

**CERTIFIED--RETURN
RECEIPT REQUESTED
#P241 411 248**

June 25, 1990

VISTA

Ms. Evelyn Rosoborough (6W-PS)
Permit Branch
Water Management Division
EPA Region 6
1445 Ross Avenue
Dallas, Texas 75202-2733

Re: Section 308 Letter of June 9, 1989
Requiring Chronic Biotoxicity Testing
NPDES Permit No. LA000336

Dear Ms. Rosoborough:

Please find enclosed the summary reports, Table I data,
and the formal reports for the monthly sampling for May
initiated May 14, 1990.

If you have any questions concerning this data, please
contact Paul Fetzner at (318)494-5067.

Sincerely,

M. G. Hayes
Director of Environmental Control
Lake Charles Chemical Complex

CWH 000010099

PERMITTEE: Vista Chemical
 PERMIT NO: LA000336
 OUTFALL NO: EPA001

ENCLOSURE 1 (PAGE 5 OF 11)

TABLE 1

BIOMONITORING REPORTING

CERIODAPHNIA DUBIA SURVIVAL AND REPRODUCTION

Date composite collected: #1: FROM 0700 5-13-90 TO 0700 5-14-90
 #2: FROM 0700 5-15-90 TO 0700 5-16-90
 #3: FROM 0700 5-17-90 TO 0700 5-18-90

Date test initiated: 5-14-90

Dilution water used: Receiving water ☒ Reconstituted water

NUMBER OF YOUNG PRODUCED PER FEMALE @ 7 DAYS

Percent effluent (%)

REP	0%	52%	59%	67%	76%	86%	13%	26%
A	30	0	0	0	0	0	30	21
B	42	0	0	0	0	0	32	24
C	23	0	0	0	0	0	31	7
D	0	0	0	0	0	0	30	25
E	31	0	0	0	0	0	27	20
F	52	0	0	0	0	0	33	9
G	38	0	0	0	0	0	39	19
H	27	0	0	0	0	0	24	19
I	29	0	0	0	0	0	0	23
J	36	0	0	0	0	0	30	17
Total	308	0	0	0	0	0	276	184
CV%	24	0	0	0	0	0	13	26

* coefficient of variation = standard deviation x 100/mean

PERMITTEE: Vista Chemical
PERMIT NO: LA000336
OUTFALL NO: EPA001

ENCLOSURE 1 (PAGE 6 OF 11)

TABLE 1

CERIODAPHNIA DUBIA SURVIVAL AND REPRODUCTION TEST

1. Dunnett's Procedure or Steel's Many-One Rank Test as appropriate:

Is the mean number of young produced per female significantly less ($p=0.05$) than the control's mean number of young female for the % effluent corresponding to (significant non-lethal effects):

a.) LOW FLOW OR CRITICAL DILUTION (76 %): X YES NO

PERCENT SURVIVAL

Percent Effluent

Time of Reading	0%	52%	59%	67%	76%	86%	13%	26%
24h	100	100	100	40	50	20	100	100
48h	90	100	90	30	50	10	90	100
7 day	90	40	30	0	0	0	90	90
CV%*								

* coefficient of variation = standard deviation X 100/mean

2. Fisher's Exact Test:

Is the mean survival at 7 days significantly less ($p=0.05$) than the mean control survival for the % effluent corresponding to (lethality):

a.) LOW FLOW OR CRITICAL DILUTION (76 %): X YES NO

3. Enter percent effluent corresponding to each NOEL below and circle lowest number:

a.) NOEL survival = 26 % effluent

b.) NOEL reproduction = 13 % effluent

4. If you answered NO to 1.a) and 2.a) enter [P] otherwise enter [F]: F

PERMITTEE: Vista Chemical
PERMIT NO: LA333006
OUTFALL NO: EPA001

ENCLOSURE 1 (PAGE 7 OF 11)

TABLE 1

BIOMONITORING REPORTING

FATHEAD MINNOW LARVAE GROWTH AND SURVIVAL
(*Pimephales promelas*)

Date composite collected: #1: FROM 0700 5-13-90 TO 0700 5-14-90
#2: FROM 0700 5-15-90 TO 0700 5-16-90
#3: FROM 0700 5-17-90 TO 0700 5-18-90

Date test initiated: 5-14-90

Dilution water used: Receiving water ☒ Reconstituted water

DATA TABLE FOR GROWTH OF FATHEAD MINNOWS

Effluent Conc (%)	Average Dry Weight in milligrams in replicate chambers				MEAN DRY WEIGHT (mg)	CV%*
	A	B	C	D		
0%	0.34	0.44	0.36	0.39	0.38	10
52%	0.15	0.20	0.30	0.33	0.24	29
59%	0.25	0.13	0.20	0.10	0.17	34
67%	0.13	0.13	0.20	0.20	0.17	20
76%	0.05	0.23	0.10	0.05	0.11	69
86%	0.10	----	0.20	0.10	0.13	35
13%	0.47	0.26	0.39	0.41	0.38	20
26%	0.36	0.41	0.26	0.47	0.37	21

* coefficient of variation = standard deviation x 100/mean

1. Dunnett's Procedure:

Is the mean dry weight (growth) at 7 days effluent significantly less (p=0.05) than the control's mean dry weight (growth) for the % effluent corresponding to (significant non-lethal effects):

a.) LOW FLOW OR CRITICAL DILUTION (76%): ☒ YES ☐ NO

PERMITTEE: Vista Chemical
 PERMIT NO: LA000336
 OUTFALL NO: EPA001

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TABLE 1

BIOMONITORING REPORTING
 FATHEAD MINNOW GROWTH AND SURVIVAL TEST

DATA TABLE FOR FATHEAD MINNOWS SURVIVAL

Effluent Conc (%)	Percent Survival in Replicate Chambers				MEAN PERCENT SURVIVAL			CV%*
	A	B	C	D	24h	48h	7 days	
0%	100	90	100	100	100	100	98	4
52%	40	20	40	40	100	100	35	25
59%	20	30	30	10	100	100	23	37
67%	30	30	50	30	100	100	35	25
76%	20	30	13	20	100	100	21	35
86%	20	0	10	10	100	100	10	71
13%	70	80	80	90	100	100	80	9
26%	80	80	70	60	100	100	73	11

* coefficient of variation = standard deviation x 100/mean

2. Dunnett's Procedure or Steel's Many-One Rank Test as appropriate:

Is the mean survival at 7 days significantly less ($p=0.05$) than the mean control survival for the % effluent corresponding to:

a.) LOW FLOW OR CRITICAL DILUTION (76%): X YES NO

3. Enter percent effluent corresponding to each NOEL below and circle lowest number:

a.) NOEL survival = < 13 % effluent

b.) NOEL reproduction = NA* % effluent

4. If you answered NO to 1.a) and 2.a) enter [P] otherwise enter [F]: F

* The EPA recommends (EPA/600/4-89/001 Pg. 2 Section 12.3.1) that concentration above NOEL be excluded from the hypothesis for growth test.