

VCM Plant

Conoco Chemicals
Continental Oil Company
P.O. Box 605
Westlake, Louisiana 70669
(318) 882-0550

April 13, 1978

Ms. Adlene Harrison
Regional Administrator
U. S. Environmental Protection Agency
Permit and Support Branch
1201 Elm Street
First International Building
Dallas, TX 75270

Dear Ms. Harrison:

REQUEST FOR NPDES PERMIT REVISIONS - PERMIT NO. LA 0003476

The CONOCO VCM Plant, located in Westlake, Louisiana, is requesting revisions to the existing NPDES Permit. Permit revisions requested are as follows:

A. Delete Chromium - Reporting Requirement From NPDES Permit

The VCM Plant is currently required by its NPDES Permit to monitor the cooling tower blowdown stream for chromium. This condition was imposed at the time the facility was using a chromium-type corrosion control treatment. The VCM Plant has since replaced this chromium treatment with a nonheavy metal treatment. The new cooling tower treatment chemicals consist of the following:

SCORHIB 1241 - A combination corrosion inhibitor and dispersant. This compound contains organic nitrogen containing compounds, organic synthetic polymers, polymerized phosphates, organic phosphorous containing compounds, and other active ingredients. It does not contain any chromate or any other heavy metals.

TECHNI-SPERSE-A-4 - A scale inhibitor, antiprecipitant, and dispersant. This compound is a polymeric blend of organic nitrogen containing compounds and other organic dispersants. It does not contain phosphate or heavy metals.

ALPHA 520 - A twin-chain quaternary ammonium compound concentrate for the control of algae and bacterial slimes. The cooling tower blowdown is combined with process wastewater and treated in the secondary wastewater treatment system. The Alpha 520 microbiocide is biodegradable at the concentrations present in the wastewater.

VVC 000012717

The VCM Plant is requesting the current requirement for monitoring chromium on the cooling tower blowdown be deleted from the NPDES Permit. No chromium compounds are used in the process. It is emphasized that the cooling tower blowdown is discharged to the secondary waste treatment system for treatment.

B. Add Discharge From New Acid Neutralization Facility

The VCM Plant is in the process of installing a vent incineration system as part of an overall program to comply with the U. S. Environmental Protection Agency's standard for vinyl chloride emissions (Federal Register, Volume 41, No. 205 - October 21, 1976). Construction of the incineration system was begun in September, 1977, with completion projected for October, 1978.

A hydrogen chloride absorption column followed by a caustic scrubber will control hydrogen chloride and chlorine emissions from the incineration vent. A hydrochloric acid waste stream will be produced. A muriatic acid facility will be constructed on plant property to produce an acid product for sales. This facility is expected to be placed into operation in July, 1979.

CONOCO plans to install an acid neutralization facility to handle the acid waste stream in the event of a malfunction of the muriatic acid handling facility or if we are unable to move the acid due to a decline in sales (Figure 1). When in operation, the neutralization facility will result in increased wastewater discharges to Bayou Verdone. Since the incineration system will be started up no later than October, 1978, and the muriatic acid handling facility will not be completed until mid-1979, it will be necessary for continuous operation of the acid neutralization facility during that time period.

When neutralizing HCl, the acid stream produced in the vent incineration system will be pumped to one of two clam shell pits for neutralization. One of the clam shell pits will be held on standby and placed in service when the other pit requires recharging or maintenance. Vent gases from the clam shell pits will be diverted to a scrubber for removal of hydrogen chloride. The scrubber water will flow to the clam shell pits for neutralization. The design discharge rates are based on neutralizing 4800 lbs./hr. of HCl (dry weight basis) as a 12 weight percent HCl solution.

The wastewater stream from the incineration acid neutralization pits will normally be discharged through a caustic trim neutralization pit and then to a separate monitoring box rather than discharged directly to the secondary waste treatment system monitoring box (Figure 1). These two streams will be combined in a common sewer line that discharges to the receiving waters. Separate monitoring boxes are required due to the chloride levels present in the acid neutralization stream interfering with physiochemical analyses required for NPDES Permit compliance monitoring of the waste treatment system. The acid neutralization stream will not be contaminated with any organics from the process.

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Therefore, with insignificant organic matter present in this stream, treatment in the secondary waste treatment system is of no value.

It is anticipated that occasionally additional water may have to be added to the circulation loop in the bottom of the HCl absorber for proper temperature control. This will result in a temporary increase of acidic water being discharged to the clam shell pits. When this occurs, and a low pH is detected, the discharge from the caustic trim neutralization pit will be diverted automatically and combined with the VCM plant process wastewater feed to the secondary treatment system. The combined wastewater stream will flow through an existing caustic trim neutralization pit prior to discharge to the secondary treatment system. If a low pH is not detected when the additional cooling water is temporarily discharged, then the flow will not be diverted to the secondary treatment system.

Total Suspended Solids (TSS) Revisions

We are requesting TSS concentrations of 60 mg/l daily average and 135 mg/l daily maximum for the new acid neutralization pits' discharges. These are the permissible levels required in the publication "EPA Development for Major Organic Pollutants," April, 1974. TSS analyses conducted on an existing inplant acid neutralization pit indicated levels of 75 mg/l daily average and 181 mg/l daily maximum as typical for that type of system. However, since the calculated flow through the new acid neutralization pits will be less than one-half the flow through the existing acid neutralization pit, fewer solids should be washed out of the new pits. This is the basis for assuming the EPA guidelines may be achievable. It is emphasized that we have no data available for a neutralization system with similar flows for comparative purposes and we can currently only assume, on the basis of the limited data available, that the EPA's permissible levels can be achieved. Once the system is operational, and we find these TSS levels are not attainable, then we will approach the Louisiana Stream Control Commission and EPA with a request for relaxation of the permit TSS limits.

We are requesting revisions to our NPDES Permit for increasing the permissible TSS discharge limitations as follows:

	<u>Daily Average Lbs./Day</u>	<u>Daily Maximum Lbs./Day</u>
Current Permitted TSS Discharge Levels	558	1,256
New Acid Neutralization Pit Discharge TSS Levels (Projected)	<u>55(a)</u>	<u>123(b)</u>
Requested TSS Discharge Levels	613	1,379

(a) 60 ppm at 76 gpm
(b) 135 ppm at 76 gpm

VVC 000012719

C. Requested Revisions to NPDES Permit Limitations and Monitoring Requirements

Proposed sample points and permit parameters are as follows:

- 1) Acid Neutralization Pit Weir Box (VCM ID Discharge No. 1, Figure 1)
 - a) Continuous Flow Measurement/Recording
- 2) Waste Treatment System Weir Box (VCM ID Discharge No. 2, Figure 1)
 - a) BODs
 - b) COD
 - c) Ammonia (as N)
 - d) Chlorinated Hydrocarbons (as Ethylene Dichloride)
 - e) Continuous Flow Measurement/Recording

NOTE: pH/temperature monitoring instruments relocated to VCM ID Discharge No. 3.

- 3) Combined Waste Streams Monitoring Box (VCM ID Discharge No. 3) - New EPA 001 Outfall
 - a) Continuous pH Measurement/Recording
 - b) Continuous Temperature Measurement/Recording
 - c) Total Suspended Solids (TSS)

These monitoring point locations are required due to the chloride concentrations that will be present in the acid neutralization pit discharge. The chlorides will interfere with physiochemical analyses required for compliance monitoring on the waste treatment system. Monitoring of the combined streams has been incorporated where possible.

A single discharge point, EPA Outfall No. 001, is being requested for compliance reporting. The combined waste streams (secondary waste treatment and acid neutralization pit discharges) are discharged at this point. The permissible TSS discharge levels will be obtained by using the combined flows of these two streams and calculating the TSS loading on the basis of a single sample of the combined streams. Other parameters required for compliance monitoring of the waste treatment system will be measured at the waste treatment system weir box; loadings will be calculated using the flow from the waste treatment system. Continuous pH and temperature measurements will be made on the two combined waste streams prior to discharge to the West Drainage Ditch.

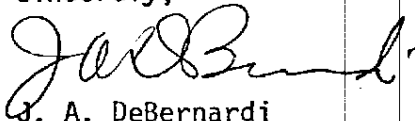
A summary of the requested effluent limitations and monitoring requirements is presented in Table 1. The changes requested consist of deletion of the chromium-reporting requirement, increasing the TSS dis-

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charge limitations, and the establishment of new monitoring locations.

Should additional information be required, please contact Gary Foshee, Chief Process Engineer at (318) 491-5062.

Sincerely,



J. A. DeBernardi
Plant Manager
Lake Charles VCM Plant

is
Enc

CC: R. A. LaFleur
Louisiana Stream Control Commission

BCC: REL-JEC-CRH-JD-GLF-PLF-JOG-RLH-JN

VVC 000012721

TABLE 1

REQUESTED EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS - EPA OUTFALL NO. 001

<u>EFFLUENT CHARACTERISTIC</u>	<u>DISCHARGE LIMITATIONS, LBS/DAY</u>		<u>MONITORING REQUIREMENTS</u>	
	<u>Daily Average</u>	<u>Daily Maximum</u>	<u>Measurement Frequency</u>	<u>Sample Type</u>
Flow (MGD)	-	-	Continuously	N/A
BOD	600	1,350	1/Week	24-hr composite
COD	4,177	9,398	2/Week	24-hr composite
TSS	613 (a) (558)(b)	1,379 (a) (1256)(b)	1/Week	24-hr composite
Ammonia (as nitrogen)	30	68	1/Week	24-hr composite
Chlorinated Hydrocarbons (as Ethylene Dichloride)	1,500	3,375	1/Week	24-hr composite

The pH shall not be less than 6.0 standard units nor greater than 9.0 standard units and shall be monitored continuously at point 001.

(a) Proposed revisions.

(b) Current permitted levels.

NOTE: EPA 001 - the point where the effluent leaves the "combined waste streams monitoring box" and enters an unnamed ditch to Bayou Verdine.

VVC 000012723

VCM PLANT ACID NEUTRALIZATION FACILITY

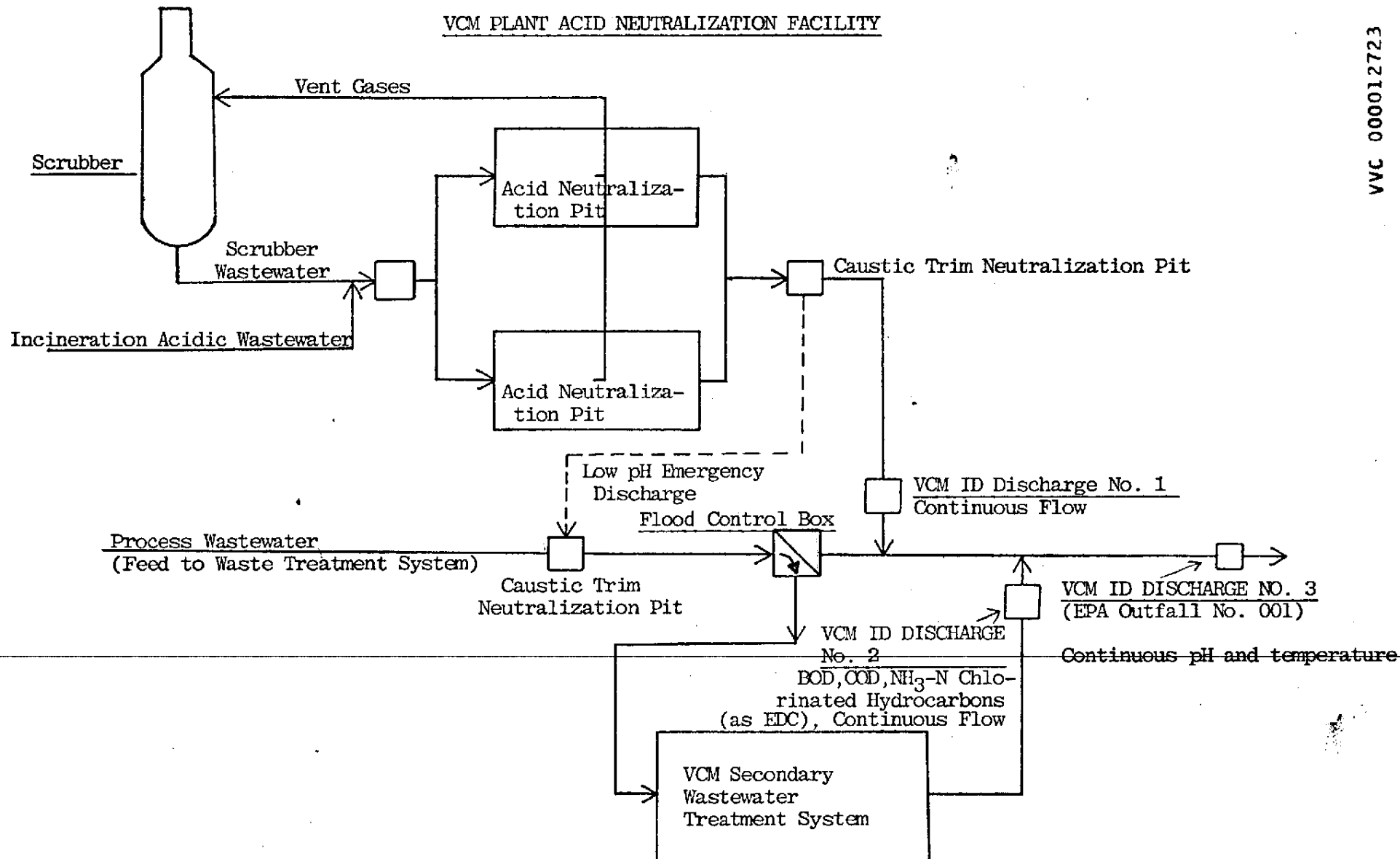
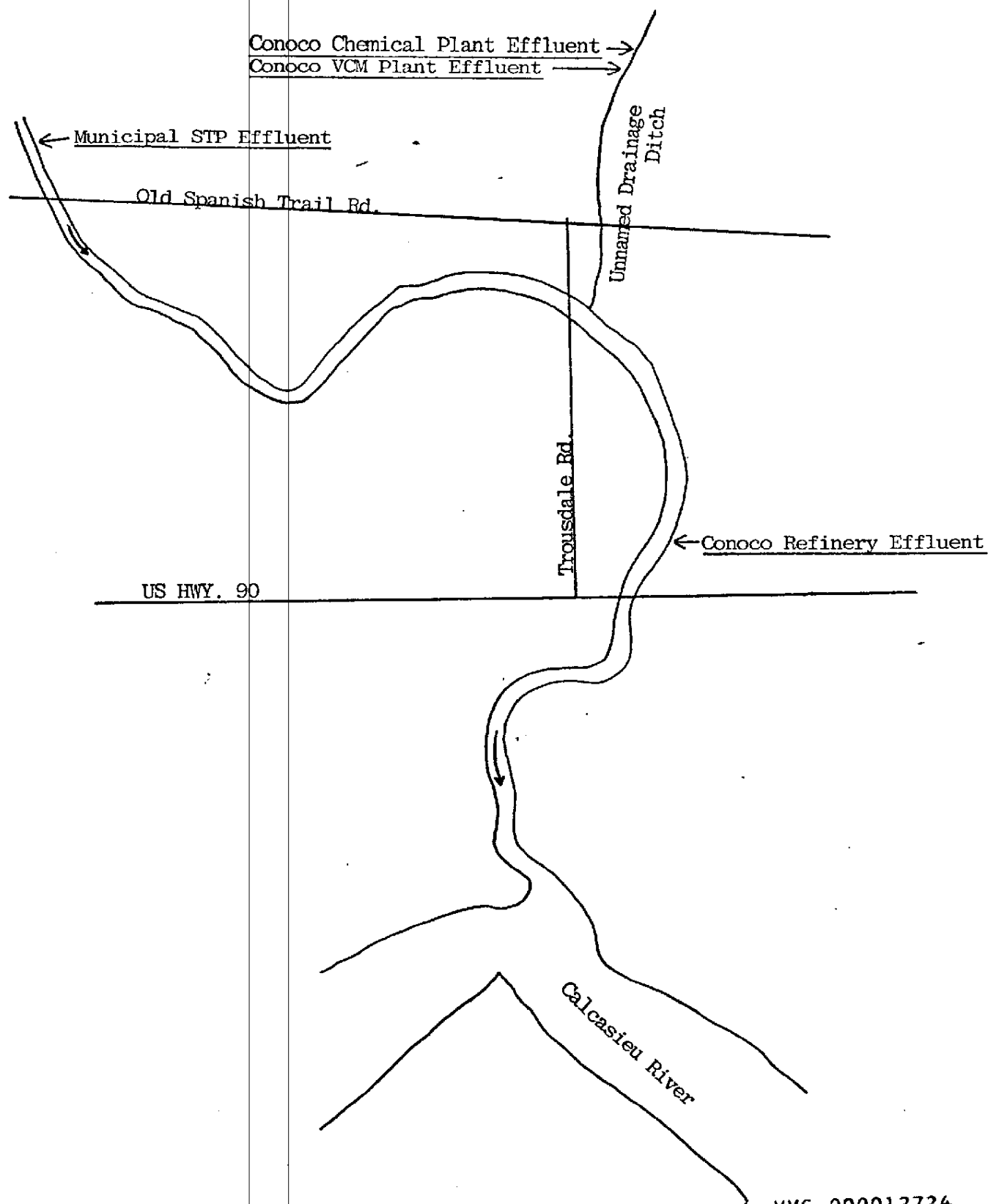


FIGURE 2

WASTEWATER DISCHARGES TO BAYOU VERDINE



VVC 000012724

FOR AGENCY USE									

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM
APPLICATION FOR PERMIT TO DISCHARGE WASTEWATER

STANDARD FORM C - MANUFACTURING AND COMMERCIAL

SECTION I. APPLICANT AND FACILITY DESCRIPTION

Unless otherwise specified on this form all items are to be completed. If an item is not applicable indicate 'NA.'

ADDITIONAL INSTRUCTIONS FOR SELECTED ITEMS APPEAR IN SEPARATE INSTRUCTION BOOKLET AS INDICATED. REFER TO BOOKLET BEFORE FILLING OUT THESE ITEMS.

Please Print or Type.

1. Legal Name of Applicant (see instructions)	101	Continental Oil Company	
2. Mailing Address of Applicant (see instructions)	102a	High Ridge Park	
Number & Street	102b	Stamford	
City	102c	Connecticut	
State	102d	06904	
Zip Code			
3. Applicant's Authorized Agent (see instructions)	103a	J.A. DeBernardi	
Name and Title	103b	Mgr. VCM Plant	
Number & Street Address	103c	Box 605	
City	103d	Westlake	
State	103e	Louisiana	
Zip Code	103f	70669	
Telephone	103g	318	491-5062
		Area Code	Number
4. Previous Application If a previous application for a National or Federal discharge per- mit has been made, give the date of application. Use numeric designation for date.	104	74 7 3 YR MO DAY	

I certify that I am familiar with the information contained in this application and that to the best of my knowledge and belief such information is true, complete, and accurate.

J. A. DeBernardi	102e	Plant Manager
Printed Name of Person Signing		Title
	78 4 14	
Signature of Applicant or Authorized Agent	YR MO DAY	
	102f	Date Application Signed

18 U.S.C. Section 1001 provides that:

Whoever, in any matter within the jurisdiction of any department or agency of the United States knowingly and wilfully falsifies, conceals or covers up by any trick, scheme, or device a material fact, or makes any false, fictitious or fraudulent statement or representation, or makes or uses any false writing or document knowing same to contain any false, fictitious or fraudulent statement or entry, shall be fined not more than \$10,000 or imprisoned not more than five years, or both.

Received _____
YR MO DAY

FOR AGENCY USE

VVC 000012725

OFFICE: _____ EPA Region Number
State

5. Facility/Activity (see instructions)
Give the name, ownership, and
physical location of the plant or
other operating facility where dis-
charge(s) does or will occur.

Name

105a

Continental Oil Company --- VCM Plant

FOR AGENCY USE

Ownership (Public, Private or
Both Public and Private)

105b

☐ PUB ☒ PRV ☐ BPP

Check block if Federal Facility
and give GSA Inventory Control
Number

105c

☐ FED

105d

Location

Street & Number

105e

P.O. Box 605

City

105f

Westlake

County

105g

Calcasieu

State

105h

Louisiana

6. Nature of Business State the
nature of the business conducted
at the plant or operating facility.

106a

a) Manufacture of Vinyl Chloride Monomer

b) Manufacture of 1,2 - Dichloroethane (EDC)

106b

AGENCY USE

7. Facility Intake Water (see instruc-
tions) Indicate water intake volume
per day by sources. Estimate
average volume per day in thousand
gallons per day.

Municipal or private water system

107a

0 thousand gallons per day

Surface water

107b

0 thousand gallons per day

Groundwater

107c

1679 thousand gallons per day

Other*

107d

400 thousand gallons per day

Total Item 7

107e

2079 thousand gallons per day

*If there is intake water from
'other,' specify the source.

107f

Purchased Steam and Process by-Product

8. Facility Water Use Estimate
average volume per day in thousand
gallons per day for the following
types of water usage at the facility.
(see instructions)

Noncontact cooling water

108a

1450 thousand gallons per day

Boiler feed water

108b

0 thousand gallons per day

Process water (including contact
cooling water)

108c

209 thousand gallons per day

Sanitary water

108d

20 thousand gallons per day

Other*

108e

0 thousand gallons per day

Total Item 8

108f

1679 thousand gallons per day

*If there are discharges to
'other,' specify.

108g

If there is 'Sanitary' water use, give
the number of people served.

108h

103 people served

FOR AGENCY USE									

9. All Facility Discharges and other Losses: Number and Discharge (see instructions) Volume. Specify the number of discharge points and the volume of water discharged or lost from the facility according to the categories below. Estimate average volume per day in thousand gallons per day.

	Number of Discharge Points	Total Volume Used or Discharged, Thousand Gal/Day
Surface Water	109a1 1	109a2 757
Sanitary wastewater transport system	109b1 1	109b2 20
Storm water transport system	109c1	109c2
Combined sanitary and storm water transport system	109d1	109d2
Surface Impoundment with no effluent	109e1	109e2
Underground percolation	109f1	109f2
Well Injection	109g1	109g2
Waste acceptance firm	109h1	109h2
Evaporation	109i1	109i2 942
Consumption	109j1	109j2
Other*	109k1 1	109k2 360
Facility discharges and volume Total Item 9.	109l1 2	109l2 2079
*If there are discharges to 'other,' specify.	109m1	Returned steam condensate

10. Permits, Licenses and Applications

List all existing, pending or denied permits, licenses and applications related to discharges from this facility (see instructions).

	Issuing Agency	For Agency Use	Type of Permit or License	ID Number	Date Filed YR/MO/DA	Date Issued YR/MO/DA	Date Denied YR/MO/DA	Expiration Date YR/MO/DA
110	(a)	(b)	(c)	(d)	(e)	(f)	(g)	(h)
1.	Army Corp of Engineers		Discharge Permit	000459		71/6/21		
2.	ISCC		Discharge Certification	None		71/5/27		
3.	EPA		NPDES discharge Permit	LA0003476		74/8/27		79/10/30

11. Maps and Drawings

Attach all required maps and drawings to the back of this application.(see instructions)

12. Additional Information

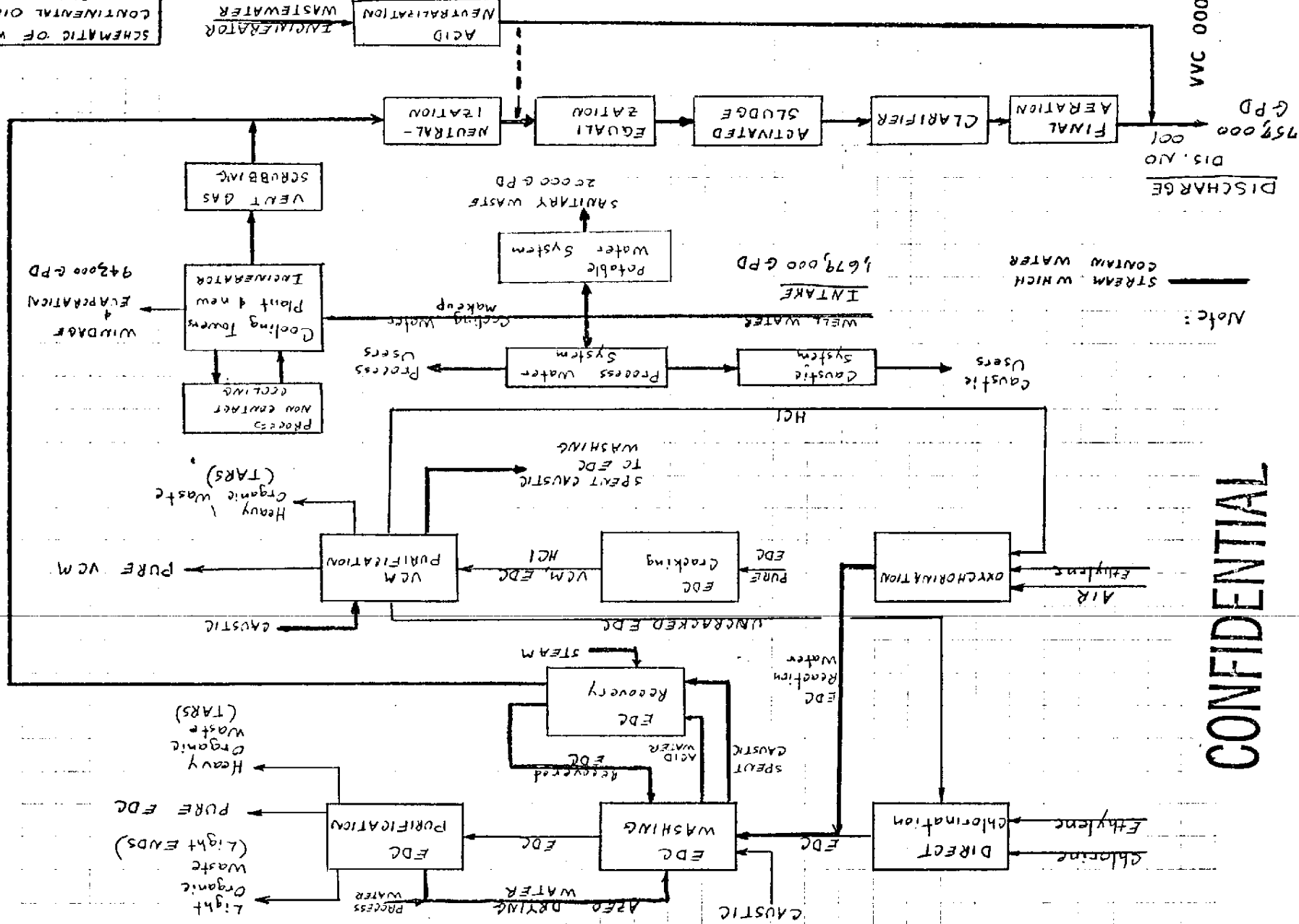
112	Item Number	Information

VVC 000012727

JOB NO.
FIELD
STAIL

CONFIDENTIAL
COMPANY SHEET

SCHEMATIC OF WATER FLOW
CONTINENTAL OIL COMPANY
VCM PLANT
WESTLAKE, CALCASIEU, LA.
FEB. 1, 1978

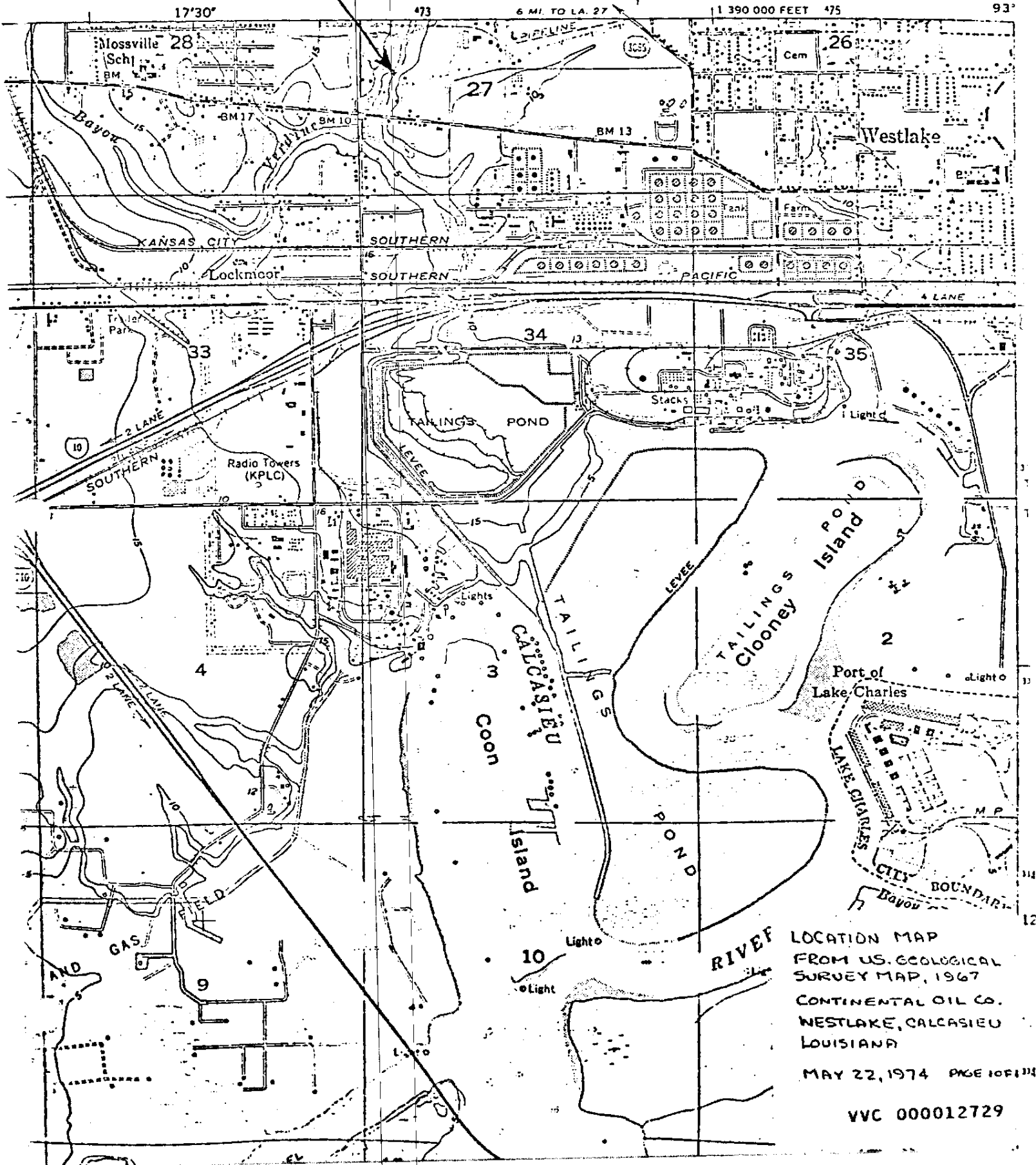


CONFIDENTIAL

VVC 000012728

NORTH

WESTLAKE QUADRANGLE
LOUISIANA-CALCASIEU PARISH
7.5 MINUTE SERIES (TOPOGRAPHIC)
NE 1/4 SULPHUR 15' QUADRANGLE



LOCATION MAP
FROM U.S. GEOLOGICAL
SURVEY MAP, 1967
CONTINENTAL OIL CO.
WESTLAKE, CALCASIEU
LOUISIANA

MAY 22, 1974 PAGE 10 OF 11

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STANDARD FORM C - MANUFACTURING AND COMMERCIAL

FOR AGENCY USE									

SECTION II. BASIC DISCHARGE DESCRIPTION

Complete this section for each discharge indicated in Section I, Item 9, that is to surface waters. This includes discharges to municipal sewerage systems in which the wastewater does not go through a treatment works prior to being discharged to surface waters. Discharges to wells must be described where there are also discharges to surface waters from this facility. **SEPARATE DESCRIPTIONS OF EACH DISCHARGE ARE REQUIRED EVEN IF SEVERAL DISCHARGES ORIGINATE IN THE SAME FACILITY.** All values for an existing discharge should be representative of the twelve previous months of operation. If this is a proposed discharge, values should reflect best engineering estimates.

ADDITIONAL INSTRUCTIONS FOR SELECTED ITEMS APPEAR IN SEPARATE INSTRUCTION BOOKLET AS INDICATED. REFER TO BOOKLET BEFORE FILLING OUT THESE ITEMS.

1. Discharge Serial No. and Name

a. Discharge Serial No.
(see instructions)

201a 001

b. Discharge Name
Give name of discharge, if any.
(see instructions)

201b

c. Previous Discharge Serial No.
If previous permit application
was made for this discharge (see
Item 4, Section I), provide previous
discharge serial number.

201c 001

2. Discharge Operating Dates

a. Discharge Began Date If the
discharge described below is in
operation, give the date (within
best estimate) the discharge
began.202a 67 12
YR MOb. Discharge to Begin Date If the
discharge has never occurred but
is planned for some future date,
give the date (within best estimate)
the discharge will begin.

202b YR MO

c. Discharge to End Date If discharge
is scheduled to be discontinued
within the next 5 years,
give the date (within best estimate)
the discharge will end.

202c YR MO

3. Engineering Report Available
Check if an engineering report is
available to reviewing agency upon
request. (see instructions)203 ☐4. Discharge Location Name the
political boundaries within which
the point of discharge is located.

State

204a Louisiana

County

204b Calcasieu

(If applicable) City or Town

204c

Agency Use

204d

204e

204f

5. Discharge Point Description
Discharge is into (check one);
(see instructions)Stream (Includes ditches, arroyos,
and other intermittent watercourses)205a ☒ STR

Lake

☐ LKE

Ocean

☐ OCEMunicipal Sanitary Wastewater
Transport System☐ MTSMunicipal Combined Sanitary and
Storm Transport System☐ MCS

VVC 000012730

DISCHARGE SERIAL NUMBER

001

FOR AGENCY USE

Municipal Storm Water Transport System

Well (Injection)

Other

If 'other' is checked, specify

6. Discharge Point — Lat/Long Give the precise location of the point of discharge to the nearest second.

Latitude

Longitude

7. Discharge Receiving Water Name Name the waterway at the point of discharge.(see instructions)

If the discharge is through an out-fall that extends beyond the shore-line or is below the mean low water line, complete Item 8.

8. Offshore Discharge

- a. Discharge Distance from Shore
- b. Discharge Depth Below Water Surface

9. Discharge Type and Occurrence

- a. Type of Discharge Check whether the discharge is continuous or intermittent. (see instructions)
- b. Discharge Occurrence Days per Week Enter the average number of days per week (during periods of discharge) this discharge occurs.
- c. Discharge Occurrence —Months If this discharge normally operates (either intermittently, or continuously) on less than a year-around basis (excluding shutdowns for routine maintenance), check the months during the year when the discharge is operating. (see instructions)

Complete Items 10 and 11 if "intermittent" is checked in Item 9.a. Otherwise, proceed to Item 12.

10. Intermittent Discharge Quantity State the average volume per discharge occurrence in thousands of gallons.

11. Intermittent Discharge Duration and Frequency

- a. Intermittent Discharge Duration Per Day State the average number of hours per day the discharge is operating.
- b. Intermittent Discharge Frequency State the average number of discharge occurrences per day during days when discharging.

12. Maximum Flow Period Give the time period in which the maximum flow of this discharge occurs.

EPA Form 7550-23 (7-73)

☐ STS☐ WEL☐ OTH

205b

206a

93 DEG 16 MIN 54 SEC

206b

30 DEG 14 MIN 50 SEC

207a

Unnamed Drainage Ditch to Bayou Verdine

207b

For Agency Use

Major	Minor	Sub

207c

For Agency Use

303e

208a

_____ feet

208b

_____ feet

209a

☒ (con) Continuous☐ (int) Intermittent

209b

7 days per week

209c

☐ JAN ☐ FEB ☐ MAR ☐ APR☐ MAY ☐ JUN ☐ JUL ☐ AUG☐ SEP ☐ OCT ☐ NOV ☐ DEC

210

_____ thousand gallons per discharge occurrence.

211a

_____ hours per day

211b

_____ discharge occurrences per day

212

From 1 month to 12 month

VVC 000012731

DISCHARGE SERIAL NUMBER

001

FORM APPROVED
OMB No. 158-R0100

FOR AGENCY USE

13. Activity Description Give a narrative description of activity producing this discharge.(see instructions)

213a

Manufacture of 1,2 - Dichloroethane by direct chlorination of ethylene

Manufacture of vinyl chloride monomer by thermal cracking of 1,2 - Dichloroethane

Manufacture of 1,2 - Dichloroethane by oxychlorination of ethylene

14. Activity Causing Discharge For each SIC Code which describes the activity causing this discharge, supply the type and maximum amount of either the raw material consumed (Item 14a) or the product produced (Item 14b) in the units specified in Table I of the Instruction Booklet. For SIC Codes not listed in Table I, use raw material or production units normally used for measuring production.(see instructions)

a. Raw Materials

SIC Code	Name	Maximum Amount/Day	Unit (See Table I)	Shared Discharges (Serial Number)
(1)	(2)	(3)	(4)	(5)
214a				

b. Products

SIC Code	Name	Maximum Amount/Day	Unit (See Table I)	Shared Discharges (Serial Number)
(1)	(2)	(3)	(4)	(5)
214b				
2818	Vinyl Chloride	2200	P-1	None
	1,2 Dichloroethane	3600	P-1	None

DISCHARGE SERIAL NUMBER

001

FOR AGENCY USE

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15. Waste Abatement

- a. **Waste Abatement Practices**
Describe the waste abatement practices used on this discharge with a brief narrative. (see instructions)

215a

Narrative: Essentially all pumps use mechanical seals (1) to prevent leakage. Separation of liquid organic waste from water (2) followed by steam stripping of the water phase (3) with organic recovery (4). Organic waste are utilized by other manufacturers for other processes (5). A hot condensate recovery system is provided (6),(7). Cooling water is recycled (8). An oil separation pit is provided (9) followed by neutralization (10) and monitoring (11). Effluent water then flows through an equalization basin (12), an activated sludge system (13), a clarifier (14) and a final aeration basin prior (see no. 26)

- b. **Waste Abatement Codes**
Using the codes listed in Table II of the Instruction Booklet, describe the waste abatement processes for this discharge in the order in which they occur if possible.

215b

(1) <u>EPUMPS</u>	(2) <u>ESEGRE</u>	(3) <u>PSTRIP</u>
(4) <u>RECOVE</u>	(5) <u>RUSEOR</u>	(6) <u>RHEATR</u>
(7) <u>RECYCL</u>	(8) <u>RECYCL</u>	(9) <u>LOCALS</u>
(10) <u>CNEUTR</u>	(11) <u>CMONIT</u>	(12) <u>PEQUAL</u>
(13) <u>BACTIV</u>	(14) <u>PSKIMC</u>	(15) <u>POTHER</u>
(16) <u>CNUTRI</u>	(17) <u>CFLOCC</u>	(18) <u>CNEUTR</u>
(19) <u>CMONIT</u>	(20) <u>STHICK</u>	(21) _____
(22) _____	(23) _____	(24) _____
(25) _____		

001

FOR AGENCY USE

16. Wastewater Characteristics

Check the box beside each constituent which is present in the effluent (discharge water). This determination is to be based on actual analysis or best estimate. (see instructions)

Parameter 216	Present	Parameter 216	Present
Color 00080	X	Copper 01042	X
Ammonia 00610	X	Iron 01045	X
Organic nitrogen 00605	X	Lead 01051	X
Nitrate 00620	X	Magnesium 00927	X
Nitrite 00615	X	Manganese 01055	X
Phosphorus 00665	X	Mercury 71900	X
Sulfate 00945	X	Molybdenum 01062	*
Sulfide 00745	X	Nickel 01067	X
Sulfite 00740	*	Selenium 01147	*
Bromide 71870	*	Silver 01077	*
Chloride 00940	X	Potassium 00937	X
Cyanide 00720	X	Sodium 00929	X
Fluoride 00951	X	Thallium 01059	*
Aluminum 01105	X	Titanium 01152	*
Antimony 01097	*	Tin 01102	*
Arsenic 01002	*	Zinc 01092	X
Beryllium 01012	*	Algicides* 74051	X
Barium 01007	*	Chlorinated organic compounds* 74052	X
Boron 01022	*	Pesticides* 74053	A
Cadmium 01027	X	Oil and grease 00550	X
Calcium 00916	X	Phenols 32730	X
Cobalt 01037	X	Surfactants 38260	*
Chromium 01034	X	Chlorine 50060	*
Fecal coliform bacteria 74055 A	A	Radioactivity* 74050	A

*Specify substances, compounds and/or elements in Item 26.

Pesticides (insecticides, fungicides, and rodenticides) must be reported in terms of the acceptable common names specified in *Acceptable Common Names and Chemical Names for the Ingredient Statement on Pesticide Labels*, 2nd Edition, Environmental Protection Agency, Washington, D.C. 20250, June 1972, as required by Subsection 162.7(b) of the Regulations for the Enforcement of the Federal Insecticide, Fungicide, and Rodenticide Act.

* Best Estimate - not present

VVC 000012734

DISCHARGE SERIAL NUMBER

001

FOR AGENCY USE

17. Description of Intake and Discharge

For each of the parameters listed below, enter in the appropriate box the value or code letter answer called for. (see instructions)

In addition, enter the parameter name and code and all required values for any of the following parameters if they were checked in Item 16; ammonia, cyanide, aluminum, arsenic, beryllium, cadmium, chromium, copper, lead, mercury, nickel, selenium, zinc, phenols, oil and grease, and chlorine (residual).

Parameter and Code 217a	Influent		Effluent					
	Untreated Intake Water (Daily Average) (1)	In-Plant Treated Intake/Water (Daily Average) (2)	Daily Average (3)	Minimum Value Observed or Expected During Discharge Activity (4)	Maximum Value Observed or Expected During Discharge Activity (5)	Frequency of Analysis (6)	Number of Analyses (7)	Sample Type (8)
Flow* Gallons per day 00056 50050	1.51		.757	.423	1.146	cont.	365	NA
pH Units 00400	7.0			6.0	9.0	cont.	365	NA
Temperature (winter) ° F 74028	70		60	40	-	cont.	365	NA
Temperature (summer) ° F 74027	85		80	-	92	cont	365	NA ***
Biochemical Oxygen Demand (BOD 5-day) mg/l 00310	5		13.3	1.0	72	1/7	30	24# **
Chemical Oxygen Demand (COD) mg/l 00340	5		224	31	880	2/7	63	24# **
Total Suspended (nonfilterable) Solids mg/l 00530	10		48	13	132	1/7	32	24# ****
Specific Conductance micromhos/cm at 25° C 00095	N.A.			N.A.	N. A.			
Settleable Matter (residue) ml/l 00545	N.A.		N.A.	N.A.	N. A.			

*Other discharges sharing intake flow (serial numbers). (see instructions)

** Values based on discharge from biological treatment system from 7/1/77 - 1/31/78.

*** Estimate obtained by combining actual values from biological treatment system and anticipated values from neutralization facilities.

VVC 000012735

DISCHARGE SERIAL NUMBER
001

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17. (Cont'd.)

Parameter and Code 217a	Influent		Effluent					
	Untreated Intake Water (Daily Average) (1)	In-Plant Treated Intake Water (Daily Average) (2)	Daily Average (3)	Minimum Value Observed or Expected During Discharge Activity (4)	Maximum Value Observed or Expected During Discharge Activity (5)	Frequency of Analysis (6)	Number of Analyses (7)	Sample Type (8)
Ammonia 00610	1.0		4.5	0.2	29	1/7	50	24#
Aluminum 01105	< 0.10		< 0.10	< 0.10	< 0.10	Random		24#
Cadmium 01027	< 0.01		< 0.04	< 0.01	< 0.05	Random		24#
Chromium 01034	< 0.04		0.024	< 0.01	0.07	1/7	37	24# *
* Copper 01042	< 0.01		0.07	0.01	1.9	Random	30	24#
Cyanide 00720	0.001		< 0.001	< 0.001	< 0.001	Random		24#
* Lead 01051	< 1.0		< 0.10	< 0.01	0.3	Random		24#
Mercury 71900	< 0.0005		< 0.001	< 0.001	0.0014	Random		24#

See No. 26

18. Plant Controls Check if the following plant controls are available for this discharge.

Alternate power source for major pumping facility.

Alarm or emergency procedure for power or equipment failure

Complete Item 19 if discharge is from cooling and/or steam water generation and water treatment additives are used.

19. Water Treatment Additives If the discharge is treated with any conditioner, inhibitor, or algicide, answer the following:

a. Name of Material(s)

b. Name and address of manufacturer

c. Quantity (pounds added per million gallons of water treated).

☐ APS☒ ALM

219a

219b

219c

* See Note 17(c)

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d. Chemical composition of these additives (see instructions).

219d

Complete Items 20-25 if there is a thermal discharge (e.g., associated with a steam and/or power generation plant, steel mill, petroleum refinery, or any other manufacturing process) and the total discharge flow is 10 million gallons per day or more. (see instructions)

20. Thermal Discharge Source Check the appropriate item(s) indicating the source of the discharge. (see instructions)

Boller Blowdown

Boller Chemical Cleaning

Ash Pond Overflow

Boller Water Treatment — Evaporator Blowdown

Oil or Coal Fired Plants — Effluent from Air Pollution Control Devices

Condense Cooling Water

Cooling Tower Blowdown

Manufacturing Process

Other

220

N.A.

☐ BLBD

☐ BCCL

☐ APOF

☒ EPBD

☐ OCFP

☐ COND

☐ CTBD

☐ MFPR

☐ OTHR

21. Discharge/Receiving Water Temperature Difference

Give the maximum temperature difference between the discharge and receiving waters for summer and winter operating conditions. (see instructions)

Summer

221a

_____ °F.

Winter

221b

_____ °F.

22. Discharge Temperature, Rate of Change Per Hour

Give the maximum possible rate of temperature change per hour of discharge under operating conditions. (see instructions)

222

_____ °F./hour

23. Water Temperature, Percentile Report (Frequency of Occurrence)

In the table below, enter the temperature which is exceeded 10% of the year, 5% of the year, 1% of the year and not at all (maximum yearly temperature). (see instructions)

Frequency of occurrence

a. Intake Water Temperature (Subject to natural changes)

223a

b. Discharge Water Temperature

223b

10%	5%	1%	Maximum
_____ °F	_____ °F	_____ °F	_____ °F
_____ °F	_____ °F	_____ °F	_____ °F

24. Water Intake Velocity (see instructions)

224

_____ feet/sec.

25. Retention Time Give the length of time, in minutes, from start of water temperature rise to discharge of cooling water. (see instructions)

225

_____ minutes

001

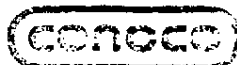
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26. Additional Information

Item	Information																																								
15(a) cont.	to discharge (15). Ammonia and Phosphoric acid are added to activated sludge basin (16). Polymer is added to improve clarification (17). Acidic wastewater from incinerator is neutralized (18) prior to mixing with biologically treated water. Continuous measurements are taken for dissolved oxygen, temperature, ph, and flow (19). Biological sludge is thickened (20.)																																								
16(a)	Chlorinated organic compounds 1,2 dichlorethane Ethyl Chloride Ethylene Chlorohydrin																																								
16(b)	Algicides and biocides for cooling tower treatment Alpha 520 United Chemical Corporation 601 North Leech P.O. Box 1499 Hobbs, New Mexico 88240																																								
17(a)	Intake well water																																								
17(c)	These values are from cooling tower blowdown																																								
17(d)																																									
*	<table><tr><td></td><td>(1)</td><td>(3)</td><td>(4)</td><td>(5)</td><td>(6)</td><td>(7)</td><td>(8)</td></tr><tr><td>Nickel 01067</td><td>---</td><td>0.20</td><td>3.2</td><td>18</td><td>Random</td><td>26</td><td>24#</td></tr><tr><td>Zinc 01092</td><td>0.17</td><td>1.1</td><td>0.32</td><td>2.45</td><td>Random</td><td>28</td><td>24#</td></tr><tr><td>Phenols 32730</td><td><0.01</td><td><0.01</td><td><0.01</td><td><0.015</td><td>Random</td><td>--</td><td>24#</td></tr><tr><td>Oil & Grease 00550</td><td>2.8</td><td>4.1</td><td>---</td><td>7.0</td><td>Random</td><td>--</td><td>24#</td></tr></table>		(1)	(3)	(4)	(5)	(6)	(7)	(8)	Nickel 01067	---	0.20	3.2	18	Random	26	24#	Zinc 01092	0.17	1.1	0.32	2.45	Random	28	24#	Phenols 32730	<0.01	<0.01	<0.01	<0.015	Random	--	24#	Oil & Grease 00550	2.8	4.1	---	7.0	Random	--	24#
	(1)	(3)	(4)	(5)	(6)	(7)	(8)																																		
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Oil & Grease 00550	2.8	4.1	---	7.0	Random	--	24#																																		

VVC 000012738



VCM Plant

Conoco Chemicals
Continental Oil Company
P.O. Box 605
Westlake, Louisiana 70669
(318) 882-0550

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APR 26 1978

April 14, 1978

Mr. R. A. LaFleur
Louisiana Stream Control Commission
Drawer FC University Station
Baton Rouge, LA 70803

Dear Mr. LaFleur:

REQUEST FOR NPDES PERMIT REVISIONS - PERMIT NO. LA 0003476

The CONOCO VCM Plant, located in Westlake, Louisiana, is requesting revisions to the existing NPDES Permit. Permit revisions requested are described in the attached letter to the EPA.

The Louisiana Stream Control Commission requested additional information concerning total dissolved solids and chlorides from the CONOCO Chemical, VCM, and Refinery facilities. The following is the result of that study.

Total Dissolved Solids and Chlorides

Parameters with the highest concentrations that will be present in the new acid neutralization pit discharge are chlorides and total dissolved solids (TDS). The concentrations of these parameters will be significantly reduced with the dilution effects of water treatment system effluents from the CONOCO Chemical, VCM, and Refinery facilities. The TDS and chloride levels of the effluents of each facility is presented in Table 1. These sources discharge to Bayou Verdine. The resulting TDS and chloride concentrations are as follows:

Parameter	VCM Plant (1)	Combined VCM and Chemical Effluents	VCM, Chemical, and Refinery Effluents
Chloride, ppm	24,421	8,087	5,176
TDS, ppm	41,291	14,008	9,156
Body of Water Affected	Unnamed Drainage Ditch	Bayou Verdine	Bayou Verdine and Calcasieu River

(1) Waste treatment system discharge plus acid neutralization pit discharge.

VVC 000012739

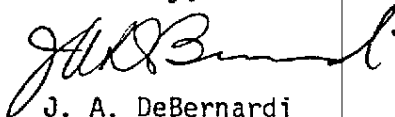
R. A. LaFleur
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The addition of the acid neutralization pit discharge should have no significant adverse impact on Bayou Verdine or the Calcasieu River (Segment No. 030090 - salt water barrier to Moss Lake). Louisiana water quality criteria for this segment will not be violated. An additional dilution source not included due to the lack of data is the municipal sewage treatment system discharge to Bayou Verdine upstream of the VCM and Chemical plants' discharges.

The existing CONOCO Chemical and VCM plants' effluents have never exhibited any toxicological effects on the receiving waters. Bioassay tests (12-96 hrs.) conducted by Kem-Tech Laboratories in August, 1975, of both Chemical and VCM plants' effluents (100% solutions) resulted in 100% survival of two fish species - marsh killifish and bluegill sunfish. A 50% mixture of the two effluents resulted in 100% fish survival. The addition of the discharge from the acid neutralization pit should not result in any additional toxic risks to aquatic organisms in Bayou Verdine or the Calcasieu River.

Should additional information be required, please contact Gary Fishee, Chief Process Engineer at (318) 491-5062.

Sincerely,



J. A. DeBernardi
Plant Manager
Lake Charles VCM Plant

is
Enc

BCC:
REL-JEC-CRH-JD-GLF-PLF-JOG-RLH-JN

VVC 000012740

TABLE 1

TDS AND CHLORIDE LEVELS OF VCM - CHEMICAL PLANTS' AND REFINERY'S EFFLUENTS

<u>PARAMETER</u>	<u>VCM PLANT</u>		<u>CHEMICAL PLANT</u>	<u>REFINERY</u>
	<u>Waste Treatment System Discharge (VCM ID DISCHARGE #2)</u>	<u>Acid Neutralization Pit Discharge (VCM DISCHARGE #1)</u>	<u>Waste Treatment System Effluent</u>	<u>Waste Treatment System Effluent</u>
<u>CHLORIDES</u>				
PPM	7,777	122,974	450	297
LBS/HR	1,750	4,673	253	146
<u>TDS</u>				
PPM	15,185	195,868	1,259	1,014
LBS/HR	3,417	7,443	708	499
<u>FLOW</u>				
MM LBS/DAY	5.4	0.91	13.5	11.82
	(450 gpm)	(76 gpm)	(1125 gpm)	(985 gpm)