.0×10^{-3} cm/sec and 0.019 respectfully. The cross-sectional area was determined by calculating the area of a vertical plane in the upper ten feet of the saturated zone, downgradient of the disposal area and perpendicular to the observed ground-water flow direction. Using Figure 2 of the G/C report as a reference, this vertical plane is located along a line which intersects well M-3 and a point located approximately 169 feet downgradient of well M-2 at the Figure 2 grid intersection N 48,356 and E 25,689.

SAFEGUARD COMPANY INFORMATION

FEB 16 1983

FORM 0032-000-00A

Based on the observed concentrations the maximum spread of contamination appears to be about 400 feet. That is to say, the width of the plume downgradient of the disposal area at the vertical plane is about 400 feet. The plume width or outer limit is defined by the groundwater flow lines which pass through wells M-2 and M-3, and intersect the vertical plane.

The flow lines which pass through M-2 and M-3 are considered to represent the outer limits of the plume based on the observed concentration in the three downgradient wells. The elevated concentrations were observed in well M-4, the center well. In both M-2 and M-3 only one chemical found in M-4 was detected. The detections in M-3 and M-2 were two to three orders of magnitude less respectfully. Based on the ground water contouring on Figure 2 of the G/C report it appears that the width of this plume does not change significantly prior to discharge along the river flood plain.

Using this maximum plume width the cross-sectional area through which ground water passes is about 4,000 square feet. Plugging this cross-sectional area into the expression above the ground-water discharge rate is approximately 9,659.6 gpd.

To compute the estimated mass loading the concentrations for each chemical in each of the three downgradient wells was averaged. The resulting mass loading in pounds per day is shown in Table 1.

TABLE 1

Estimated Mass Loading

Chemical	Average Concentration Mg/L	Mass Loading Pounds Per Day
1,1 dichloroethane	0.053	0.004
t,1,2 dichloroethylene	0.345	0.028
1,1,1 trichloroethane	0.650	0.052
trichlorothylene	0.247	0.020
tetrachloroethylene	0.060	0.005
Total Chlorinated Organics	1.355	0.109
trimethyl silanol	5.017	0.401

Considering that the chemical concentrations observed and number of detections made in the ground-water sample from M-4 was significantly greater than the other wells, an estimate of mass loading using the concentrations detected in well M-4 was also computed. Based on the distribution of concentrations observed in the three downgradient wells, the greater concentrations are considered representative of ground water in the immediate area (50 feet radius) of M-4. For this reason the width of the plume of greater concentration has been assumed to be 100 feet wide. Using the assumed plume width the estimated ground-water discharge rate is

approximately 2,414.9 gpd. The resulting mass loading in pounds per day for the area around M-4 is shown in Table 2.

TABLE 2

Estimated Mass Loading
(Concentrations At M-4)

Chemical	Concentration M-4 Mg/L	Mass Loading Pound Per Day
1,1 dichloroethane	0.16	0.003
t,1,2 dichloroethylene	1.02	0.020
1,1,1 trichloroethane	1.95	0.039
trichloroethylene	0.74	0.015
tetrachloroethylene	0.18	0.004
Total Chlorinated Organics	4.05	0.081
trimethyl silanol	15.0	0.300

Once again based on the observed ground-water flow condition, it should be anticipated that the width of the plume at the measuring point used in this report and at the discharge area should be the same.

If you have any questions please call.

B.S. McClellan

BSM018:dm

Attachment

SWS SILICONES CORPORATION

Table I

M Well Analysis

The results from the analysis of the four "M" well samples collected on January 5, 1983 are as follows:

	mg/l			
	M-1	M-2	M-3	M-4
1,1 dichloroethane	N.D.	N.D.	N.D.	0.16
t-1,2 dichloroethylene	N.D.	N.D.	0.02	1.02
1,1,1 trichloroethane	N.D.	N.D.	N.D.	1.95
trichloethylene	N.D.	N.D.	N.D.	0.74
tetrachloroethylene	N.D.	N.D.	N.D.	0.18
trimethyl silanol	N.D.	0.05	N.D.	15
TOC	--	--	--	30

1. We also did analyses of spiked samples. The results were 18% to 58% higher than the theoretical values for all the hydrocarbons, except for tetrachloroethylene, which were 19% to 48% lower than the theoretical values.

2. Refer to letter dated September 10, 1982 for other analyses.

G. C. Philbrook
1/13/83

STATE OF MICHIGAN

NATURAL RESOURCES COMMISSION
JACOB A. HOEFER
E. M. LAITALA
HILARY F. SNELL
H. WENDLER
HARRY H. WHITELEY

JAMES J. BLANCHARD, Governor

DEPARTMENT OF NATURAL RESOURCES
STEVENS T. MASON BUILDING
BOX 30028
LANSING, MI 48909
HOWARD A. TANNER, Director

Chad McIntosh MDNR

January 20, 1983

RECEIVED
JAN 24 1983
WASTE MANAGEMENT BRANCH
EPA REGION V

Mr. Allen DeBus
U. S. Environmental Protection Agency
Region V
111 West Jackson Boulevard
Chicago, Illinois 60604

Re: Service No. 8203 119
River Raisin
NE¼, Section 21, T 6 S, R 4 E
Raisin Township
Lenawee County

Dear Mr. DeBus:

I have been asked by Mr. Philbrook of SWS Silicones Corp. to explain our flood estimate of 721, USGS datum at the above location. Enclosed is a copy of the U.S.G.S. gage data for that area.

From the gage data, note the gage datum is elevation 707.0. The flood of record occurred in June, 1968 with a discharge of 2,900 cfs and a resulting stage of 12.66 feet (elevation 719.66). The gage is directly across the river from SWS Silicones and all data are directly applicable.

The 100-year frequency flood discharge has been calculated by this office at 4,090 cfs. We estimate this would produce a stage of approximately 14 feet, or elevation 721.0. We know from other areas on the River Raisin that flood discharges for the 100-year flood raise stages by about 9 to 10 feet over normal water elevations. This agrees very closely with known water surface elevations at this site of zero flow stage equal to 709.1 and normal flow stage equal to 711.7.

Since SWS Silicones' plants are located at elevations 767 and 772, from 46 to 51 feet above expected flood stage, they are obviously well above any expected flood levels. To require their company to perform a detailed analysis of the riverine system would be very expensive and produce

137-2

results refining the flood elevation by only a matter of tenths of a foot.

Should you have any further questions in this regard, please feel free to contact me (517/373-3930).

Sincerely,

Wallace A. Wilson

Wallace A. Wilson, P.E., Chief
Flood Hazard Regulation
Water Management Division

WAW:cjs

Enclosure: Gage record

cc: G. C. Philbrook

9-197
(Nov. 1954)

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY
WATER RESOURCES DIVISION

File No. Washington 4-1757.0
Field

Description Prepared 9-12-56 (Date)
by A. J. Quigley
Revised by D. E. Bower 11-19-62

Description of Gaging Station on River Raisin near Tecumseh, Michigan

(Prepare description in accordance with outline on back of Form 9-277. Plot cross section to scale. Use Form 9-213A or 9-213E for cross section. Use second page of this form for sketch if room is available, otherwise use Form 9-213C or 9-213H. Initial and date all sheets.)

16—58615-2 GPO

Location.--Lat 41°56'35", long 83°56'45", in NE¼ sec. 21, T. 6 S., R. 4 E., on right bank, 12 ft downstream from bridge on N. Raisin Cen. Highway, and 4.5 miles south of Tecumseh.

To reach gage from - Tecumseh - At signal light at W. Chicago and South Evans, go south on South Evans 4.5 miles to bridge and gage. (South Evans changes to N. Raisin Cen. Road at city limits).

Established.--Sept. 7, 1956 by A. J. Quigley.

Drainage area.--266 square miles.

Gage.--An F & P digital and a Stevens A 35 recorder in concrete block house and well. Outside gage is wire weight gage located on downstream side of bridge which is 12 ft upstream from gage house. Inside gage is enamel staff gage plate reading from 0 to 16.86 and fastened to downstream wall of well. Reference gage is electric tape gage set on instrument shelf to left of recorder. Well is equipped with three 2-inch intakes the 2 bottom ones of which are connected by 3-way valves to 3 cu ft tank for flushing.

Gage elevations of pertinent parts are as follows:

Bottom of well----------	0 feet
Lower intake, river end------	.6 "
Lower intake, well end-------	1.2 "
Middle intake, river end-----	1.9 "
Middle intake, well end------	2.2 "
Upper intake, river end------	2.7 "
Upper intake, well end-------	3.2 "
Sub-floor----------	7.3 "
Floor of House----------	14.1 "
Instrument shelf----------	17.00"
ETG index----------	17.008"
Check bar----------	17.37"

Datum of gage is 707.0 feet above mean sea level, datum of 1929.

History.--Recording gage started on River Raisin near Adrian about 5.5 miles downstream in October 1953 and has been operating continuously since.

A Stevens recorder operated in present house until Nov. 15, 1962 when the digital recorder was installed.

This document paid for with State funds

Channel and control.--Chann and streambed are of mud, san and small gravel. Main channel is confined to small valley about 1000 ft wide which is generally about 40 ft below surrounding countryside. River wanders throughout valley floor. Both banks are fairly low and covered with small trees and brush. Overflow starts on right bank at about gage height 7 ft. Channel is straight for 50 feet above and 300 feet below station.

Low-water control is-gravel riffle 200 ft below gage and is believed to be fairly permanent.

High-water control is channel and extreme high water is probably railroad bridge abutments 225 ft below gage.

Discharge measurements.--Low-water measurements can be made by wading on control or at almost any section from bridge to 300 ft above bridge up to a stage of about 5.5 ft. High-water measurements can be made from highway bridge 12 ft above gage. Both handrails of bridge are marked with single paint stripe every 5 feet to 40 feet and then every 2 feet to 90 feet. Numerals are painted next to stripe every 10 feet. Initial point is at right bridge abutment.

Floods.--A discharge of 1200 cfs occurred on Mar. 7, 1959 at a gage height of 10.33 ft.

Point of zero flow.--2.1 ft Sept. 10, 1956, probably shifting.

Winter flow.--Stage discharge relation probably affected by ice during extreme cold weather.

Regulation and diversion.--Diurnal fluctuation caused by municipal power-plant at Tecumseh 5.5 miles upstream. A number of other small dams further upstream may have slight effect upon flow.

Accuracy.--Conditions for obtaining gage-height record are excellent. Conditions for measuring discharge are excellent at low stages and fair at high stages due to varying angles.

Cooperation.--City of Adrian, State of Michigan Water Resources Commission.

Sket h.--

Photographs.--In district files.

Reference marks.--RM 1 is chiseled cross on 19th rivet below bridge nameplate in downstream row of rivets at right downstream end of bridge. Elevation 16.116 ft., gage datum.

RM 2 is chiseled cross in I beam encased in right downstream bridge abutment at right edge of gage house walkway. Elevation 14.066 ft., gage datum.

RM 3 is ½" machine bolt in 18" diameter tree 5 ft north of gage house. Bolt is 18" above ground in north side of tree. Elevation 11.535 ft., gage datum.