

TO: Distribution

FROM: T. G. Grumbles

DATE: July 3, 1986

Interoffice  
Communication

SUBJ: PHASE III WORK PLAN vs. REQUIREMENTS AND RECOMMENDATIONS

VISTA

Attached is the draft document detailing how the work plan items for Phase III meet the requirements of the compliance order and the recommendations in the G&M Phase II report and George Cramer's letter of April 25.

The numerals and letters used in the table are placed in the margin of the referenced documents. Please review and send me your comments. We propose to attach a table including the items in column 1 and 2 with the work plan submittal to the state. Also a column with initial submittal or in-house due dates for specific items can be added for planning purposes.

  
Thomas G. Grumbles

ajo/9

DISTRIBUTION:

M. G. Hayes  
W. L. McClain  
H. J. Neeld  
G. Wojnowski

VVV 000015291



| <u>DRAFT WORK<br/>PLAN SECTION</u> | <u>COMPLIANCE<br/>ORDER (I-VIII)</u> | <u>CRAMER<br/>LETTER (A-F)</u> | <u>G&amp;M (A-H)<br/>RECOMMENDATIONS</u> |
|------------------------------------|--------------------------------------|--------------------------------|------------------------------------------|
| I. Restoration & Maintenance       | VIII                                 |                                |                                          |
| A.                                 |                                      |                                | G                                        |
| B.                                 |                                      |                                | G                                        |
| II. Rate & Extent                  | II (most items)                      |                                |                                          |
| A.                                 |                                      |                                |                                          |
| B.                                 |                                      |                                |                                          |
| C.                                 | III, IV                              | B                              | F                                        |
| D.                                 | V(C)                                 | (E)                            | (C)                                      |
|                                    | V(B)                                 |                                |                                          |
| E.                                 | VI                                   |                                |                                          |
| F.                                 |                                      | A                              |                                          |
| G.                                 | I (partial)                          |                                | B                                        |
| H.                                 |                                      |                                |                                          |
| I.                                 |                                      |                                | C                                        |
| III. Risk Assessment               | II (all)                             |                                | D (all)                                  |
| A.                                 |                                      |                                |                                          |
| B.                                 |                                      | E                              |                                          |
| C.                                 |                                      |                                |                                          |
| D.                                 |                                      |                                |                                          |
| E.                                 |                                      |                                |                                          |
| IV. Feasibility Study              |                                      |                                |                                          |
| A.                                 | III                                  |                                |                                          |
| B.                                 |                                      |                                | E                                        |
| C.                                 |                                      |                                | C                                        |
| D.                                 |                                      | D                              |                                          |
| V. Data Base Management            |                                      |                                | H (all)                                  |
| A.                                 |                                      |                                |                                          |
| B.                                 |                                      |                                |                                          |
| C.                                 |                                      |                                |                                          |
| D.                                 |                                      |                                |                                          |
| VI. Progress Reports               | VII                                  |                                |                                          |

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MAY 9 1986

PATRICIA L. NORTON  
SECRETARY

OFFICE OF SOLID AND HAZARDOUS WASTE

JOHN KOURY  
ASSISTANT SECRETARY

April 25, 1986

Mr. R. T. Ferrell, General Manager  
Vista Chemical  
Post Office Box 805  
Westlake, Louisiana 70669

Attention: Mr. Michael Hayes  
Director, Environmental Control

Dear Mr. Hayes:

Re: Phase III Assessment Work Plan and Ground Water Report  
of Phase II Findings, April, 1986.  
LAD086478047

This acknowledges receipt of the completed Phase II assessment report, and also comments on your consultants' proposals for additional exploration, source identification and installation and performance testing of a corrective action well.

\* Source Identification

- A. All impoundments (active or inactive) including the entire NPDES treatment train are expected to be individually characterized for EDC in a stratified search from the surface through the bottom sediments. The closed waste water borrow pit can be explored by drilling, and the Turtle Pond is expected to be characterized by a sufficient number of samples composited from a representative sampling grid approved by the Department prior to sampling.
- B. The rail loading area is expected to be explored laterally in the directions of the track as well as north and south of the track until contaminant definition is complete.
- C. The status of tentative closure plans for below grade hazardous waste concrete tanks T-981, T-982, T-500, T-509 and T-510 is requested, per Vista's verbal commitment of November 5, 1985 to the Hazardous Waste Division's Permitting Section. Should assessment work determine that EDC leakage is attributable to such tankage, closure per authority of Section 11.2 e) will be mandatory and must be reasonably scheduled.

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Vista Chemical  
May 6, 1986  
Page Two

\* Feasibility Study

- D. In addition to the underground tanks above, remediation alternatives are expected to include plans for the closure or re-design of any other impounding or surface facility found to be a contributing source of impact on ground water.

\* Risk Assessment

- E. The evaluation of the 80 and 200 foot sands are a priority and we are in agreement with Vista's consulting proposals in this respect. Additionally, the quality and directional flow of ground water in the 25 foot sand should be assessed in at least three locations near the plant boundary at VCM Road, since there is the possibility of a westerly component of ground water flow in this direction. We would suggest that a minimum of three piezometers, located due west of VB-1, WB-1 and WBP-8 (per figure 24 of the Phase II report) and at the property line be installed for potentiometric purposes and water quality testing.

\* Scheduling

- F. Vista must establish calendar dates for completing all of the work items listed in the referenced report for the Phase III assessment and corrective action in conjunction with deadlines of the April 1, 1986 Order.

As per discussions in this office on April 22, 1986, the time frame in the Order for completing work may be extended for good reason, and if requests are made in writing prior to the stipulated date.

Questions concerning any of the above may be directed to Jack Daggett or myself.

Sincerely,

  
GEORGE H. CRAMER, II  
Acting Administrator

GHC:LML:tjm

cc: Glenn Miller

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CERTIFIED--RETURN  
RECEIPT REQUESTED

May 5, 1986

**VISTA**

Mr. George H. Cramer II  
Administrator Groundwater Protection Division  
Office of Solid and Hazardous Waste  
Department of Environmental Quality  
P. O. Box 44307  
Baton Rouge, LA 70804-4096

Dear Mr. Cramer:

Re: Compliance Order Dated March 31, 1986 (Received April 10, 1986)  
Vista Chemical Company, Lake Charles Vinyl Chloride Monomer (VCM)  
Plant

The Vista Chemical Company by way of this letter seeks to respond to the above referenced order and to request extensions to the compliance dates listed in the order. This is in accordance with the discussion held on April 22, 1986, among representatives of the DEQ, Vista, Conoco, and Geraghty and Miller. The following addresses each of the appropriate sections with justification for the extension of the time frame. Each section is numbered according to the corresponding section of the Order portion of the Compliance Order.

"I. Submit, within thirty (30) days after receipt of this ORDER, a listing and labeled diagram of all areas within the plant site with a history of leakage, spillage, or releases of hazardous materials or hazardous wastes with potential for having impacted ground water. The listing shall include release dates, materials identified, and volumes documented or estimated when applicable. This narration shall particularly address the Departments concerns for hazardous materials handling, storage, and rail and vehicle loading/unloading areas with a history of spill incidents, or with a potential or probability of having had releases in the past."

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Response: As noted during the discussion of 4-22, the areas of the plant which are covered by the assessment and order are the entire VCM Plant area, the Ethylene Plant area with emphasis on the caustic system, the Turtle Pond area, and the wastewater treatment area (specific to EDC). As the plant has been in existence since 1967-68, the volume of records which must be reviewed is very substantial, including shift supervisor log books, chief operator log books, capital projects requests and justifications, and expense projects requests and justifications. A detailed review and

Mr. George H. Cramer II  
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interpretation of these records, accumulating release history events, and consolidating these items and entries into a workable document is a significant undertaking from the standpoint of time, manpower and expertise. As such, Vista is requesting a 60-day extension to the proposed 30-day compliance date.

"II. Submit a plan and investigative schedule within forty-five (45) days after receipt of the ORDER, as certified by a geologist or geotechnical engineer, that will propose to complete the ongoing contamination assessment of ground water on a plant-wide basis. This evaluation plan shall include completion dates for current areas under investigation, and shall particularly address the reuseable materials storage facilities, and any other area subsequently identified under ORDER I above."

Response: Completion of the ongoing contamination assessment will be concluded as a part of Phase III of the Groundwater Assessment which was presented in the 4-22 meeting. A copy of the Phase III recommendations, which were included in the Phase II Results submittal, is attached. The recommendations by Conoco and Vista are based on the conclusions reached by Geraghty and Miller, a qualified geotechnical firm, as to the appropriate steps necessary to complete the ongoing contamination assessment and to develop proper remedial actions. To assure a complete assessment and meet the objectives of the order, the results of Item I above must be included in the development of the scope of work for Phase III. When Item I is complete, it will be combined with the previously submitted Phase III recommendations, to develop a detailed scope of work proposal, including completion dates, which will be submitted for DEQ approval. As information such as the work covered under Section I above must be included in the scope and direction of Phase III; and because of the complexity of the facility's hydrogeologic setting, and contaminants, the completion of the Phase III proposal will be a process somewhat more lengthy than the allowed time frames. We are, therefore, requesting an extension of 90 days beyond the 45-day compliance date.

"III. Complete the ground water assessment of the reuseable materials tank storage complex, and submit a report of findings and recommendations for a corrective action program within ninety (90) days after receipt of this ORDER."

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May 5, 1986

Response: A pilot remedial action plan is recommended as a part of the Phase III recommendations. A pilot program in the tank farm area will be prepared in a manner so to act as the required remedial action program. We request an additional 45 days beyond the 90-day time frame so that submittal of this information is consistent with the recommendations submittal for Phase III proposal.

"IV. Initiate ground water corrective actions for the reuseable materials storage complex within thirty (30) days of approval of the corrective action program by the Ground Water Protection Division, Department of Environmental Quality."

Response: No extension is requested.

"V.A. Retain the services of recognized qualified geotechnical personnel to oversee and direct all ground water assessment investigations and implementation of ground water corrective action programs. The investigative completeness of assessment programs must be supported by the data from geotechnical exploration and chemical analyses for site specific hazardous wastes or constituents at the method levels of detection recommended by the E.P.A., Test Methods for Evaluating Solid Waste Physical/Chemical Methods (SW 846)."

Response: Qualified geotechnical personnel will continue to be retained to oversee and direct all groundwater assessment and implementation of ground water corrective action programs. Test Methods for Evaluating Solid Waste, Physical/Chemical Methods (SW 846) will be utilized as appropriate.

V.B. "Exploratory borings to delineate vertical extent of contaminant involvement shall be completed to a minimum depth of thirty (30) feet into clean soils or uncontaminated water bearing zones underlying known areas of contamination, and shall be supported by laboratory contaminant extractions from soil cores at reasonable selection intervals, and samples of water from monitoring wells screened below the contaminated zone(s)."

Response: As discussed in the meeting of 4-22, recommendations for actions necessary to satisfy the objectives of this portion of the order will be submitted in the Scope of Work Document referenced under Item II above.

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V.C. "The completeness of the ground water horizontal evaluation for contamination shall also be supported by monitoring wells which exhibit no impact for the constituents of concern. This will require assessment wells to be placed at reasonably spaced intervals dependent upon hydrology and stratigraphy, and the wells that are to be dedicated as compliance monitoring points must be strategically placed and screened beyond the plumes and below any zone(s) found to be contaminated."

Response: As discussed in the meeting of 4-22, recommendations for actions necessary to satisfy the objectives of this portion of the order will be submitted in the Scope of Work Document referenced under Item II above.

"VI. Consider all hazardous wastes and constituents as listed in Chapters 17.0 and 24.0 of the Louisiana Hazardous Waste Regulations, which could be expected to be associated with the Respondent's Lake Charles operations, in conducting the ground water quality assessment ORDERED above."

Response: The Phase III proposal will include a list of parameters which should be included as constituents to monitor. These parameters will consider the constituents which would be related to the appropriate plant process.

"VII. Report the progress of ground water quality assessment and corrective action programs to the Ground Water Protection Division, Department of Environmental Quality, on a quarterly basis as authorized by Chapter 23.0 of the Louisiana Hazardous Waste Regulations. At a minimum, the effectiveness of contaminant treatment or removal programs shall be illustrated graphically and shall include contaminant concentrations, total volumes or pounds of phased and soluble contaminants recovered or treated in the ground on at least a monthly basis. Volumes shall be metered and not estimated. Compliance monitoring data and data from assessment wells illustrating the effectiveness of the corrective action program shall also be reported quarterly."

Response: Progress reports will be provided on the required schedule and will contain all elements requested for which progress or status may be reported.

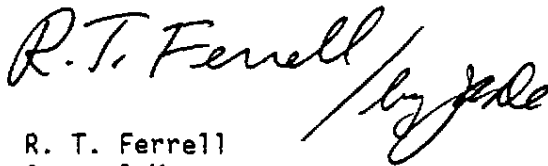
Mr. George H. Cramer II  
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"VIII. Submit, within forty-five (45) days after receipt of this ORDER, a maintenance plan and schedule for routine and future care of the ground water monitoring and corrective action network. Work priorities shall be listed and sufficient pertinent details specified to assure the Ground Water Protection Division that the monitoring recovery program will function adequately."

Response: As discussed in the meeting of 4-22, recommendations for actions necessary to satisfy the objectives of this portion of the order will be submitted in the Scope of Work Document referenced under Item II above. An extension of 45 days is requested so that submittal of this portion will be consistent with the Phase III submittal.

If you have any questions or comments, please contact M. G. Hayes at (318) 494-5437. Your expeditious response is appreciated.

Sincerely,

A handwritten signature in cursive script, appearing to read "R. T. Ferrell" followed by a flourish.

R. T. Ferrell  
General Manager  
Lake Charles Operations

mbr

cc: BIR HJN

bcc: TGG WLMcC RAC RTF JAD GEH GLF

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RECOMMENDATIONS

The Phase I and II studies have identified several areas at the plant site where concentrations of EDC were found in the ground water. Therefore, it is recommended that the Phase III work plan presented below be implemented to meet the following objectives:

- A. Better define the rate and extent of identified plumes of contamination.
- B. Delineate the sources responsible for these identified plumes.
- C. Design a ground-water monitoring program to monitor the effectiveness of future remediation programs and to ensure no off-site migration of contaminants.
- D. Perform a risk assessment to determine alternate concentration limits, ground-water clean-up levels, and potential risks to public health and the environment.
- E. Determine the technical alternatives (Feasibility Study) which would lead to the appropriate design of a ground-water remediation program.

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- F. Design a shallow pilot ground-water remediation program to assist in the evaluation and selection of alternatives for plume remediation that will be performed during the Feasibility Study.
- G. Perform an inspection of the existing monitor well network and develop a restoration program as needed.
- H. Develop a data base management system to facilitate future data analyses.

#### Proposed Phase III Work Plan

The following work plan is proposed to implement the recommendations for the Phase III work. This Phase III work plan has been generalized to maintain flexibility and to allow appropriate modifications to be made during the work as new information and data become available. It is proposed that, after state approval of this work plan, a letter report be submitted quarterly to the DEQ which would contain updates of the project status in order to keep the DEQ abreast of the progress of the Phase III work.

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#### Rate and Extent Assessment

The Phase II investigation showed the presence of EDC in the water sampled from some of the monitor wells tapping the 80-ft and 200-ft sands. It is suspected that the EDC may have been carried down into the sands as a result of well

0702 Groundwater

| <u>DRAFT WORK<br/>PLAN SECTION</u> | <u>COMPLIANCE<br/>ORDER (I-VIII)</u> | <u>CRAMER<br/>LETTER (A-F)</u> | <u>G&amp;M (A-H)<br/>RECOMMENDATIONS</u> |
|------------------------------------|--------------------------------------|--------------------------------|------------------------------------------|
| I. Restoration & Maintenance       | VIII                                 |                                |                                          |
| A.                                 |                                      |                                | G                                        |
| B.                                 |                                      |                                | G                                        |
| II. Rate & Extent                  | II (most items)                      |                                |                                          |
| A.                                 |                                      |                                |                                          |
| B.                                 |                                      |                                |                                          |
| C.                                 | III, IV                              | B                              | F                                        |
| D.                                 | V(C)                                 | (E)                            | (C)                                      |
|                                    | V(B)                                 |                                |                                          |
| E.                                 | VI                                   |                                |                                          |
| F.                                 |                                      | A                              |                                          |
| G.                                 | I (partial)                          |                                | B                                        |
| H.                                 |                                      |                                |                                          |
| I.                                 |                                      |                                | C                                        |
| III. Risk Assessment               | II (all)                             |                                | D (all)                                  |
| A.                                 |                                      |                                |                                          |
| B.                                 |                                      | E                              |                                          |
| C.                                 |                                      |                                |                                          |
| D.                                 |                                      |                                |                                          |
| E.                                 |                                      |                                |                                          |
| IV. Feasibility Study              |                                      |                                |                                          |
| A.                                 | III                                  |                                |                                          |
| B.                                 |                                      |                                | E                                        |
| C.                                 |                                      |                                | C                                        |
| D.                                 |                                      | D                              |                                          |
| V. Data Base Management            |                                      |                                | H (all)                                  |
| A.                                 |                                      |                                |                                          |
| B.                                 |                                      |                                |                                          |
| C.                                 |                                      |                                |                                          |
| D.                                 |                                      |                                |                                          |
| VI. Progress Reports               | VII                                  |                                |                                          |

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