



RECEIVED

Lake Charles VCM Plant

CERTIFIED MAIL #8090849
RETURN RECEIPT REQUESTEDConoco Chemicals Company
A Division of Conoco Inc.
P.O. Box 605
Westlake, LA 70669
(318) 491-5211

ROUTE TO:	_____
COPIES TO:	_____
FILE:	CCM

September 6, 1983

Department of Natural Resources
Office of Environmental Affairs
Air Quality Division
P O Box 44066
Baton Rouge, LA 70804

Attention: Jim B. Porter, Assistant Secretary

Re: Leak Detection and Elimination Plan,
Conoco VCM Plant, Westlake, LA

Dear Sir:

Enclosed please find two copies of the Leak Detection and Elimination Plan for Conoco's VCM Plant in Westlake, Louisiana. This plan is being submitted pursuant to the requirements of section 77.6(b) (8) of the Louisiana Emission Standards for Hazardous Air Pollutants.

As you are aware, the initial environmental regulations governing vinyl chloride facilities were those promulgated by the Environmental Protection Agency at 40 CFR 61. Those federal regulations also required the development and submittal of a Leak Detection and Elimination Plan (LDEP). Conoco's VCM Plant submitted its LDEP on February 5, 1980. That plan has been modified once to expand the coverage of the leak detection program.

After reviewing the Louisiana standards and discussing them with staff of the Air Quality Division we are submitting the attached proposed LDEP Program. We propose to operate under the provision of the current NESHAP LDEP until receiving DNR approval. The LESHAP LDEP will then be implemented within 30 days.

I would also like to call your attention to our request for a variance from the requirement of section 77.6(b) (8) (iii) which stipulates that the fixed point monitors be span-checked daily. The Leak Detection Plan calls for weekly span checks. It has been our experience that weekly checks are sufficient to assure the accuracy of the monitoring equipment. Data accumulated from past experience is available to support this request.

VVC 000014348

Dept. of Natural Resources
September 6, 1983
Page 2

We respectfully request that the Leak Detection and Elimination Plan be approved and that the variance from this span check requirement be granted. If you have any questions after reviewing the proposed Plan, we would be happy to meet with you at your earliest convenience. If additional information is required, please call Ron Bryan, Chief Process Engineer, at (318) 491-5062.

Sincerely,

R. A. Conrad / RB

R. A. Conrad
Plant Manager

kf

Enc

bcc: M. G. Hayes
J. C. Ledvina
E. S. Wackerbarth
J. W. Ware
R. Bryan
D. L. Davis
S. J. Reynolds

VVC 000014349

PROPOSED
LEAK DETECTION & ELIMINATION
PLAN FOR LESHAP

The Conoco VCM Plant Leak Detection and Elimination Plan is designed to provide a formalized procedure for detecting and controlling leaks from equipment in vinyl chloride service. The plan is organized following the requirements of the leak detection and elimination section of the Louisiana emission standard for vinyl chloride. This plan will be reviewed periodically to determine if the plan meets the original purpose.

Continuous Monitoring System

A. Purpose

A continuous monitoring system provides a permanent, dependable means to detect leaks and identify the general area of the plant where a leak is located.

B. Definition of a Leak

A leak shall be defined as two consecutive VCM analyses over 10 ppm from any one fixed point in the process, offsites, and dock areas.

C. Description

Three multipoint area analyzers, Honeywell Model 1000 gas chromatographs (CAR), or equivalent, are used for detection of leaks and identification of the general area of the plant where a leak is located. The monitors will sample the air at each sample point on a continuous sequential basis, with each point being sampled once every 10 minutes. These chromatographs are CAR-171 for the plant process area, CAR-401 for the offsites area, and CAR-678 for the dock area. The CAR's are presently being utilized for VCM monitoring and have proven to be reliable area monitors. Honeywell has stated that their accuracy is $\pm 5\%$ at VCM concentrations over 1.0 ppm.

The output from each of the monitoring points of CAR-171, CAR-401, and CAR-678 is printed on a recording chart. The number corresponding to each sampling location is indicated as well as the vinyl chloride concentration in ppm. An analog output from CAR-171 and CAR-401 is also transmitted to a Perkin-Elmer Computer located in the main control room. The computer is programmed to print out two consecutive analyses over 10 ppm when a leak is detected and the number of such occurrences on an hourly basis for each point at the end of a 24 hour period. Since CAR-678 is used only during ship or barge loading and is located at the dock, it is not tied into the computer system.

An audio and a visual alarm will be given with each analysis of 10 ppm or greater. When the first alarm occurs a check by operations personnel will be made. If a leak is found, the action plan will be implemented. If a second consecutive alarm occurs, then by definition, a leak has occurred and the action plan will be implemented.

D. Location of Monitoring Points

The vinyl chloride monitoring points are located in the plant process, offsites and dock areas as shown in Figures 1, 2, and 3, respectively.

Each point is monitored once every ten minutes. However, CAR-678 located at the dock is only operated during VCM ship loading since all equipment in vinyl chloride service is in operation only during ship loading.

E. Calibration and Maintenance

The vinyl chloride monitoring system will be maintained, calibrated, and span checked on a weekly schedule, and all work will be reported in a log book. CAR-171 and 401 will have an elution check three times a week to ensure that they are reading the correct chromatograph peaks. CAR-678 will be calibrated weekly and will have an elution check before each VCM ship loading. In using the CAR's for monitoring, it has been the plant's experience that the span changes very little with time and that a weekly span check is sufficient to ensure reliable and accurate readings.

Weekly Leak Patrol

A. Purpose

The weekly leak patrol will be used to find leaks that have not been identified by the vinyl chloride monitoring system.

B. Definition of a Leak

A leak shall be defined as 10,000 ppm measured within one centimeter of a pump or valve seal interface, or 10 ppm in the general area over the background concentration.

C. Description

A portable analyzer will be used to check for leaks during the weekly leak patrol. The weekly leak patrol will follow the route shown in figures 4 and 5. During the patrol the general area, and specifically pump seals and control valves in vinyl chloride service, will be checked. The equipment will be monitored in accordance with EPA Reference Method 21. Other fugitive sources will be added to the weekly check list as necessary. If a leak is detected, the operators involved in the leak patrol must then implement the action plan.

Persons conducting the patrol will sign each log entry, record the date and time of each leak patrol whether leaks are detected or not. If a leak is found, the person conducting the patrol must also enter the following information in the log: location of the leak, cause of the leak, and action taken to correct the leak.

D. Calibration and Maintenance

The portable detector will be maintained, calibrated, and span-checked on a weekly schedule. A log book will be kept of this calibration and signed by the person calibrating the detector.

Cooling Water Sampling

A. Purpose

The daily sampling of the cooling water effluent streams from several heat exchangers will be used as a check for internal leaks of exchangers in vinyl chloride service.

B. Definition of a Leak

A sample indicating a level of 10 ppm or more vinyl chloride in an exchanger effluent requires that a second sample be taken and analyzed. If an exchanger is determined to be leaking, the Action Plan will be implemented.

C. Description

The effluent cooling water from the Quench Column Condensers, H-202 A/B, and the Vinyl Column Condensers, H-207A and H-207B which are in vinyl chloride service will be sampled once per day. The water will be tested for vinyl chloride and the results recorded daily in weight ppm. A gas chromatograph, or equivalent instrumentation, will be used to test the cooling water samples.

D. Calibration and Maintenance

The analytical equipment will be calibrated periodically and maintained as necessary for reliable data.

Main Plant Vent Scrubber Stack Monitoring (C-500 Vent)

A. Purpose

An analysis of the C-500 Vent will be used as a check on a number of vent tie-ins to the vent scrubber (C-500) that are normally isolated by rupture disks, valves and relief valves.

B. Definition of a Leak

A leak investigation will begin if a significant trend or concentration of VCM is indicated on the daily analysis. When a leak is determined to exist, the Action Plan will be implemented. The source of the leak will be identified on the Leak Detection Form.

C. Description

Grab samples taken three times per week of the C-500 Vent Gas will help identify if streams not routinely discharged to C-500 begin to leak into the scrubber. A Varian Model 3700 Gas Chromatograph with flame ionization

detector, or equivalent equipment, is used to identify vinyl chloride. A vent analysis sheet is completed for each test day and filed.

D. Calibration and Maintenance

The gas chromatograph will be calibrated and maintained as necessary for reliable data.

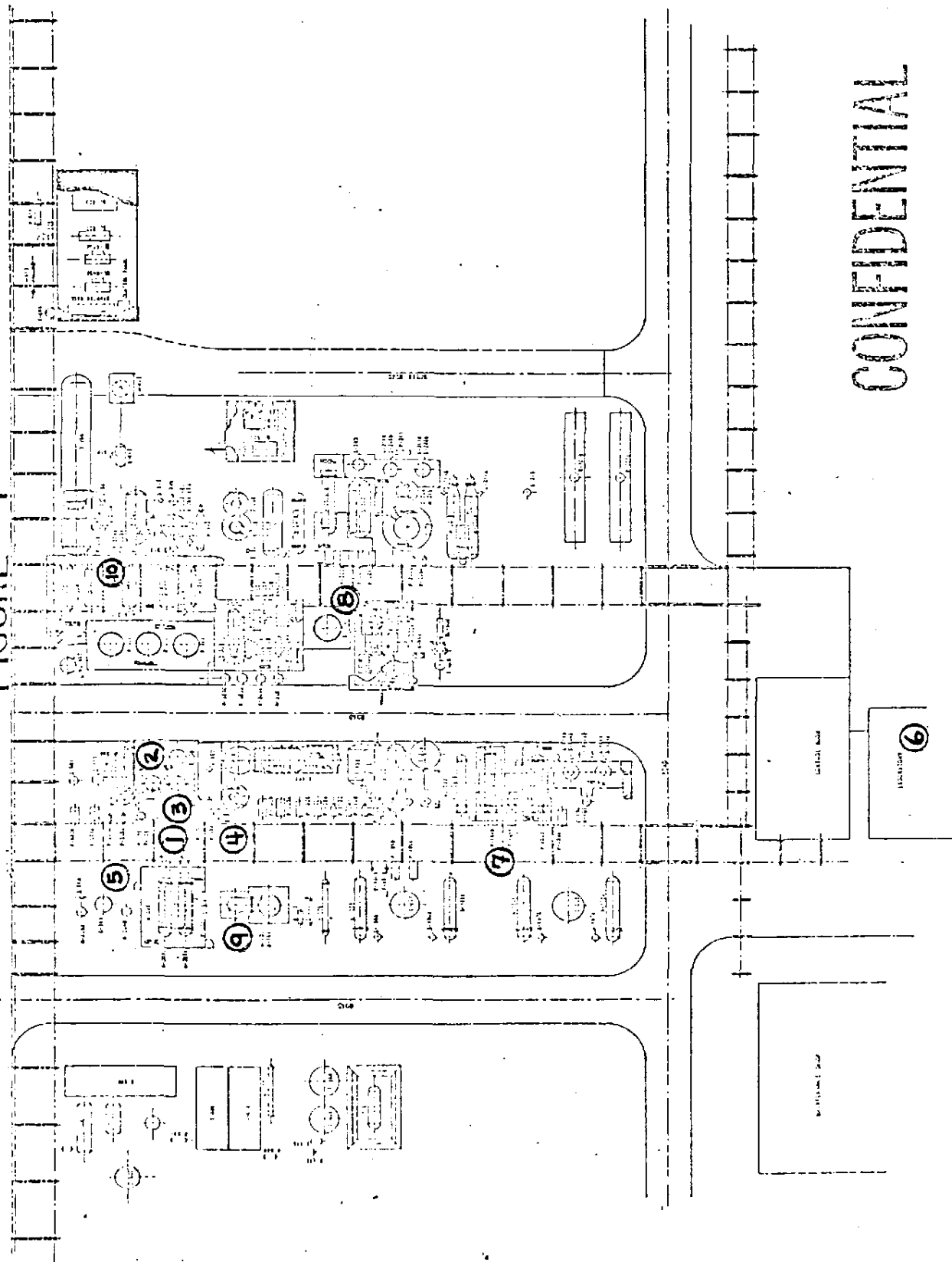
Action Plan

The action plan upon detection of a leak will be as follows:

- 1) The person investigating the leak will attempt to locate and control the leak.
- 2) If that person is unable to control the leak, the Operations Shift Supervisor will be notified. The Shift Supervisor will take one of the following actions.
 - a) Control the leak, or
 - b) Notify the Maintenance Department to take corrective action to control the leak.
- 3) Each leak found should be accounted for on the Leak Detection Form, along with the action taken to control the leak. The Shift Supervisor will then forward the Leak Detection Form(s) to the Process Superintendent who will in turn forward the form(s) to the Environmental Engineer. These leak detection forms will be kept on file.
- 4) If a leak can not be controlled without a process unit shutdown, it will be noted on the Leak Detection Form along with the expected date of repair. The corrective action taken will be documented upon control of the leak.
- 5) A record of the leaks detected by the leak detection plan shall be retained and made available for inspection by the Assistant Secretary for a minimum of two years or such longer period as ordered by the Assistant Secretary.

CAR-171 MONITORING POINTS PROCESS AREA

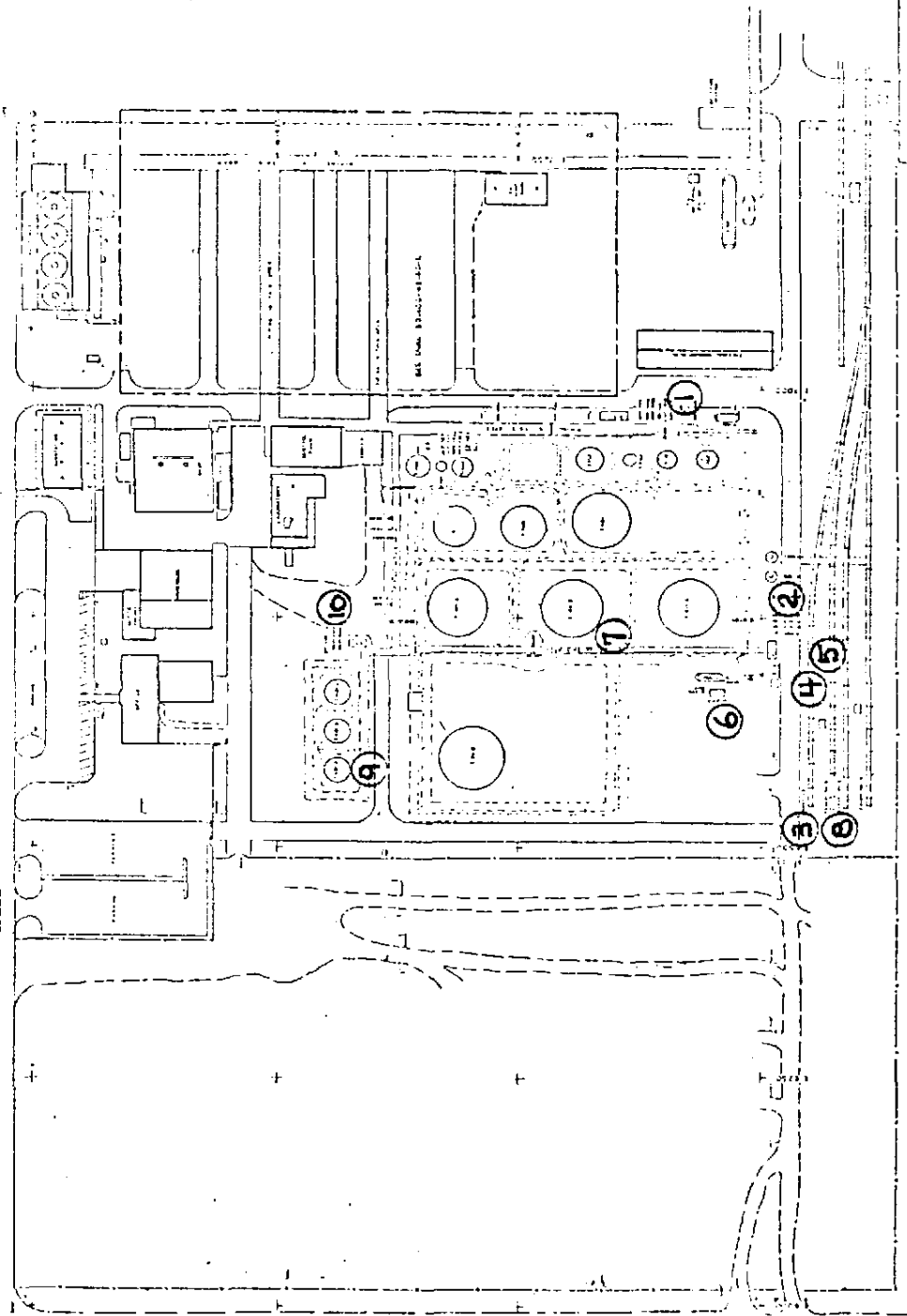
FIGURE 1



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JGC

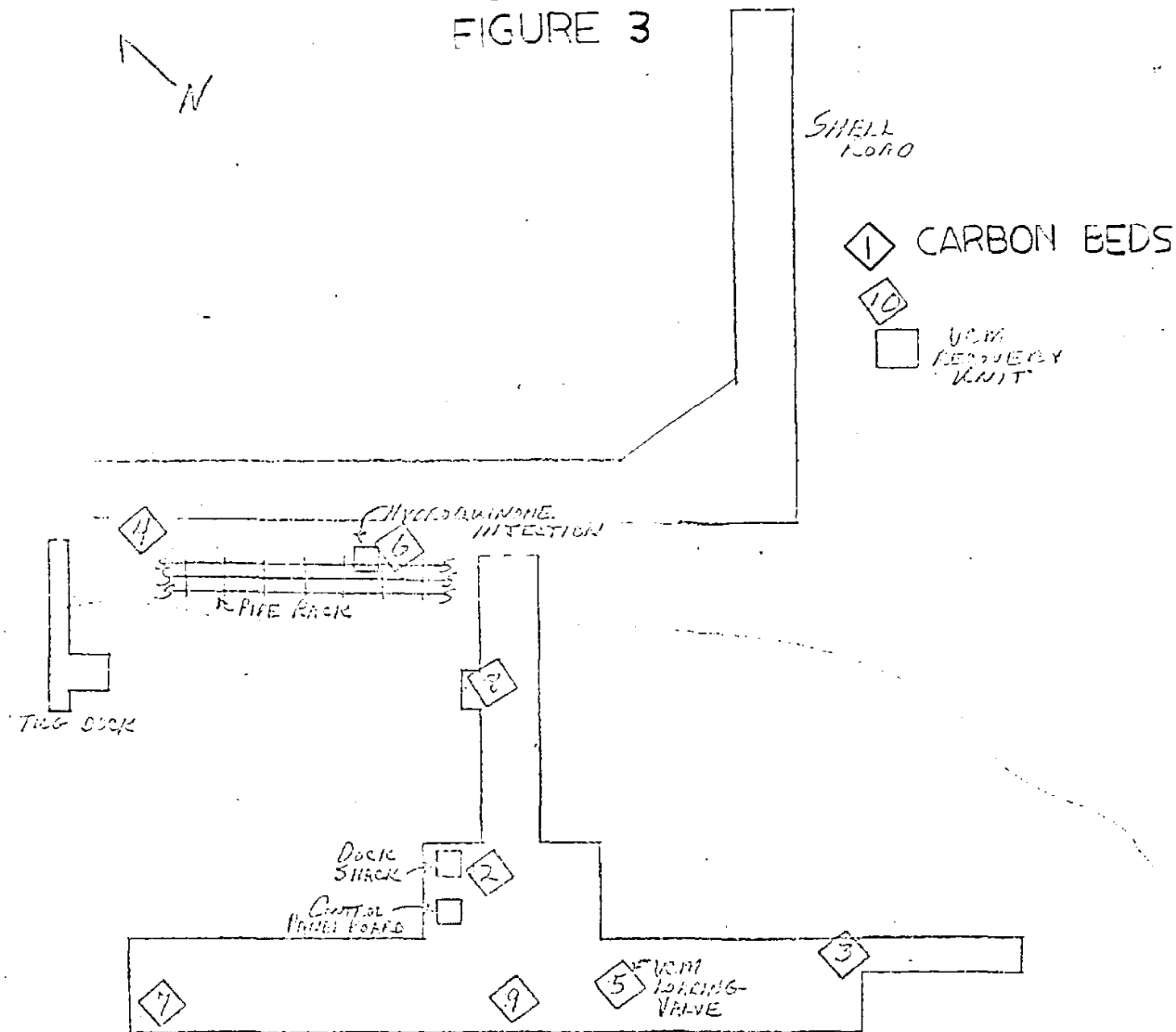
CAR-401 MONITORING POINTS OFFSITE AREA FIGURE 2



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CAR-678 MONITORING POINTS DOCK AREA FIGURE 3



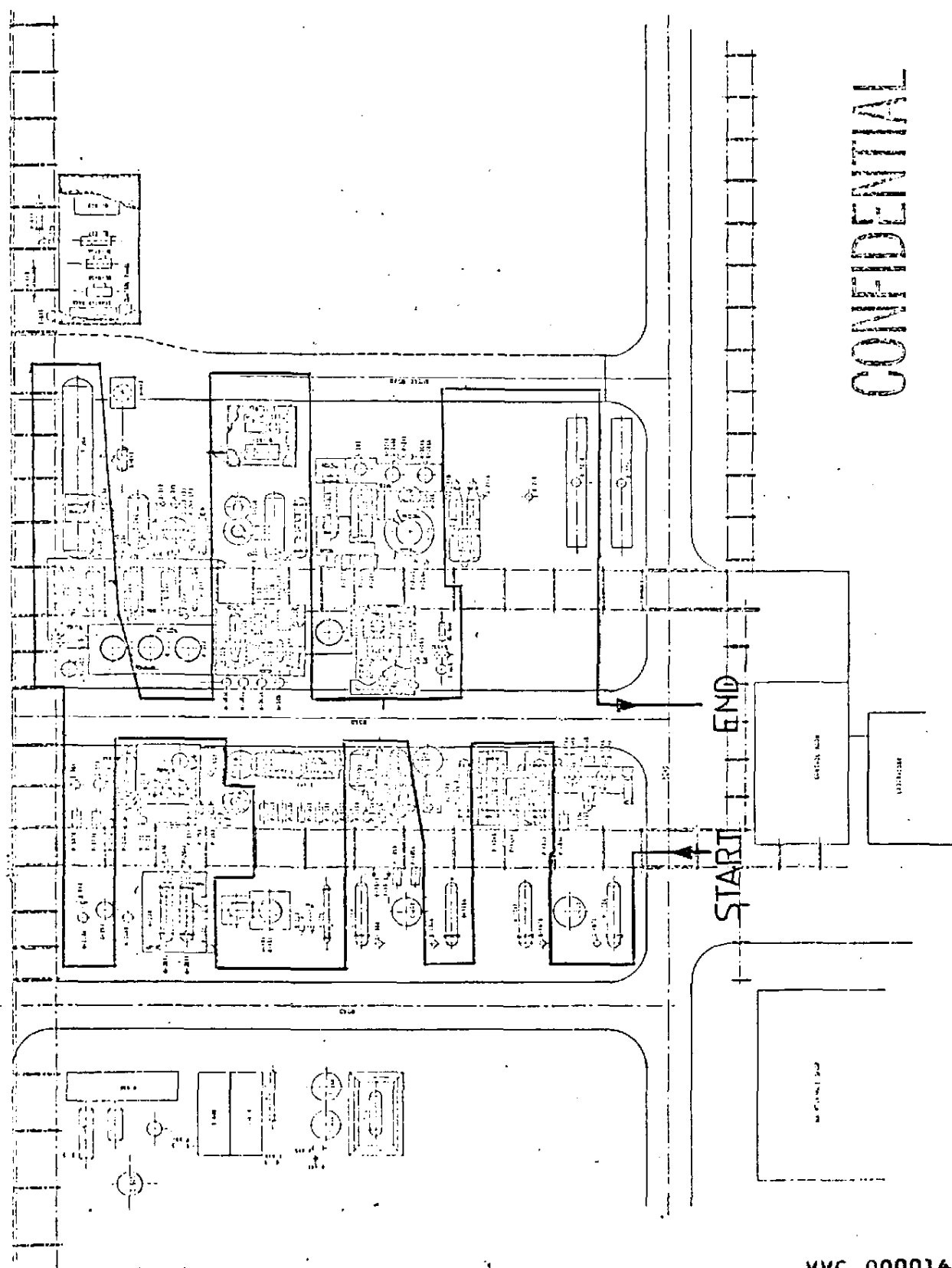
Dock No. 3

LEGEND:



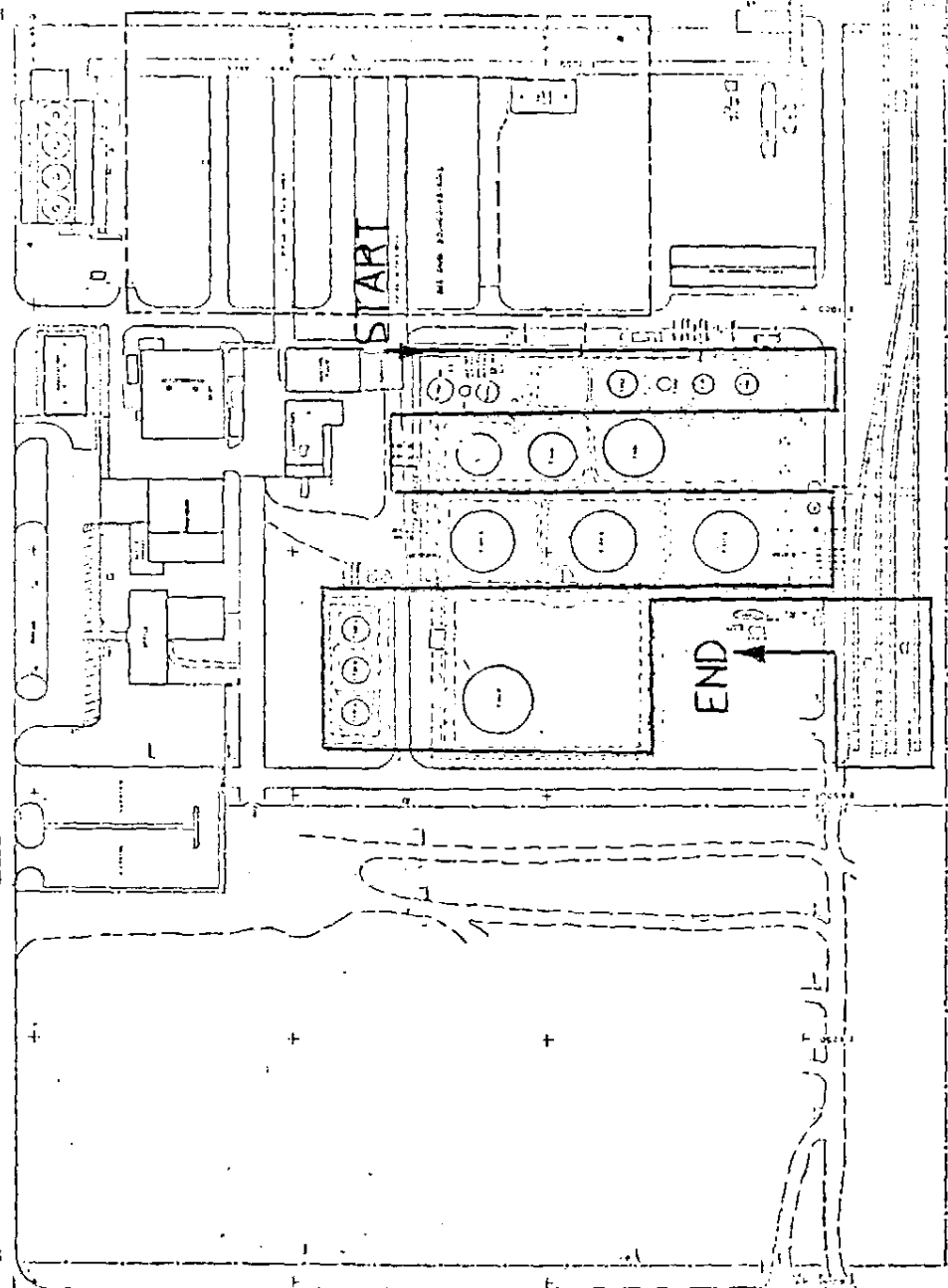
SAMPLE POINT NO. CORRESPONDING TO SAMPLE
POINT ON VCM MONITOR RECORDER.

FIGURE 4



WEEKLY LEAK PATROL ROUTE
OFFSITE AREA

FIGURE 5



CONFIDENTIAL

FIGURE 6
CONOCO VCM PLANT
LEAK DETECTION PLAN

CONFIDENTIAL

Name of person finding the leak:

Date:

Time:

I. To be completed by person finding the leak.

1) Location of Leak:

2) Cause of Leak:

3) Action Taken to Eliminate Leak:

1) Action Taken:

2) Leak Controlled?

3) Leak Not Controlled?

4) Other

II. To be completed by Shift Supervisor if leak has not been controlled.

1) Action taken to control leak.

a) Maintenance Department notified to correct leak?

b) Other.

2) Leak repair delayed until process unit shutdown?

a) Reason:

b) Expected date of repair.

Name of Shift Supervisor:

What time was the leak reported to the Shift Supervisor?

NOTE: Give this form to the Process Superintendent, who in turn, will give it to Engineering for inclusion in our environmental file.

VVC 000014359

Lake Charles VCM Plant

CERTIFIED MAIL #809084
RETURN RECEIPT REQUESTED

Conoco Chemicals Company
A Division of Conoco Inc.
P.O. Box 805
Westlake, LA 70669
(318) 491-5211

September 6, 1983

TO: ESYELA WACKERBARTH - LEG 1400
JOE UEDVINA - 211 ENVC

FROM: FONI BRYAN

Department of Natural Resources
Office of Environmental Affairs
Air Quality Division
P O Box 44066
Baton Rouge, LA 70804

FOR YOUR REVIEW.
PLEASE RESPOND BACK
BY TODAY 9/2/83.

Attention: Jim B. Porter

Re: Leak Detection and Elimination Plan,
Conoco VCM Plant, Westlake, LA

File LEVCM

Dear Sir:

Enclosed please find two copies of the Leak Detection and Elimination Plan for Conoco's VCM Plant Westlake, Louisiana. This plan is being submitted pursuant to the requirements of section 77.6(b) (8) of the Louisiana Emission Standard for Hazardous Air Pollutants.

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VVC 000014362

Dept. of Natural Resources
September 6, 1983
Page 2

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Sincerely,

R. A. Conrad
Plant Manager

kf

Enc

bcc: M. G. Hayes
J. C. Ledvina
E. S. Wackerbarth
J. W. Ware
R. Bryan
D. L. Davis
S. J. Reynolds

VVC 000014363

2/12

PROPOSED
LEAK DETECTION & ELIMINATION
PLAN FOR LESHAP

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D. Calibration and Maintenance

The portable detector will be maintained, calibrated, and span-checked on a weekly schedule and a log book kept of this calibration schedule signed by the person calibrating the detector.

Cooling Water Sampling

A. Purpose

The daily sampling of the cooling water effluent streams from several heat exchangers will be used as a check for internal leaks of exchangers in vinyl chloride service.

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4/12
detector, or equivalent equipment, is used to identify vinyl chloride. A vent analysis sheet is completed for each test day and filed.

D. Calibration and Maintenance

The gas chromatograph will be calibrated and maintained as necessary for reliable data.

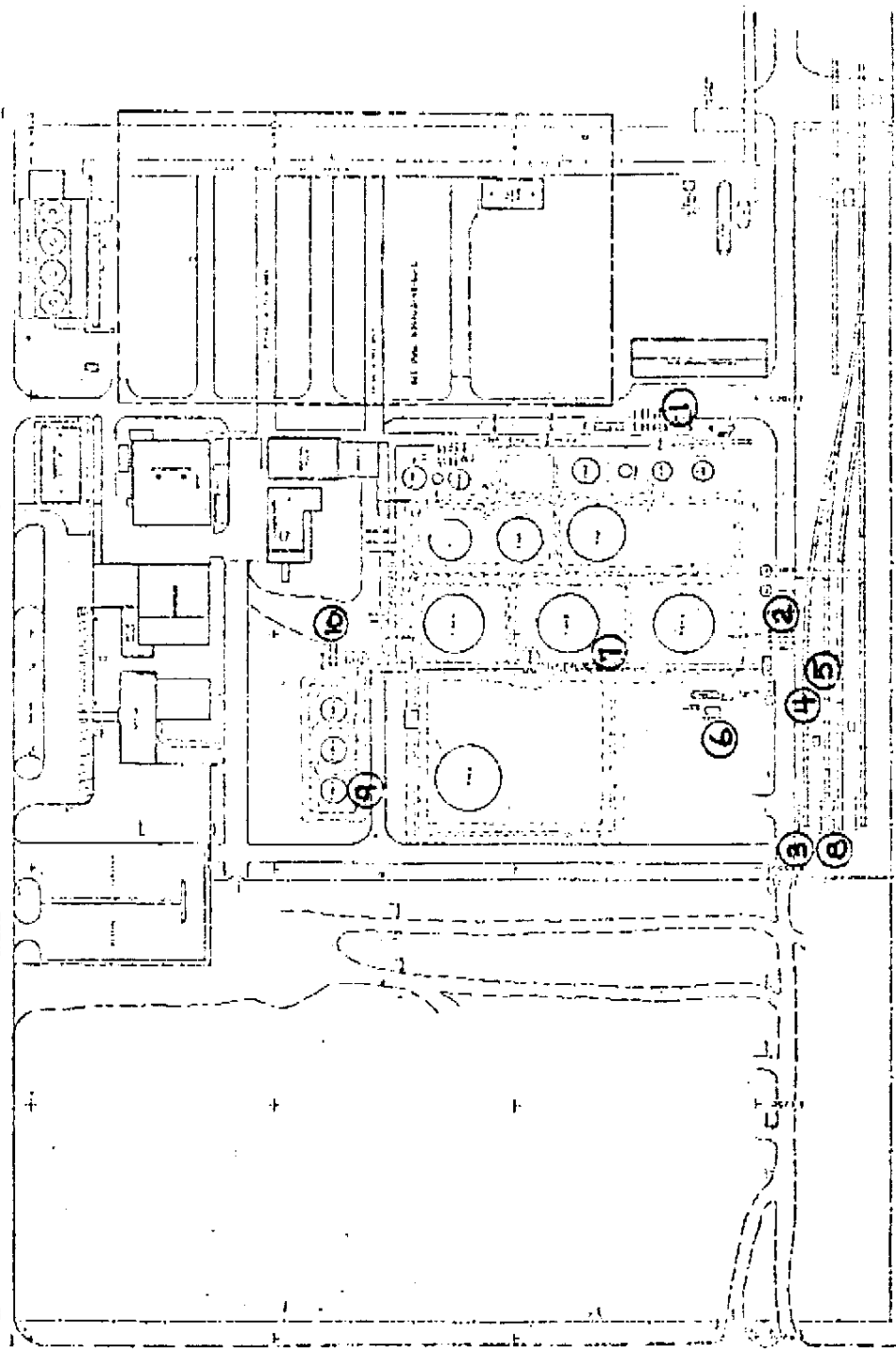
Action Plan

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- 2) If that person is unable to control the leak, the Operations Shift Supervisor will be notified. The Shift Supervisor will take one of the following actions.
 - a) Control the leak, or
 - b) Notify the Maintenance Department to take corrective action to control the leak.
- 3) If a leak can not be controlled without a process unit shutdown, it will be noted on the Leak Detection Form along with the expected date of repair. The corrective action taken will be documented upon control of the leak.
- 4) Each leak found should be accounted for on the Leak Detection Form, along with the action taken to control the leak. The Shift Supervisor will then forward the Leak Detection Form(s) to the Process Superintendent who will in turn forward the form(s) to the Environmental Engineer. These leak detection forms will be kept on file.
- 5) A record of the leaks detected by the leak detection plan shall be retained and made available for inspection by the Assistant Secretary for a minimum of two years or such longer period as ordered by the Assistant Secretary.

VVC 000014367

CAR-401 MONITORING POINTS OFFSITE AREA FIGURE 2

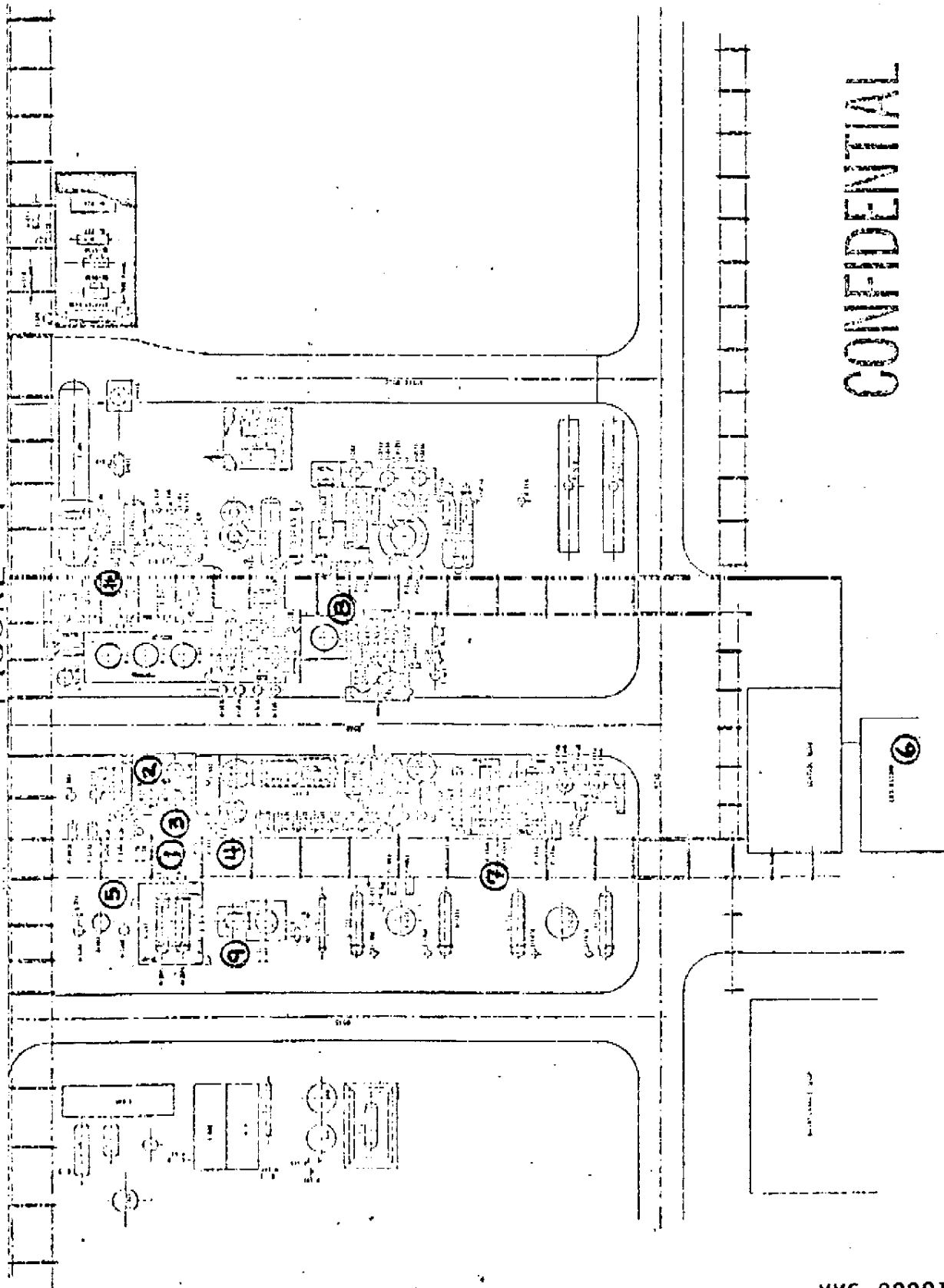


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JGC

CAR-171 MONITORING POINTS
PROCESS AREA

FIGURE 1



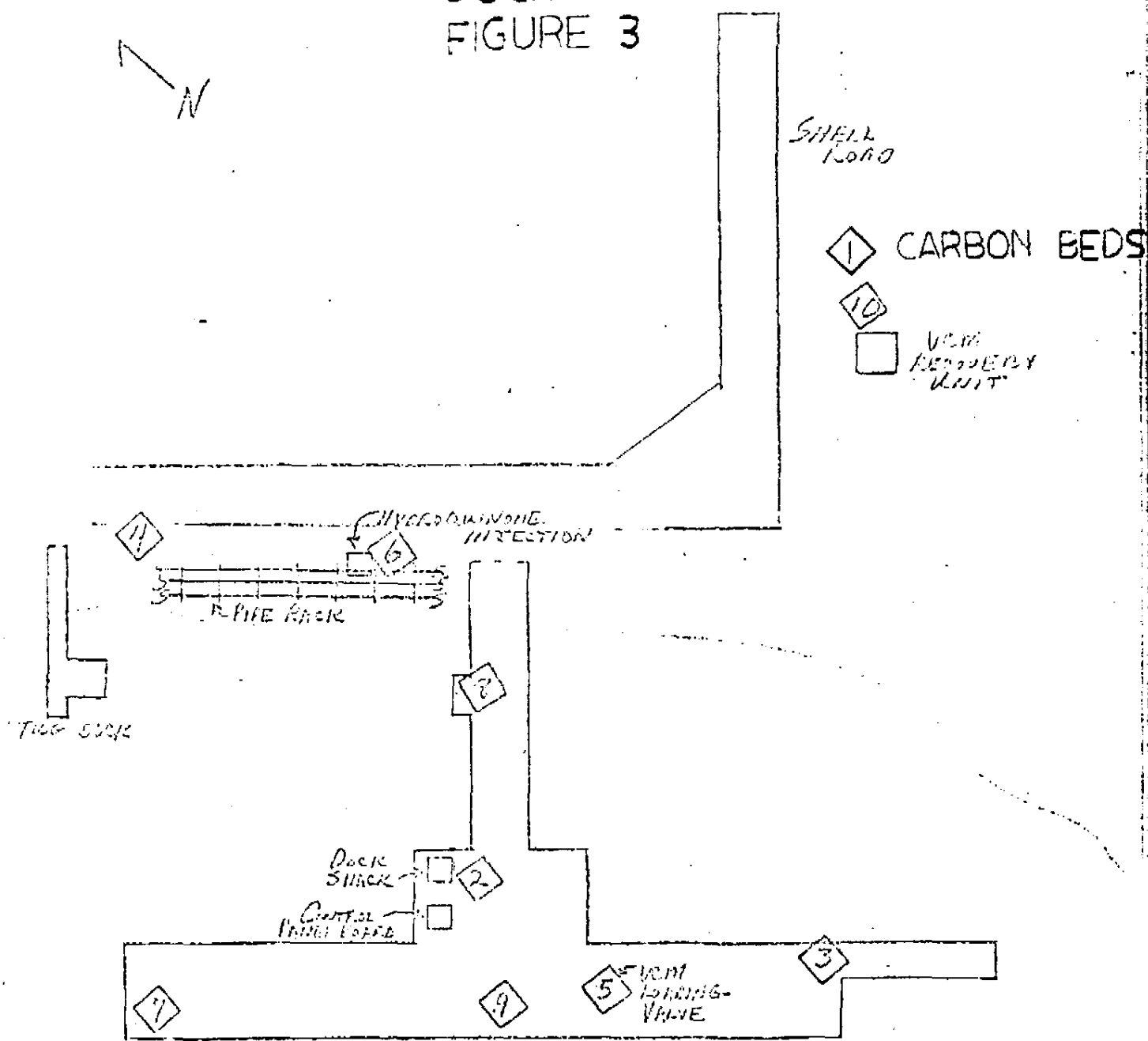
VVC 000014369

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JGC

CAR-678 MONITORING POINTS DOCK AREA FIGURE 3

2/12



Dock No. 3

LEGEND:

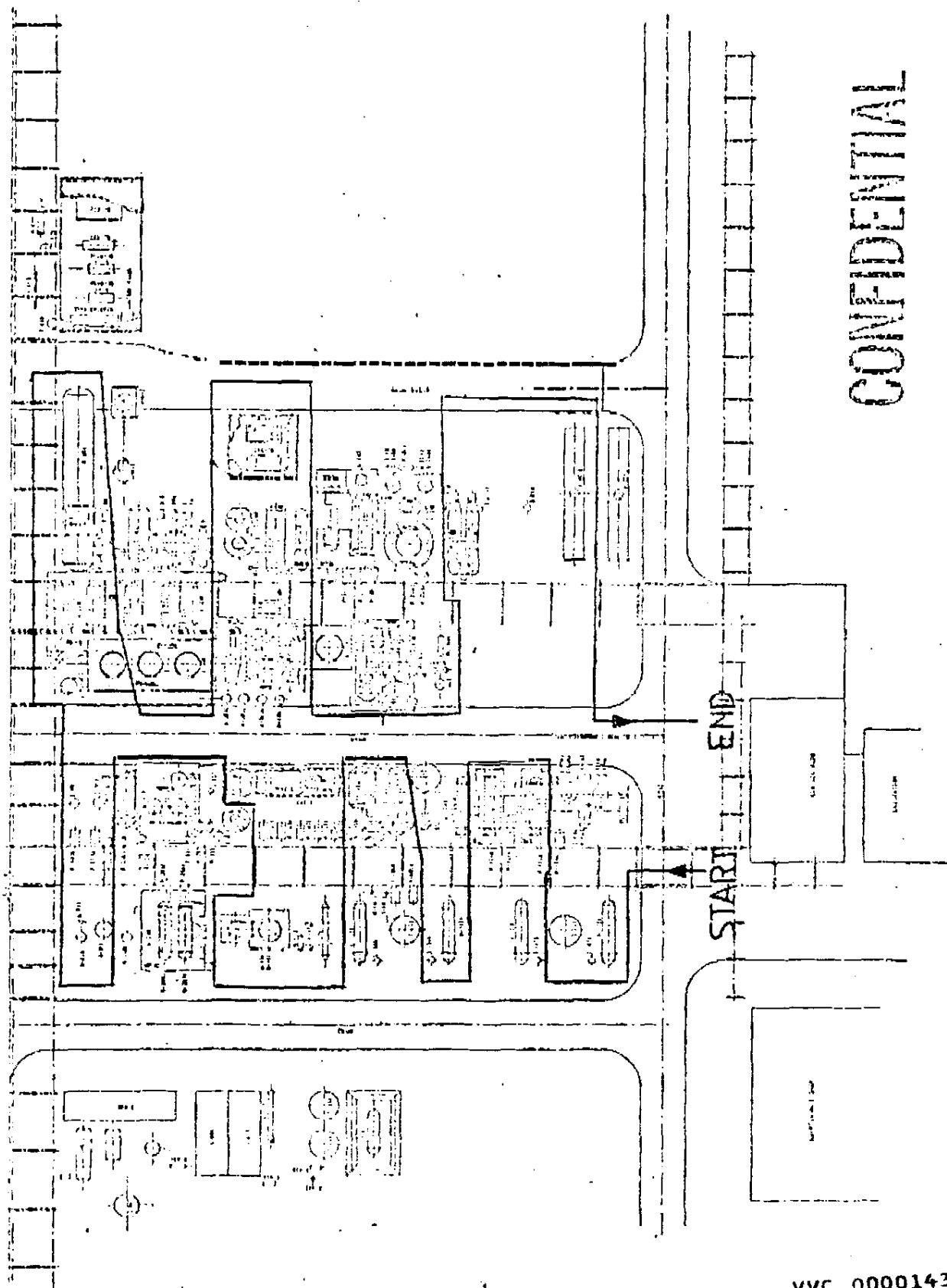


SAMPLE POINT NO. CORRESPONDING TO SAMPLE
POINT ON VCM MONITOR RECORDER.

VVC 000014370

WEEKLY LEAK PATROL ROUTE
PROCESS AREA

FIGURE 4

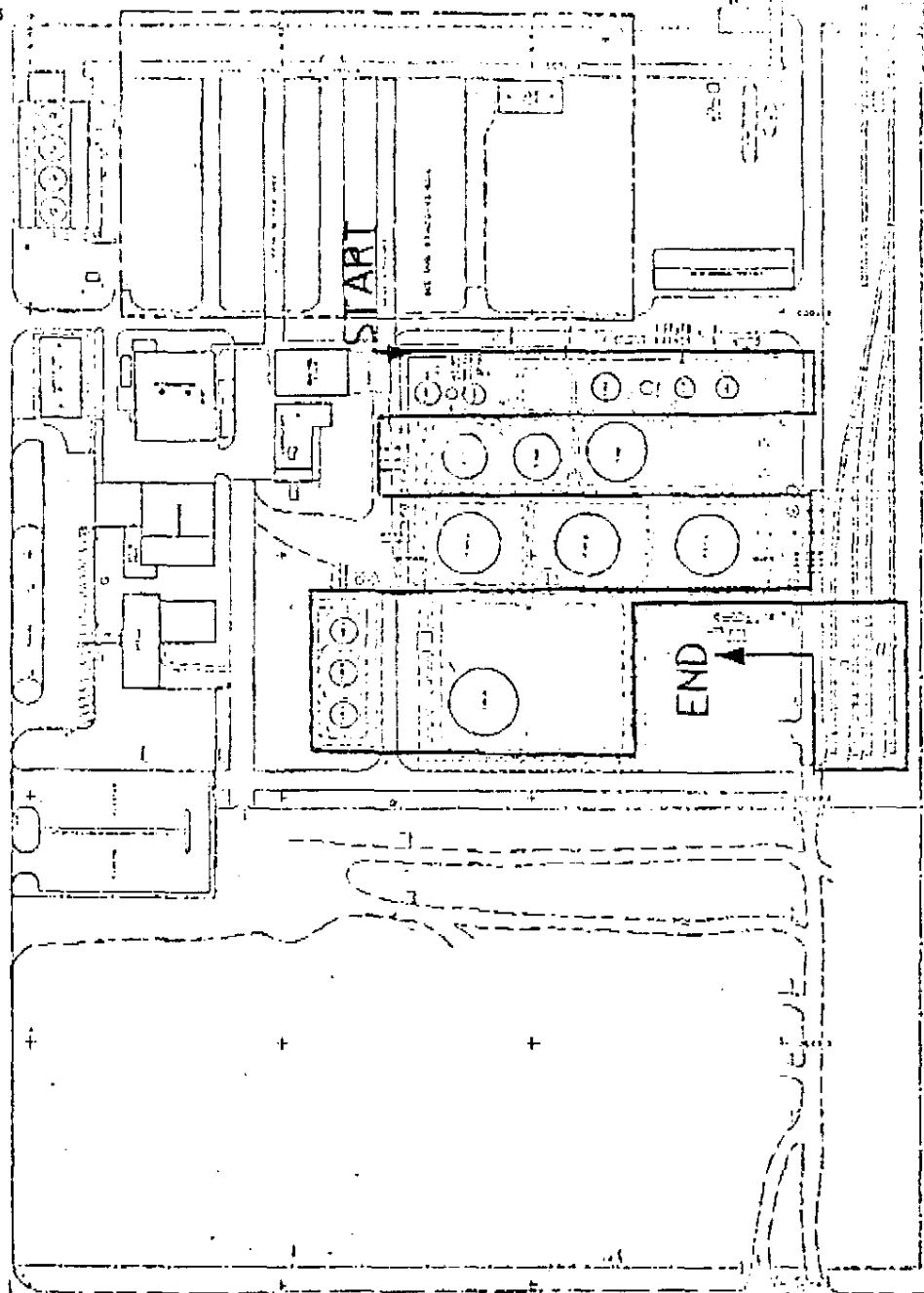


CONFIDENTIAL

WEEKLY LEAK PATROL ROUTE

OFFSITE AREA

FIGURE 5



CONFIDENTIAL

FIGURE 6
CONOCO VCM PLANT
LEAK DETECTION PLAN

CONFIDENTIAL

Name of person finding the leak:

Date:

Time:

I. To be completed by person finding the leak.

1) Location of Leak:

2) Cause of Leak:

3) Action Taken to Eliminate Leak:

1) Action Taken:

2) Leak Controlled?

3) Leak Not Controlled?

4) Other

II. To be completed by Shift Supervisor if leak has not been controlled.

1) Action taken to control leak.

a) Maintenance Department notified to correct leak?

b) Other.

2) Leak repair delayed until process unit shutdown?

a) Reason:

b) Expected date of repair.

Name of Shift Supervisor:

What time was the leak reported to the Shift Supervisor?

NOTE: Give this form to the Process Superintendent, who in turn, will give it to Engineering for inclusion in our environmental file.



Lake Charles VCM Plant

CERTIFIED MAIL #8090847
RETURN RECEIPT REQUESTED

Conoco Chemicals Company
A Division of Conoco Inc.
P.O. Box 605
Westlake, LA 70669
(318) 491-5211

RECEIVED

September 1, 1983

Surveillance and Analysis Division
U.S. Environmental Protection Agency
1201 Elm Street
First International Building
Dallas, TX 75270

ROUTE TO:	_____
COPIES TO:	_____
FILE:	<u>LCUCM</u>

Dear Sir:

Re: Conoco Chemicals VCM Plant, NPDES Permit No.
LA0003476, Deficiency Notice Dated 8-17-83

Two deficiencies were noted on the above referenced notice. These were listed following an inspection of the VCM Plant. The following response addresses each listing.

- 1) "The Permittee was using a plastic container to collect composite samples for chlorinated hydrocarbon analyses".

Following receipt of the deficiency notice, a thorough check of "Standard Methods"; EPA Publications "Monitoring Industrial Wastewater", and "Analytical Quality Control", and Federal Register listings was performed to find the basis for this deficiency. The only reference located was the December 1979 Proposed Guidelines Establishing Test Procedures for the Analysis of Pollutants. We were unable to locate any reference incorporating these proposed rules as existing requirements, and so are unable to determine the basis for the listing of a deficiency.

Presently, we are exploring the literature available to determine whether adsorption of chlorinated hydrocarbons onto plastic surfaces is a documented problem. Our belief is that use of high density polyethylene bottles would neither contribute chlorinated hydrocarbons through leaching, nor would it react with the chlorinated hydrocarbon present in the sample. Glass containers have been used in the past, with little variation on the results. Should evidence resulting from the literature search indicate a problem, the necessary changes will be made.

Based on our presently inconclusive findings, we are requesting a response concerning the basis for the requirement leading to the deficiency. It is our feeling that this item is incorrectly listed as a deficiency. Based on the December 1979 proposed rules, this item should have been transmitted as a recommendation.

VVC 000014374

Page 2

- 2) "The company did not retain flowmeter calibration records for outfall No. 101 while the outfall was being used".

Records will be kept of EPA 101 outfall flowmeter calibrations.

Sincerely,



R. A. Conrad
Plant Manager
Conoco VCM

br
bcc:
JWW-RB-DLD-PLF-MGH-JCL-CRH

VVC 000014375



RECEIVED
AUG 31 1983

Interoffice Communication

To Mike Hayes

From Jim Leemann *Jim*

Date August 30, 1983

Subject COLLECTION BOTTLES IN COMPOSITE SAMPLERS

ROUTE TO:	_____
COPIES TO:	_____
FILE:	<i>LCVCM</i>

This is in response to your question regarding the use of plastic collection bottles in composite samplers particularly when the sample is used to analyze for chlorinated hydrocarbons. The reason for this inquiry centers on an EPA inspection where the inspector noted the use of a plastic collection bottle as described above was improper. In addition, you ask if there are any regulations pertaining to requirement that glass collection bottles be used in composite samplers when chlorinated hydrocarbons analyses must be conducted.

The use of plastic collection bottles in either grab and/or composite samplers when analyses for chlorinated hydrocarbons must be performed is considered improper by organic chemists. The use of plastic rather than glass collection bottles may lead to erroneous results, in that, the organics may adhere to and/or absorb into the walls of the plastic container.

There are no specific regulations that state "Thou shalt use glass collection bottles in composite samplers when analyses for chlorinated hydrocarbons must be performed." However, there is great "flexibility in the regulatory language" for an EPA inspector to have the authority to include in his inspection report the improper collection of a representative sample. This "flexibility" is illustrated by the following citations.

According to 40 CFR 122.21(g)(7) [Deconsolidated Permit Regulations 48 Fed. Reg. 14160] the regulation states:

"When 'quantitative data' for a pollutant is required, the applicant must collect a sample of effluent and analyze...in accordance with...methods approved under 40 CFR 136. When no analytical method is approved the applicant may use any suitable method but must provide a description of the method."

Turning to 40 CFR 136.3 Table 1 - List of Approved Test Procedures, one sees that no approved methods are given for chlorinated organic compounds. The footnote given states:

"Procedures for...chlorinated organic compounds...can be obtained from the Environmental Monitoring and Support Laboratory, U.S. EPA, Cincinnati, Ohio 45268."

VVC 000014376

According to Dr. R. B. Medz (EPA-Monitoring Technology Division) the Cincinnati laboratory will furnish the December 3, 1979 proposed rule (44 Fed. Reg. 69464-69575) as guidance for analyzing for chlorinated hydrocarbons in lieu of an approved method in 40 CFR 136. This guidance has already been given to regional EPA offices and inspectors.

On page 69522 of the above cited proposed rule, the method for analyzing for chlorinated hydrocarbons is given. Under 4. Apparatus and Materials, paragraph 4.1.3 Compositing Equipment - states:

"Automatic or manual compositing system. Must incorporate glass sample containers for the collection of a minimum of 250 ml."

The NPDES Compliance Monitoring Inspector Training Manual reveals that under "Procedures for Conducting Compliance Sampling Inspection" the inspector must:

"...verify that the permittee's sampling technique is adequate to ensure the collection of a representative sample;..."

Further, under the "Sample Storage Subsystem" of the same Manual the inspector is instructed to know that:

"...whether large composite or discrete samples are collected, it is necessary to use collection bottles made of the appropriate materials."

Finally, the language in your NPDES permit under C. Monitoring and Reporting gives the inspector the above mentioned regulatory "flexibility". Under 1. Representative Sample the requirement states:

"Samples...taken...shall be representative of the...nature of the monitored discharge."

In conclusion, the use of glass collection bottles in composite samplers will result in a more representative sample of the monitored discharge and specifically the pollutant--chlorinated hydrocarbons. In addition, it appears the EPA inspector has the regulatory authority to state that the use of plastic collection bottles in composite samples is improper sample collection technique when one has to analyze for chlorinated hydrocarbons. I would recommend that the sample collection methods given in the December 3, 1979 proposed rule for composite samplers be utilized in the future to prevent further Agency action on this particular issue.

Mike Hayes
August 30, 1983
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You have informed me that you have a copy of the December 3rd proposed rule, if not, please advise and I will be glad to furnish a copy. Should you have any further questions, please do not hesitate to call.

JEL/sm

cc: T. L. Thoem
C. R. Hampton
J. C. Ledvina

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