SEPARATOR

54-00068

HAZ WASTE

PERMIT

09/25/1987

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STATE OF ARKANSAS
DEPARTMENT OF POLLUTION CONTROL AND ECOLOGY
8001 NATIONAL DRIVE, P.O. BOX 9583
LITTLE ROCK, ARKANSAS 72209

PHONE: (501) 562-7444

September 25, 1987

Mr. Joe Porter
Environmental Engineer
Cedar Chemical Company
West Helena, Arkansas 72390

Dear Mr. Porter:

In reference to our meeting on September 23, 1987, we discussed the regulatory status of treatment processes performed at your facility to render specific hazardous waste streams non-reactive. If the treatment processes are performed in completely enclosed tanks connected to the industrial process by piping, the Department agrees that they meet the definition of totally enclosed treatment facilities in 40 CFR 260.10 and are exempt from RCRA permitting and interim status requirements pursuant to 40 CFR 264.1(g)(5) and 40 CFR 265.1(c)(9). A statement requesting withdrawal of the tank treatment appearing on the Part A application on the basis that it was filed in error and justifying descriptive process information should be submitted as part of the final closure plans for these treatment processes as well as elementary neutralization processes exempted by 40 CFR 264.1(g)(6). As discussed, storage in tanks may be withdrawn if Cedar can verify that the wastes were not stored for 90 days or longer from input to the tank.

In accordance with the Consent Order issued July 16, 1987, Cedar must submit final closure plans by October 14, 1987 for those hazardous waste management processes which are not covered by the required insurance policies. These plans must include either request(s) for withdrawal and supporting evidence, or detailed schedules, procedures, and costs compliant with closure regulations for each unit. Please contact me if you have any related questions or concerns.

Sincerely,

Becky Keogh

Becky Keogh
Engineer - Technical Branch
Hazardous Waste Division

cc: Gary D. Martin, P.E., Manager, Technical Branch
Karen Deere, Manager, Enforcement Branch

File

STATE OF ARKANSAS
DEPARTMENT OF POLLUTION CONTROL AND ECOLOGY
8001 NATIONAL DRIVE, P.O. BOX 9583
LITTLE ROCK, ARKANSAS 72209

PHONE: (501) 562-7444

May 1, 1986

Mr. Joe E. Porter
Environmental Engineer
Cedar Chemical Corporation
Post Office Box 2749
West Helena, Arkansas 72390

Dear Mr. Porter:

As requested, please find enclosed a copy of my letter of March 18, 1986 to Dick Karkkainen. If you have any questions, please let me know.

Sincerely,

John D. Ward
Chief
Hazardous Waste Division

JDW:lms

3-18-86

STATE OF ARKANSAS
DEPARTMENT OF POLLUTION CONTROL AND ECOLOGY
8001 NATIONAL DRIVE, P.O. BOX 9583
LITTLE ROCK, ARKANSAS 72209

PHONE: (501) 562-7444

March 18, 1986

Mr. Dick Karkkainen
Director of Environment and Safety
Vertac Chemical Corporation
5100 Poplar, 24th Floor
Memphis, TN 38137

RE: West Helena Facility
Vertac Chemical Corporation
RCRA Part A, EPA ID No. ARD990660649

Dear Mr. Karkkainen:

This will acknowledge receipt of the new Part A for the Cedar Chemical Corporation signed by Mr. J.C. Bumpers, Secretary of the Corporation. Our legal section informs me that the structural reorganization of the company amounts to a change of ownership; therefore, in accordance with 40 CFR 270.72(d), Cedar Chemical must demonstrate to the Director that it can meet the financial requirements of 40 CFR 265, Subpart H. All other interim status duties will be transferred, effective immediately, upon the date of change of ownership or operational control of the facility.

Upon demonstration of compliance with Subpart H by Cedar Chemical, Vertac will be notified in writing that it no longer needs to comply with that part. However, Vertac must continue to comply with the financial requirements until such notification is received.

If you have any questions regarding financial responsibility, please contact Ms. Martha Adcock of our legal section. Thank you for your cooperation.

Sincerely,

John D. Ward

John Ward
Chief
Hazardous Waste Division

JDW:jr

4-25-86

STATE OF ARKANSAS
DEPARTMENT OF POLLUTION CONTROL AND ECOLOGY
8001 NATIONAL DRIVE, P.O. BOX 9583
LITTLE ROCK, ARKANSAS 72209

PHONE: (501) 562-7444

April 25, 1986

Mr. Joe E. Porter
Environmental Engineer
Cedar Chemical Corporation
P.O. Box 2049
West Helena, AR 72390

Dear Mr. Porter:

As requested, please find enclosed a copy of my letter of March 18, 1986 to Dick Karkkainen. If you have any questions, please let me know.

Sincerely,

John D. Ward
Chief
Hazardous Waste Division

JDW:jer

Enclosure

3-18-86

STATE OF ARKANSAS
DEPARTMENT OF POLLUTION CONTROL AND ECOLOGY
8001 NATIONAL DRIVE, P.O. BOX 9583
LITTLE ROCK, ARKANSAS 72209

PHONE: (501) 562-7444

March 18, 1986

Mr. Dick Karkkainen
Director of Environment and Safety
Vertac Chemical Corporation
5100 Poplar, 24th Floor
Memphis, TN 38137

RE: West Helena Facility
Vertac Chemical Corporation
RCRA Part A, EPA ID No. ARD990660649

Dear Mr. Karkkainen:

This will acknowledge receipt of the new Part A for the Cedar Chemical Corporation signed by Mr. J.C. Bumpers, Secretary of the Corporation. Our legal section informs me that the structural reorganization of the company amounts to a change of ownership; therefore, in accordance with 40 CFR 270.72(d), Cedar Chemical must demonstrate to the Director that it can meet the financial requirements of 40 CFR 265, Subpart H. All other interim status duties will be transferred, effective immediately, upon the date of change of ownership or operational control of the facility.

Upon demonstration of compliance with Subpart H by Cedar Chemical, Vertac will be notified in writing that it no longer needs to comply with that part. However, Vertac must continue to comply with the financial requirements until such notification is received.

If you have any questions regarding financial responsibility, please contact Ms. Martha Adcock of our legal section. Thank you for your cooperation.

Sincerely,

John D. Ward

John Ward
Chief
Hazardous Waste Division

JDW:jr

1985

ENVIRONMENTAL SUMMARY

Location Effluent - 88

Date	1-2	1-3	1-4	1-7	1-8	1-9	1-10
Flow, gallons	60	0	0	0	0	0	0
.....MGD							
pH, units	9.1-10.4	NS	NS	8.4-9.5	11.4	NS	NS
DO, mg/liter							
BOD5, mg/liter							
.....kg/day							
COD, mg/liter	487.7					145.2	
....kg/day							
Chloride, mg/l	2324.9					976.7	
.....kg/day							
Total Solids, mg/l							
TSS, mg/liter							
....kg/day							
Settleable Solids, ml/l							
Volatile Solids, mg/l							
Alkalinity, mg/liter	3346					345.7	
.....kg/day							
Ammonia-Nitrogen, mg/l							
.....kg/day							
Nitrate-Nitrogen, mg/l							
.....kg/day							
Sulfate, mg/liter							
.....kg/day							
Phosphate as PO4, mg/l	5.9					5.9	
Oil and Grease, mg/l							
Phenol(s), mg/liter ug/l							
.....kg/day							
Pesticides, mg/liter	<0.03						
.....kg/day							
Oxygen Uptake, g/mg/hr							
DNBP, mg/liter							
Specific Cond, micromhos							

ENVIRONMENTAL SUMMARY

Location Effluent 85

Date	1-11	1-14	1-15	1-16	1-17	1-18	1-21
Flow, gallons	0	0	0	0	0	0	0
.....MGD							
pH, units	NS	9.7	11.2-11.2	10.8-11.2	7.6-9.1	10.6-10.9	4.7-12.2
DO, mg/liter							
BOD5, mg/liter							
.....kg/day							
COD, mg/liter				823.5			
....kg/day							
Chloride, mg/l				1126.8			
.....kg/day							
Total Solids, mg/l							
TSS, mg/liter							
....kg/day							
Settleable Solids, ml/l							
Volatile Solids, mg/l							
Alkalinity, mg/liter				603.6			
.....kg/day							
Ammonia-Nitrogen, mg/l							
.....kg/day							
Nitrate-Nitrogen, mg/l							
.....kg/day							
Sulfate, mg/liter							
.....kg/day							
Phosphate as PO4, mg/l				41.8			
Oil and Grease, mg/l							
Phenol(s), mg/liter ug/l							
.....kg/day							
Pesticides, mg/liter							
.....kg/day							
Oxygen Uptake, g/mg/hr							
DNBP, mg/liter							
Specific Cond, micromhos							

ENVIRONMENTAL SUMMARY

Location Effluent - 85

Date	1-22	1-23	1-24	1-25	1-28-85	1-29	1-30
Flow, gallons	0	0	NA	470	NA	NA	NA
.....MGD							
pH, units	NS	9.9-10.7	4.5-9.9	11.9	9.3-11.6	10.1	10.9-12.3
DO, mg/liter							
BOD5, mg/liter							
.....kg/day							
COD, mg/liter		896.3					495.9
....kg/day							
Chloride, mg/l		502.9					922.6
.....kg/day							
Total Solids, mg/l							
TSS, mg/liter							
....kg/day							
Settleable Solids, ml/l							
Volatile Solids, mg/l							
Alkalinity, mg/liter		521.6					686.8
.....kg/day							
Ammonia-Nitrogen, mg/l							
.....kg/day							
Nitrate-Nitrogen, mg/l							
.....kg/day							
Sulfate, mg/liter							
.....kg/day							
Phosphate as PO4, mg/l		10.2					9.6
Oil and Grease, mg/l							
Phenol(s), mg/liter ug/l							
.....kg/day							
Pesticides, mg/liter							
.....kg/day							
Oxygen Uptake, g/mg/hr							
DNBP, mg/liter							
Specific Cond, micromhos							

ENVIRONMENTAL SUMMARY

Location Influent - 85

Date	1-31	2-1	2-4	2-5	2-6	2-7	2-8
Flow, gallons	460	NA	NA	NA	NA	NA	NA
.....MGD							
pH, units	12.1-12.2	NS	NS	9.2	9.1-9.8	NS	NS
DO, mg/liter							
BOD5, mg/liter							
.....kg/day							
COD, mg/liter					879.2		
....kg/day							
Chloride, mg/l					1217.8		
.....kg/day							
Total Solids, mg/l							
TSS, mg/liter							
....kg/day							
ttleable Solids; ml/l							
Volatile Solids, mg/l							
Alkalinity, mg/liter					518.9		
.....kg/day							
Ammonia-Nitrogen, mg/l							
.....kg/day							
Nitrate-Nitrogen, mg/l							
.....kg/day							
Sulfate, mg/liter							
.....kg/day							
Phosphate as PO4, mg/l					11.8		
Oil and Grease, mg/l							
Phenol(s), mg/liter ug/l							
.....kg/day							
Pesticides, mg/liter					60.03		
.....kg/day							
..ygen Uptake, g/mg/hr							
DNBP, mg/liter							
Specific Cond, micromhos							

ENVIRONMENTAL SUMMARY

Location Effluent - 85

Date	2-11	2-12	2-13	2-14	2-15	2-18	2-19
Flow, gallons	NA	NA	NA	NA	414920	1439	171950
.....MGD							
pH, units	6.9-7.6	NS	7.5	12.1	13.1	6.6-12.8	11.2-12.8
DO, mg/liter							
BOD5, mg/liter							
.....kg/day							
COD, mg/liter			1439.0				
....kg/day							
Chloride, mg/l			1153.8				
.....kg/day							
Total Solids, mg/l							
TSS, mg/liter							
....kg/day							
Settleable Solids; ml/l							
Volatile Solids, mg/l							
Alkalinity, mg/liter			437.3				
.....kg/day							
Ammonia-Nitrogen, mg/l							
.....kg/day							
Nitrate-Nitrogen, mg/l							
.....kg/day							
Sulfate, mg/liter							
.....kg/day							
Phosphate as PO4, mg/l			2.0				
Oil and Grease, mg/l							
Phenol(s), mg/liter ug/l							
.....kg/day							
Pesticides, mg/liter							
.....kg/day							
Oxygen Uptake, g/mg/hr							
DNBP, mg/liter							
Specific Cond, micromhos							

ENVIRONMENTAL SUMMARY

Location Influent - 85

Date	2-20	2-21	2-22	2-25	2-26	2-27	2-28
Flow, gallons	127860	108640	98100	42900	95940	0	51290
.....MGD							
pH, units	7.1-10.7	10.8-12.7	N/S	6.1-13.5	6.7-7.4	5.7	7.2
DO, mg/liter							
BOD5, mg/liter							
.....kg/day							
COD, mg/liter	1754.9					1011.9	
....kg/day							
Chloride, mg/l	3734.6					940.2	
.....kg/day							
Total Solids, mg/l							
TSS, mg/liter							
....kg/day							
ttleable Solids; ml/l							
Volatile Solids, mg/l							
Alkalinity, mg/liter	2126.9					1426.9	
.....kg/day							
Ammonia-Nitrogen, mg/l							
.....kg/day							
Nitrate-Nitrogen, mg/l							
.....kg/day							
Sulfate, mg/liter							
.....kg/day							
Phosphate as PO4, mg/l	6.9					8.5	
Oil and Grease, mg/l							
Phenol(s), mg/liter ug/l							
.....kg/day							
Pesticides, mg/liter							
.....kg/day							
..ygen Uptake, g/mg/hr							
DNBP, mg/liter							
Specific Cond, micromhos							

ENVIRONMENTAL SUMMARY

Location Effluent-85

Date	3-1	3-4	3-5	3-6	3-7	3-8	3-11
Flow, gallons	0	41657	25290	0	0	0	26080
.....MGD							
pH, units	6.5-6.8	1.9-10.6	4.8-6.0	1.8-3.6	2.7-5.7	4.2-7.0	3.4-4.5
DO, mg/liter							
BOD5, mg/liter							
.....kg/day							
COD, mg/liter				19163.2			
....kg/day							
Chloride, mg/l				3194.0			
.....kg/day							
Total Solids, mg/l							
TSS, mg/liter							
....kg/day							
tleable Solids; ml/l							
Volatile Solids, mg/l							
Alkalinity, mg/liter				0			
.....kg/day							
Ammonia-Nitrogen, mg/l							
.....kg/day							
Nitrate-Nitrogen, mg/l							
.....kg/day							
Sulfate, mg/liter							
.....kg/day							
Phosphate as PO4, mg/l				17.3			
Oil and Grease, mg/l							
Phenol(s), mg/liter ug/l							
.....kg/day							
Pesticides, mg/liter				<0.14			
.....kg/day							
ygen Uptake, g/mg/hr							
DNBP, mg/liter							
Specific Cond, micromhos							

ENVIRONMENTAL SUMMARY

Location Effluent-85

Date	3-12	3-13	3-14	3-15	3-18	3-19	3-20
Flow, gallons	47060	45800	20860	62060	9240	45890	0
.....MGD							
pH, units	5.8-6.5	5.4-6.7	7.3-11.6	6.6	6.4-12.4	7.1-7.2	4.5-7.2
DO, mg/liter							
BOD5, mg/liter							
.....kg/day							
COD, mg/liter		10041.4					5600
....kg/day							
Chloride, mg/l		1157.3					197.6
.....kg/day							
Total Solids, mg/l							
TSS, mg/liter							
....kg/day							
Settleable Solids, ml/l							
Volatile Solids, mg/l							
Alkalinity, mg/liter		0					610.8
.....kg/day							
Ammonia-Nitrogen, mg/l							
.....kg/day							
Nitrate-Nitrogen, mg/l							
.....kg/day							
Sulfate, mg/liter							
.....kg/day							
Phosphate as PO4, mg/l		20.5					25.7
Oil and Grease, mg/l							
Phenol(s), mg/liter ug/l							
.....kg/day							
Pesticides, mg/liter							
.....kg/day							
Oxygen Uptake, g/mg/hr							
DNBP, mg/liter							
Specific Cond, micromhos							

ENVIRONMENTAL SUMMARY

Location Effluent - 8.5

Date	3-21	3-22	3-25	3-26	3-27	3-28	3-29
Flow, gallons	33630	210800	26463	0	49960	97720	900
.....MGD							
pH, units	3.5-7.1	11.7-11.9	2.3-5.5	2.9-3.2	2.7-3.4	2.4-11.6	2.4-3.8
DO, mg/liter							
BOD5, mg/liter							
.....kg/day							
COD, mg/liter					16400.0		
....kg/day							
Chloride, mg/l					2573.8		
.....kg/day							
Total Solids, mg/l							
TSS, mg/liter							
....kg/day							
ttleable Solids; ml/l							
Volatile Solids, mg/l							
Alkalinity, mg/liter					0		
.....kg/day							
Ammonia-Nitrogen, mg/l							
.....kg/day							
Nitrate-Nitrogen, mg/l							
.....kg/day							
Sulfate, mg/liter							
.....kg/day							
Phosphate as PO4, mg/l					20.0		
Oil and Grease, mg/l							
Phenol(s), mg/liter ug/l							
.....kg/day							
Pesticides, mg/liter							
.....kg/day							
...ygen Uptake, g/mg/hr							
DNBP, mg/liter							
Specific Cond, micromhos							

ENVIRONMENTAL SUMMARY

Location Effluent -85

Date	4-1	4-2	4-3	4-4	4-8	4-9	4-10
Flow, gallons	107080	219620	153730	0	2751	44990	0
.....MGD							
pH, units	3.3-10.7	11.8-12.1	1.9-2.1	12.3-12.6	2.0-12.2	3.5-6.2	12.2
DO, mg/liter							
BOD5, mg/liter							
.....kg/day							
COD, mg/liter			14406.4				17416.7
....kg/day							
Chloride, mg/l			1932.5				2542.6
.....kg/day							
Total Solids, mg/l							
TSS, mg/liter							
....kg/day							
Settleable Solids; ml/l							
Volatile Solids, mg/l							0
Alkalinity, mg/liter			0				
.....kg/day							
Ammonia-Nitrogen, mg/l							
.....kg/day							
Nitrate-Nitrogen, mg/l							
.....kg/day							
Sulfate, mg/liter							
.....kg/day							
Phosphate as PO4, mg/l			12.4				11.2
Oil and Grease, mg/l							
Phenol(s), mg/liter ug/l							
.....kg/day							
Pesticides, mg/liter			< 34.99				
.....kg/day							
Oxygen Uptake, g/mg/hr							
DNBP, mg/liter							
Specific Cond, micromhos							

ENVIRONMENTAL SUMMARY

Location Effluent - 85

Date	4-11	4-12	4-15	4-16	4-17	4-18	4-19
Flow, gallons	0	49390	9113	46170	0	0	0
.....MGD							
pH, units	3.0-3.6	3.1-5.2	3.7-12.8	3.5-10.2	6.7	2.8-3.4	4.2-6.2
DO, mg/liter							
BOD5, mg/liter							
.....kg/day							
COD, mg/liter					19475.3		
....kg/day							
Chloride, mg/l					1022.7		
.....kg/day							
Total Solids, mg/l							
TSS, mg/liter							
....kg/day							
Settleable Solids, ml/l							
Volatile Solids, mg/l							
Alkalinity, mg/liter					0		
.....kg/day							
Ammonia-Nitrogen, mg/l							
.....kg/day							
Nitrate-Nitrogen, mg/l							
.....kg/day							
Sulfate, mg/liter							
.....kg/day							
Phosphate as PO4, mg/l					12.2		
Oil and Grease, mg/l							
Phenol(s), mg/liter ug/l							
.....kg/day							
Pesticides, mg/liter							
.....kg/day							
Oxygen Uptake, g/mg/hr							
DNBP, mg/liter							
Specific Cond, micromhos							

ENVIRONMENTAL SUMMARY

Location [illegible] - 8.5

Date	4-22	4-23	4-24	4-25	4-26	4-29	4-30
Flow, gallons	11293	79840	209400	154240	50	137813	216310
.....MGD							
pH, units	5.4-8.9	11.5-12.2	9.8-10.4	7.2-9.8	7.0-7.6	4.6-8.7	6.2-7.0
DO, mg/liter							
BOD5, mg/liter							
.....kg/day							
COD, mg/liter			22278.2				
....kg/day							
Chloride, mg/l			484.5				
.....kg/day							
Total Solids, mg/l							
TSS, mg/liter							
....kg/day							
ttleable Solids; ml/l							
Volatile Solids, mg/l							
Alkalinity, mg/liter			54.0				
.....kg/day							
Ammonia-Nitrogen, mg/l							
.....kg/day							
Nitrate-Nitrogen, mg/l							
.....kg/day							
Sulfate, mg/liter							
.....kg/day							
Phosphate as PO4, mg/l							
Oil and Grease, mg/l							
Phenol(s), mg/liter ug/l							
.....kg/day							
Pesticides, mg/liter							
.....kg/day							
gen Uptake, g/mg/hr							
DNBP, mg/liter							
Specific Cond, micromhos							

ENVIRONMENTAL SUMMARY

Location Influent - 85

Date	5-1	5-2	5-3	5-6	5-7	5-8	5-9
Flow, gallons	210910	49340	0	0	27100	59830	167840
.....MGD							
pH, units	9.1-9.3	7.1-7.3	7.2-7.3	7.1-8.5	7.1-7.4	7.1-7.1	9.4-10.4
DO, mg/liter							
BOD5, mg/liter							
.....kg/day							
COD, mg/liter	452.7					675.1	
....kg/day							
Chloride, mg/l	89.0					110.7	
.....kg/day							
Total Solids, mg/l							
TSS, mg/liter							
....kg/day							
ttleable Solids; ml/l							
Volatile Solids, mg/l							
Alkalinity, mg/liter	264.8					554.4	
.....kg/day							
Ammonia-Nitrogen, mg/l							
.....kg/day							
Nitrate-Nitrogen, mg/l							
.....kg/day							
Sulfate, mg/liter							
.....kg/day							
Phosphate as PO4, mg/l	24.5					48.0	
Oil and Grease, mg/l							
Phenol(s), mg/liter ug/l							
.....kg/day							
Pesticides, mg/liter	<0.20						
.....kg/day							
gen Uptake, g/mg/hr							
DNBP, mg/liter							
Specific Cond, micromhos							

ENVIRONMENTAL SUMMARY

Location Effluent-85

Date	5-10	5-13	5-14	5-15	5-16	5-17	5-20
Flow, gallons	286910	76450	41650	5750	0	0	12023
.....MGD							
pH, units	10.0-10.3	7.1-10.6	10.0-10.7	7.7	7.3-7.7	7.6-8.0	6.7-10.6
DO, mg/liter							
BOD5, mg/liter							
.....kg/day							
COD, mg/liter				3390			
....kg/day							
Chloride, mg/l				130.3			
.....kg/day							
Total Solids, mg/l							
TSS, mg/liter							
....kg/day							
ttleable Solids; ml/l							
Volatile Solids, mg/l							
Alkalinity, mg/liter				3648			
.....kg/day							
Ammonia-Nitrogen, mg/l							
.....kg/day							
Nitrate-Nitrogen, mg/l							
.....kg/day							
Sulfate, mg/liter							
.....kg/day							
Phosphate as PO4, mg/l				220			
Oil and Grease, mg/l							
Phenol(s), mg/liter ug/l							
.....kg/day							
Pesticides, mg/liter							
.....kg/day							
gen Uptake, g/mg/hr							
DNBP, mg/liter							
Specific Cond, micromhos							

ENVIRONMENTAL SUMMARY

Location [illegible] - 8.5

Date	5-21	5-22	5-23	5-24	5-27	5-28	5-29
Flow, gallons	0	0	32600	0	0	0	0
.....MGD							
pH, units	7.2-7.5	6.7-7.8	7.5-7.9	7.4-7.9	7.3-9.6	7.1-7.9	7.1-9.4
DO, mg/liter							
BOD5, mg/liter							
.....kg/day							
COD, mg/liter		883.3					378.6
....kg/day							
Chloride, mg/l		425.6					199.8
.....kg/day							
Total Solids, mg/l							
TSS, mg/liter							
....kg/day							
Settleable Solids; ml/l							
Volatile Solids, mg/l							
Alkalinity, mg/liter		600.0					510.4
.....kg/day							
Ammonia-Nitrogen, mg/l							
.....kg/day							
Nitrate-Nitrogen, mg/l							
.....kg/day							
Sulfate, mg/liter							
.....kg/day							
Phosphate as PO4, mg/l		48.0					44.0
Oil and Grease, mg/l							
Phenol(s), mg/liter ug/l							
.....kg/day							
Pesticides, mg/liter							
.....kg/day							
Oxygen Uptake, g/mg/hr							
DNBP, mg/liter							
Specific Cond, micromhos							

ENVIRONMENTAL SUMMARY

Location Effluent-85

D...	5-30	5-31	6-4	6-5	6-6	6-7	6-8
Flow, gallons	meter Dum	meter Dum	0	0	1780	122720	20417
....MGD							
pH, units	7.4-7.6	7.4-7.6	7.1-7.8	7.3-7.4	7.1-9.0	7.2-7.5	7.1-9.2
DO, mg/liter							
BOD5, mg/liter							
....kg/day							
COD, mg/liter				954.7			
...kg/day							
Chloride, mg/l				110.7			
.....kg/day							
Total Solids, mg/l							
TSS, mg/liter							
...kg/day							
ttleable Solids; ml/l							
Volatile Solids, mg/l							
Alkalinity, mg/liter				535.1			
.....kg/day							
Ammonia-Nitrogen, mg/l							
.....kg/day							
Nitrate-Nitrogen, mg/l							
.....kg/day							
Sulfate, mg/liter							
.....kg/day							
Phosphate as PO4, mg/l				62.0			
Oil and Grease, mg/l							
Phenol(s), mg/liter ug/l							
.....kg/day							
Pesticides, mg/liter				<0.022			
.....kg/day							
gen Uptake, g/mg/hr							
DNBP, mg/liter							
Specific Cond, micromhos							

ENVIRONMENTAL SUMMARY

Location Influent - 85

D...	6-11-[illegible]	6-12	6-13	6-14	6-17	6-18	6-19
Flow, gallons	126240	12190	0	0	18376	73510	215196
....MGD							
pH, units	7.6-7.9	7.4-7.5	6.6-7.7	7.4-8.0	7.0-8.8	9.4	8.1-8.2
DO, mg/liter							
BOD5, mg/liter							
....kg/day							
COD, mg/liter		850.0					491.8
...kg/day							
Chloride, mg/l		330.1					786.6
.....kg/day							
Total Solids, mg/l							
TSS, mg/liter							
...kg/day							
ttleable Solids; ml/l							
Volatile Solids, mg/l							
Alkalinity, mg/liter		508.1					4276
.....kg/day							
Ammonia-Nitrogen, mg/l							
.....kg/day							
Nitrate-Nitrogen, mg/l							
.....kg/day							
Sulfate, mg/liter							
.....kg/day							
Phosphate as PO4, mg/l		47.5					43.0
Oil and Grease, mg/l							
Phenol(s), mg/liter ug/l		~~[illegible]~~					
.....kg/day							
Pesticides, mg/liter							
.....kg/day							
gen Uptake, g/mg/hr							
DNBP, mg/liter							
Specific Cond, micromhos							

ENVIRONMENTAL SUMMARY

Location [illegible] - 85

D[illegible]	6-20	6-21	6-24	6-25	6-26	6-27	6-28
Flow, gallons	288760	0	10747	0	0	18232	0
.....MGD							
pH, units	7.4-8.9	7.1-7.3	7.1-12.3	7.1-7.9	8.1-8.1	7.4-7.9	7.5-7.6
DO, mg/liter							
BOD5, mg/liter							
.....kg/day							
COD, mg/liter					322.6		
....kg/day							
Chloride, mg/l					159.3		
.....kg/day							
Total Solids, mg/l							
TSS, mg/liter							
....kg/day							
[illegible]ttleable Solids; ml/l							
Volatile Solids, mg/l							
Alkalinity, mg/liter					618.9		
.....kg/day							
Ammonia-Nitrogen, mg/l							
.....kg/day							
Nitrate-Nitrogen, mg/l							
.....kg/day							
Sulfate, mg/liter							
.....kg/day							
Phosphate as PO4, mg/l					30.0		
Oil and Grease, mg/l							
Phenol(s), mg/liter ug/l							
.....kg/day							
Pesticides, mg/liter							
.....kg/day							
[illegible]gen Uptake, g/mg/hr							
DNBP, mg/liter							
Specific Cond, micromhos							

ENVIRONMENTAL SUMMARY

Location Effluent -85

D...	7-12	7-15	7-16	7-17	7-18	7-19	7-22
Flow, gallons	54670	2393	0	0	0	51930	10733
....MGD							
pH, units	7.1-7.5	7.4-8.1	7.4-7.7	7.6-8.7	7.4	9.2-9.3	7.1-8.1
DO, mg/liter							
BOD5, mg/liter							
....kg/day							
COD, mg/liter				798.3			
...kg/day							
Chloride, mg/l				116.3			
.....kg/day							
Total Solids, mg/l							
TSS, mg/liter							
...kg/day							
ttleable Solids; ml/l							
Volatile Solids, mg/l							
Alkalinity, mg/liter				556.7			
.....kg/day							
Ammonia-Nitrogen, mg/l							
.....kg/day							
Nitrate-Nitrogen, mg/l							
.....kg/day							
Sulfate, mg/liter							
.....kg/day							
Phosphate as PO4, mg/l				78.0			
Oil and Grease, mg/l							
Phenol(s), mg/liter ug/l							
.....kg/day							
Pesticides, mg/liter							
.....kg/day							
gen Uptake, g/mg/hr							
DNBP, mg/liter							
Specific Cond, micromhos							

ENVIRONMENTAL SUMMARY

Location Effluent - 85

Date	7-1	7-3	7-5	7-8	7-9	7.10	7-11
Flow, gallons	0	68488	0	26287	0	0	0
....MGD							
pH, units	7.1-7.6	9.1-9.5	7.4-9.1	7.1-9.6	7.2-7.6	7.6	7.2
DO, mg/liter							
BOD5, mg/liter							
....kg/day							
COD, mg/liter		620.6				1030.3	
...kg/day							
Chloride, mg/l		194.8				121.4	
.....kg/day							
Total Solids, mg/l							
TSS, mg/liter							
...kg/day							
Settleable Solids; ml/l							
Volatile Solids, mg/l							
Alkalinity, mg/liter		554.0				527.0	
.....kg/day							
Ammonia-Nitrogen, mg/l							
.....kg/day							
Nitrate-Nitrogen, mg/l							
.....kg/day							
Sulfate, mg/liter							
.....kg/day							
Phosphate as PO4, mg/l		93.0				45.0	
Oil and Grease, mg/l							
Phenol(s), mg/liter ug/l							
.....kg/day							
Pesticides, mg/liter		<0.026					
.....kg/day							
Oxygen Uptake, g/mg/hr							
DNBP, mg/liter							
Specific Cond, micromhos							

ENVIRONMENTAL SUMMARY

Location Influent - 83

D...	7-23	7-24	7-25	7-26	7-29	7-30	7-31
Flow, gallons	150830	168210	80	40	160670	0	40
.....MGD							
pH, units	8.4-8.8	7.2-9.1	7.5-7.6	7.5-7.6	7.6-8.7	7.5-7.6	7.2-7.6
DO, mg/liter							
BOD5, mg/liter							
.....kg/day							
COD, mg/liter		545.5					577.2
....kg/day							
Chloride, mg/l		169.5					418.8
.....kg/day							
Total Solids, mg/l							
TSS, mg/liter							
....kg/day							
ttleable Solids; ml/l							
Volatile Solids, mg/l							
Alkalinity, mg/liter		445.9					418.9
.....kg/day							
Ammonia-Nitrogen, mg/l							
.....kg/day							
Nitrate-Nitrogen, mg/l							
.....kg/day							
Sulfate, mg/liter							
.....kg/day							
Phosphate as PO4, mg/l		53.0					50.0
Oil and Grease, mg/l							
Phenol(s), mg/liter ug/l							
.....kg/day							
Pesticides, mg/liter							
.....kg/day							
...gen Uptake, g/mg/hr							
DNBP, mg/liter							
Specific Cond, micromhos							

ENVIRONMENTAL SUMMARY

Location Effluent - 8.5

	8-1	8-2	8-5	8-6	8-7	8-8	8-9
low, gallons	0	1310	47607	83270	82480	40990	0
...MGD							
H, units	7.3-7.4	7.1-11.6	7.2-9.6	8.6-8.9	8.5-8.8	7.1-7.1	7.6-7.7
O, mg/liter							
BOD5, mg/liter							
...kg/day							
COD, mg/liter					593.3		
...kg/day							
Chloride, mg/l					6938		
.....kg/day							
Total Solids, mg/l							
TSS, mg/liter							
...kg/day							
...tleable Solids; ml/l							
Volatile Solids, mg/l							
Alkalinity, mg/liter					413.5		
.....kg/day							
Ammonia-Nitrogen, mg/l							
.....kg/day							
Nitrate-Nitrogen, mg/l							
.....kg/day							
Sulfate, mg/liter							
.....kg/day							
Phosphate as PO4, mg/l					40.0		
Oil and Grease, mg/l							
Phenol(s), mg/liter							
.....kg/day							
Pesticides, mg/liter					<0.034		
.....kg/day							
...gen Uptake, g/mg/hr							
DNBP, mg/liter							
Specific Cond, micromhos							

ENVIRONMENTAL SUMMARY

Location [illegible]-85

	8-12	8-13	8-14	8-15	8-16	8-19	8-20
Flow, gallons	24870	0	0	50	88870	57123	0
.....MGD							
pH, units	7.3-10.4	7.1-7.4	7.2-7.8	6.8-7.1	9.4-9.5	7.1-9.6	7.1-7.4
DO, mg/liter							
BOD5, mg/liter							
.....kg/day							
COD, mg/liter			740.7				
....kg/day							
Chloride, mg/l			149.2				
.....kg/day							
Total Solids, mg/l							
TSS, mg/liter							
....kg/day							
[illegible]ttleable Solids; ml/l							
Volatile Solids, mg/l							
Alkalinity, mg/liter			402.7				
.....kg/day							
Ammonia-Nitrogen, mg/l							
.....kg/day							
Nitrate-Nitrogen, mg/l							
.....kg/day							
Sulfate, mg/liter							
.....kg/day							
Phosphate as PO4, mg/l			60.0				
Oil and Grease, mg/l							
Phenol(s), mg/liter							
.....kg/day							
Pesticides, mg/liter							
.....kg/day							
[illegible]gen Uptake, g/mg/hr							
DNBP, mg/liter							
Specific Cond, micromhos							

ENVIRONMENTAL SUMMARY

Location [illegible]

[illegible]	8-21	8-22	8-23	8-26	8-27	8-28	8-29
Flow, gallons	85510	37650	0	0	0	0	1090
.....MGD							
pH, units	7.2-7.5	7.4-7.6	7.6-7.9	7.2-7.7	7.2-7.5	7.2-7.4	6.2-11.5
DO, mg/liter							
BOD5, mg/liter							
.....kg/day							
COD, mg/liter	516.1					711.3	
....kg/day							
Chloride, mg/l	197.2					126.5	
.....kg/day							
Total Solids, mg/l							
TSS, mg/liter							
....kg/day							
[illegible]ttleable Solids; ml/l							
Volatile Solids, mg/l							
Alkalinity, mg/liter	373.8					510.8	
.....kg/day							
Ammonia-Nitrogen, mg/l							
.....kg/day							
Nitrate-Nitrogen, mg/l							
.....kg/day							
Sulfate, mg/liter							
.....kg/day							
Phosphate as PO4, mg/l	63.0					50.0	
Oil and Grease, mg/l							
Phenol(s), mg/liter µg/l							
.....kg/day							
Pesticides, mg/liter							
.....kg/day							
[illegible]gen Uptake, g/mg/hr							
DNBP, mg/liter							
Specific Cond, micromhos							

ENVIRONMENTAL SUMMARY

Location Effluent - 84

	8-30	9-3	9-4	9-5	9-6	9-9	9/10
Flow, gallons	104930	8818	111840	0	0	70523	40820
.....MGD							
pH, units	7.2-7.4	7.1-9.4	7.4-8.0	7.2-7.4	7.4-8.0	7.1-9.6	7.6-8.4
DO, mg/liter							
BOD5, mg/liter							
.....kg/day							
COD, mg/liter			481.3				
....kg/day							
Chloride, mg/l			713.3				
.....kg/day							
Total Solids, mg/l							
TSS, mg/liter							
....kg/day							
ttleable Solids; ml/l							
Volatile Solids, mg/l							
Alkalinity, mg/liter			502				
.....kg/day							
Ammonia-Nitrogen, mg/l							
.....kg/day							
Nitrate-Nitrogen, mg/l							
.....kg/day							
Sulfate, mg/liter							
.....kg/day							
Phosphate as PO4, mg/l			65.0				
Oil and Grease, mg/l							
Phenol(s), mg/liter ug/l							
.....kg/day							
Pesticides, mg/liter			<0.02				
.....kg/day							
gen Uptake, g/mg/hr							
DNBP, mg/liter							
Specific Cond, micromhos							

ENVIRONMENTAL SUMMARY

Location Effluent-85

	9-11	9-12	9-13	9-16	9-17	9-18	9-19
Flow, gallons	234050	0	0	29220	0	0	0
....MGD							
pH, units	7.3-9.2	7.4-7.4	7.4-7.5	6.8-10.2	7.2-7.8	7.4-7.6	7.6-7.7
DO, mg/liter							
BOD5, mg/liter							
.....kg/day							
COD, mg/liter	284.4					543.9	
....kg/day							
Chloride, mg/l	144.2					204.9	
.....kg/day							
Total Solids, mg/l							
TSS, mg/liter							
....kg/day							
Settleable Solids; ml/l							
Volatile Solids, mg/l							
Alkalinity, mg/liter	498.2					495.9	
.....kg/day							
Ammonia-Nitrogen, mg/l							
.....kg/day							
Nitrate-Nitrogen, mg/l							
.....kg/day							
Sulfate, mg/liter							
.....kg/day							
Phosphate as PO4, mg/l	57.5					30.0	
Oil and Grease, mg/l							
Phenol(s), mg/liter mg/l							
.....kg/day							
Pesticides, mg/liter							
.....kg/day							
Oxygen Uptake, g/mg/hr							
DNBP, mg/liter							
Specific Cond, micromhos							

ENVIRONMENTAL SUMMARY

Location Effluent-45.

	9-20	9-23	9-24	9-25	9-26	9-27	9-30
Flow, gallons	0	1723	NA	NA	NA	NA	NA
.....MGD							
pH, units	7.7-7.8	7.2-9.6	8.1-10.5	7.7	NS	NS	7.4-9.8
DO, mg/liter							
BOD5, mg/liter							
.....kg/day							
COD, mg/liter				3710			
....kg/day							
Chloride, mg/l				273.2			
.....kg/day							
Total Solids, mg/l							
TSS, mg/liter							
....kg/day							
ttleable Solids; ml/l							
Volatile Solids, mg/l							
Alkalinity, mg/liter				545.2			
.....kg/day							
Ammonia-Nitrogen, mg/l							
.....kg/day							
Nitrate-Nitrogen, mg/l							
.....kg/day							
Sulfate, mg/liter							
.....kg/day							
Phosphate as PO4, mg/l				63.0			
Oil and Grease, mg/l							
Phenol(s), mg/liter ug/l							
.....kg/day							
Pesticides, mg/liter							
.....kg/day							
gen Uptake, g/mg/hr							
DNBP, mg/liter							
Specific Cond, micromhos							

ENVIRONMENTAL SUMMARY

Location Influent - 85

Date	10-1	10-2	10-3	10-4	10-7	10-8	10-9
Flow, gallons	NA	NA	NA	NA	NA	NA	NA
.....MGD							
pH, units	7.4-9.3	7.8	7.3	7.8	7.2-9.5	7.5	9.1-9.2
DO, mg/liter							
BOD5, mg/liter							
.....kg/day							
COD, mg/liter		2000					212.6
....kg/day							
Chloride, mg/l		336.4					245.3
.....kg/day							
Total Solids, mg/l							
TSS, mg/liter							
....kg/day							
Settleable Solids, ml/l							
Volatile Solids, mg/l							
Alkalinity, mg/liter		425.4					434.8
.....kg/day							
Ammonia-Nitrogen, mg/l							
.....kg/day							
Nitrate-Nitrogen, mg/l							
.....kg/day							
Sulfate, mg/liter							
.....kg/day							
Phosphate as PO4, mg/l		15.0					50.0
Oil and Grease, mg/l							
Phenol(s), mg/liter							
.....kg/day							
Pesticides, mg/liter		<0.017					
.....kg/day							
Oxygen Uptake, g/mg/hr							
DNBP, mg/liter							
Specific Cond, micromhos							

ENVIRONMENTAL SUMMARY

Location Effluent - 85

Date	10-10	10-11	10-14	10-15	10-16	10-17	10-18
Flow, gallons	NA	NA	NA	NA	NA	NA	NA
.....MGD							
pH, units	6.8	NS	7.3-9.4	8.9-9.2	6.4-6.7	8.3-8.5	8.3-8.5
DO, mg/liter							
BOD5, mg/liter							
.....kg/day							
COD, mg/liter					168.1		
....kg/day							
Chloride, mg/l					212.6		
.....kg/day							
Total Solids, mg/l							
TSS, mg/liter							
....kg/day							
Settleable Solids, ml/l							
Volatile Solids, mg/l							
Alkalinity, mg/liter					369.0		
.....kg/day							
Ammonia-Nitrogen, mg/l							
.....kg/day							
Nitrate-Nitrogen, mg/l							
.....kg/day							
Sulfate, mg/liter							
.....kg/day							
Phosphate as PO4, mg/l					38.0		
Oil and Grease, mg/l							
Phenol(s), mg/liter							
.....kg/day							
Pesticides, mg/liter							
.....kg/day							
Oxygen Uptake, g/mg/hr							
DNBP, mg/liter							
Specific Cond, micromhos							

ENVIRONMENTAL SUMMARY

Location Effluent - 85

Date	10-21	10-22	10-23	10-24	10-25	10-28	10-29
Flow, gallons	NA	NA	NA	NA	NA	NA	NA
.....MGD							
pH, units	7.2-9.1	7.3-8.8	7.4-8.8	7.4-7.4	7.3-7.4	6.9-9.1	7.3
DO, mg/liter							
BOD5, mg/liter							
.....kg/day							
COD, mg/liter			74.4				
....kg/day							
Chloride, mg/l			91.0				
.....kg/day							
Total Solids, mg/l							
TSS, mg/liter							
....kg/day							
Settleable Solids, ml/l							
Volatile Solids, mg/l							
Alkalinity, mg/liter			185.7				
.....kg/day							
Ammonia-Nitrogen, mg/l							
.....kg/day							
Nitrate-Nitrogen, mg/l							
.....kg/day							
Sulfate, mg/liter							
.....kg/day							
Phosphate as PO4, mg/l			7.5				
Oil and Grease, mg/l							
Phenol(s), mg/liter							
.....kg/day							
Pesticides, mg/liter							
.....kg/day							
Oxygen Uptake, g/mg/hr							
DNBP, mg/liter							
Specific Cond, micromhos							

ENVIRONMENTAL SUMMARY

Location Influent - 85

Date	10-30	10-31	11-1	11-4	11-5	11-6	11-7
Flow, gallons	NA	NA	NA	NA	NA	NA	NA
.....MGD							
pH, units	7.5-7.5	6.5-9.5	7.4-7.8	6.1-7.8	6.7-7.2	7.3-7.4	8.5-8.6
DO, mg/liter							
BOD5, mg/liter							
.....kg/day							
COD, mg/liter	216.9					232.1	
....kg/day							
Chloride, mg/l	154.2					65.8	
.....kg/day							
Total Solids, mg/l							
TSS, mg/liter							
....kg/day							
Settleable Solids, ml/l							
Volatile Solids, mg/l							
Alkalinity, mg/liter	352.5					289.1	
.....kg/day							
Ammonia-Nitrogen, mg/l							
.....kg/day							
Nitrate-Nitrogen, mg/l							
.....kg/day							
Sulfate, mg/liter							
.....kg/day							
Phosphate as PO4, mg/l	17.5					17.5	
Oil and Grease, mg/l							
Phenol(s), mg/liter							
.....kg/day							
Pesticides, mg/liter							
.....kg/day							
Oxygen Uptake, g/mg/hr							
DNBP, mg/liter							
Specific Cond, micromhos							

ENVIRONMENTAL SUMMARY

Location [illegible]-85

Date	11-8-	11-11	11-12	11-13	11-14	11-15	11-18
Flow, gallons	NA	NA	NA	NA	NA	NA	NA
.....MGD							
pH, units	NS	7.3-8.9	7.3	6.2	NS	6.9-7.1	3.1-6.2
DO, mg/liter							
BOD5, mg/liter							
.....kg/day							
COD, mg/liter				266.7			
....kg/day							
Chloride, mg/l				88.5			
.....kg/day							
Total Solids, mg/l							
TSS, mg/liter							
....kg/day							
Settleable Solids, ml/l							
Volatile Solids, mg/l							
Alkalinity, mg/liter				437.1			
.....kg/day							
Ammonia-Nitrogen, mg/l							
.....kg/day							
Nitrate-Nitrogen, mg/l							
.....kg/day							
Sulfate, mg/liter							
.....kg/day							
Phosphate as PO4, mg/l				55.0			
Oil and Grease, mg/l							
Phenol(s), mg/liter							
.....kg/day							
Pesticides, mg/liter							
.....kg/day							
Oxygen Uptake, g/mg/hr							
DNBP, mg/liter							
Specific Cond, micromhos							

ENVIRONMENTAL SUMMARY

Location [illegible]-85

Date	11-19	11-20	11-21	11-22	11-25	11-26	11-27
Flow, gallons	NA	NA	NA	NA	NA	NA	NA
.....MGD							
pH, units	4.2-6.0	6.1-5.6	6.9-8.4	NS	7.3-8.2	8.2-8.2	8.0-9.1
DO, mg/liter							
BOD5, mg/liter							
.....kg/day							
COD, mg/liter		666.7					226.9
....kg/day							
Chloride, mg/l		338.9					208.5
.....kg/day							
Total Solids, mg/l							
TSS, mg/liter							
....kg/day							
Settleable Solids, ml/l							
Volatile Solids, mg/l							
Alkalinity, mg/liter		251.5					451.2
.....kg/day							
Ammonia-Nitrogen, mg/l							
.....kg/day							
Nitrate-Nitrogen, mg/l							
.....kg/day							
Sulfate, mg/liter							
.....kg/day							
Phosphate as PO4, mg/l		9.8					22.5
Oil and Grease, mg/l							
Phenol(s), mg/liter							
.....kg/day							
Pesticides, mg/liter							
.....kg/day							
Oxygen Uptake, g/mg/hr							
DNBP, mg/liter							
Specific Cond, micromhos							

ENVIRONMENTAL SUMMARY

Location Effluent -85

Date	12-2	12-3	12-4	12-5	12-6	12-9	12-10
Flow, gallons	NA	NA	NA	NA	NA	NA	NA
.....MGD							
pH, units	7.0-11.2	9.2-10.1	10.2	NS	NS	7.9-11.9	NS
DO, mg/liter							
BOD5, mg/liter							
.....kg/day							
COD, mg/liter			82.6				
....kg/day							
Chloride, mg/l			350.8				
.....kg/day							
Total Solids, mg/l							
TSS, mg/liter							
....kg/day							
Settleable Solids, ml/l							
Volatile Solids, mg/l							
Alkalinity, mg/liter			2867				
.....kg/day							
Ammonia-Nitrogen, mg/l							
.....kg/day							
Nitrate-Nitrogen, mg/l							
.....kg/day							
Sulfate, mg/liter							
.....kg/day							
Phosphate as PO4, mg/l			16.0				
Oil and Grease, mg/l							
Phenol(s), mg/liter							
.....kg/day							
Pesticides, mg/liter			<0.017				
.....kg/day							
Oxygen Uptake, g/mg/hr							
DNBP, mg/liter							
Specific Cond, micromhos							

ENVIRONMENTAL SUMMARY

Location Effluent -85

Date	12/11	12-12	12-13	12-16	12-17	12-18	12-19
Flow, gallons	NA	NA	NA	NA	NA	NA	NA
.....MGD							
pH, units	NS	8.7	NS	7.6-11.9	8.1	7.6	NS
DO, mg/liter							
BOD5, mg/liter							
.....kg/day							
COD, mg/liter	387.6					1943.7	
....kg/day							
Chloride, mg/l	363.1					1749.1	
.....kg/day							
Total Solids, mg/l							
TSS, mg/liter							
....kg/day							
Settleable Solids, ml/l							
Volatile Solids, mg/l							
Alkalinity, mg/liter	514.7					1106.9	
.....kg/day							
Ammonia-Nitrogen, mg/l							
.....kg/day							
Nitrate-Nitrogen, mg/l							
.....kg/day							
Sulfate, mg/liter							
.....kg/day							
Phosphate as PO4, mg/l	12					30	
Oil and Grease, mg/l							
Phenol(s), mg/liter							
.....kg/day							
Pesticides, mg/liter							
.....kg/day							
Oxygen Uptake, g/mg/hr							
DNBP, mg/liter							
Specific Cond, micromhos							

ENVIRONMENTAL SUMMARY

Location Effluent -85

Date	12-20	12-23	12-26	12-27	12-30		
Flow, gallons	NA	NA	NA	NA	NA		
.....MGD							
pH, units	9.6	7.8-11.9	7.6-10.8	6.4	7.6-11.5		
DO, mg/liter							
BOD5, mg/liter							
.....kg/day							
COD, mg/liter			1084.2				
....kg/day							
Chloride, mg/l			760.5				
.....kg/day							
Total Solids, mg/l							
TSS, mg/liter							
....kg/day							
Settleable Solids, ml/l							
Volatile Solids, mg/l							
Alkalinity, mg/liter			209.7				
.....kg/day							
Ammonia-Nitrogen, mg/l							
.....kg/day							
Nitrate-Nitrogen, mg/l							
.....kg/day							
Sulfate, mg/liter							
.....kg/day							
Phosphate as PO4, mg/l			40				
Oil and Grease, mg/l							
Phenol(s), mg/liter							
.....kg/day							
Pesticides, mg/liter							
.....kg/day							
Oxygen Uptake, g/mg/hr							
DNBP, mg/liter							
Specific Cond, micromhos							

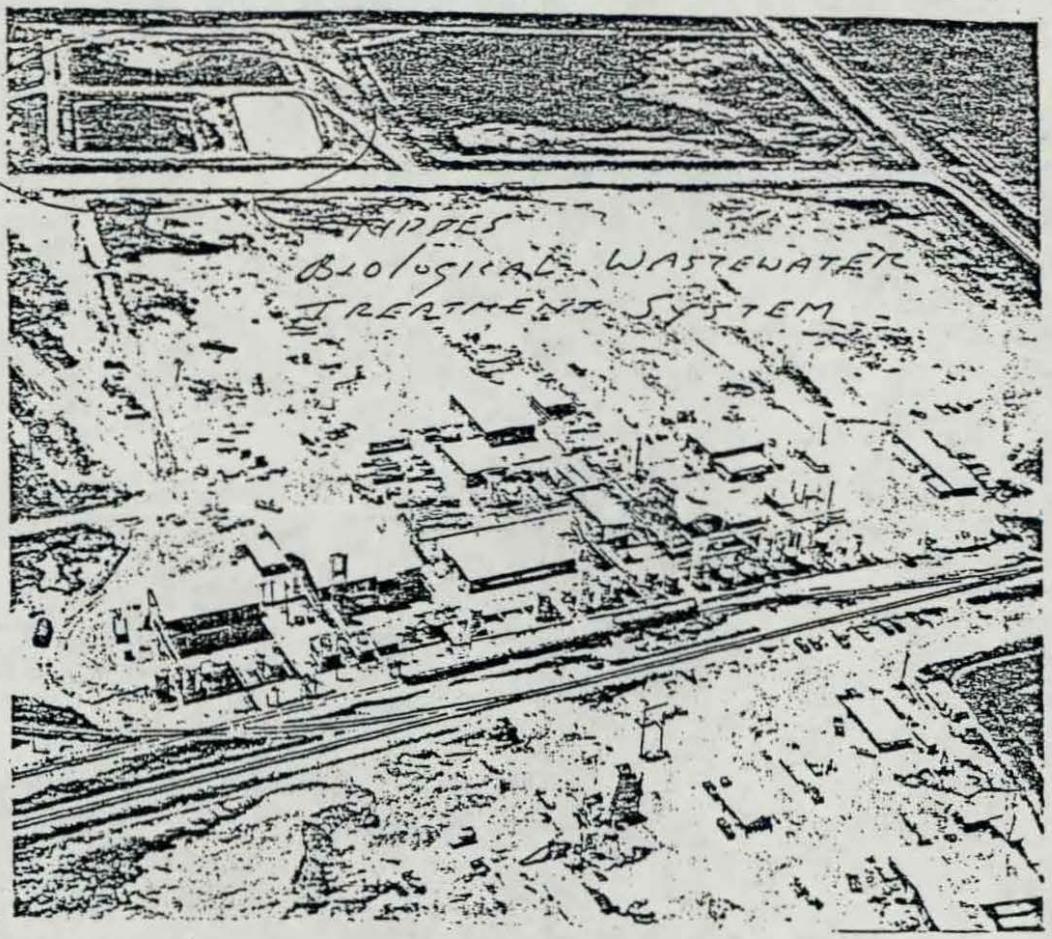
ITEM VI
FORM 3

VERTAC CHEMICAL CORPORATION
24th Floor • 5100 Poplar • Memphis, TN 38137 • 901-767-6851

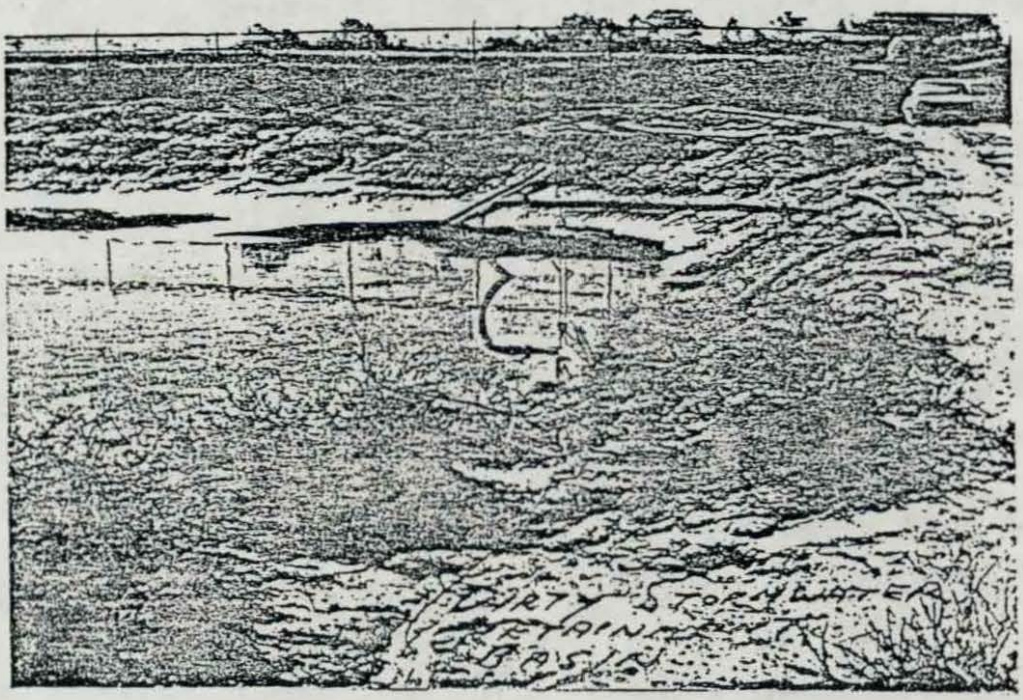
TECHNICAL DATA SHEET

West Helena, Arkansas

Established on a 48-acre industrial site four miles from the Mississippi River, the West Helena Plant specializes in custom manufacturing and has a wide selection of multi-functional custom processing units.

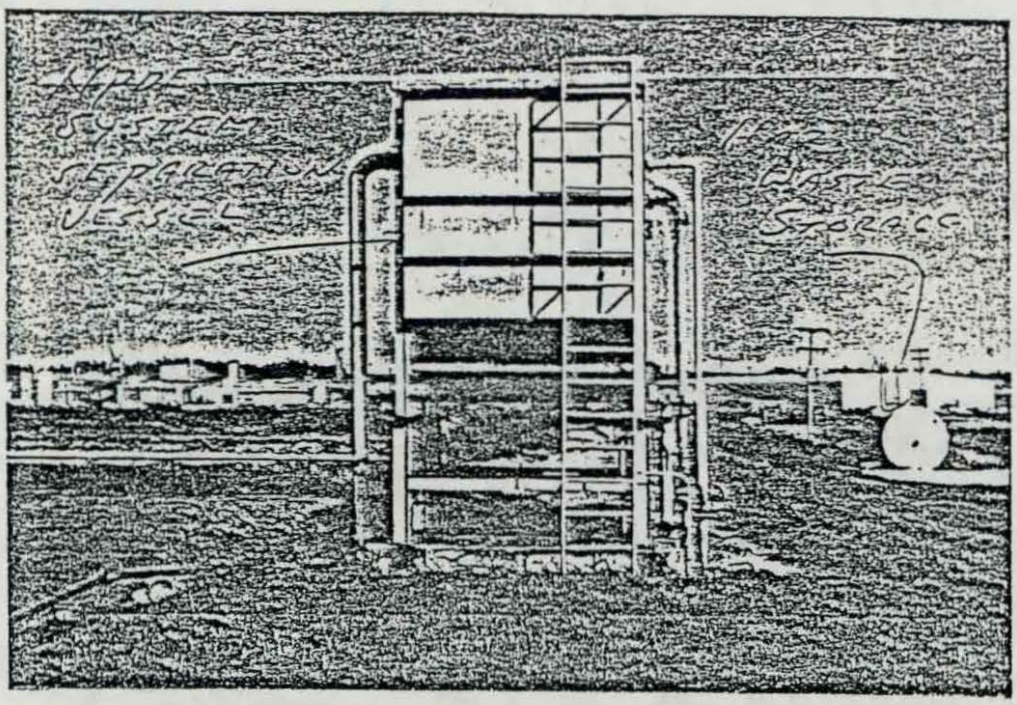


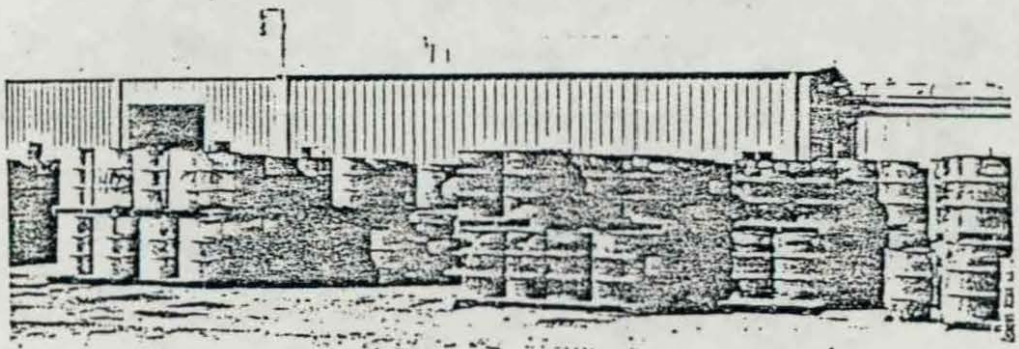
AERIAL PHOTOGRAPH



VERTAC CHEMICAL CORPORATION
24th Floor • 5100 Poplar • Memphis, TN 38137 • 901-767-6851

TECHNICAL DATA SHEET



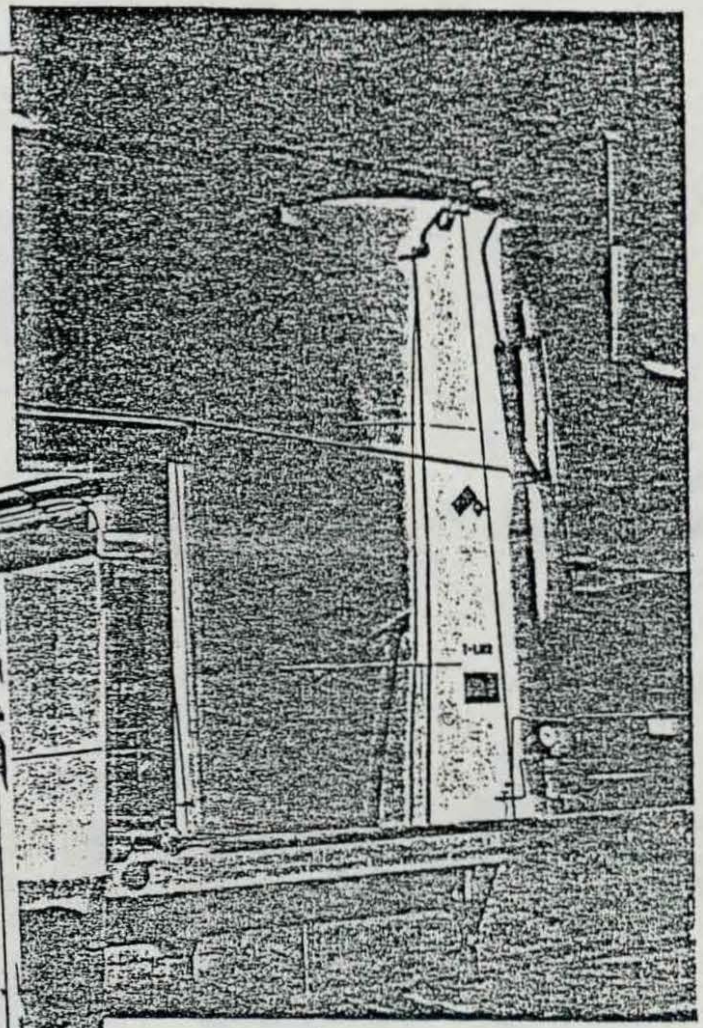


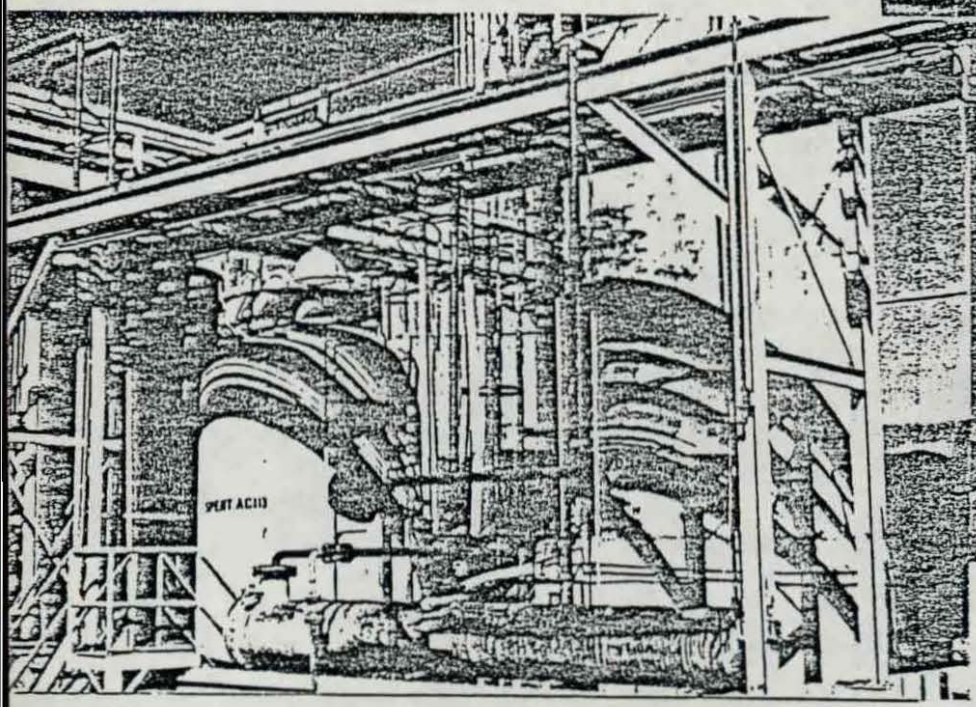
Drum Storage Area

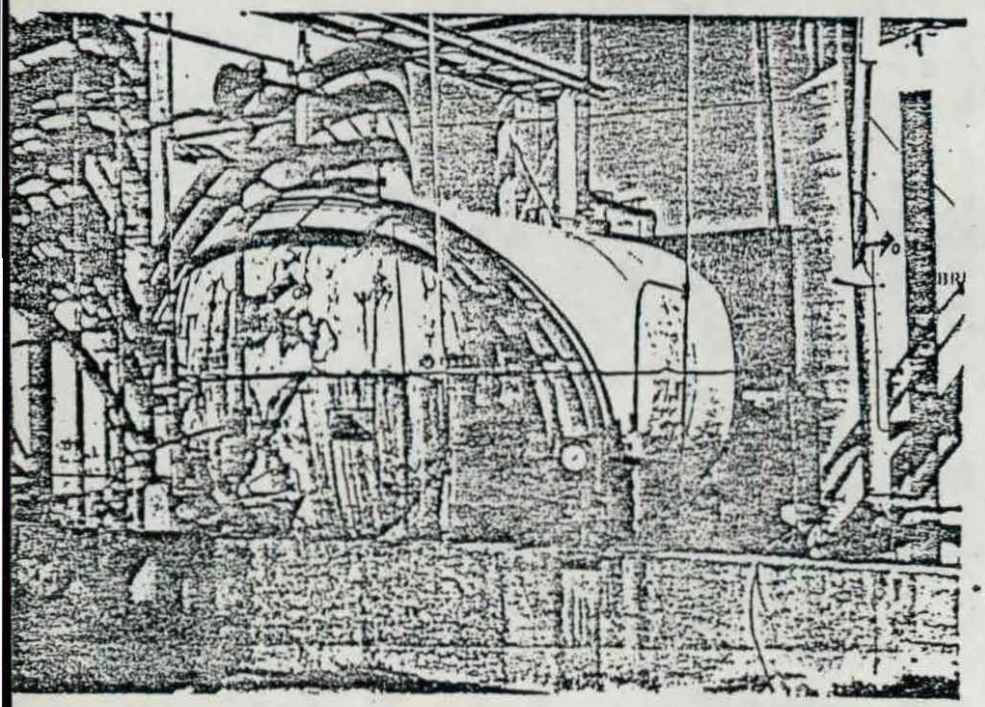
VERTAC CHEMICAL CORPORATION
24th Floor • 5100 Poplar • Memphis, TN 38137 • 901-767-6851

TECHNICAL DATA SHEET

HAZARDOUS
WASTE
STORAGE
VESSELS







MAR 13 1986

VERTAC CHEMICAL CORPORATION
24th Floor • 5100 Poplar • Memphis, TN 38137 • 901-767-6851 TELEX 53927

March 11, 1986

Mr. John Ward
Chief Hazardous Waste Division
ADPCE
P. O. Box 9583
Little Rock, AR 72219

RE: West Helena Facility
Vertac Chemical Corporation
RCRA Part A Permit ARD990660649

Dear Mr. Ward:

On January 9, 1986 we notified the Department of our intent to transfer all environmental and operating permits. Pursuant to 40 CFR 270.72(d) we attached a copy of the original RCRA permit countersigned by Mr. J. C. Bumpers, the Secretary of Cedar Chemical Corporation. Subsequent information, similarly countersigned by Mr. J. C. Bumpers, was provided on February 5, 1986 to acknowledge that Cedar Chemical Corporation approved modifications to the RCRA Part A permit; we requested the documents be considered a part of our January 9, 1986 notice in order to preserve that date as the starting time for the 90 day notification requirement.

At your request we now provide an executed original RCRA Part A application prepared in the name of Cedar Chemical Corporation. We anticipate that Cedar Chemical Corporation will be the owner and operator of the West Helena facility in April, 1986.

Very truly yours,

Dick Karkkainen
Director of Environment and Safety

RDK/bh

cc: J. C. Bumpers
J. E. Porter

Please print or type in the unshaded areas only
(fill-in areas are spaced for elite type, i.e., 12 characters/inch).

Revision of MARCH 1, 1986
Form Approved OMB No. 158-R0175

FORM 1 GENERAL

EPA

U.S. ENVIRONMENTAL PROTECTION AGENCY

GENERAL INFORMATION

Consolidated Permits Program
(Read the "General Instructions" before starting.)

I. EPA I.D. NUMBER

F ARD990660649

GENERAL INSTRUCTIONS

If a preprinted label has been provided, affix it in the designated space. Review the information carefully; if any of it is incorrect, cross through it and enter the correct data in the appropriate fill-in area below. Also, if any of the preprinted data is absent *(the area to the left of the label space lists the information that should appear)*, please provide it in the proper fill-in area(s) below. If the label is complete and correct, you need not complete Items I, III, V, and VI *(except VI-B which must be completed regardless)*. Complete all items if no label has been provided. Refer to the instructions for detailed item descriptions and for the legal authorizations under which this data is collected.

LABEL ITEMS

I. EPA I.D. NUMBER

III. FACILITY NAME

V. FACILITY MAILING ADDRESS

VI. FACILITY LOCATION

ARD 990 660 649
Cedar Chemical Corporation
West Helena Plant
P.O. Box 2749-Hwy 242 South
West Helena, Ar. 72390

II. POLLUTANT CHARACTERISTICS

INSTRUCTIONS: Complete A through J to determine whether you need to submit any permit application forms to the EPA. If you answer "yes" to any questions, you must submit this form and the supplemental form listed in the parenthesis following the question. Mark "X" in the box in the third column if the supplemental form is attached. If you answer "no" to each question, you need not submit any of these forms. You may answer "no" if your activity is excluded from permit requirements; see Section C of the instructions. See also, Section D of the instructions for definitions of bold-faced terms.

SPECIFIC QUESTIONS	MARK 'X' YES	MARK 'X' NO	MARK 'X' FORM ATTACHED
A. Is this facility a **publicly owned treatment works** which results in a **discharge to waters of the U.S.**? (FORM 2A)		XX	
C. Is this a facility which currently results in **discharges to waters of the U.S.** other than those described in A or B above? (FORM 2C)	XX		
E. Does or will this facility treat, store, or dispose of **hazardous wastes**? (FORM 3)	XX		XXX
G. Do you or will you inject at this facility any produced water or other fluids which are brought to the surface in connection with conventional oil or natural gas production, inject fluids used for enhanced recovery of oil or natural gas, or inject fluids for storage of liquid hydrocarbons? (FORM 4)		XX	
I. Is this facility a proposed **stationary source** which is one of the 28 industrial categories listed in the instructions and which will potentially emit 100 tons per year of any air pollutant regulated under the Clean Air Act and may affect or be located in an **attainment area**? (FORM 5)		XX	

SPECIFIC QUESTIONS	MARK 'X' YES	MARK 'X' NO	MARK 'X' FORM ATTACHED
B. Does or will this facility *(either existing or proposed)* include a **concentrated animal feeding operation** or **aquatic animal production facility** which results in a **discharge to waters of the U.S.**? (FORM 2B)		XX	
D. Is this a proposed facility *(other than those described in A or B above)* which will result in a **discharge to waters of the U.S.**? (FORM 2D)		XX	
F. Do you or will you inject at this facility industrial or municipal effluent below the lowermost stratum containing, within one quarter mile of the well bore, underground sources of drinking water? (FORM 4)		XX	
H. Do you or will you inject at this facility fluids for special processes such as mining of sulfur by the Frasch process, solution mining of minerals, in situ combustion of fossil fuel, or recovery of geothermal energy? (FORM 4)		XX	
J. Is this facility a proposed **stationary source** which is NOT one of the 28 industrial categories listed in the instructions and which will potentially emit 250 tons per year of any air pollutant regulated under the Clean Air Act and may affect or be located in an **attainment area**? (FORM 5)		XX	

III. NAME OF FACILITY

1 SKIP Cedar Chemical Corp. - West Helena Plant

IV. FACILITY CONTACT

A. NAME & TITLE *(last, first, & title)*	B. PHONE *(area code & no.)*
2 Porter Joe E. Environmental Eng	501 572 3701

V. FACILITY MAILING ADDRESS

A. STREET OR P.O. BOX

3 PO Box 2749

B. CITY OR TOWN	C. STATE	D. ZIP CODE
4 West Helena	AR	72390

VI. FACILITY LOCATION

A. STREET, ROUTE NO. OR OTHER SPECIFIC IDENTIFIER

5 Highway 242 South

B. COUNTY NAME

Phillips

C. CITY OR TOWN	D. STATE	E. ZIP CODE	F. COUNTY CODE *(if known)*
6 West Helena	AR	72390	

CONTINUE ON REVERSE

CONTINUED FROM THE FRONT

VII. SIC CODES *(4-digit, in order of priority)*

A. FIRST	B. SECOND
2865 — (specify) Organic Chemicals	2869 — (specify) Organic Chemicals
C. THIRD	**D. FOURTH**
2879 — (specify) Pesticides	(specify)

VIII. OPERATOR INFORMATION

A. NAME: Cedar Chemical Corporation

B. Is the name listed in Item VIII-A also the owner? [X] YES [ ] NO

C. STATUS OF OPERATOR *(Enter the appropriate letter into the answer box; if "Other", specify.)*
F = FEDERAL
S = STATE
P = PRIVATE
M = PUBLIC *(other than federal or state)*
O = OTHER *(specify)*

P (specify)

D. PHONE *(area code & no.)*: A 901 767 6851

E. STREET OR P.O. BOX: 5100 Poplar Avenue

F. CITY OR TOWN: Memphis

G. STATE: TN

H. ZIP CODE: 38137

IX. INDIAN LAND

Is the facility located on Indian lands? [ ] YES [X] NO

X. EXISTING ENVIRONMENTAL PERMITS

A. NPDES *(Discharges to Surface Water)*: 9 N AR0036412	D. PSD *(Air Emissions from Proposed Sources)*: 9 P
B. UIC *(Underground Injection of Fluids)*: 9 U	E. OTHER *(specify)*: 9 126A — (specify) Arkansas-Air Pollution Control
C. RCRA *(Hazardous Wastes)*: 9 R AR0990660649	E. OTHER *(specify)*: 9 1963W — (specify) Arkansas-Water-NPDES Outfall

XI. MAP

Attach to this application a topographic map of the area extending to at least one mile beyond property bounderies. The map must show the outline of the facility, the location of each of its existing and proposed intake and discharge structures, each of its hazardous waste treatment, storage, or disposal facilities, and each well where it injects fluids underground. Include all springs, rivers and other surface water bodies in the map area. See instructions for precise requirements.

XII. NATURE OF BUSINESS *(provide a brief description)*

Cedar Chemical Products: (1) Propanil (3, 4-Dichloropropionanilide) a rice herbicide

Contract amnufacture (toll agreements) (1) Permethrin, Technical-for ICI Americas

Facility is a multi-purpose batch operation
(2) Cypermethrin, technical-for ICI Americas
(3) Stam- 3, 4-Dichloropropionanilide - for Rohm & Haas
(4) Alkylated phenols - for Schnectady Chemical, Inc.

XIII. CERTIFICATION *(see instructions)*

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this application and all attachments and that, based on my inquiry of those persons immediately responsible for obtaining the information contained in the application, I believe that the information is true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment.

A. NAME & OFFICIAL TITLE *(type or print)*	B. SIGNATURE	C. DATE SIGNED
John O Bumpers	Secretary	3/12/86

COMMENTS FOR OFFICIAL USE ONLY

Continued from the front.

III. PROCESSES *(continued)*

C. SPACE FOR ADDITIONAL PROCESS CODES OR FOR DESCRIBING OTHER PROCESSES *(code "T04")*. FOR EACH PROCESS ENTERED HERE INCLUDE DESIGN CAPACITY.

IV. DESCRIPTION OF HAZARDOUS WASTES

A. EPA HAZARDOUS WASTE NUMBER – Enter the four–digit number from 40 CFR, Subpart D for each listed hazardous waste you will handle. If you handle hazardous wastes which are not listed in 40 CFR, Subpart D, enter the four–digit number*(s)* from 40 CFR, Subpart C that describes the characteristics and/or the toxic contaminants of those hazardous wastes.

B. **ESTIMATED ANNUAL QUANTITY** – For each **listed waste** entered in column A estimate the quantity of that waste that will be handled on an annual basis. For each **characteristic** or **toxic contaminant** entered in column A estimate the total annual quantity of all the non–listed waste*(s)* that will be handled which possess that characteristic or contaminant.

C. **UNIT OF MEASURE** – For each quantity entered in column B enter the unit of measure code. Units of measure which must be used and the appropriate codes are:

ENGLISH UNIT OF MEASURE	CODE	METRIC UNIT OF MEASURE	CODE
POUNDS	P	KILOGRAMS	K
TONS	T	METRIC TONS	M

If facility records use any other unit of measure for quantity, the units of measure must be converted into one of the required units of measure taking into account the appropriate density or specific gravity of the waste.

D. PROCESSES

1. PROCESS CODES:
   For listed hazardous waste: For each **listed** hazardous waste entered in column A select the code*(s)* from the list of process codes contained in Item III to indicate how the waste will be stored, treated, and/or disposed of at the facility.
   For non–listed hazardous wastes: For each characteristic or toxic contaminant entered in column A, select the code*(s)* from the list of process codes contained in Item III to indicate **all** the processes that will be used to store, treat, and/or dispose of all the non–listed hazardous wastes that possess that characteristic or toxic contaminant.
   Note: Four spaces are provided for entering process codes. If more are needed: (1) Enter the first three as described above; (2) Enter "000" in the extreme right box of Item IV-D(1); and (3) Enter in the space provided on page 4, the line number and the additional code*(s)*.

2. PROCESS DESCRIPTION: If a code is not listed for a process that will be used, describe the process in the space provided on the form.

NOTE: HAZARDOUS WASTES DESCRIBED BY MORE THAN ONE EPA HAZARDOUS WASTE NUMBER – Hazardous wastes that can be described by more than one EPA Hazardous Waste Number shall be described on the form as follows:

1. Select one of the EPA Hazardous Waste Numbers and enter it in column A. On the same line complete columns B,C, and D by estimating the total annual quantity of the waste and describing all the processes to be used to treat, store, and/or dispose of the waste.
2. In column A of the next line enter the other EPA Hazardous Waste Number that can be used to describe the waste. In column D(2) on that line enter "included with above" and make no other entries on that line.
3. Repeat step 2 for each other EPA Hazardous Waste Number that can be used to describe the hazardous waste.

EXAMPLE FOR COMPLETING ITEM IV *(shown in line numbers X-1, X-2, X-3, and X-4 below)* – A facility will treat and dispose of an estimated 900 pounds per year of chrome shavings from leather tanning and finishing operation. In addition, the facility will treat and dispose of three non–listed wastes. Two wastes are corrosive only and there will be an estimated 200 pounds per year of each waste. The other waste is corrosive and ignitable and there will be an estimated 100 pounds per year of that waste. Treatment will be in an incinerator and disposal will be in a landfill.

LINE NO.	A. EPA HAZARD. WASTE NO. (enter code)	B. ESTIMATED ANNUAL QUANTITY OF WASTE	C. UNIT OF MEASURE (enter code)	D. PROCESSES 1. PROCESS CODES (enter)	D. PROCESSES 2. PROCESS DESCRIPTION (if a code is not entered in D(1))
X-1	K 0 5 4	900	P	T 0 3 D 8 0	
X-2	D 0 0 2	400	P	T 0 3 D 8 0	
X-3	D 0 0 1	100	P	T 0 3 D 8 0	
X-4	D 0 0 2				*included with above*

Please print or type in the unshaded areas only
(fill–in areas are spaced for elite type, i.e., 12 characters/inch).

Form Approved OMB No. 158-S80004

FORM 3 RCRA

EPA

U.S. ENVIRONMENTAL PROTECTION AGENCY

HAZARDOUS WASTE PERMIT APPLICATION

Consolidated Permits Program

(This information is required under Section 3005 of RCRA.)

I. EPA I.D. NUMBER

F A R D 9 9 0 6 6 0 6 4 9

FOR OFFICIAL USE ONLY

APPLICATION APPROVED	DATE RECEIVED (yr., mo., & day)	COMMENTS

II. FIRST OR REVISED APPLICATION

Place an "X" in the appropriate box in A or B below *(mark one box only)* to indicate whether this is the first application you are submitting for your facility or a revised application. If this is your first application and you already know your facility's EPA I.D. Number, or if this is a revised application, enter your facility's EPA I.D. Number in Item I above.

A. FIRST APPLICATION *(place an "X" below and provide the appropriate date)*

☐ 1. EXISTING FACILITY *(See instructions for definition of "existing" facility. Complete item below.)*

C 8 — YR. MO. DAY — FOR EXISTING FACILITIES, PROVIDE THE DATE *(yr., mo., & day)* OPERATION BEGAN OR THE DATE CONSTRUCTION COMMENCED *(use the boxes to the left)*

☐ 2. NEW FACILITY *(Complete item below.)*

YR. MO. DAY — FOR NEW FACILITIES, PROVIDE THE DATE *(yr., mo., & day)* OPERATION BEGAN OR IS EXPECTED TO BEGIN

B. REVISED APPLICATION *(place an "X" below and complete Item I above)*

☒ 1. FACILITY HAS INTERIM STATUS This Revision Dated MARCH 1, 1986

☐ 2. FACILITY HAS A RCRA PERMIT

III. PROCESSES – CODES AND DESIGN CAPACITIES

A. PROCESS CODE – Enter the code from the list of process codes below that best describes each process to be used at the facility. Ten lines are provided for entering codes. If more lines are needed, enter the code*(s)* in the space provided. If a process will be used that is not included in the list of codes below, then describe the process *(including its design capacity)* in the space provided on the form *(Item III-C)*.

B. PROCESS DESIGN CAPACITY – For each code entered in column A enter the capacity of the process.

1. AMOUNT – Enter the amount.
2. UNIT OF MEASURE – For each amount entered in column B(1), enter the code from the list of unit measure codes below that describes the unit of measure used. Only the units of measure that are listed below should be used.

PROCESS	PROCESS CODE	APPROPRIATE UNITS OF MEASURE FOR PROCESS DESIGN CAPACITY
Storage:		
CONTAINER *(barrel, drum, etc.)*	S01	GALLONS OR LITERS
TANK	S02	GALLONS OR LITERS
WASTE PILE	S03	CUBIC YARDS OR CUBIC METERS
SURFACE IMPOUNDMENT	S04	GALLONS OR LITERS
Disposal:		
INJECTION WELL	D79	GALLONS OR LITERS
LANDFILL	D80	ACRE-FEET *(the volume that would cover one acre to a depth of one foot)* OR HECTARE-METER
LAND APPLICATION	D81	ACRES OR HECTARES
OCEAN DISPOSAL	D82	GALLONS PER DAY OR LITERS PER DAY
SURFACE IMPOUNDMENT	D83	GALLONS OR LITERS

PROCESS	PROCESS CODE	APPROPRIATE UNITS OF MEASURE FOR PROCESS DESIGN CAPACITY
Treatment:		
TANK	T01	GALLONS PER DAY OR LITERS PER DAY
SURFACE IMPOUNDMENT	T02	GALLONS PER DAY OR LITERS PER DAY
INCINERATOR	T03	TONS PER HOUR OR METRIC TONS PER HOUR; GALLONS PER HOUR OR LITERS PER HOUR
OTHER *(Use for physical, chemical, thermal or biological treatment processes not occurring in tanks, surface impoundments or incinerators. Describe the processes in the space provided; Item III-C.)*	T04	GALLONS PER DAY OR LITERS PER DAY

UNIT OF MEASURE	UNIT OF MEASURE CODE	UNIT OF MEASURE	UNIT OF MEASURE CODE	UNIT OF MEASURE	UNIT OF MEASURE CODE
GALLONS	G	LITERS PER DAY	V	ACRE-FEET	A
LITERS	L	TONS PER HOUR	D	HECTARE-METER	F
CUBIC YARDS	Y	METRIC TONS PER HOUR	W	ACRES	B
CUBIC METERS	C	GALLONS PER HOUR	E	HECTARES	Q
GALLONS PER DAY	U	LITERS PER HOUR	H		

EXAMPLE FOR COMPLETING ITEM III *(shown in line numbers X-1 and X-2 below)*: A facility has two storage tanks, one tank can hold 200 gallons and the other can hold 400 gallons. The facility also has an incinerator that can burn up to 20 gallons per hour.

S C — DUP — T/A C 1

LINE NUMBER	A. PROCESS CODE (from list above)	B. PROCESS DESIGN CAPACITY 1. AMOUNT (specify)	B. 2. UNIT OF MEASURE (enter code)	FOR OFFICIAL USE ONLY	LINE NUMBER	A. PROCESS CODE (from list above)	B. 1. AMOUNT	B. 2. UNIT OF MEASURE (enter code)	FOR OFFICIAL USE ONLY
X-1	S02	600	G		5				
X-2	T03	20	E		6				
1	S01	4,400	G		7				
2	S02	41,000	G		8				
3	T01	33,000	U		9				
4					10				

Continued from the front.

IV. DESCRIPTION OF HAZARDOUS WASTES *(continued)*

E. USE THIS SPACE TO LIST ADDITIONAL PROCESS CODES FROM ITEM D(1) ON PAGE 3.

EPA I.D. NO. *(enter from page 1)*													T/A	C
S	F	A	R	D	9	9	0	6	6	0	6	4	9	6

V. FACILITY DRAWING

All **existing** facilities must include in the space provided on page 5 a scale drawing of the facility *(see instructions for more detail).*

VI. PHOTOGRAPHS

All existing facilities must include photographs *(aerial or ground—level)* that clearly delineate all existing structures; existing storage, treatment and disposal areas; and sites of future storage, treatment or disposal areas *(see instructions for more detail).*

VII. FACILITY GEOGRAPHIC LOCATION

LATITUDE *(degrees, minutes, & seconds)*	LONGITUDE *(degrees, minutes, & seconds)*
34 31 075	090 38 079

VIII. FACILITY OWNER

☒ A. If the facility owner is also the facility operator as listed in Section VIII on Form 1, "General Information", place an "X" in the box to the left and skip to Section IX below.

B. If the facility owner is not the facility operator as listed in Section VIII on Form 1, complete the following items:

1. NAME OF FACILITY'S LEGAL OWNER	2. PHONE NO. *(area code & no.)*
C E	

3. STREET OR P.O. BOX	4. CITY OR TOWN	5. ST.	6. ZIP CODE
C F	C G		

IX. OWNER CERTIFICATION

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this and all attached documents, and that based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the submitted information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment. RO Kathaine 3/12/86

A. NAME *(print or type)*	B. SIGNATURE	C. DATE SIGNED
John C. Bumpers John C. Bumpers	John C. Bumpers	3/12/86

X. OPERATOR CERTIFICATION

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this and all attached documents, and that based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the submitted information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment. RO Kathaine 3/12/86

A. NAME *(print or type)*	B. SIGNATURE	C. DATE SIGNED
John C. Bumpers	John C. Bumpers	3/12/86

Continued from page 2.

NOTE: Photocopy this page before completing if you have more than 26 wastes to list.

Form Approved OMB No. 158-S80004

EPA I.D. NUMBER (enter from page 1)	FOR OFFICIAL USE ONLY
W A R D 9 9 0 6 6 0 6 4 9 — T/A: 1	W DUP — T/A: 2 — DUP

IV. DESCRIPTION OF HAZARDOUS WASTES *(continued)*

LINE NO.	A. EPA HAZARD. WASTE NO. (enter code)	B. ESTIMATED ANNUAL QUANTITY OF WASTE	C. UNIT OF MEASURE (enter code)	D. PROCESSES 1. PROCESS CODES (enter)	D. PROCESSES 2. PROCESS DESCRIPTION (if a code is not entered in D(1))
1	D001	36,000,000	P	S01 S02 T01	
2	D001	70,000	P	S01 S02	
3	D004	4,000	P	S01	
4					
5					
6					
7					
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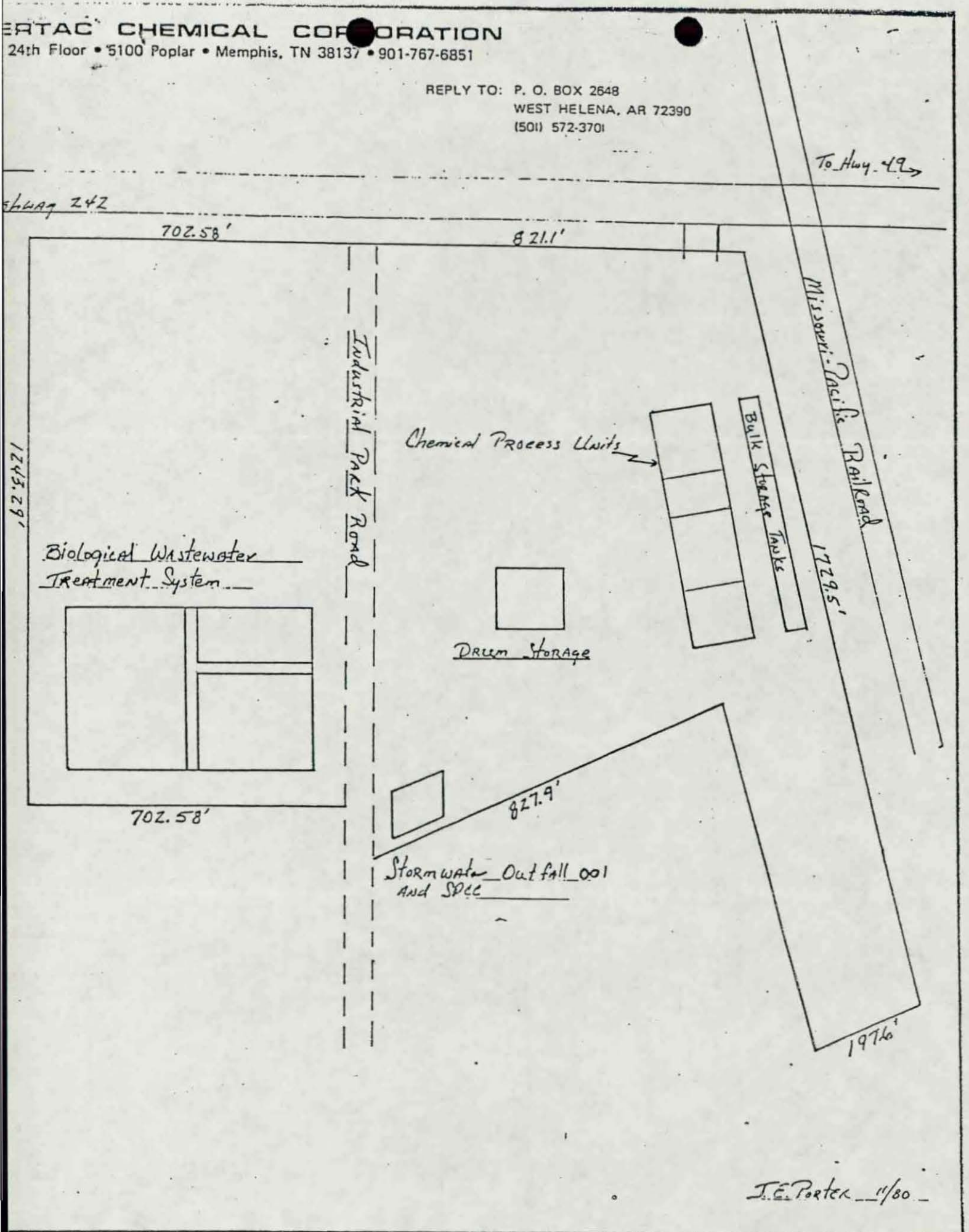
24					
25					
26					

ERTAC CHEMICAL CORPORATION
24th Floor • 5100 Poplar • Memphis, TN 38137 • 901-767-6851

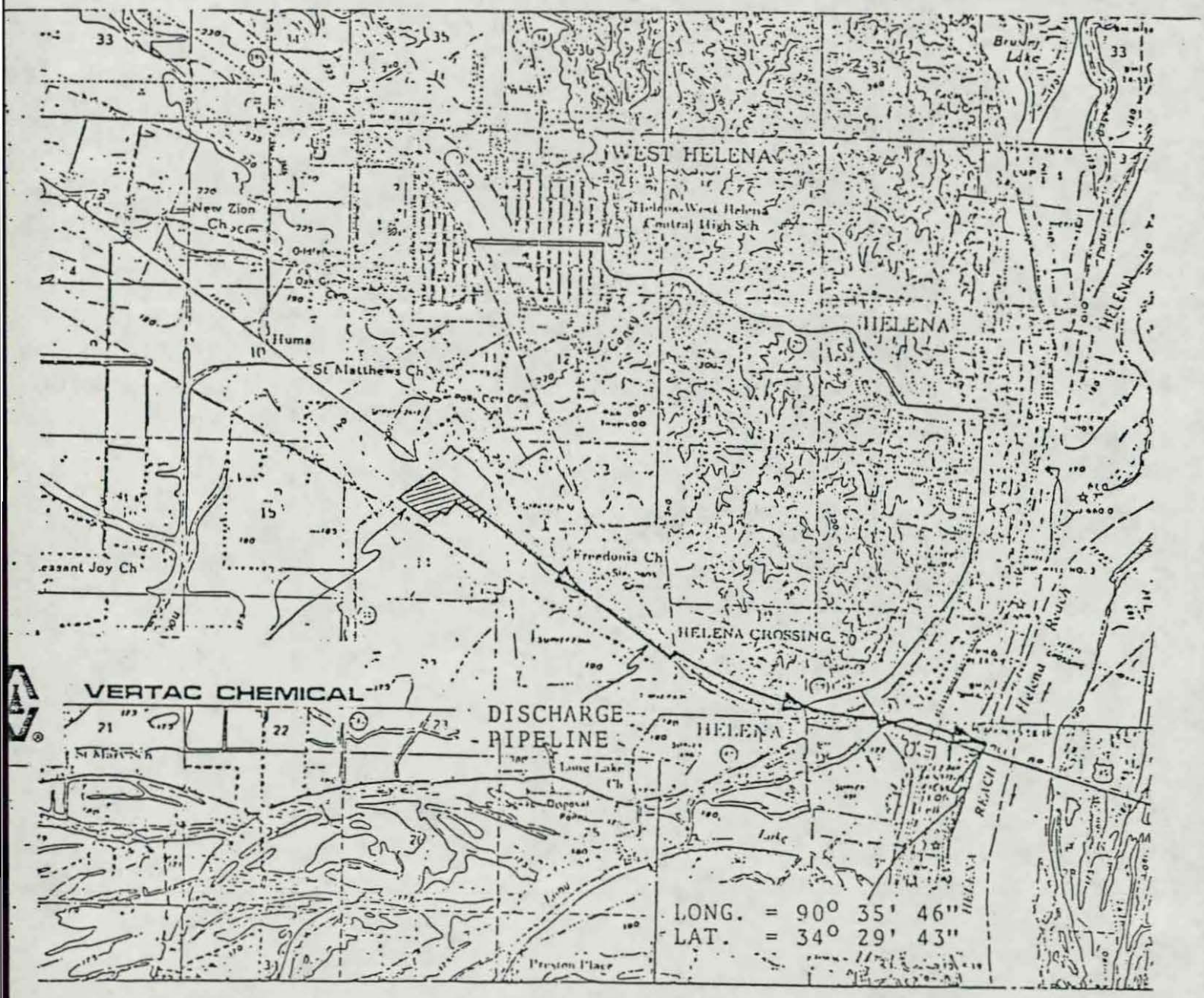
REPLY TO: P. O. BOX 2648
WEST HELENA, AR 72390
(501) 572-3701



J.E. Porter 11/80

VERTAC CHEMICAL CORPORATION
24th Floor • 5100 Poplar • Memphis, TN 38137 • 901-767-6851

REPLY TO: P. O. BOX 2648
WEST HELENA, AR 72390
(501) 572-3701



NPDES Outfall 002

LOCATION MAP
(EXCERPT FROM BELOW)

Mapped and edited by the Mississippi River Commission
Published by the Geological Survey

Control by USGS, USC&GS, and USCE

Topography by photogrammetric methods from aerial photographs taken 1960, and planetable surveys 1930–1949 and 1961. Field checked 1961

Polyconic projection 1927 North American datum
10,000 foot grids based on Arkansas coordinate system, south zone, and Mississippi coordinate system, west zone
1000-meter Universal Transverse Mercator grid ticks, zone 15, shown in blue

Red tint indicates area in which only landmark buildings are shown

SCALE: 1:62500

MARCH 26, 1976

FEB 6 1986 #4

VERTAC CHEMICAL CORPORATION
24th Floor • 5100 Poplar • Memphis, TN 38137 • 901-767-6851

TELEX 53927

File
Vertac - West Helena

February 5, 1986

Mr. John Ward
Chief Hazardous Waste Division
ADPCE
P. O. Box 9583
Little Rock, AR 72219

Dear Mr. Ward:

Pursuant to your letter of January 31, 1986 in reply to our letter of January 9, 1986, I have attached copies of that document which requested withdrawal of the lagoon from the RCRA system and that document which noted approval of such withdrawal. The documents are now countersigned by an officer of Cedar Chemical Corporation. We request the documents be considered a part of our January 9, 1986 notice of intent to transfer permits.

Additionally, we will follow up with the completion of the forms attached to your letter.

Best regards,

Dick Karkkainen

Dick Karkkainen
Director of Environment and Safety

RDK/bh

Attch.

VERTAC CHEMICAL CORPORATION
24th Floor • 5100 Poplar • Memphis, TN 38137 • 901-767-6851 TELEX 53927

January 9, 1986

cc: Air Div
Wtr Div
Phil Leech

Dr. Phylis Garnett
Director
ADPCE
P. O. Box 9583
Little Rock, AR 72219

Dear Dr. Garnett:

There will be a structural reorganization of Vertac Chemical Corporation. The West Helena facility of Vertac Chemical Corporation will be a part of Cedar Chemical Corporation. Cedar Chemical Corporation will be a sister company to Vertac Chemical Corporation. This letter is a notification of intent to transfer all environmental and operating permits to Cedar Chemical Corporation.

The various permits are listed for reference:

1. RCRA Part A permit number ARD990660649. Pursuant to 40CFR 270.72(d) a RCRA Part A permit application is attached. The application has been countersigned by Mr. J. C. Bumpers, the Secretary of Cedar Chemical Corporation.

2. NPDES Permit number AR0036412.

3. State water permit number 1963W.

4. State Air/Operating permit number 126A.

Very truly yours,

Dick Karkkainen

Dick Karkkainen
Director of Environment and Safety

RDK/bh

cc: Mr. Dick Whittington
EPA - Region VI
Dallas, TX

GENERAL | EPA | GENERAL I[illegible] Consolidated (R[illegible] the "General Ins[illegible]

RCRA PART A

06 6 06 4 9 | T/A | C | D

LABEL ITEMS

I. EPA I.D. NUMBER	ARD990660649
III. FACILITY NAME	CEDAR CHEMICAL CORP. ~~EAGLE RIVER CHEMIC~~
V. FACILITY MAILING ADDRESS	PO BOX 2648 WEST HELENA
VI. FACILITY LOCATION	HWY #242 WEST HELENA

WEST HELENA

L INSTRUCTIONS

[illegible]bel has been provided, affix [illegible]d space. Review the inform[illegible] any of it is incorrect, cross [illegible]ter the correct data in the [illegible] area below. Also, if any of [illegible]a is absent *(the area to the [illegible] space lists the information [illegible]r)*, please provide it in the [illegible]a(s) below. If the label is [illegible]ect, you need not complete [illegible]and VI *(except VI-B which [illegible]ed regardless)*. Complete all [illegible] has been provided. Refer to [illegible] for detailed item descrip[illegible]e legal authorizations under [illegible] collected.

II. POLLUTANT CHARACTERISTICS

INSTRUCTIONS: Complete A through J to determine whether yo[illegible] If you answer "yes" to any questions, you must submit this form and the supplemental form l[illegible] the box in the third column if the supplemental form is attached. If you answer "no" to each question, you need not submit any of these forms. You may answer "no" if your activity is excluded from permit requirements; see Section C of the instructions. See also, Section D of the instructions for definitions of bold-faced terms.

SPECIFIC QUESTIONS	MARK 'X' YES	NO	FORM ATTACHED
A. Is this facility a publicly owned treatment works which results in a discharge to waters of the U.S.? (FORM 2A)		XX	
B. Does or will this facility *(either existing or proposed)* include a concentrated animal feeding operation or aquatic animal production facility which results in a discharge to waters of the U.S.? (FORM 2B)		XX	
C. Is this a facility which currently results in discharges to waters of the U.S. other than those described in A or B above? (FORM 2C)	XX		
D. Is this a proposed facility *(other than those described in A or B above)* which will result in a discharge to waters of the U.S.? (FORM 2D)		XX	
E. Does or will this facility treat, store, or dispose of hazardous wastes? (FORM 3)	XX		XXX
F. Do you or will you inject at this facility industrial or municipal effluent below the lowermost stratum containing, within one quarter mile of the well bore, underground sources of drinking water? (FORM 4)		XX	
G. Do you or will you inject at this facility any produced water or other fluids which are brought to the surface in connection with conventional oil or natural gas production, inject fluids used for enhanced recovery of oil or natural gas, or inject fluids for storage of liquid hydrocarbons? (FORM 4)		XX	
H. Do you or will you inject at this facility fluids for special processes such as mining of sulfur by the Frasch process, solution mining of minerals, in situ combustion of fossil fuel, or recovery of geothermal energy? (FORM 4)		XX	
I. Is this facility a proposed stationary source which is one of the 28 industrial categories listed in the instructions and which will potentially emit 100 tons per year of any air pollutant regulated under the Clean Air Act and may affect or be located in an attainment area? (FORM 5)		XX	
J. Is this facility a proposed stationary source which is NOT one of the 28 industrial categories listed in the instructions and which will potentially emit 250 tons per year of any air pollutant regulated under the Clean Air Act and may affect or be located in an attainment area? (FORM 5)		XX	

III. NAME OF FACILITY

1 SKIP CEDAR ~~VERTAG~~ CHEMICAL CORP.-WEST HELENA PLANT

IV. FACILITY CONTACT

A. NAME & TITLE (last, first, & title)	B. PHONE (area code & no.)
2 PORTER, JOE E ENVIRONMENTAL ENGINEER	501 572 3701

V. FACILITY MAILING ADDRESS

A. STREET OR P.O. BOX

3 P O BOX 2648

B. CITY OR TOWN	C. STATE	D. ZIP CODE
4 WEST HELENA	AR	72390

VI. FACILITY LOCATION

A. STREET, ROUTE NO. OR OTHER SPECIFIC IDENTIFIER

5 HIGHWAY 242, SOUTH

B. COUNTY NAME

PHILLIPS

C. CITY OR TOWN	D. STATE	E. ZIP CODE	F. COUNTY CODE (if known)
6 WEST HELENA	AR	72390	

EPA Form 3510-1 (6-80)

CONTINUE ON REVERSE

A. FIRST	B. SECOND
C 7 2865 (specify) ORGANIC CHEMICALS	C 7 2869 (specify) ORGANIC CHEMICALS
C. THIRD	**D. FOURTH**
C 7 2879 (specify) PESTICIDES	C 7 (specify)

VIII. OPERATOR INFORMATION

A. NAME: C 8 CEDAR ~~VERTAC~~ CHEMICAL CORPORATION

B. Is the name listed in Item VIII-A also the owner? [X] YES [ ] NO

C. STATUS OF OPERATOR (Enter the appropriate letter into the answer box; if "Other", specify.)
F = FEDERAL, S = STATE, P = PRIVATE, M = PUBLIC (other than federal or state), O = OTHER (specify)
P (specify)

D. PHONE (area code & no.): C A 901 767 6851

E. STREET OR P.O. BOX: 5100 POPLAR AVENUE

F. CITY OR TOWN: C B MEMPHIS

G. STATE: TN

H. ZIP CODE: 38137

IX. INDIAN LAND

Is the facility located on Indian lands? [ ] YES [X] NO

X. EXISTING ENVIRONMENTAL PERMITS

A. NPDES (Discharges to Surface Water): C 9 T N I AR0036412	**D. PSD** (Air Emissions from Proposed Sources): C 9 T P I
B. UIC (Underground Injection of Fluids): C 9 T U I	**E. OTHER** (specify): C 9 T I 1.2.6A (specify) ARKANSAS-AIR POLLUTION CONTROL
C. RCRA (Hazardous Wastes): C 9 T R I ARD980660649	**E. OTHER** (specify): C 9 T I 1963W (specify) ARKANSAS-WATER-NPDES OUTFALL

XI. MAP

Attach to this application a topographic map of the area extending to at least one mile beyond property bounderies. The map must show the outline of the facility, the location of each of its existing and proposed intake and discharge structures, each of its hazardous waste treatment, storage, or disposal facilities, and each well where it injects fluids underground. Include all springs, rivers and other surface water bodies in the map area. See instructions for precise requirements.

XII. NATURE OF BUSINESS (provide a brief description)

A. ~~VERTAC~~ CEDAR CHEMICAL PRODUCTS: (1) PROPANIL (3,4-DICHLOROPROPIONANILIDE) A RICE HERBICIDE
(2) BENZENE SULFONYL CHLORIDE

B. CONTRACT AMNUFACTURE (TOLL AGREEMENTS) (1) PERMETHRIN, TECHNICAL-FOR ICI AMERICAS
(2) LANNATE INSECTICIDE FOR DUPONT (3) DRA (DRAG REDUCTION AGENT) A KEROSENE BASED POLYMER FOR ARCO CHEMICAL (DIVISION OF ATLANTIC RICHFIELD)

C. FACILITY IS A MULTI-PURPOSE BATCH OPERATION.

XIII. CERTIFICATION (see instructions)

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this application and all attachments and that, based on my inquiry of those persons immediately responsible for obtaining the information contained in the application, I believe that the information is true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment.

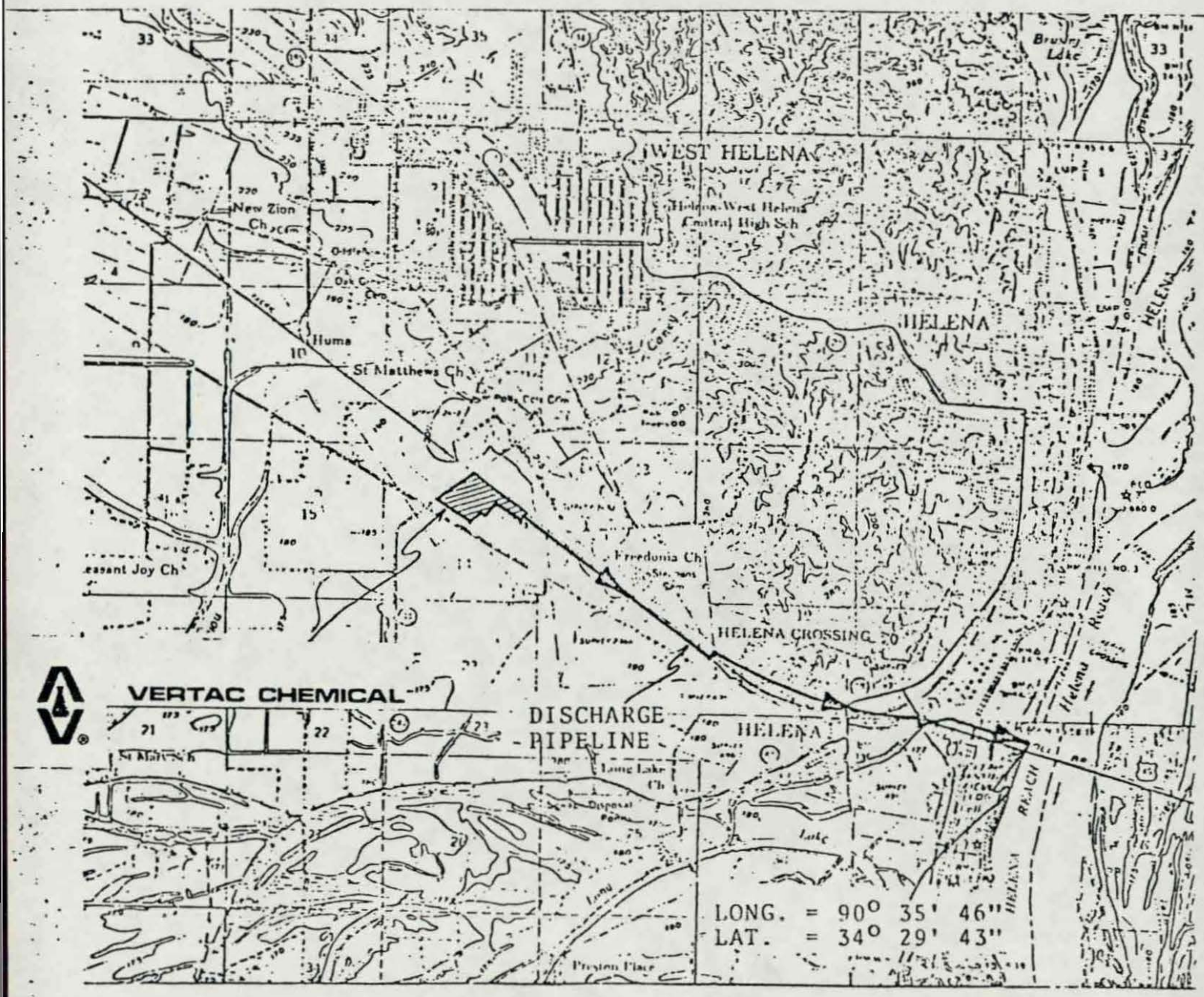
A. NAME & OFFICIAL TITLE (type or print)	B. SIGNATURE	C. DATE SIGNED
~~R.A. GUIDI~~ J.C. BUMPERS ~~VICE PRESIDENT~~ SECRETARY	John C. Bumpers	~~APR. 16, 1985~~

COMMENTS FOR OFFICIAL USE ONLY

C

VERTAC CHEMICAL CORPORATION
24th Floor • 5100 Poplar • Memphis, TN 38137 • 901-[illegible]-6851

REPLY TO: P. O. BOX 2648
WEST HELENA, AR 72390
(501) 572-3701



NPDES Outfall 002

LOCATION MAP
(EXCERPT FROM BELOW)

Mapped and edited by the Mississippi River Commission
Published by the Geological Survey

Control by USGS, USC&GS, and USCE

Topography by photogrammetric methods from aerial photographs taken 1960, and planetable surveys 1930-1949 and 1961. Field checked 1961

Polyconic projection 1927 North American datum
10 000 foot grids based on Arkansas coordinate system, south zone, and Mississippi coordinate system, west zone
1000-meter Universal Transverse Mercator grid ticks, zone 15, shown in blue

Red tint indicates area in which only landmark buildings are shown

SCALE: 1:62500

MARCH 26, 1976

3 RCRA

EPA

HAZARDOUS WASTE PERMIT APPLICATION

Consolidated Permits Program

(This information is required under Section 3005 of RCRA.)

I. EPA I.D. NUMBER

1	A	R	D	9	9	0	6	6	0	6	4	9	T/A	C
														1

FOR OFFICIAL USE ONLY

APPLICATION APPROVED	DATE RECEIVED (yr., mo., & day)	COMMENTS

II. FIRST OR REVISED APPLICATION

Place an "X" in the appropriate box in A or B below *(mark one box only)* to indicate whether this is the first application you are submitting for your facility or a revised application. If this is your first application and you already know your facility's EPA I.D. Number, or if this is a revised application, enter your facility's EPA I.D. Number in Item I above.

A. FIRST APPLICATION *(place an "X" below and provide the appropriate date)*

[X] 1. EXISTING FACILITY *(See instructions for definition of "existing" facility. Complete item below.)*

[ ] 2. NEW FACILITY *(Complete item below.)*

FOR EXISTING FACILITIES, PROVIDE THE DATE *(yr., mo., & day)* OPERATION BEGAN OR THE DATE CONSTRUCTION COMMENCED *(use the boxes to the left)*

C	YR.	MO.	DAY
8	6 9	0 6	0 6

FOR NEW FACILITIES, PROVIDE THE DATE *(yr., mo., & day)* OPERATION BEGAN OR IS EXPECTED TO BEGIN

YR.	MO.	DAY

B. REVISED APPLICATION *(place an "X" below and complete Item I above)*

[ ] 1. FACILITY HAS INTERIM STATUS

[ ] 2. FACILITY HAS A RCRA PERMIT

III. PROCESSES – CODES AND DESIGN CAPACITIES

A. PROCESS CODE – Enter the code from the list of process codes below that best describes each process to be used at the facility. Ten lines are provided for entering codes. If more lines are needed, enter the code*(s)* in the space provided. If a process will be used that is not included in the list of codes below, then describe the process *(including its design capacity)* in the space provided on the form *(Item III-C)*.

B. PROCESS DESIGN CAPACITY – For each code entered in column A enter the capacity of the process.

1. AMOUNT – Enter the amount.
2. UNIT OF MEASURE – For each amount entered in column B(1), enter the code from the list of unit measure codes below that describes the unit of measure used. Only the units of measure that are listed below should be used.

PROCESS	PROCESS CODE	APPROPRIATE UNITS OF MEASURE FOR PROCESS DESIGN CAPACITY
Storage:		
CONTAINER *(barrel, drum, etc.)*	S01	GALLONS OR LITERS
TANK	S02	GALLONS OR LITERS
WASTE PILE	S03	CUBIC YARDS OR CUBIC METERS
SURFACE IMPOUNDMENT	S04	GALLONS OR LITERS
Disposal:		
INJECTION WELL	D79	GALLONS OR LITERS
LANDFILL	D80	ACRE-FEET *(the volume that would cover one acre to a depth of one foot)* OR HECTARE-METER
LAND APPLICATION	D81	ACRES OR HECTARES
OCEAN DISPOSAL	D82	GALLONS PER DAY OR LITERS PER DAY
SURFACE IMPOUNDMENT	D83	GALLONS OR LITERS

PROCESS	PROCESS CODE	APPROPRIATE UNITS OF MEASURE FOR PROCESS DESIGN CAPACITY
Treatment:		
TANK	T01	GALLONS PER DAY OR LITERS PER DAY
SURFACE IMPOUNDMENT	T02	GALLONS PER DAY OR LITERS PER DAY
INCINERATOR	T03	TONS PER HOUR OR METRIC TONS PER HOUR; GALLONS PER HOUR OR LITERS PER HOUR
OTHER *(Use for physical, chemical, thermal or biological treatment processes not occurring in tanks, surface impoundments or incinerators. Describe the processes in the space provided; Item III-C.)*	T04	GALLONS PER DAY OR LITERS PER DAY

UNIT OF MEASURE	UNIT OF MEASURE CODE	UNIT OF MEASURE	UNIT OF MEASURE CODE	UNIT OF MEASURE	UNIT OF MEASURE CODE
GALLONS	G	LITERS PER DAY	V	ACRE-FEET	A
LITERS	L	TONS PER HOUR	D	HECTARE-METER	F
CUBIC YARDS	Y	METRIC TONS PER HOUR	W	ACRES	B
CUBIC METERS	C	GALLONS PER HOUR	E	HECTARES	Q
GALLONS PER DAY	U	LITERS PER HOUR	H		

EXAMPLE FOR COMPLETING ITEM III *(shown in line numbers X-1 and X-2 below)*: A facility has two storage tanks, one tank can hold 200 gallons and the other can hold 400 gallons. The facility also has an incinerator that can burn up to 20 gallons per hour.

6		T/A	C
C	DUP		1

LINE NUMBER	A. PROCESS CODE (from list above)	B. PROCESS DESIGN CAPACITY 1. AMOUNT (specify)	B. 2. UNIT OF MEASURE (enter code)	FOR OFFICIAL USE ONLY	LINE NUMBER	A. PROCESS CODE (from list above)	B. PROCESS DESIGN CAPACITY 1. AMOUNT	B. 2. UNIT OF MEASURE (enter code)	FOR OFFICIAL USE ONLY
X-1	S 0 2	600	G		5				
X-2	T 0 3	20	E		6				
1	T 0 2	90,000 Surface Impoundment	U		7				
2	S 0 1	20,000	G		8				
3	S 0 2	93,000	G		9				
4	T 0 1	90,000	U		10				

C. SPACE FOR ADDITIONAL PROCESS CODES OR FOR DESCRIBING OTHER PROCESSES (code "T04") FOR EACH PROCESS ENTERED HERE INCLUDE DESIGN CAPACITY.

Further explanation of line No. 1 of Part III:

Biological treatment system. Total volume capacity is 12.6MM gallons. Working volume is 6.6MM gallons. Design throughput is 90M gallons per day. NPDES Permit No. AR-003-6412.

IV. DESCRIPTION OF HAZARDOUS WASTES

A. EPA HAZARDOUS WASTE NUMBER — Enter the four-digit number from 40 CFR, Subpart D for each listed hazardous waste you will handle. If you handle hazardous wastes which are not listed in 40 CFR, Subpart D, enter the four-digit number*(s)* from 40 CFR, Subpart C that describes the characteristics and/or the toxic contaminants of those hazardous wastes.

B. ESTIMATED ANNUAL QUANTITY — For each **listed waste** entered in column A estimate the quantity of that waste that will be handled on an annual basis. For each **characteristic** or **toxic contaminant** entered in column A estimate the total annual quantity of all the non-listed waste*(s)* that will be handled which possess that characteristic or contaminant.

C. UNIT OF MEASURE — For each quantity entered in column B enter the unit of measure code. Units of measure which must be used and the appropriate codes are:

ENGLISH UNIT OF MEASURE	CODE	METRIC UNIT OF MEASURE	CODE
POUNDS	P	KILOGRAMS	K
TONS	T	METRIC TONS	M

If facility records use any other unit of measure for quantity, the units of measure must be converted into one of the required units of measure taking into account the appropriate density or specific gravity of the waste.

D. PROCESSES

1. PROCESS CODES:
   For listed hazardous waste: For each listed hazardous waste entered in column A select the code*(s)* from the list of process codes contained in Item III to indicate how the waste will be stored, treated, and/or disposed of at the facility.
   For non-listed hazardous wastes: For each characteristic or toxic contaminant entered in column A, select the code*(s)* from the list of process codes contained in Item III to indicate all the processes that will be used to store, treat, and/or dispose of all the non-listed hazardous wastes that possess that characteristic or toxic contaminant.
   Note: Four spaces are provided for entering process codes. If more are needed: (1) Enter the first three as described above; (2) Enter "000" in the extreme right box of Item IV-D(1); and (3) Enter in the space provided on page 4, the line number and the additional code*(s)*.

2. PROCESS DESCRIPTION: If a code is not listed for a process that will be used, describe the process in the space provided on the form.

NOTE: HAZARDOUS WASTES DESCRIBED BY MORE THAN ONE EPA HAZARDOUS WASTE NUMBER — Hazardous wastes that can be described by more than one EPA Hazardous Waste Number shall be described on the form as follows:

1. Select one of the EPA Hazardous Waste Numbers and enter it in column A. On the same line complete columns B,C, and D by estimating the total annual quantity of the waste and describing all the processes to be used to treat, store, and/or dispose of the waste.
2. In column A of the next line enter the other EPA Hazardous Waste Number that can be used to describe the waste. In column D(2) on that line enter "included with above" and make no other entries on that line.
3. Repeat step 2 for each other EPA Hazardous Waste Number that can be used to describe the hazardous waste.

EXAMPLE FOR COMPLETING ITEM IV *(shown in line numbers X-1, X-2, X-3, and X-4 below)* — A facility will treat and dispose of an estimated 900 pounds per year of chrome shavings from leather tanning and finishing operation. In addition, the facility will treat and dispose of three non-listed wastes. Two wastes are corrosive only and there will be an estimated 200 pounds per year of each waste. The other waste is corrosive and ignitable and there will be an estimated 100 pounds per year of that waste. Treatment will be in an incinerator and disposal will be in a landfill.

LINE NO.	A. EPA HAZARD. WASTE NO (enter code)	B. ESTIMATED ANNUAL QUANTITY OF WASTE	C. UNIT OF MEASURE (enter code)	D. PROCESSES 1. PROCESS CODES (enter)	D. PROCESSES 2. PROCESS DESCRIPTION (if a code is not entered in D(1))
X-1	K 0 5 4	900	P	T 0 3 D 8 0	
X-2	D 0 0 2	400	P	T 0 3 D 8 0	
X-3	D 0 0 1	100	P	T 0 3 D 8 0	
X-4	D 0 0 2				included with above

 CONTINUE ON PAGE 3

NOTE: Photocopy this page before completing if you have more than 26 wastes to list.

Form Approved OMB No. 158-S80004

EPA I.D. NUMBER (enter from page 1): W A R D 9 9 0 6 6 0 6 4 9 — T/A C: 1

FOR OFFICIAL USE ONLY: W DUP — A C: 2 DUP

IV. DESCRIPTION OF HAZARDOUS WASTES (continued)

LINE NO.	A. EPA HAZARD. WASTE NO. (enter code)	B. ESTIMATED ANNUAL QUANTITY OF WASTE	C. UNIT OF MEASURE (enter code)	D. PROCESSES 1. PROCESS CODES (enter)	D. PROCESSES 2. PROCESS DESCRIPTION (if a code is not entered in D(1))
1	F002	110,000	P	S01 S02 T02	
2	F005	1,200,000	P	S01 S02 T02	
3	P066	2,200,000	P	T02	
4	P106	120,000	P	S01 S02 T01 T02	
5	F002				Included in above
6	D000				Included in above
7	U020	80,000,000	P	S01 S02 T01 T02	
8	F005				Included in above
9	U220	1,200,000	P	S01 S02	
10	F005				Included in above
11	D000	31,000,000	P	S01 S02 T01 T02	
12	D001	300,000	P	S01 S02	
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					
26					

E. USE THIS SPACE TO LIST ADDITIONAL PROCESS CODES FROM ITEM D(1) ON PAGE 3.

EPA I.D. NO. *(enter from page 1)*														
F	A	R	D	9	9	0	6	6	0	6	4	9	T/A	6

V. FACILITY DRAWING

All existing facilities must include in the space provided on page 5 a scale drawing of the facility *(see instructions for more detail).*

VI. PHOTOGRAPHS

All existing facilities must include photographs *(aerial or ground—level)* that clearly delineate all existing structures; existing storage, treatment and disposal areas; and sites of future storage, treatment or disposal areas *(see instructions for more detail).*

VII. FACILITY GEOGRAPHIC LOCATION

LATITUDE *(degrees, minutes, & seconds)*	LONGITUDE *(degrees, minutes, & seconds)*
34 31 75	90 38 79

VIII. FACILITY OWNER

[X] A. If the facility owner is also the facility operator as listed in Section VIII on Form 1, "General Information", place an "X" in the box to the left and skip to Section IX below.

B. If the facility owner is not the facility operator as listed in Section VIII on Form 1, complete the following items:

1. NAME OF FACILITY'S LEGAL OWNER	2. PHONE NO. *(area code & no.)*
E	

3. STREET OR P.O. BOX	4. CITY OR TOWN	5. ST.	6. ZIP CODE
F	G		

IX. OWNER CERTIFICATION

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this and all attached documents, and that based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the submitted information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment.

A. NAME *(print or type)*	B. SIGNATURE	C. DATE SIGNED
~~R. A. Guidi~~ J. C. Bumpers ~~Vice President~~	John C Bumpers	~~Nov. 15, 1980~~

X. OPERATOR CERTIFICATION

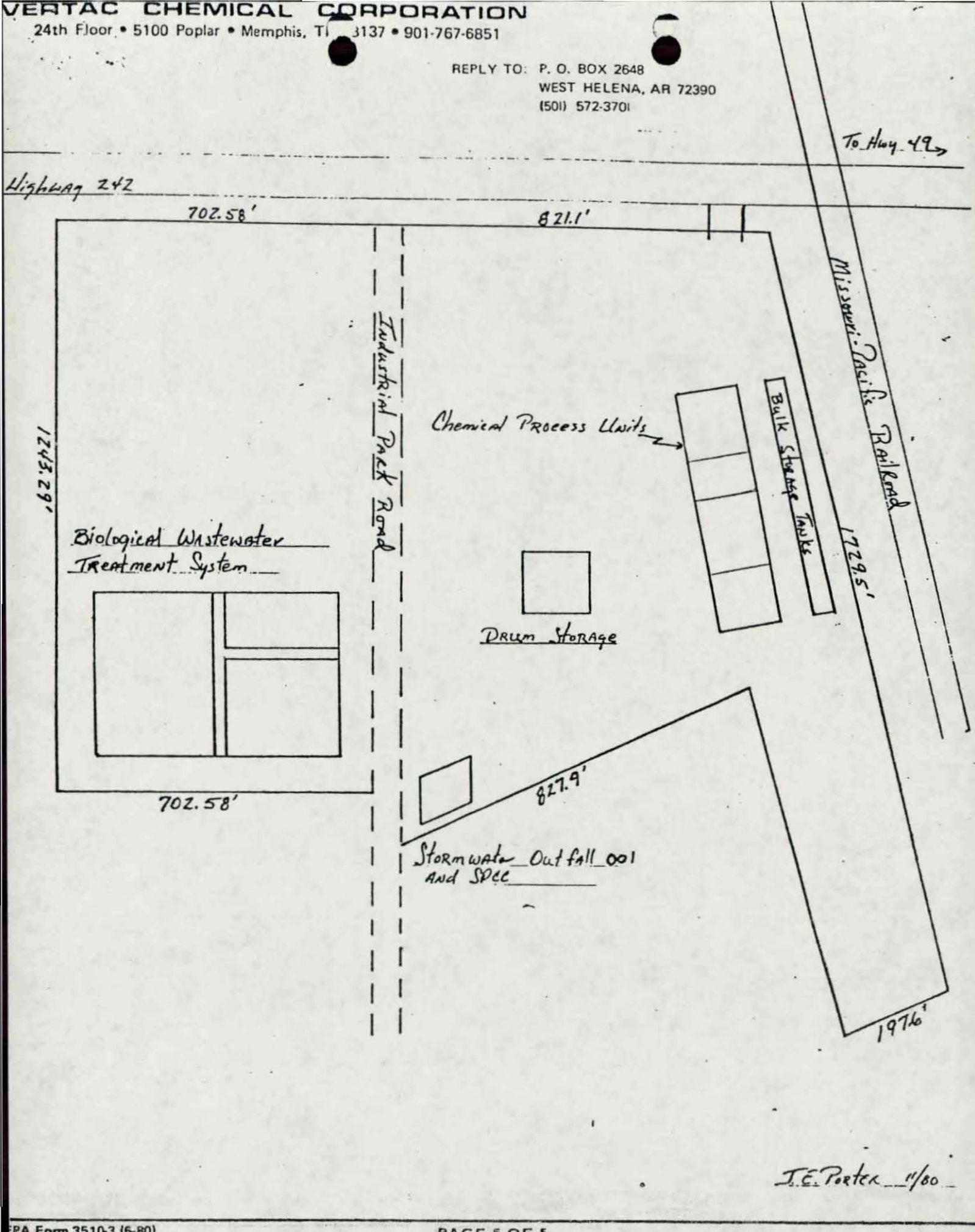
I certify under penalty of law that I have personally examined and am familiar with the information submitted in this and all attached documents, and that based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the submitted information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment.

A. NAME *(print or type)*	B. SIGNATURE	C. DATE SIGNED
~~R. A. Guidi~~ J. C. Bumpers ~~Vice President~~	John C Bumpers	~~Nov. 15, 1980~~

CONTINUE ON PAGE 5

VERTAC CHEMICAL CORPORATION
24th Floor • 5100 Poplar • Memphis, TN 38137 • 901-767-6851

REPLY TO: P. O. BOX 2648
WEST HELENA, AR 72390
(501) 572-3701



FORM 3

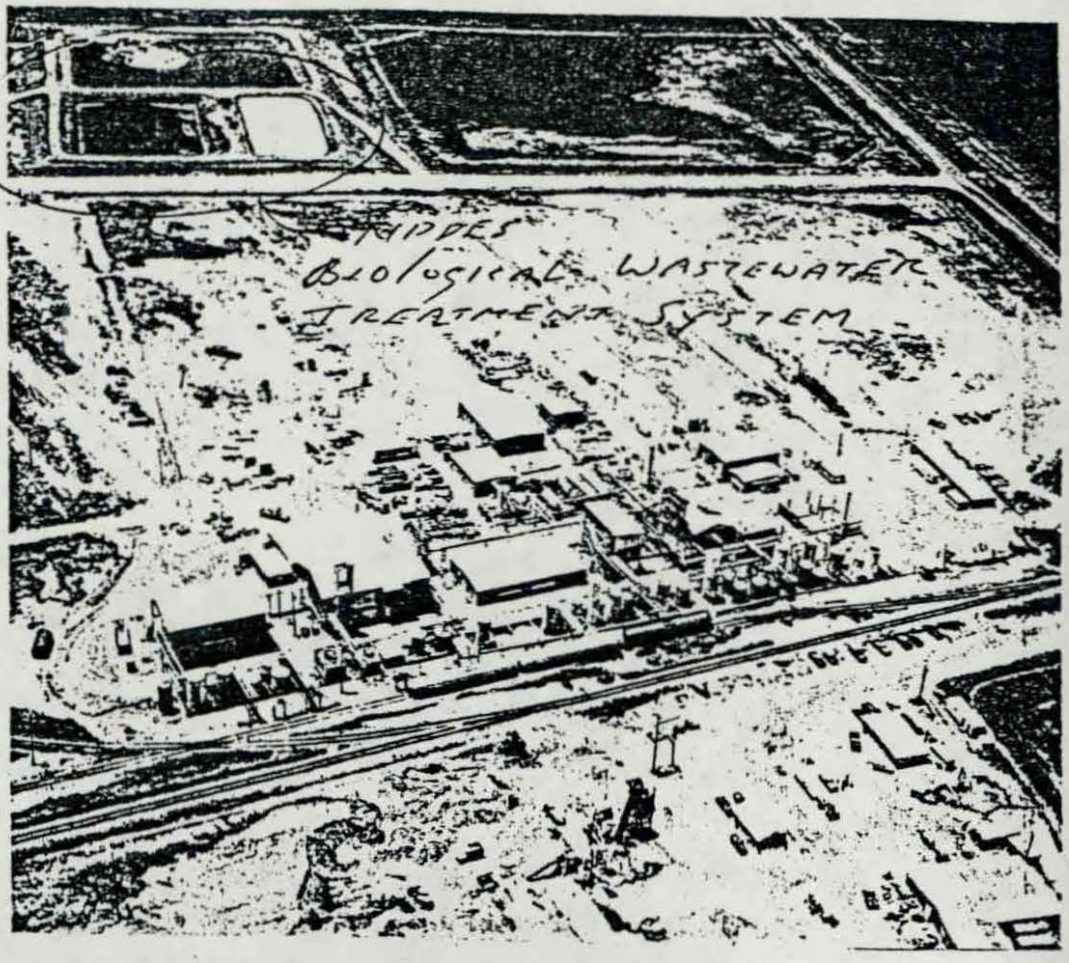
VERTAC CHEMICAL CORPORATION

24th Floor • 5100 Poplar • Memphis, TN 38137 • 901-767-6851

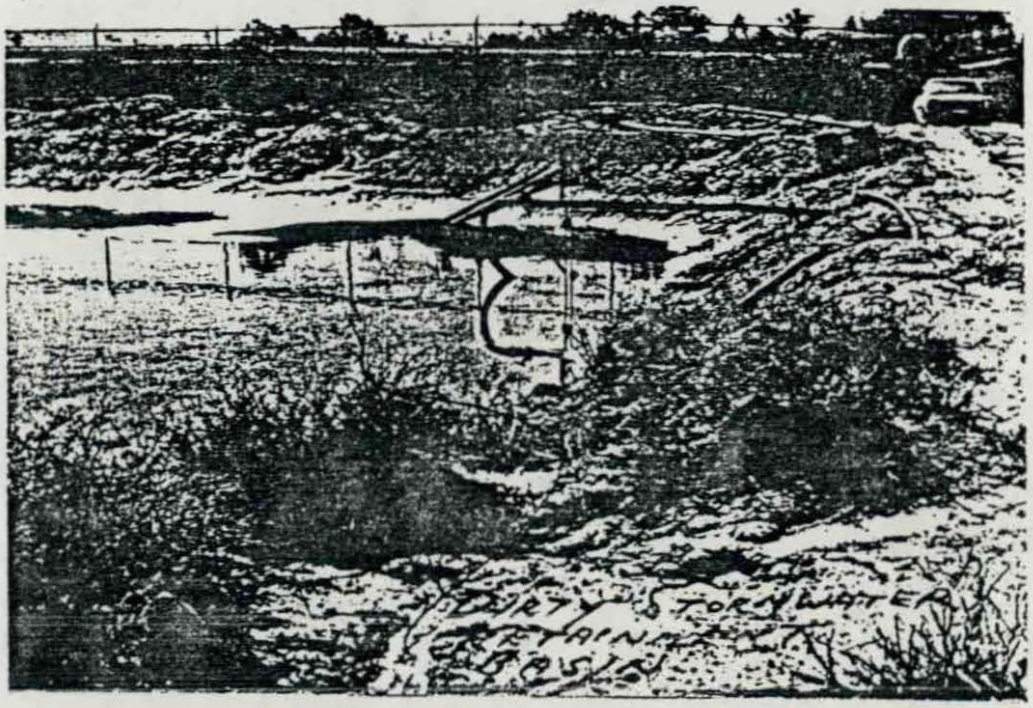
TECHNICAL DATA SHEET

West Helena, Arkansas

Established on a 48-acre industrial site four miles from the Mississippi River, the West Helena Plant specializes in custom manufacturing and has a wide selection of multi-functional custom processing units.

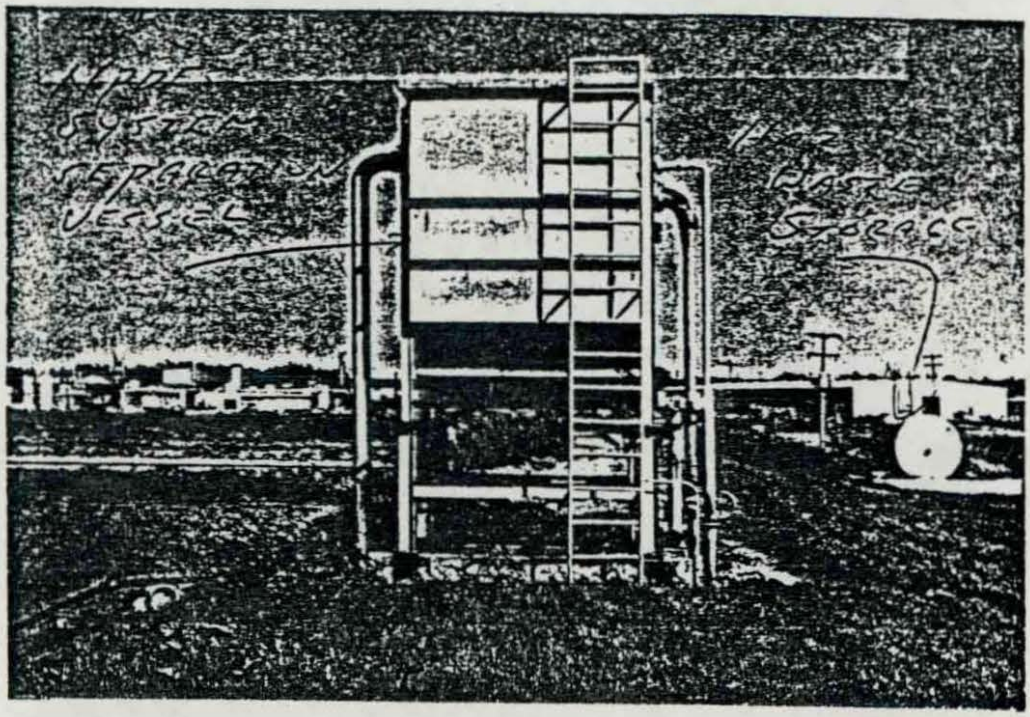


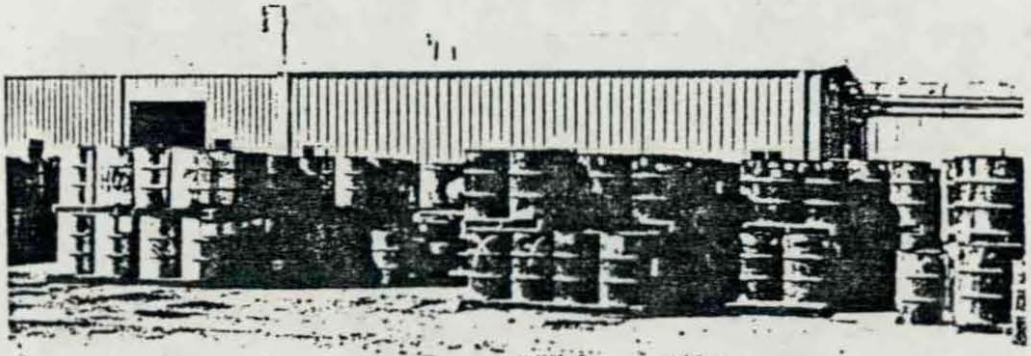
AERIAL PHOTOGRAPH



VERTAC CHEMICAL CORPORATION
24th Floor • 5100 Poplar • Memphis, TN 38137 • 901-767-6851

TECHNICAL DATA SHEET



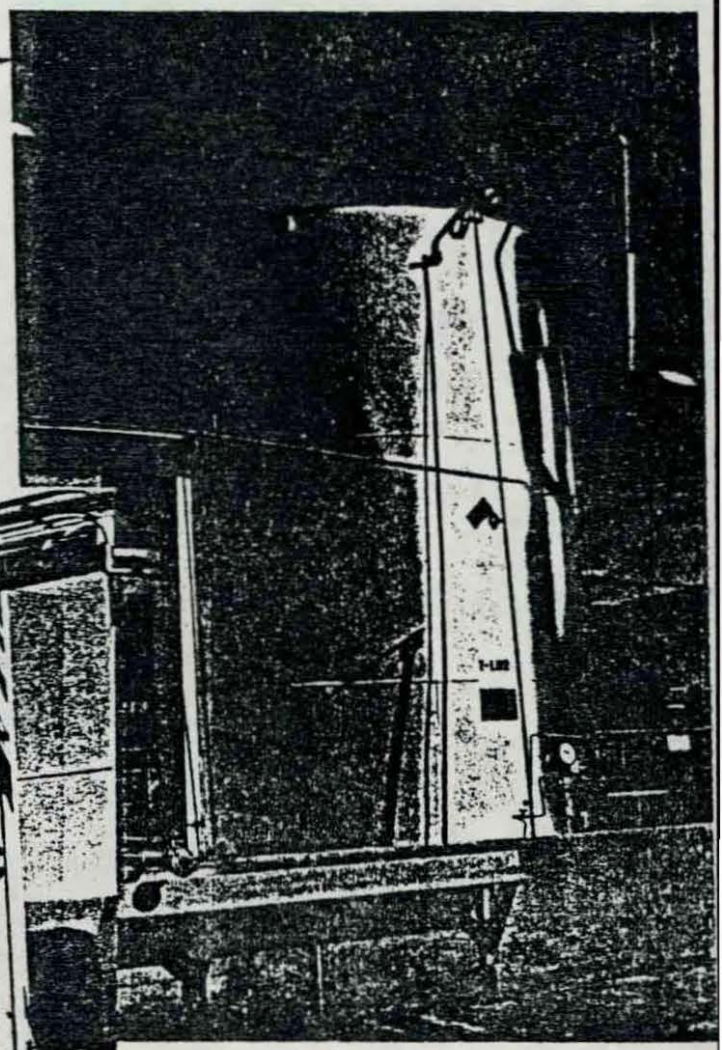


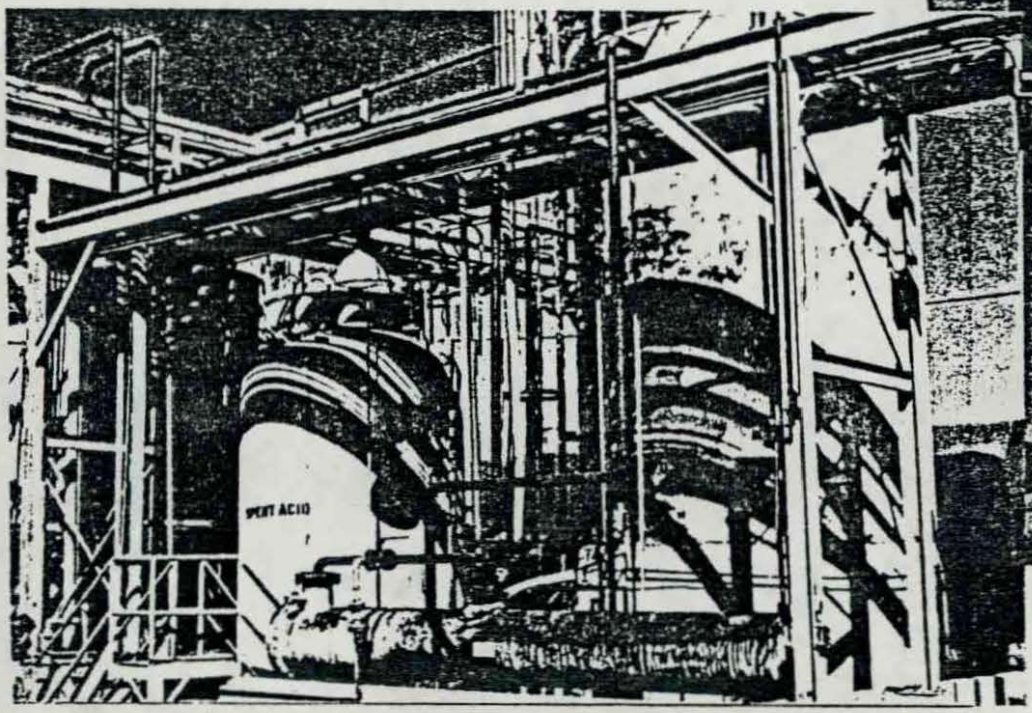
DRUM STORAGE AREA

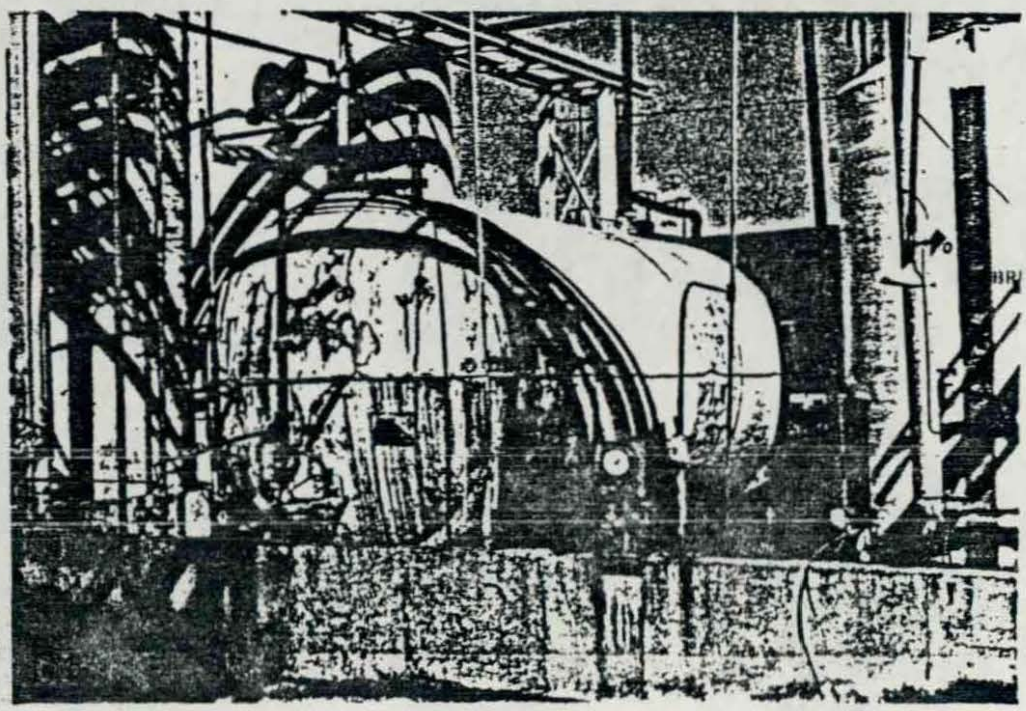
VERTAC CHEMICAL CORPORATION
24th Floor • 5100 Poplar • Memphis, TN 38137 • 901-767-6851

TECHNICAL DATA SHEET

HAZARDOUS
WASTE
STORAGE
VESSELS







Page 1 of 2

Attachment I

ANALYSIS REQUEST/REPORT

LABORATORY SECTION - HOUSTON BRANCH

S. AND A. DIVISION - REGION VI - U.S.E.P.A.

1. Laboratory Number	2. Source of sample	3. Permit Number	4. Outfall Number
6AFEJ50201	VERTAC	AR0036412	002

5. Sample Type	6. Date Collected	7. Time Collected (hrs.)	8. Collected By
Water	11/5/85	1000	Jim Millsap

9. Date Received	10. Time Received (hrs.)	11. Received By	12. Report Date
11/6/85	10:30	L. CARTER	11/13/85

13. Collector's and/or Requestor's Remarks

14. Requestor's Signature

15. LABORATORY DATA

PARAMETER	METHOD USED (STORET NUMBER)	CONCENTRATION FOUND (in mg per liter unless stated otherwise)
Bioassay	Daphnia Pulex	LC50 24hrs. 37%
		LC50 48hrs. 3%

16. Laboratory Remarks

17. Reviewed By

Microfilmed

18. Approved By Kendall Young

R6 - 54 (Jan. 1976)

VERTAC CHEMICAL CORPORATION
24th Floor • 5100 Poplar • Memphis, TN 38137 • 901-767-6851

REPLY TO: P. O. BOX 2648
WEST HELENA, AR 72390
(501) 572-3701

October 14, 1985

File

Mr. Dennis Green
Arkansas Department of Pollution Control & Ecology
P.O. Box 9583 - 8001 National Drive
Little Rock, AR 72209

RE: RCRA Inspection of August 22, 1985

Dear Sir:

In response to your inspection we are submitting the following information:

Our letter to the department dated April 29, 1985 states the expected year of closure to be 2004 A.D. Our time estimates for each phase of closure are not as clear as they perhaps should be.

Process equipment will be cleaned first since this may possibly generate additional wastes. This is technically not a part of the actual plant closure plan but is estimated to require 30 days. Storage tanks and associated piping are currently estimated to require 120 man hours (3 men, 5 days each). Final cleanup will be removal of containers (drums) from the plant site. This is estimated to require an additional 120 man hours. Closure certification by qualified personnel is estimated to require 5 working days.

Sincerely,

Joe E. Porter
Environmental Engineer

JEP:rf

CC: J.W. Shackelford

OCT 1985
RECEIVED
ADPC & E

To: Mike Bates

From: Sandra Perry SP

Subj: Vertac, W. Helena

Date: September 4, 1985

You recently requested that you be advised of any failures to update closure costs. It has come to my attention that Vertac, W. Helena has not sent to me anything that would indicate that it has updated its closure costs.

Some confusion exists in that the legal section thought that this facility was not a TSD. It is possible that the facility may have been advised that financial instruments were not required, according to Phil.

A Part B for S01, S02 and tank treatment has been received for the facility by the Permits Branch.

54-0068

STATE OF ARKANSAS
DEPARTMENT OF POLLUTION CONTROL AND ECOLOGY
8001 NATIONAL DRIVE, P.O. BOX 9583
LITTLE ROCK, ARKANSAS 72209

PHONE: (501) 562-7444

April 11, 1985

Joe Porter
Vertac Chemical Corporation
Post Office Box 2648
West Helena, Arkansas 72390

Dear Mr. Porter:

On April 8, 1985, the Department forwarded to you some guidance documents concerning the Corrective Action/Continuing Release provisions of the Hazardous and Solid Waste Amendments (HSWA).

It has come to my attention that the even numbered pages may have been omitted from the draft memorandum entitled "Reauthorization Statutory Interpretation - Guidance on Corrective Action for Continuing Releases". Therefore, the missing pages are hereby forwarded.

Please accept my apologies for any inconvenience.

If you have any questions, please contact Dick Quinn at (501)562-7444, extension 614.

Sincerely,

John D. Ward
Manager
Permits Branch

JDW:czp

Enclosure

54-0068

STATE OF ARKANSAS
DEPARTMENT OF POLLUTION CONTROL AND ECOLOGY
8001 NATIONAL DRIVE, P.O. BOX 9583
LITTLE ROCK, ARKANSAS 72209

PHONE: (501) 562-7444

April 8, 1985

Joe Porter
Vertac Chemical Corporation
Post Office Box 2648
West Helena, Arkansas 72390

Dear Mr. Porter:

On April 2, 1985, you were requested to submit additional Part B application information to comply with the Hazardous and Solid Waste Amendments (HSWA) of 1984. Enclosed please find amplifying information on the Corrective Action provision for continuing releases, which is applicable to all permits issued after November 8, 1984.

The enclosed provides preliminary guidance on the new information to be submitted with Part B application, and may be benefical to you in meeting the deadline date for submittal of the information.

If you have any questions, please contact Dick Quinn at (501) 562-7444, extension 614.

Sincerely,

John D. Ward
Manager
Permits Branch

RHQ:cjh

Enclosure

54-0068-H

STATE OF ARKANSAS
DEPARTMENT OF POLLUTION CONTROL AND ECOLOGY
8001 NATIONAL DRIVE, P.O. BOX 9583
LITTLE ROCK, ARKANSAS 72209

PHONE: (501) 562-7444

April 2, 1985

Joe Porter
Vertac Chemical Corporation
Post Office Box 2648
West Helena, Arkansas 72390

Dear Mr. Porter:

On November 8, 1984, Congress passed the Hazardous and Solid Waste Amendments of 1984 (HSWA). These Amendments add a considerable number of new requirements, some of which became effective on the date of enactment, for the treatment, storage and disposal facilities (TSDFs) whose Resource Conservation and Recovery hazardous waste permit have not been issued as of the date of enactment.

The State of Arkansas was granted final authorization on January 25, 1985 for those portions of the RCRA Hazardous Waste Program that were in effect prior to the passage of HSWA. The Environmental Protection Agency (EPA), therefore, will administer the requirements of the 1984 amendments until such time as the State program is amended to reflect the amendments and such program amendments receive authorization by the EPA. In the interim, the Arkansas Department of Pollution Control and Ecology (ADPC&E) is entering into a Joint Permitting Agreement with EPA, Region VI in Dallas, Texas which will allow the Department to request and process all information required by the 1984 amendments, subject to guidance and ultimate approval by EPA. Any RCRA permits issued after November 8, 1984 must be issued by both agencies to constitute a final RCRA permit, until such time that the above authorization is received by ADPC&E.

This letter constitutes a formal request for additions/revisions to your RCRA Part B permit application to incorporate the new requirements of the HSWA of 1984. The additions/revisions to your Part B application should be submitted no later than May 17, 1985. In the meantime, the review and processing of the Part B application you have already submitted will continue and you may be required to make corrections and revisions to this original application. Your revised Part B application may be in the form of revised added pages or sections to be inserted into your original submissions. Send three copies of the additional information required by HSWA to:

Director
Arkansas Department of Pollution
Control and Ecology
Attention: Permits Branch
Post Office Box 9583
Little Rock, Arkansas 72219

ADPC&E will forward HSWA application information to EPA, Region VI under terms of the existing Memorandum of Agreement (MOA) and the Joint Permitting Agreement between the two agencies. Both agencies will work closely together to jointly review the information submitted to satisfy HSWA requirements. If at the time your permit is issued, the state has received authorization for those portions of the program brought about by the 1984 amendments, then only a state permit will be issued and it will be your final RCRA permit. Otherwise, two separate permits, or alternatively, one combined permit signed by both agencies, will be issued.

Detailed checklists and information sheets incorporating the 1984 Amendments have not yet been developed. However, enclosed for your use are attachments which list the major requirements of the HSWA amendments that may apply to your facility. These are based on available information and may not be all-inclusive and do not relieve affected parties of their responsibility to comply with all applicable provisions in the amendments. Additional guidance to assist you in complying with applicable new requirements will be provided as soon as it becomes available. Prior to this time, the nature of the information that will be required can be found in documents such as the Congressional Records of October 3 and October 11, 1984, and the amended statute. Unavailability of specific guidance does not preclude the fact that failure to submit the additional Part B information by the due date may result in denial of your RCRA permit. If any of the information is being submitted under a claim of confidentiality, please indicate this fact and complete the enclosed confidentiality affidavit. For more information on confidentiality, see 40 CFR Part 2 and the Arkansas Hazardous Waste Management Code, Section 6.

Should you decide to close your facility and withdraw your RCRA permit application, a closure plan should be submitted in lieu of the above request for information to satisfy HSWA requirements. Closure plans must be in accordance with applicable provisions of 40 CFR Parts 264/265, as applicable. A statement of intent to close rather than seek a RCRA permit should be communicated to the Department no later than May 17, 1985.

Should you have any questions about these requirements, please contact Dick Quinn at (501) 562-7444, extension 614, or the above address. We will be happy to meet with you to discuss the new requirements in more detail.

Sincerely,

John D. Ward
Manager
Permits Branch

JDW:czp

Attachments

cc: Laurie Burch, EPA, Region VI

CSN 54-0068

STATE OF ARKANSAS
DEPARTMENT OF POLLUTION CONTROL AND ECOLOGY
8001 NATIONAL DRIVE, P.O. BOX 9583
LITTLE ROCK, ARKANSAS 72209

PHONE: (501) 562-7444

November 26, 1984

Mr. Joe Porter
Vertac Chemical Corporation
Post Office Box 2648
West Helena, Arkansas 72390

Dear Mr. Porter:

On November 16, 1984, this Department sent you a letter removing your NPDES treatment facility from the list of interim status facilites requiring a RCRA permit.

This decision was based, in part, on the request and justification contained in your letter of November 1, 1984. In order to complete our file and to provide historical background for our decision to delete the lagoon, it is requested that you submit the following data to the Department.

a. Analysis of the wastestream prior to entering the lagoon. Several random analyses should be submitted.

b. Samples of the waste in the lagoon, both liquid and sludge. A minimum of eight (8) samples each should be submitted.

c. Any other information you might have to justify your request for withdrawal.

If you have any questions, please feel free to contact me.

Sincerely,

Richard H. Quinn

Richard H. Quinn
Supervisor
Permits Branch

RHQ:lt

1984

ENVIRONMENTAL SUMMARY

Location Effluent

Date	1-3-84	1-4-84	1-5-84	1-6-84	1-9-84	1-10-84	1-11-84
Flow, gallons	B. Pond	By P.	B Pond	By Pond	By Pond	By Pond	By Pond
.....MGD							
pH, units	NS	NS	NS	9.6-10.4	7.9-10.5	7.1-7.8	NS
DO, mg/liter							
BOD5, mg/liter							
.....kg/day							
COD, mg/liter							991.7
....kg/day							
Chloride, mg/l							253.7
.....kg/day							
Total Solids, mg/l							
TSS, mg/liter							
....kg/day							
Settleable Solids, ml/l							
Volatile Solids, mg/l							
Alkalinity, mg/liter							418.4
.....kg/day							
Ammonia-Nitrogen, mg/l							
.....kg/day							
Nitrate-Nitrogen, mg/l							
.....kg/day							
Sulfate, mg/liter							
.....kg/day							
Phosphate as PO4, mg/l							64.3
Oil and Grease, mg/l							
Phenol(s), mg/liter							
.....kg/day							
Pesticides, mg/liter							<0.04
.....kg/day							
Oxygen Uptake, g/mg/hr							
DNBP, mg/liter							
Specific Cond, micromhos							

ENVIRONMENTAL SUMMARY

Location [illegible]

Date	1-12-84	1-13-84	1-16-84	1-17-84	1-18-84	1-19-84	1-20-84
Flow, gallons	By Pound	By Pound	By Pound	By Pound	By Pound	By Pound	By Pound
.....MGD							
pH, units	8.2	9.4-9.5	8.8-9.9	NS	NS	NS	7.1
DO, mg/liter							
BOD5, mg/liter							
.....kg/day							
COD, mg/liter					347.8		
....kg/day							
Chloride, mg/l					324.8		
.....kg/day							
Total Solids, mg/l							
TSS, mg/liter							
....kg/day							
Settleable Solids, ml/l							
Volatile Solids, mg/l							
Alkalinity, mg/liter					390.2		
.....kg/day							
Ammonia-Nitrogen, mg/l							
.....kg/day							
Nitrate-Nitrogen, mg/l							
.....kg/day							
Sulfate, mg/liter							
.....kg/day							
Phosphate as PO4, mg/l							
Oil and Grease, mg/l							
Phenol(s), mg/liter							
.....kg/day							
Pesticides, mg/liter							
.....kg/day							
Oxygen Uptake, g/mg/hr							
DNBP, mg/liter							
Specific Cond, micromhos							

ENVIRONMENTAL SUMMARY

Location By Pond

Date	1-23-84	1-24-84	1-25-84	1-26-84	1-27-84	1-30-84	1-31-84
Flow, gallons	By Pond	By Pond	By Pond	By Pond	By Pond	By Pond	By Pond
.....MGD							
pH, units	NS	NS	NS	NS	NS	NS	NS
DO, mg/liter							
BOD5, mg/liter							
.....kg/day							
COD, mg/liter			NA				
....kg/day							
Chloride, mg/l			NA				
.....kg/day							
Total Solids, mg/l							
TSS, mg/liter							
....kg/day							
Settleable Solids, ml/l							
Volatile Solids, mg/l							
Alkalinity, mg/liter			NA				
.....kg/day							
Ammonia-Nitrogen, mg/l							
.....kg/day							
Nitrate-Nitrogen, mg/l							
.....kg/day							
Sulfate, mg/liter							
.....kg/day							
Phosphate as PO4, mg/l							
Oil and Grease, mg/l							
Phenol(s), mg/liter							
.....kg/day							
Pesticides, mg/liter							
.....kg/day							
Oxygen Uptake, g/mg/hr							
DNBP, mg/liter							
Specific Cond, micromhos							

ENVIRONMENTAL SUMMARY

Location Effluent

Date	2-1-84	2-2-84	2-3-84	2-6-84	2-7-84	2-8-84	2-9-84
Flow, gallons .....MGD	Bypassed	Bypassed	Bypassed	Bypassed	Bypassed	Bypassed	Bypassed
pH, units	9.9	9.5	NS	7.4-8.9	NS	NS	NS
DO, mg/liter							
BOD5, mg/liter .....kg/day							
COD, mg/liter ....kg/day	NA					966.4	
Chloride, mg/l .....kg/day	NA					297.8	
Total Solids, mg/l							
TSS, mg/liter ....kg/day							
Settleable Solids, ml/l							
Volatile Solids, mg/l							
Alkalinity, mg/liter .....kg/day	NA					404.8	
Ammonia-Nitrogen, mg/l .....kg/day							
Nitrate-Nitrogen, mg/l .....kg/day							
Sulfate, mg/liter .....kg/day							
Phosphate as PO4, mg/l	NA						
Oil and Grease, mg/l							
Phenol(s), mg/liter .....kg/day							
Pesticides, mg/liter .....kg/day	NA						
Oxygen Uptake, g/mg/hr							
DNBP, mg/liter							
Specific Cond, micromhos							

ENVIRONMENTAL SUMMARY

Location Effluent

Date	2-10-84	2-13-84	2-14-84	2-15-84	2-16-84	2-17-84	2-20-84
Flow, gallons	By Pond	By Pond	By Pond	By Pond	By Pond	By Pond	By Pond
.....MGD							
pH, units	10.2-10.5	7.1-10.2	7.2-7.8	WS	7.8	7.6	7.1-10.1
DO, mg/liter							
BOD5, mg/liter							
.....kg/day							
COD, mg/liter				614.1			
....kg/day							
Chloride, mg/l				347.4			
.....kg/day							
Total Solids, mg/l							
TSS, mg/liter							
....kg/day							
Settleable Solids, ml/l							
Volatile Solids, mg/l							
Alkalinity, mg/liter				297.3			
.....kg/day							
Ammonia-Nitrogen, mg/l							
.....kg/day							
Nitrate-Nitrogen, mg/l							
.....kg/day							
Sulfate, mg/liter							
.....kg/day							
Phosphate as PO4, mg/l							
Oil and Grease, mg/l							
Phenol(s), mg/liter							
.....kg/day							
Pesticides, mg/liter							
.....kg/day							
Oxygen Uptake, g/mg/hr							
DNBP, mg/liter							
Specific Cond, micromhos							

ENVIRONMENTAL SUMMARY

Location Effluent

Date	2-21-84	2-22-84	2-23-84	2-24-84	2-25-84	2-26-84	2-27-84
Flow, gallons	By Bond	By Bond	By Bond	By Bond	By Bond	By Bond	By Bond
.....MGD							
pH, units	NS	7.5-9.4	6.5-7.0	7.3	7.4-12.0	9.4-9.9	7.5
DO, mg/liter							
BOD5, mg/liter							
.....kg/day							
COD, mg/liter		674.9					395.0
....kg/day							
Chloride, mg/l		184.3					283.5
.....kg/day							
Total Solids, mg/l							
TSS, mg/liter							
....kg/day							
Settleable Solids, ml/l							
Volatile Solids, mg/l							
Alkalinity, mg/liter		390.2					402.4
.....kg/day							
Ammonia-Nitrogen, mg/l							
.....kg/day							
Nitrate-Nitrogen, mg/l							
.....kg/day							
Sulfate, mg/liter							
.....kg/day							
Phosphate as PO4, mg/l							
Oil and Grease, mg/l							
Phenol(s), mg/liter							
.....kg/day							
Pesticides, mg/liter							
.....kg/day							
Oxygen Uptake, g/mg/hr							
DNBP, mg/liter							
Specific Cond, micromhos							

ENVIRONMENTAL SUMMARY

Location [illegible]

Date	3-1-84	3-2-84	3-5-84	3-6-84	3-7-84	3-8-84	3-9-84
Flow, gallons	By Bond	By Bond	By Bond	By Bond	By Bond	By Bond	By Bond
.....MGD							
pH, units	7.7	7.2-12.5	7.1-11.0	7.5-11.1	9.2	7.3	7.3-7.5
DO, mg/liter							
BOD5, mg/liter							
.....kg/day							
COD, mg/liter					345.7		
....kg/day							
Chloride, mg/l					248.2		
.....kg/day							
Total Solids, mg/l							
TSS, mg/liter							
....kg/day							
Settleable Solids, ml/l							
Volatile Solids, mg/l							
Alkalinity, mg/liter					471.1		
.....kg/day							
Ammonia-Nitrogen, mg/l							
.....kg/day							
Nitrate-Nitrogen, mg/l							
.....kg/day							
Sulfate, mg/liter							
.....kg/day							
Phosphate as PO4, mg/l					55.2		
Oil and Grease, mg/l							
Phenol(s), mg/liter							
.....kg/day							
Pesticides, mg/liter					<0.05		
.....kg/day							
Oxygen Uptake, g/mg/hr							
DNBP, mg/liter							
Specific Cond, micromhos							

ENVIRONMENTAL SUMMARY

Location Effluent

Date	3-12-84	3-13-84	3-14-84	3-15-84	3-16-84	3-19-84	3-20-84
Flow, gallons	By Bond	By Bond	By Bond	By Bond	By Bond	By Bond	By Bond
.....MGD							
pH, units	7.1-7.4	7.7-7.8	7.8-9.7	4.6-7.1	6.5	2.3-8.3	N/S
DO, mg/liter							
BOD5, mg/liter							
.....kg/day							
COD, mg/liter			422.8				
....kg/day							
Chloride, mg/l			106.4				
.....kg/day							
Total Solids, mg/l							
TSS, mg/liter							
....kg/day							
Settleable Solids, ml/l							
Volatile Solids, mg/l							
Alkalinity, mg/liter			419.4				
.....kg/day							
Ammonia-Nitrogen, mg/l							
.....kg/day							
Nitrate-Nitrogen, mg/l							
.....kg/day							
Sulfate, mg/liter							
.....kg/day							
Phosphate as PO4, mg/l							
Oil and Grease, mg/l							
Phenol(s), mg/liter							
.....kg/day							
Pesticides, mg/liter							
.....kg/day							
Oxygen Uptake, g/mg/hr							
DNBP, mg/liter							
Specific Cond, micromhos							

ENVIRONMENTAL SUMMARY

Location Effluent

Date	3-21-84	3-22-84	3-23-84	3-26-84	3-27-84	3-28-84	3-29-84
Flow, gallons .....MGD	By Bond	By Bond	By Bond	By Bond	By Bond	By Bond	By Bond
pH, units	4.7	7.1	2.2	4.9-9.6	3.8-7.7	7.4-7.8	8.2-8.8
DO, mg/liter							
BOD5, mg/liter .....kg/day							
COD, mg/liter ....kg/day	17583.3					20327.3	
Chloride, mg/l .....kg/day	106.4					304.9	
Total Solids, mg/l							
TSS, mg/liter ....kg/day							
Settleable Solids, ml/l							
Volatile Solids, mg/l							
Alkalinity, mg/liter .....kg/day	0					0	
Ammonia-Nitrogen, mg/l .....kg/day							
Nitrate-Nitrogen, mg/l .....kg/day							
Sulfate, mg/liter .....kg/day							
Phosphate as PO4, mg/l							
Oil and Grease, mg/l							
Phenol(s), mg/liter .....kg/day							
Pesticides, mg/liter .....kg/day							
Oxygen Uptake, g/mg/hr							
DNBP, mg/liter							
Specific Cond, micromhos							

ENVIRONMENTAL SUMMARY

Location Effluent

Date	3-30-84	4-2-84	4-3-84	4-4-84	4-5-84	4-6-84	4-9-84
Flow, gallons .....MGD	By Bond	By Bond	By Bond	By Bond	By Bond	By Bond	By Bond
pH, units	7.2-7.5	7.1-7.8	8.9	9.2-9.8	7.1	7.5	7.2-10.3
DO, mg/liter							
BOD5, mg/liter .....kg/day							
COD, mg/liter ....kg/day				485.8			
Chloride, mg/l .....kg/day				92.2			
Total Solids, mg/l							
TSS, mg/liter ....kg/day							
Settleable Solids, ml/l							
Volatile Solids, mg/l							
Alkalinity, mg/liter .....kg/day				247.0			
Ammonia-Nitrogen, mg/l .....kg/day							
Nitrate-Nitrogen, mg/l .....kg/day							
Sulfate, mg/liter .....kg/day							
Phosphate as PO4, mg/l				97.3			
Oil and Grease, mg/l							
Phenol(s), mg/liter .....kg/day							
Pesticides, mg/liter .....kg/day				<0.29			
Oxygen Uptake, g/mg/hr							
DNBP, mg/liter							
Specific Cond, micromhos							

ENVIRONMENTAL SUMMARY

Location Effluent

Date	4-10-84	4-11-84	4-12-84	4-13-84	4-16-84	4-17-84	4-18-84
Flow, gallons	By Bond	By Bond	By Bond	By Bond	By Bond	By Bond	By Bond
.....MGD							
pH, units	7.4-8.1	7.8-8.2	7.7	7.5	7.4-9.8	7.6	7.5-9.4
DO, mg/liter							
BOD5, mg/liter							
.....kg/day							
COD, mg/liter		80.0					487.6
....kg/day							
Chloride, mg/l		224.4					195.1
.....kg/day							
Total Solids, mg/l							
TSS, mg/liter							
....kg/day							
Settleable Solids, ml/l							
Volatile Solids, mg/l							
Alkalinity, mg/liter		407.9					402.2
.....kg/day							
Ammonia-Nitrogen, mg/l							
.....kg/day							
Nitrate-Nitrogen, mg/l							
.....kg/day							
Sulfate, mg/liter							
.....kg/day							
Phosphate as PO4, mg/l							
Oil and Grease, mg/l							
Phenol(s), mg/liter							
.....kg/day							
Pesticides, mg/liter							
.....kg/day							
Oxygen Uptake, g/mg/hr							
DNBP, mg/liter							
Specific Cond, micromhos							

ENVIRONMENTAL SUMMARY

Location Effluent

Date	4-19-84	4-23-84	4-24-84	4-25-84	4-26-84	4-27-84	
Flow, gallons	By Bond	By Bond	By Bond	By Bond	By Bond	By Bond	
.....MGD							
pH, units	7.4-9.5	6.4-9.8	7.7-8.9	7.3	7.3	8.0	
DO, mg/liter							
BOD5, mg/liter							
.....kg/day							
COD, mg/liter				7068.3			
....kg/day							
Chloride, mg/l				819.5			
.....kg/day							
Total Solids, mg/l							
TSS, mg/liter							
....kg/day							
Settleable Solids, ml/l							
Volatile Solids, mg/l							
Alkalinity, mg/liter				304.5			
.....kg/day							
Ammonia-Nitrogen, mg/l							
.....kg/day							
Nitrate-Nitrogen, mg/l							
.....kg/day							
Sulfate, mg/liter							
.....kg/day							
Phosphate as PO4, mg/l							
Oil and Grease, mg/l							
Phenol(s), mg/liter							
.....kg/day							
Pesticides, mg/liter							
.....kg/day							
Oxygen Uptake, g/mg/hr							
DNBP, mg/liter							
Specific Cond, micromhos							

ENVIRONMENTAL SUMMARY

Location Effluent

Date	5-2-84	5-3-84	5-4-84	5-7-84	5-8-84	5-9-84	5-10-84
Flow, gallons .....MGD	By Bond	By Bond	By Bond	By Bond	By Bond	By Bond	By Bond
pH, units	11.4-7.1	7.1	6.3-7.0	6.6-11.4	6.5-7.2	6.8-9.3	7.9-9.2
DO, mg/liter							
BOD5, mg/liter .....kg/day							
COD, mg/liter ....kg/day	6500					545.5	
Chloride, mg/l .....kg/day	487.8					117.1	
Total Solids, mg/l							
TSS, mg/liter ....kg/day							
Settleable Solids, ml/l							
Volatile Solids, mg/l							
Alkalinity, mg/liter .....kg/day	413.6					201.5	
Ammonia-Nitrogen, mg/l .....kg/day							
Nitrate-Nitrogen, mg/l .....kg/day							
Sulfate, mg/liter .....kg/day							
Phosphate as PO4, mg/l	30.3						
Oil and Grease, mg/l							
Phenol(s), mg/liter .....kg/day							
Pesticides, mg/liter .....kg/day	<0.08						
Oxygen Uptake, g/mg/hr							
DNBP, mg/liter							
Specific Cond, micromhos							

ENVIRONMENTAL SUMMARY

Location Effluent

Date	5-11-84	5-14-84	5-15-84	5-16-84	5-17-84	5-18-84	5-21-84
Flow, gallons	By Bond	By Bond	By Bond	By Bond	By Bond	By Bond	By Bond
.....MGD							
pH, units	7.9	7.2-9.8	7.6-8.4	7.6-7.8	6.6-7.4	7.5-9.7	7.4-9.6
DO, mg/liter							
BOD5, mg/liter							
.....kg/day							
COD, mg/liter				2845.2			
....kg/day							
Chloride, mg/l				1619.5			
.....kg/day							
Total Solids, mg/l							
TSS, mg/liter							
....kg/day							
Settleable Solids, ml/l							
Volatile Solids, mg/l							
Alkalinity, mg/liter				460.6			
.....kg/day							
Ammonia-Nitrogen, mg/l							
.....kg/day							
Nitrate-Nitrogen, mg/l							
.....kg/day							
Sulfate, mg/liter							
.....kg/day							
Phosphate as PO4, mg/l							
Oil and Grease, mg/l							
Phenol(s), mg/liter							
.....kg/day							
Pesticides, mg/liter							
.....kg/day							
Oxygen Uptake, g/mg/hr							
DNBP, mg/liter							
Specific Cond, micromhos							

ENVIRONMENTAL SUMMARY

Location Effluent

Date	5-22-84	5-23-84	5-24-84	5-25-84	5-29-84	5-30-84	5-31-84
Flow, gallons	By Bond	By Bond	By Bond	By Bond	By Bond	By Bond	By Bond
.....MGD							
pH, units	7.5-7.7	7.6-7.7	7.6-7.9	7.5	7.1-10.5	8.0-8.1	7.3-7.8
DO, mg/liter							
BOD5, mg/liter							
.....kg/day							
COD, mg/liter		408.2				307.6	
....kg/day							
Chloride, mg/l		357.5				308.8	
.....kg/day							
Total Solids, mg/l							
TSS, mg/liter							
....kg/day							
Settleable Solids, ml/l							
Volatile Solids, mg/l							
Alkalinity, mg/liter		393.3				479.8	
.....kg/day							
Ammonia-Nitrogen, mg/l							
.....kg/day							
Nitrate-Nitrogen, mg/l							
.....kg/day							
Sulfate, mg/liter							
.....kg/day							
Phosphate as PO4, mg/l							
Oil and Grease, mg/l							
Phenol(s), mg/liter							
.....kg/day							
Pesticides, mg/liter							
.....kg/day							
Oxygen Uptake, g/mg/hr							
DNBP, mg/liter							
Specific Cond, micromhos							

ENVIRONMENTAL SUMMARY

Location Effluent

Date	6-1-84	6-4-84	6-5-84	6-6-84	6-7-84	6-8-84	6-11-84
Flow, gallons	26728	905	9970	0	22380	20830	22513
.....MGD							
pH, units	7.9-7.7	7.5-8.8	7.6-8.4	7.7-8.2	7.9-9.8	7.3-7.5	7.2-10.1
DO, mg/liter							
BOD5, mg/liter							
.....kg/day							
COD, mg/liter				319.7			
....kg/day							
Chloride, mg/l				58.8			
.....kg/day							
Total Solids, mg/l							
TSS, mg/liter							
....kg/day							
tleable Solids, ml/l							
Volatile Solids, mg/l							
Alkalinity, mg/liter				479.8			
.....kg/day							
Ammonia-Nitrogen, mg/l							
.....kg/day							
Nitrate-Nitrogen, mg/l							
.....kg/day							
Sulfate, mg/liter							
.....kg/day							
Phosphate as PO4, mg/l				28.1			
Oil and Grease, mg/l							
Phenol(s), mg/liter				<0.08			
.....kg/day							
Pesticides, mg/liter							
.....kg/day							
Oxygen Uptake, g/mg/hr							
DNBP, mg/liter							
Specific Cond, micromhos							

ENVIRONMENTAL SUMMARY

Location Effluent

Date	6-12-84	6-13-84	6-14-84	6-15-84	6-18-84	6-19-84	6-20-84
Flow, gallons	0	0	14190	0	15243	0	0
.....MGD							
pH, units	7.5-7.6	7.3-7.8	7.5-10.5	7.4	7.4-12.8	7.4-7.6	7.5-9.8
DO, mg/liter							
BOD5, mg/liter							
.....kg/day							
COD, mg/liter		984.0					627.6
....kg/day							
Chloride, mg/l		955.8					774.8
.....kg/day							
Total Solids, mg/l							
TSS, mg/liter							
....kg/day							
tleable Solids, ml/l							
Volatile Solids, mg/l							
Alkalinity, mg/liter		460.6					537.3
.....kg/day							
Ammonia-Nitrogen, mg/l							
.....kg/day							
Nitrate-Nitrogen, mg/l							
.....kg/day							
Sulfate, mg/liter							
.....kg/day							
Phosphate as PO4, mg/l							
Oil and Grease, mg/l							
Phenol(s), mg/liter							
.....kg/day							
Pesticides, mg/liter							
.....kg/day							
Oxygen Uptake, g/mg/hr							
DNBP, mg/liter							
Specific Cond, micromhos							

ENVIRONMENTAL SUMMARY

Location Effluent

Date	6-21-84	6-22-84	6-25-84	6-26-84	6-27-84	6-28-84	6-29-84
Flow, gallons	0	Meter down.	55660	0	30	38700	17472
.....MGD							
pH, units	6.4-6.6	7.3-7.4	6.8-8.3	7.1-7.4	6.3-6.7	10.8-11.7	7.5
DO, mg/liter							
BOD5, mg/liter							
.....kg/day							
COD, mg/liter					431.5		
....kg/day							
Chloride, mg/l					304.9		
.....kg/day							
Total Solids, mg/l							
TSS, mg/liter							
....kg/day							
tleable Solids, ml/l							
Volatile Solids, mg/l							
Alkalinity, mg/liter					336.4		
.....kg/day							
Ammonia-Nitrogen, mg/l							
.....kg/day							
Nitrate-Nitrogen, mg/l							
.....kg/day							
Sulfate, mg/liter							
.....kg/day							
Phosphate as PO4, mg/l							
Oil and Grease, mg/l							
Phenol(s), mg/liter							
.....kg/day							
Pesticides, mg/liter							
.....kg/day							
Oxygen Uptake, g/mg/hr							
DNBP, mg/liter							
Specific Cond, micromhos							

ENVIRONMENTAL SUMMARY

Location [illegible]

Date	7-2-84	7-3-84	7-5-84	7-6-84	7-9-84	7-10-84	7-11-84
Flow, gallons	3483	40300	16150	44350	64223	16760	31830
.....MGD							
pH, units	6.9-11.4	9.1-9.9	9.3-10.0	7.2-9.4	7.2-9.3	7.2-7.8	7.4-9.2
DO, mg/liter							
BOD5, mg/liter							
.....kg/day							
COD, mg/liter			5830				603.2
....kg/day							
Chloride, mg/l			1417.1				272.4
.....kg/day							
Total Solids, mg/l							
TSS, mg/liter							
....kg/day							
tleable Solids, ml/l							
Volatile Solids, mg/l							
Alkalinity, mg/liter			548.1				364.5
.....kg/day							
Ammonia-Nitrogen, mg/l							
.....kg/day							
Nitrate-Nitrogen, mg/l							
.....kg/day							
Sulfate, mg/liter							
.....kg/day							
Phosphate as PO4, mg/l			33.5				
Oil and Grease, mg/l							
Phenol(s), mg/liter							
.....kg/day							
Pesticides, mg/liter			<0.08				
.....kg/day							
Oxygen Uptake, g/mg/hr							
DNBP, mg/liter							
Specific Cond, micromhos							

ENVIRONMENTAL SUMMARY

Location Effluent

Date	7-12-84	7-13-84	7-16-84	7-17-84	7-18-84	7-19-84	7-20-84
Flow, gallons	14580	24380	11597	15650	56110	13440	6560
.....MGD							
pH, units	7.0-7.1	7.4-7.5	7.4-10.4	7.5-10.7	9.3	11.5	N.S.
DO, mg/liter							
BOD5, mg/liter							
.....kg/day							
COD, mg/liter					9500		
....kg/day							
Chloride, mg/l					764.8		
.....kg/day							
Total Solids, mg/l							
TSS, mg/liter							
....kg/day							
tleable Solids, ml/l							
Volatile Solids, mg/l							
Alkalinity, mg/liter					378.4		
.....kg/day							
Ammonia-Nitrogen, mg/l							
.....kg/day							
Nitrate-Nitrogen, mg/l							
.....kg/day							
Sulfate, mg/liter							
.....kg/day							
Phosphate as PO4, mg/l							
Oil and Grease, mg/l							
Phenol(s), mg/liter							
.....kg/day							
Pesticides, mg/liter							
.....kg/day							
Oxygen Uptake, g/mg/hr							
DNBP, mg/liter							
Specific Cond, micromhos							

ENVIRONMENTAL SUMMARY

Location [illegible]

Date	7-23-84	7-24-84	7-25-84	7-26-84	7-27-84	7-30-84	7-31-84
Flow, gallons	43883	57600	0	980	28480	13400	0
.....MGD							
pH, units	7.6-10.2	7.7-8.1	7.1-7.8	7.5-11.3	7.7-7.9	7.8-8.8	8.5-10.8
DO, mg/liter							
BOD5, mg/liter							
.....kg/day							
COD, mg/liter			811.5				
....kg/day							
Chloride, mg/l			442.4				
.....kg/day							
Total Solids, mg/l							
TSS, mg/liter							
....kg/day							
Settleable Solids, ml/l							
Volatile Solids, mg/l							
Alkalinity, mg/liter			387.4				
.....kg/day							
Ammonia-Nitrogen, mg/l							
.....kg/day							
Nitrate-Nitrogen, mg/l							
.....kg/day							
Sulfate, mg/liter							
.....kg/day							
Phosphate as PO4, mg/l							
Oil and Grease, mg/l							
Phenol(s), mg/liter ug/l							
.....kg/day							
Pesticides, mg/liter							
.....kg/day							
Oxygen Uptake, g/mg/hr							
DNBP, mg/liter							
Specific Cond, micromhos							

ENVIRONMENTAL SUMMARY

Location Effluent

Date	8-1-84	8-2-84	8-3-84	8-6-84	8-7-84	8-8-84	8-9-84
Flow, gallons	0	50	44800	60570	18140	0	0
.....MGD							
pH, units	8.3-12.8	7.5-7.8	8.6-10.4	7.8-10.5	8.3-9.1	7.9-8.1	7.5-9.7
DO, mg/liter							
BOD5, mg/liter							
.....kg/day							
COD, mg/liter	783.0					734.7	
....kg/day							
Chloride, mg/l	274.9					614.8	
.....kg/day							
Total Solids, mg/l							
TSS, mg/liter							
....kg/day							
Settleable Solids, ml/l							
Volatile Solids, mg/l							
Alkalinity, mg/liter	531.6					3680	
.....kg/day							
Ammonia-Nitrogen, mg/l							
.....kg/day							
Nitrate-Nitrogen, mg/l							
.....kg/day							
Sulfate, mg/liter							
.....kg/day							
Phosphate as PO4, mg/l	30.8						
Oil and Grease, mg/l							
Phenol(s), mg/liter µg/l							
.....kg/day							
Pesticides, mg/liter	~0.09						
.....kg/day							
Oxygen Uptake, g/mg/hr							
DNBP, mg/liter							
Specific Cond, micromhos							

ENVIRONMENTAL SUMMARY

Location Effluent

Date	8-10-84	8-13-84	8-14-84	8-15-84	8-16-84	8-17-84	8-20-84
Flow, gallons	20	0	0	0	38550	0	5520
.....MGD							
pH, units	9.0	9.6-7.5	7.4	8.3-8.6	11.4-11.7	4.3-4.6	2.3-6.8
DO, mg/liter							
BOD5, mg/liter							
.....kg/day							
COD, mg/liter				330.4			
....kg/day							
Chloride, mg/l				74/2.3			
.....kg/day							
Total Solids, mg/l							
TSS, mg/liter							
....kg/day							
Settleable Solids, ml/l							
Volatile Solids, mg/l							
Alkalinity, mg/liter				292.5			
.....kg/day							
Ammonia-Nitrogen, mg/l							
.....kg/day							
Nitrate-Nitrogen, mg/l							
.....kg/day							
Sulfate, mg/liter							
.....kg/day							
Phosphate as PO4, mg/l							
Oil and Grease, mg/l							
Phenol(s), mg/liter ug/l							
.....kg/day							
Pesticides, mg/liter							
.....kg/day							
Oxygen Uptake, g/mg/hr							
DNBP, mg/liter							
Specific Cond, micromhos							

ENVIRONMENTAL SUMMARY

Location Effluent

Date	8-21-84	8-22-84	8-23-84	8-24-84	8-27-84	8-28-84	8-29-84
Flow, gallons	0	38110	0	55200	0	0	0
.....MGD							
pH, units	4.9	4.4	NS	2.6-2.7	2.8-7.2	4.2-7.3	4.4
DO, mg/liter	5.5						
BOD5, mg/liter							
.....kg/day							
COD, mg/liter		1282.1					604/35.2
....kg/day							
Chloride, mg/l		343/4.1					34/86.4
.....kg/day							
Total Solids, mg/l							
TSS, mg/liter							
....kg/day							
Settleable Solids, ml/l							
Volatile Solids, mg/l							
Alkalinity, mg/liter		0					0
.....kg/day							
Ammonia-Nitrogen, mg/l							
.....kg/day							
Nitrate-Nitrogen, mg/l							
.....kg/day							
Sulfate, mg/liter							
.....kg/day							
Phosphate as PO4, mg/l							
Oil and Grease, mg/l							
Phenol(s), mg/liter ug/l							
.....kg/day							
Pesticides, mg/liter							
.....kg/day							
Oxygen Uptake, g/mg/hr							
DNBP, mg/liter							
Specific Cond, micromhos							

ENVIRONMENTAL SUMMARY

Location Effluent

Date	8-30-84	8-31-84	9-4-84	9-5-84	9-6-84	9-7-84	9-10-84
Flow, gallons	28840	28066	41167	0	0	0	22880
.....MGD							
pH, units	2.7-4.3	10.7	7.5-8.6	6.5-6.9	7.2-7.5	7.6	6.8-8.5
DO, mg/liter							
BOD5, mg/liter							
.....kg/day							
COD, mg/liter				10327.9			
....kg/day							
Chloride, mg/l				67.5			
.....kg/day							
Total Solids, mg/l							
TSS, mg/liter							
....kg/day							
Settleable Solids, ml/l							
Volatile Solids, mg/l							
Alkalinity, mg/liter				0			
.....kg/day							
Ammonia-Nitrogen, mg/l							
.....kg/day							
Nitrate-Nitrogen, mg/l							
.....kg/day							
Sulfate, mg/liter							
.....kg/day							
Phosphate as PO4, mg/l				34.6			
Oil and Grease, mg/l							
Phenol(s), mg/liter ug/l							
.....kg/day							
Pesticides, mg/liter							
.....kg/day							
Oxygen Uptake, g/mg/hr							
DNBP, mg/liter							
Specific Cond, micromhos							

ENVIRONMENTAL SUMMARY

Location [illegible]

Date	9-11-84	9-12-84	9-13-84	9-14-84	9-17-84	9-18-84	9-19-84
Flow, gallons	14720	1440	15190	0	6567	0	0
.....MGD							
pH, units	8.0-8.5	9.1-9.2	8.7-9.6	NS	7.8-10.8	7.4-7.9	8.1-8.5
DO, mg/liter							
BOD5, mg/liter							
.....kg/day							
COD, mg/liter		502.1					873.5
....kg/day							
Chloride, mg/l		429.2					742.3
.....kg/day							
Total Solids, mg/l							
TSS, mg/liter							
....kg/day							
Settleable Solids, ml/l							
Volatile Solids, mg/l							
Alkalinity, mg/liter		443.4					509.5
.....kg/day							
Ammonia-Nitrogen, mg/l							
.....kg/day							
Nitrate-Nitrogen, mg/l							
.....kg/day							
Sulfate, mg/liter							
.....kg/day							
Phosphate as PO4, mg/l							
Oil and Grease, mg/l							
Phenol(s), mg/liter ug/l							
.....kg/day							
Pesticides, mg/liter		20.05					
.....kg/day							
Oxygen Uptake, g/mg/hr							
DNBP, mg/liter							
Specific Cond, micromhos							

ENVIRONMENTAL SUMMARY

Location [illegible]

Date	9-20-84	9-21-84	9-24-84	9-25-84	9-26-84	9-27-84	9-28-84
Flow, gallons	1090	0	38150	19700	970	55930	17550
.....MGD							
pH, units	7.4-7.5	7.0-7.2	7.1-9.0	7.3-7.4	7.4	7.4-9.6	7.7-9.6
DO, mg/liter							
BOD5, mg/liter							
.....kg/day							
COD, mg/liter					481.9		
....kg/day							
Chloride, mg/l					712.3		
.....kg/day							
Total Solids, mg/l							
TSS, mg/liter							
....kg/day							
Settleable Solids, ml/l							
Volatile Solids, mg/l							
Alkalinity, mg/liter					424.6		
.....kg/day							
Ammonia-Nitrogen, mg/l							
.....kg/day							
Nitrate-Nitrogen, mg/l							
.....kg/day							
Sulfate, mg/liter							
.....kg/day							
Phosphate as PO4, mg/l							
Oil and Grease, mg/l							
Phenol(s), mg/liter ug/l							
.....kg/day							
Pesticides, mg/liter							
.....kg/day							
Oxygen Uptake, g/mg/hr							
DNBP, mg/liter							
Specific Cond, micromhos							

ENVIRONMENTAL SUMMARY

Location effluent

Date	10-1-84	10-2-84	10-3-84	10-4-84	10-5-84	10-8-84	10-9-84
Flow, gallons	8688	180	30	280	150	40	130
.....MGD							
pH, units	7.5-10.4	8.5-9.3	9.2-9.4	9.9	9.1-9.7	7.1-11.3	NS
DO, mg/liter							
BOD5, mg/liter							
.....kg/day							
COD, mg/liter			2604.0				
....kg/day							
Chloride, mg/l			574.8				
.....kg/day							
Total Solids, mg/l							
TSS, mg/liter							
....kg/day							
Settleable Solids, ml/l							
Volatile Solids, mg/l							
Alkalinity, mg/liter			481.2				
.....kg/day							
Ammonia-Nitrogen, mg/l							
.....kg/day							
Nitrate-Nitrogen, mg/l							
.....kg/day							
Sulfate, mg/liter							
.....kg/day							
Phosphate as PO4, mg/l							
Oil and Grease, mg/l							
Phenol(s), mg/liter ug/l			<				
.....kg/day							
Pesticides, mg/liter			60.65				
.....kg/day							
Oxygen Uptake, g/mg/hr							
DNBP, mg/liter							
Specific Cond, micromhos							

ENVIRONMENTAL SUMMARY

Location Effluent

Date	10-10-84	10-11-84	10-12-84	10-15-84	10-16-84	10-17-84	10-18-84
Flow, gallons	30	NA	NA	NA	NA	NA	NA
.....MGD							
pH, units	NS	7.4-7.4	7.1	7.2-9.7	8.1-8.3	7.5	7.7-8.2
DO, mg/liter							
BOD5, mg/liter							
.....kg/day							
COD, mg/liter	116.2					1551.0	
....kg/day							
Chloride, mg/l	314.9					1227.7	
.....kg/day							
Total Solids, mg/l							
TSS, mg/liter							
....kg/day							
Settleable Solids, ml/l							
Volatile Solids, mg/l							
Alkalinity, mg/liter	147.6					234.9	
.....kg/day							
Ammonia-Nitrogen, mg/l							
.....kg/day							
Nitrate-Nitrogen, mg/l							
.....kg/day							
Sulfate, mg/liter							
.....kg/day							
Phosphate as PO4, mg/l							
Oil and Grease, mg/l							
Phenol(s), mg/liter ug/l							
.....kg/day							
Pesticides, mg/liter							
.....kg/day							
Oxygen Uptake, g/mg/hr							
DNBP, mg/liter							
Specific Cond, micromhos							

ENVIRONMENTAL SUMMARY

Location [illegible]

Date	10-19-84	10-22-84	10-23-84	10-24-84	10-25-84	10-26-84	10-29-84
Flow, gallons	NA	NA	NA	NA	NA	NA	NA
.....MGD							
pH, units	7.7-8.2	8.2-11.5	7.4-7.5	7.7-9.3	7.2	7.6-9.8	7.1-10.6
DO, mg/liter							
BOD5, mg/liter							
.....kg/day							
COD, mg/liter				4110.3			
....kg/day							
Chloride, mg/l				607.7			
.....kg/day							
Total Solids, mg/l							
TSS, mg/liter							
....kg/day							
Settleable Solids, ml/l							
Volatile Solids, mg/l							
Alkalinity, mg/liter				181.2			
.....kg/day							
Ammonia-Nitrogen, mg/l							
.....kg/day							
Nitrate-Nitrogen, mg/l							
.....kg/day							
Sulfate, mg/liter							
.....kg/day							
Phosphate as PO4, mg/l							
Oil and Grease, mg/l							
Phenol(s), mg/liter ug/l							
.....kg/day							
Pesticides, mg/liter							
.....kg/day							
Oxygen Uptake, g/mg/hr							
DNBP, mg/liter							
Specific Cond, micromhos							

ENVIRONMENTAL SUMMARY

Location [illegible]

Date	10-30-84	10-31-84	11-1-84	11-2-84	11-5-84	11-6-84	11-7-84
Flow, gallons	NA	NA	NA	NA	NA	NA	NA
.....MGD							
pH, units	9.2-9.4	9.1	8.5-10.2	9.7-10.4	10.1-10.3	10.5	NS
DO, mg/liter							
BOD5, mg/liter							
.....kg/day							
COD, mg/liter		116.7					161.7
....kg/day							
Chloride, mg/l		437.9					334.6
.....kg/day							
Total Solids, mg/l							
TSS, mg/liter							
....kg/day							
Settleable Solids, ml/l							
Volatile Solids, mg/l							
Alkalinity, mg/liter		328.8					302.0
.....kg/day							
Ammonia-Nitrogen, mg/l							
.....kg/day							
Nitrate-Nitrogen, mg/l							
.....kg/day							
Sulfate, mg/liter							
.....kg/day							
Phosphate as PO4, mg/l							6.4
Oil and Grease, mg/l							
Phenol(s), mg/liter ug/l							
.....kg/day							
Pesticides, mg/liter							<0.02
.....kg/day							
Oxygen Uptake, g/mg/hr							
DNBP, mg/liter							
Specific Cond, micromhos							

ENVIRONMENTAL SUMMARY

Location Influent

Date	11-8-84	11-9-84	11-19-84	11-20-84	11-21-84	11-26-84	11-27-84
Flow, gallons	NA	NA	NA	NA	NA	NA	NA
.....MGD							
pH, units	9.8-10.0	10.1-10.9	9.1-11.3	9.1-9.6	9.3-10.4	9.0-12.3	10.5
DO, mg/liter							
BOD5, mg/liter							
.....kg/day							
COD, mg/liter					187.8		
....kg/day							
Chloride, mg/l					221.4		
.....kg/day							
Total Solids, mg/l							
TSS, mg/liter							
....kg/day							
Settleable Solids; ml/l							
Volatile Solids, mg/l							
Alkalinity, mg/liter					288.5		
.....kg/day							
Ammonia-Nitrogen, mg/l							
.....kg/day							
Nitrate-Nitrogen, mg/l							
.....kg/day							
Sulfate, mg/liter							
.....kg/day							
Phosphate as PO4, mg/l							
Oil and Grease, mg/l							
Phenol(s), mg/liter ug/l							
.....kg/day							
Pesticides, mg/liter							
.....kg/day							
Oxygen Uptake, g/mg/hr							
DNEP, mg/liter							
Specific Cond, micromhos							

ENVIRONMENTAL SUMMARY

Location Influent

Date	11-28-84	11-29-84	11-30-84	12-3-84	12-4-84	12-5-84	12-6-84
Flow, gallons	NA	NA	NA	NA	NA	NA	NA
.....MGD							
pH, units	8.5-9.4	9.2	N.S.	9.4	9.4	N.S	8.1-8.2
DO, mg/liter							
BOD5, mg/liter							
.....kg/day							
COD, mg/liter	108.0					106.4	
....kg/day							
Chloride, mg/l	270.6					132.9	
.....kg/day							
Total Solids, mg/l							
TSS, mg/liter							
....kg/day							
Settleable Solids, ml/l							
Volatile Solids, mg/l							
Alkalinity, mg/liter	463.0					516.7	
.....kg/day							
Ammonia-Nitrogen, mg/l							
.....kg/day							
Nitrate-Nitrogen, mg/l							
.....kg/day							
Sulfate, mg/liter							
.....kg/day							
Phosphate as PO4, mg/l						21.8	
Oil and Grease, mg/l							
Phenol(s), mg/liter ug/l						~~2.03~~	
.....kg/day							
Pesticides, mg/liter						20.03	
.....kg/day							
Oxygen Uptake, g/mg/hr							
DNBP, mg/liter							
Specific Cond, micromhos							

ENVIRONMENTAL SUMMARY

Location Effluent

Date	12-7-84	12-10-84	12-11-84	12-12-84	12-13-84	12-17-84	12-18-84
Flow, gallons	NA	NA	NA	NA	NA	NA	NA
.....MGD							
pH, units	NS	9.4-10.2	NS	NS	NS	10.2-11.2	11.2-11.8
DO, mg/liter							
BOD5, mg/liter							
.....kg/day							
COD, mg/liter				225.9			
....kg/day							
Chloride, mg/l				644.6			
.....kg/day							
Total Solids, mg/l							
TSS, mg/liter							
....kg/day							
ettleable Solids, ml/l							
Volatile Solids, mg/l							
Alkalinity, mg/liter				234.8			
.....kg/day							
Ammonia-Nitrogen, mg/l							
.....kg/day							
Nitrate-Nitrogen, mg/l							
.....kg/day							
Sulfate, mg/liter							
.....kg/day							
Phosphate as PO4, mg/l							
Oil and Grease, mg/l							
Phenol(s), mg/liter							
.....kg/day							
Pesticides, mg/liter							
.....kg/day							
Oxygen Uptake, g/mg/hr							
DNBP, mg/liter							
Specific Cond, micromhos							

ENVIRONMENTAL SUMMARY

Location [illegible]

Date	12-19-84	12-20-84	12-21-84	12-26-84	12-27-84	12-28-84	12-31-84
Flow, gallons	NA	NA	NA	8958	20	0	0
.....MGD							
pH, units	11.1	10.3-11.7	10.9-11.5	10.2-11.7	9.8-11.3	10.6	9.6-10.8
DO, mg/liter							
BOD5, mg/liter							
.....kg/day							
COD, mg/liter	345.7			550.0			
....kg/day							
Chloride, mg/l	634.7			637.2			
.....kg/day							
Total Solids, mg/l							
TSS, mg/liter							
....kg/day							
ettleable Solids, ml/l							
Volatile Solids, mg/l							
Alkalinity, mg/liter	463.0			503.3			
.....kg/day							
Ammonia-Nitrogen, mg/l							
.....kg/day							
Nitrate-Nitrogen, mg/l							
.....kg/day							
Sulfate, mg/liter							
.....kg/day							
Phosphate as PO4, mg/l							
Oil and Grease, mg/l							
Phenol(s), mg/liter µg/l							
.....kg/day							
Pesticides, mg/liter							
.....kg/day							
Oxygen Uptake, g/mg/hr							
DNBP, mg/liter							
Specific Cond, micromhos							

CJN 54-0068

STATE OF ARKANSAS
DEPARTMENT OF POLLUTION CONTROL AND ECOLOGY
8001 NATIONAL DRIVE, P.O. BOX 9583
LITTLE ROCK, ARKANSAS 72209

PHONE: (501) 562-7444

November 19, 1984

Dick Karkkainen
Director of Environment and Safety
Vertac Chemical Corporation
24th Floor
5100 Poplar
Memphis, Tennessee 38137

Dear Mr. Karkkainen:

Pursuant to your request of November 5, 1984 please find enclosed a copy of the cover letter which forwarded a list of deficiencies in the Part B for your facility in West Helena.

If you have any questions, please feel free to contact me.

Sincerely,

Richard H. Quinn

Richard H. Quinn
Supervisor
Permits Branch

RHQ:lt

Enclosure

CSN 54-0068

STATE OF ARKANSAS
DEPARTMENT OF POLLUTION CONTROL AND ECOLOGY
8001 NATIONAL DRIVE, P.O. BOX 9583
LITTLE ROCK, ARKANSAS 72209

PHONE: (501) 562-7444

November 16, 1984

Mr. Joe Porter
Vertac Chemical Corporation
Post Office Box 2648
West Helena, Arkansas 72390

Dear Mr. Porter:

Receipt is hereby acknowledged for your letter of November 1, 1984 requesting deletion of your NPDES treatment lagoon from the list of interim status facilities requiring a RCRA permit.

After numerous discussions with other staff members, a review of your RCRA Part B application and a review of your inspection reports, the Department concurs that the NPDES biological treatment lagoon has not operated as a hazardous waste surface impoundment.

Therefore, your request for withdrawal of the lagoon is approved and your revised Part A has been accepted which reflects process Codes S01, S02 and T01.

If you have any questions, please feel free to contact me.

Sincerely,

Richard H. Quinn

Richard H. Quinn
Supervisor
Permits Branch

RHQ:lt

VERTAC CHEMICAL CORPORATION
24th Floor • 5100 Poplar • Memphis, TN 38137 • 901-767-6851

REPLY TO: P. O. BOX 2648
WEST HELENA, AR 72390
(501) 572-3701

November 1, 1984

Mr. John D. Ward
Arkansas Department of Pollution Control & Ecology
8001 National Drive
P.O. Box 9583
Little Rock, AR 72209

Dear Sir:

Under separate cover we are submitting an addendum to our hazardous waste management permit application. This addendum attempts to address each item of the checklist as provided by the Department in your October 8, 1984 letter. There are some points to this submittal which we would like to point out.

We are no longer classifying the biological treatment system as a hazardous waste management facility. This has been done after discussions with the Department and a review of our use of the system. We have found only one incident in the past where the pH of influent into the system was less 2. In this particular incidence the pH was 1.8. We find no other evidence of hazardous waste entering the system. We originally classified the system as a hazardous waste management facility because of our contract manufacturing business. It seemed to be a great selling point of our plant site to have this capability. However, after four years we have not taken advantage of the treatment system as a hazardous waste management facility and it does not appear to be cost effective.

As we understand the regulations we are not a disposal facility. Therefore regulations for post closure, ground water monitoring, and surface impoundments do not apply to this facility. Our Part A has been amended to reflect this and the checklist completed accordingly.

As early as 1977 (before RCRA) this plant initiated a plan of groundwater monitoring for the biological treatment system. Admittedly it was not the most optimum system, but there were no guidelines either. In 1983 we attempted to bring our plan up to date by performing the laboratory analysis as outlined in the groundwater monitoring plan under RCRA. This too has fallen somewhat short of federal guidelines but at the same time we feel it is a sound basis for a continuing program. With this in mind, we intend to amplify this program under our own initiative. The plan we propose will allow us the flexibility to establish a sound program without regulatory constraints and deadlines, to invest time and money as needed, and to develop expertise in this area.

John C Bumpers
Signature
J. C. Bumpers, Secretary
Cedar Chemical Corporation

2-5-86
Date

Our first project will be to establish ground water flow rates and direction. This is of real concern due to our proximity to the Mississippi River and the geology of our plant site area. We suspect that the groundwater does not always flow in the same direction and only time will allow us to prove or disprove it. We will continue to perform groundwater analysis as we have in the past on our existing wells. Our program looks for chemicals used on the plant site and general contamination indicators as opposed to the parameters required by federal guidelines. One major factor we tried to approach from the beginning was to monitor the entire plant site as opposed to the regulations requirement of just the surface impoundment. Improving the engineering integrity of our entire facility will still be our program's goals.

This addendum should answer most questions the Department may have about our facility. Much reference is made to information contained in the original submittal and perhaps overlooked. Had the checklist been available when the document was first prepared reviews would have been easier. There are definitely items covered in the checklist which are not specifically required in the Federal Register.

Financial requirements are being completed by our corporate office. Certain communications are taking place with Ms. Martha Adcock. A copy of the latest letter to her from our corporate office is attached to the addendum.

We appreciate the Department's assistance in the preparation of the Part B permit application. We will welcome a discussion if an area is not fully understood.

Sincerely,

Joe E Porter

Joe Porter
Environmental Engineer

JEP:rf

CC: J.W. Shackelford
J.H. Miles
R.D. Karkkainen
R.A. Guidi

54-0068

STATE OF ARKANSAS
DEPARTMENT OF POLLUTION CONTROL AND ECOLOGY
8001 NATIONAL DRIVE, P.O. BOX 9583
LITTLE ROCK, ARKANSAS 72209

PHONE: (501) 562-7444

CERTIFIED MAIL: RETURN RECEIPT REQUESTED P 612 827 854

October 23, 1984

Mr. Joe Porter
Vertac Chemical Corporation
Post Office Box 2648
Highway 242 South
West Helena, Arkansas 72390

Dear Mr. Porter:

This Department has reviewed your hazardous waste management permit application and has found it incomplete. Pursuant to the provisions of 40 CFR § 270.10, as adopted by reference in Section 3 of the Arkansas Hazardous Waste Management Code, all applicants are required to submit a complete application.

You were previously notified by this Department that additional information is required to continue processing your application. Failure to submit the requested information, within the time set forth in the Notice of Deficiency letter, shall subject you to termination of interim status, denial of the permit, and enforcement action to recover civil penalties.

If you have any questions, please feel free to call me.

Sincerely,

John D. Ward
Manager
Permits Branch

JDW:lt

CSN: 540068

STATE OF ARKANSAS
DEPARTMENT OF POLLUTION CONTROL AND ECOLOGY
8001 NATIONAL DRIVE, P.O. BOX 9583
LITTLE ROCK, ARKANSAS 72209

PHONE: (501) 562-7444

October 8, 1984

Mr. Joe Porter
Vertac Chemical Corporation
Post Office Box 2648
Highway 242 South
West Helena, Arkansas 72390

Dear Mr. Porter:

Your application for a state hazardous waste permit was received on August 15, 1984. In accordance with prescribed policy, your application has been reviewed and determined to be incomplete. The following supplemental information marked on the enclosed checklist is necessary in order for us to be able to start processing of your permit application.

When the additional information has been received, your application will be considered to be complete and processing of the permit application will begin. If any amplifying information is required, you will be contacted accordingly. A response to each incomplete deficiency noted on the checklist must be provided in the next 30 days.

Thank you for your cooperation. If you have any questions concerning this submittal, please contact Will Hawkins at (501) 562-7444, extension 695.

Sincerely,

John D. Ward

John D. Ward
Manager
Permits Brnch

JFW:jfs

cc. Richard Quinn, Permits Supervisor, Permits Branch
Will Hawkins, Geologist, Land Disposal Section, Permits Branch

Enclosure

STATE OF ARKANSAS
DEPARTMENT OF POLLUTION CONTROL AND ECOLOGY
8001 NATIONAL DRIVE, P.O. BOX 9583
LITTLE ROCK, ARKANSAS 72209

PHONE: (501) 562-7444

CSW 540068 8/16/84

August 16, 1984

Mr. Joe E. Porter
Environmental Engineer
Vertac Chemical Corp.
Post Office Box 2648
West Helena, Arkansas 72390

Dear Mr. Porter:

Your application for a state hazardous waste management permit was received on August 15, 1984. In accordance with Department policy, your application will be reviewed for completeness. If there are any deficiencies with your application, you will be requested to submit additional information before further processing of your application can continue. You will be notified if any additional data is required.

Your attention is invited to Sections 11(a) of The Arkansas Hazardous Waste Management Code pertaining to permit fees. Your fee should be remitted as soon as possible to facilitate processing of your permit application.

Thank you for your cooperation. If you have any questions concerning this transmittal, please contact Dick Quinn at (501) 562-7444, extension 614.

Sincerely,

John D. Ward
Manager
Permits Branch

JDW:jfs

RCRA INSPECTION

SITE IDENTIFICATION

E.P.A. ID # ARD990660649

Date 5/23/84

Site Name: VERTAC Chemical CORP

Street (or other identifier): PO Box 2648

City: West Helena

State: ARK

Zip Code: 72390

County Name: Phillips

Site Operator Information

Name: Same as above

Telephone Number: 501-572-3201

Street

City

State

Zip Code

Site Description

Custom Chemical manufacturing

Type of Ownership

___ Federal ___ State ___ County ___ Municipal ✓ Private

✓ Generator ___ Transporter ✓ Treatment ✓ Storage ___ Disposal

___ Non-generator ___ Small-generator ___ Exempted

INSPECTION INFORMATION

Principal Inspector Information

Name: Dennis Green

Title: Hazardous Waste Inspector

Organization: ADPC&E

Telephone No. (area code & No.): 501-562-7444

Inspection Participants

Joe E Porter VERTAC Environmental Engineer

Revised 7/82

RCRA COMPLIANCE INSPECTION REPORT
GENERATORS CHECKLIST

Note: On multiple part questions, circle those not in compliance.

Section A - EPA Identification No.

1. Does Generator have EPA I.D. No.? (262.12 - EPA I.D. No.) ✓ Yes ___ No

   a. If yes, EPA I.D. No. ARD 990660649

Section B - Hazardous Waste Determination

1. Does generator generate hazardous waste(s) listed in Subpart D (261.30 - 261.33 - List of Hazardous Waste)? ~~See Attachment~~ DS ___ Yes ✓ No

   a. If yes, list wastes and quantities on attachment (Include EPA Hazardous Waste No.) (Provide waste name and description.)

2. Does generator generate solid waste(s) that exhibit hazardous characteristics? (corrosovity, ignitability, reactivity, EP toxicity) (261.20 - 261.24 - Characteristics of Hazardous waste.) See Attachment ✓ Yes ___ No

   a. If yes, list wastes and quantities on attachment. (Include EPA Hazardous Waste No.) (Provide waste name and description)

   b. Does generator determine characteristics by testing or by applying knowledge of processes? BOTH

      1. If determined by testing, did generator use test methods in Part 261, Subpart C (or Equivalent)? ✓ Yes ___ No

      2. If equivalent test methods used, attach copy of equivalent methods used.

3. Are there any other solid wastes deemed non-hazardous generated by generators? i.e.(process waste streams, collected matter from air pollution control equipment, water treatment sludge, etc.) ___ Yes ✓ No

   a. If yes, did generator determine non-hazardous characteristics by testing or knowledge of process? ___

      1. If determined by testing, did generator use test methods in Part 261, Subpart C (or Equivalent)? ___ Yes N/A ___ No

      2. If equivalent test methods used, attach copy of equivalent methods used.

   b. List wastes and quantities deemed non-hazardous or processes from which non-hazardous wastes were produced. (Use narrative explanations sheet.)

Section C - Manifest

1. Does generator ship hazardous waste off-site? (Subpart B - The Manifest) ✓ Yes ___ No

   a. If no, do not fill out Section C and D.

   b. If yes, identify primary off-site facility(s). Use narrative explanations sheet.) SEE NARRATIVE

2. Has generator shipped hazardous waste off-site since November 19, 1980? ✓ Yes ___ No

3. Is generator exempted from regulation because of:

   Small quantity generator (261.5 - Special requirements) ___ Yes ✓ No

   OR

   Produces non-hazardous waste at this time (261.4 - Exclusions) ___ Yes ✓ No

4. If not exempted does generator use manifest? (262.20 - General requirements) ✓ Yes ___ No

   a. If yes, does manifest include the following information (262.21 - Required information) (Break up items or circle ones not on manifest)

      1. Manifest Document No. ✓ Yes ___ No

      2. Generators Name, Mailing Address, Tele. No. ✓ Yes ___ No

      3. Generator EPA I.D. No. ✓ Yes ___ No

      4. Transporter(s) Name and EPA I.D. No. ✓ Yes ___ No

      5. a. Facility Name, Address and EPA I.D. No. ✓ Yes ___ No

      6. DOT description of the waste ✓ Yes ___ No

      7. a. Quantity (weight or volume) ✓ Yes ___ No
         b. Containers (type and number) ✓ Yes ___ No

      8. Emergency Information (optional) (special handling instructions, Phone No.) ✓ Yes ___ No

9. Is the following certification on each manifest form? ✓ Yes ___ No

   This is to certify that the above named materials are properly classified, described, packaged, marked and labeled and are in proper condition for transportation according to the applicable regulations of the Department of Transportation and the EPA.

5. Does generator retain copies of manifests? ✓ Yes ___ No

(Check completed manifests at random. Indicate how many manifests were inspected, how many violations were noted and the type of violation.) 12 manifest no violations

If yes, complete a through e. If questions contain more than one item, circle those not in compliance. (263.23 Use of the Manifest)

a. (1) Did generator sign and date all manifests inspected? ✓ Yes ___ No
   (2) Who signed for generator? Name Joe Porter Title Env Eng

b. (1) Did generator obtain handwritten signature and date of acceptance from initial transporter? ✓ Yes ___ No
   (2) Who signed and dated for transporter? Name James Fitch Title Mo Pac

c. Does generator retain one copy of manifest signed by generator and transporter? ✓ Yes ___ No

d. Do returned copies of manifest include facility owner/operator signature and date of acceptance? ✓ Yes ___ No

e. If copy of manifest from facility was not returned within 45 days, did generator file an exception report? (262.42 - Exception reporting) N/A ___ Yes ___ No

   (1) If yes, did it contain the following information

   Legible copy of manifest ___ Yes (N/A) ___ No
   AND
   Cover letter explaining generators efforts to locate waste. ___ Yes (N/A) ___ No

f. Does (will) generator retain copies for 3 years? ✓ Yes ___ No

Section D - Pre-Transport Requirements

1. Does generator package waste? ✓ Yes ___ No

   If no, skip the rest of Section D.
   If yes, complete the following questions.

2. Does generator package waste in accordance with 49 CFR 173 178, and 179? (DOT requirements) (262.30 - Packaging) ✓ Yes ___ No

3. Inspect containers to be shipped.
   a. Are containers to be shipped leaking or corroding or bulging? ___ Yes ✓ No
   b. Use narrative explanations sheet to describe containers and condition.
   c. Is there evidence of heat generation from incompatible wastes in the containers? ___ Yes ✓ No

4. Does the generator use DOT labeling requirements in accordance with 49 CFR 172? (262.31 - Labeling) ✓ Yes ___ No

5. Does the generator mark each package in accordance with 49 CFR 172? (262.32 - Marking) ✓ Yes ___ No

6. Is each container of 110 gallons or less marked with the following label? (262.32 - Marking) ✓ Yes ___ No

   Label saying: HAZARDOUS WASTE - Federal Law Prohibits Improper Disposal. If found, contact the nearest police or public safety authority or the U.S. Environmental Protection Agency.

   Generator's Name and Address _____

   _____

   Manifest Document Number _____

7. If there are any vehicles present on site loading or unloading hazardous waste, inspect for presence of placards. Note this instance on narrative explanation sheet.

8. Accumulation Time (262.34 - Accumulation Time)
   a. Is facility a permitted storage facility? ✓ Yes ___ No

   If yes, skip to question #9.
   If no, answer rest of question #8.

   b. Is hazardous waste shipped offsite within 90 days? ___ Yes N/A ___ No

   c. Are containers used to store waste? ___ Yes N/A ___ No

      (1) Is the beginning date of accumulation time clearly indicated? ___ Yes N/A ___ No

c. (1) Does generator inspect containers for leakage or corrosion? (265.174 - Inspections) ___ Yes ___ No (N/A)

(2) If yes, with what frequency? ___ (N/A) ___

d. (1) Does generator handle ignitable or reactive waste? ___ Yes (N/A) ___ No

(2) If yes, does generator locate containers holding ignitable or reactive waste at least 15 meters (50 feet) inside facility's property line? (265.176 - Special Requirements for Ignitable or Reactive Wastes) ___ Yes (N/A) ___ No

NOTE: If generator accumulates waste on-site for less than 90 days, fill out Facilities Checklist Section A-#9 Personnel Training; Section B - Preparedness and Prevention; and Section C - Contingency Plan and Emergency Procedures.

9. Describe storage area. Use photos and narrative explanation sheet.

Section E - Recordkeeping and Records

1. Is generator keeping the following reports? (262.40 - Recordkeeping) (Note: The following must be kept for a minimum of three (3) years.)

   a. Manifests and signed copies from designated facilities? ✓ Yes ___ No
   b. Annual reports (Not applicable until March 1982) ✓ Yes ___ No
   c. Exception Reports (N/A) Yes ___ No
   d. Test results where applicable. ✓ Yes ___ No

2. Where are records kept (at facility or elsewhere)? FACILITY

3. Who is in charge of keeping the records? Name JOE PORTER Title ENV ENG

Section F - Special Condition

1. Has generator received from or transported to a foreign source any hazardous waste? (262.50 - International Shipments) ___ Yes ✓ No

If yes,

   a. Has he filed a notice with the R.A.? ___ Yes ___ No
   b. Is this waste manifested and signed by Foreign Consignee? ___ Yes ___ No
   c. If generator transported wastes out of the country has he received confirmation of delivered shipment? (N/A) ___ Yes ___ No

ARD 990660689 5/23/84

VERTAC Chemical CORP

1. Sec "B". Hazardous waste generated - D001 - Process wastewater: spent process solvent: Permethrin process process wastewater spent solvent: Cypermethrin process Polymer sample waste: Combustible liquid - 34,983,301 lbs/yr. D002 - Process waste water: Blowdown; stormwater (propanoic acid) 205,079,800 lbs/yr. Note: This includes this all discharged wastewater.

2. Primary off-site facilities - Gibraltor Wastewaters, Inc Po Box 1640 Kilgore, Tx 75662. Location Hwy 155 Winona Tx 75792. Browning-Ferris Industries Po Box 669 - 112 + Hwy 63 Livingston, La 70754. Chemical Resources Inc. 2904 Fourth National Bank Bldg, Tulsa OK.

3. Section "D". Storage area - waste is stored in the following areas 1. 13,000 gal tank holds the D001 waste 1 - 13,000 stainless steel tank holding D001. 1 - 20,000 gal carbon steel glass lined tank holding the phenols. Arsenic drums are used to store waste prior to transfer to tank (13,000 gal tank). There is some drum storage but not any drums on site at the time holding any D001 waste.

Revised 7/82

RCRA COMPLIANCE INSPECTION REPORT
TSD FACILITIES CHECKLIST

Section A - General Facility Standards

1. Does facility have EPA Identification No.? (265.11 - Identification Number) ✓ Yes ___ No

   A. If yes, EPA I.D. No. A R D 9 9 0 6 6 0 6 4 9
   If no, explain _____

2. Has facility received hazardous waste from a foreign source? (265.12 - Required notices) ___ Yes ✓ No

   A. If yes, has he filed a notice with the Reg. Admin. ___ Yes ___ No

Waste Analysis

3. Does the facility have a written waste analysis plan? (265.13 - General Waste Analysis) ✓ Yes ___ No

   A. If yes, is a copy maintained at the facility? ✓ Yes ___ No

   B. If no, question #4 not applicable.

4. If yes, does it include:

   A. Parameters for which each waste will be analyzed? ✓ Yes ___ No

   B. Test methods used to test for these parameters? ✓ Yes ___ No

   C. Sampling method used to obtain sample? ✓ Yes ___ No

   D. Frequency with which the initial analysis will be reviewed or repeated? ✓ Yes ___ No

      1. If yes, does it include requirements to re-test when the process or operation generating the waste has changed? ✓ Yes ___ No

   E. (For off-site facilities) Waste analyses that generators have agreed to supply? ___ Yes (N/A) ___ No

   F. (For off-site facilities) Procedures which are used to inspect and analyze each movement of hazardous waste including:

      1. Procedures to be used to determine the identity of each movement of waste? ___ Yes (N/A) ___ No

      2. Sampling method to be used to obtain representative sample of the waste to be identified? ___ Yes (N/A) ___ No

5. Does the facility provide adequate security to minimize the possibility for the unauthorized entry of persons or livestock onto the active portions of the facility? (265.14 - Security) ✓ Yes ___ No

If no, describe inadequacies. (Use narrative explanations sheet.)

If yes, is security provided through:

A. 24-hour surveillance system? (e.g. television monitoring or guards) ✓ Yes ___ No

OR

B. 1. Artificial or natural barrier around facility (e.g. fence or fence and cliff)? ✓ Yes ___ No
Describe type of security

AND

2. Means to control entry through entrances (e.g. attendant, television monitors, locked entrance, controlled roadway access)? ✓ Yes ___ No
Describe type of security.

Include a drawing indicating any inadequacies in the facility's security system.. NO INADEQUACIES

6. Is a sign with the legend, "Danger-Unauthorized Personnel Keep Out," posted at the entrance to the active portion of the facility? (265.14 - Security) ✓ Yes ___ No

Is it written in English and legible from at least 25 feet? ✓ Yes ___ No

(NOTE: The sign must be written in any other language predominant in the area surrounding the facility (e.g. In New Mexico and Texas areas bordering Mexico, the sign must be in Spanish).

If an existing sign with a legend other than "Danger-Unauthorized Personnel Keep Out," what does that legend say?

General Inspection Requirements

7. A. Does the owner/operator maintain a written schedule for inspecting: (265.25 - General Inspection Requirements) ✓ Yes ___ NO

1. Monitoring equipment? (If applicable) ✓ Yes ___ No

2. Safety and emergency equipment? ✓ Yes ___ No

3. Security devices? ✓ Yes ___ No

4. Operating and structural equipment (if applicable) ✓ Yes ___ No

5. Does the schedule or plan identify the types of problems to be looked for during inspection? ✓ Yes ___ No

   a. Malfunction or deterioration (e.g. inoperative sump pump, leaking fitting, eroding dike, corroded pipes or tanks, etc.) ✓ Yes ___ No

   b. Operator error ✓ Yes ___ No

   c. Discharges (e.g. leaks from valves or pipes joint breaks, etc.) ✓ Yes ___ No

B. Is a written schedule for these inspections maintained at the facility? ✓ Yes ___ No

1. Are these inspections conducted? ✓ Yes ___ No

   a. Is a record of these inspections maintained in the inspection log? ✓ Yes ___ No

8. Does the owner/operator have an inspection log? (265.15 - General Inspection Requirements) ✓ Yes ___ No

A. If yes, does it include:

1. Date and time of inspection? ✓ Yes ___ No

2. Name of inspector? ✓ Yes ___ No

3. Notation of observations? ✓ Yes ___ No

4. Date and nature of repairs or remedial action? ✓ Yes ___ No

B. Are there any malfunctions or other deficiencies noted in the inspection log that remain uncorrected? (Use narritive explanation sheet). ___ Yes ✓ No

C. Are records of the inspection log maintained at the facility for three (3) years? ✓ Yes ___ No

Personnel Training

9. Does the owner/operator maintain a personnel training program? (265.16 - Personnel Training) ✓ Yes ___ No

   A. If yes,
      1. Is the program directed by a person trained in hazardous waste management procedures? ✓ Yes ___ No
      2. Is the program designed to prepare employees to respond effectively to hazardous waste emergencies? ✓ Yes ___ No
      3. Is a training review given annually? ✓ Yes ___ No

   B. Does the owner/operator keep the following records:
      1. job title and written job description of each position? ✓ Yes ___ No
      2. description of the type and amount of introductory and continuing training? ✓ Yes ___ No
      3. documentation that training has been given to employees? ✓ Yes ___ No

   C. Are these records maintained at the facility? ✓ Yes ___ No

Requirements for Ignitable, Reactive or Incompatible Waste

10. Does facility handle ignitable or reactive wastes? (265.17 - Ignitable, Reactive, Incompatible Wastes) ✓ Yes ___ No
    WASTE Toulene mixture
    (Circle appropriate type(s) of waste(s).

    A. If yes, is waste separated and confined from sources of ignition or reaction, (open flames, smoking, cutting and welding, hot surfaces, frictional heat) sparks (static, electrical or mechanical), spontaneous ignition (e.g. from heat producing chemical reactions) and radiant heat? ✓ Yes ___ No

    B. Are smoking and open flame confined to specifically designated locations? ✓ Yes ___ No

    C. Are "No Smoking" signs posted in hazardous areas where ignitable or reactive wastes are handled? ✓ Yes ___ No

11. Check containers (265.17 - Ignitable, Reactive, Incompatible Wastes)

    A. Are containers leaking or corroding or bulging? (Use narrative explanation sheet to explain containers in this condition.) ___ Yes ✓ No

    B. Has the facility ever placed incompatible wastes together? ___ Yes ✓ No
    If yes, what were the results? (Use narrative explanation sheet). (Look for signs of mixing of incompatible wastes. e.g., fire, toxic mist, heat generation, bulging containers, etc.)

Section B - Preparedness and Prevention

1. Is there evidence of fire, explosion or contamination of the environment? (265.31 - Maintenance and operation of facility) ___ Yes ✓ No

If yes, use narrative explanations sheet to explain.

2. Is the facility equipped with (265.32 - Required equipment)

   A. Internal communications or alarm system? ✓ Yes ___ No

      1. Is it easily accessible in case of emergency? ✓ Yes ___ No

   B. Telephone or two-way radio to call emergency response personnel? ✓ Yes ___ No

   C. Portable fire extinguishers, fire control equipment spill control equipment and decontamination equipment? ✓ Yes ___ No

      1. Is this equipment tested to assure its proper operation? ✓ Yes ___ No

   D. Water of adequate volume for hoses, sprinklers or water spray system? ✓ Yes ___ No

      1. Describe source of water Helena + West Helena

      2. Indicate flow rate and/or pressure and storage capacity if applicable. 600 GPM

3. Is there sufficient aisle space to allow unobstructed movement of personnel and equipment? (e.g. adequate aisle space in between barrels to check for leakage, corrosion and proper labeling, etc.) (265.35 - Required aisle space) ✓ Yes ___ No

4. Has the owner/operator made arrangements with the local authorities to familiarize them with characteristics of the facility? (layout of facility, properties of hazardous waste handled and associated hazards, places where facility personnel would normally be working, entrances to roads inside facility, possible evacuation routes.) (265.37 - Arrangements with local authorities) ✓ Yes ___ No

If no, has the owner/operator attempted to make such arrangements? ___ Yes N/A ___ No

5. In the case that more than one police or fire department might respond, is there a designated primary authority? (265.37 - Arrangements with local authorities) ✓ Yes ___ No

   If yes, indicate primary authority West Helena Fire + Police.

   A. Is the fire department a city or volunteer fire department? City of West Helena

6. Does the owner/operator have phone numbers of and agreements with State emergency response teams, emergency response contractors and equipment suppliers? ✓ Yes ___ No
   Are they readily available to the emergency coordinator? ✓ Yes ___ No

(265.37 - Arrangements with local authorities)

7. Has the owner/operator arranged to familiarize local hospitals with the properties of hazardous waste handled and types of injuries that could result from fires, explosions, or releases at the facility? ✓ Yes ___ No

   If no, has the owner/operator attempted to do this? ___ Yes N/A ___ No

(265.37 - Arrangements with local authorities)

8. If the State, or local authorities decline to enter into the above referenced agreements, has this situation been entered in the operating record? (265.37 - Arrangements with local authorities) ___ Yes N/A ___ No

Section C - Contingency Plan and Emergency Procedures

1. Does the facility have a contingency plan? (265.52 Content of Contingency Plan) ✓ Yes ___ No

   A. If yes, does it contain:

      1. actions to be taken in response to emergencies? ✓ Yes ___ No
      2. description of arrangements with police, fire and hospital officials? ✓ Yes ___ No
      3. list of names, addresses, phone numbers of persons qualified to act as emergency coordinator? ✓ Yes ___ No
      4. list of all emergency equipment at the facility? ✓ Yes ___ No
      5. evacuation plan for facility personnel? ✓ Yes ___ No

2. Is a copy of the contingency plan maintained at the facility? (265.53 - copies of contingency plan) ✓ Yes ___ No

3. Has a copy been supplied local police and fire depts.? (265.53 - Copies of contingency plan) ✓ Yes ___ No

4. Is the plan a revised SPCC Plan? (265.52 - content of contingency plan) ✓ Yes ___ No

5. Is there an emergency coordinator on-site or within short driving distance of the plant at all timee? ✓ Yes ___ No
If yes, list primary emergency coordinator: Joe Porter

Section D - Manifest System, Recordkeeping and Reporting

1. Has facility received hazardous waste from off-site since November 19, 1980? (265.71 - Use of manifest system) ___ Yes ✓ No

   a. If no, questions 1, 2 and 3 not applicable.

   b. If yes, does the facility retain copies of all manifests? ___ Yes ___ No

      1. Are the manifests signed and dated and returned to the generator? N/A ___ Yes ___ No

      2. Is a signed copy given to the transporter? ___ Yes ___ No

2. Has the facility received any hazardous waste from a rail or water (bulk shipment) transporter since Nov. 19, 1980? (265.71 - Use of manifest system) ___ Yes ✓ No

   a. If yes, is it accompanied by a shipping paper ___ Yes ___ No

      1. Does the owner/operator sign and date the shipping paper and return a copy to the generator? N/A ___ Yes ___ No

      2. Is a signed copy given to the transporter? ___ Yes ___ No

3. Has the facility received any shipments of hazardous waste since November 19, 1980, which were inconsistent with the manifest? (265.72 - Manifest discrepancies) ___ Yes ✓ No

   a. If yes, has he resolved the discrepancy with the generator and transporter? ___ Yes ___ No

      1. If no, has Regional Administrator been notified? N/A ___ Yes ___ No

4. Has the facility received any waste (that does not come under the small generator exclusion) not accompanied by a manifest? (265.76 - Unmanifested waste report) ___ Yes ✓ No

   a. If yes, has he submitted an unmanifested waste report to the Regional Administrator? N/A ___ Yes ___ No

5. Does the facility have a written operating record? (265.73 - Operating record) ___ Yes ___ No

   a. Is a copy maintained at the facility? ___ Yes ___ No

5. b. Does the record include

1. Description and quantity of each hazardous waste and the methods and dates of its treatment, storage or disposal at the facility? ✓ Yes ___ No

2. Location and quantity of each hazardous wasteof at each location? ✓ Yes ___ No

   a. Is this information cross-referenced with specific manifest document numbers, if applicable? ✓ Yes ___ No

3. (for disposal facilities only) Is the location and quantity of each hazardous waste recorded on a map or diagram of each cell or disposal area? ___ N/A Yes ___ No

4. Record and results of waste analyses? ✓ Yes ___ No

5. Reports of incidents involving implementation of the contingency plan? (If applicable) ___ N/A Yes ___ No

6. Records and results of required inspections ✓ Yes ___ No

7. Monitoring, testing or analytical data where required? ✓ Yes ___ No

8. Closure cost estimates and for disposal facilities, post-closure cost estimates? ✓ Yes ___ No

Section E - Plans and Reports

1. Have all plans and reports been visually inspected and /or been made available for inspection? (265.74 - Availability, retention and disposition of records) ✓ Yes ___ No

List plans and/or reports not made available for inspection.

_____

_____

2. Did operator provide inspector with a drawing of the facility? ✓ Yes ___ No

   a. If yes, please indicate which are hazardous waste facilities on the drawing.

3. Indicate types of hazardous waste facilities.

- ✓ Containers
- ✓ Tanks
- ✓ Surface Impoundments
- ____ Waste Piles
- ____ Land Treatment
- ____ Landfill
- ____ Incinerator
- ____ Thermal Treatment
- ____ Chemical, Physical and Biological Treatment
- ✓ Groundwater Monitoring Program

ARD990660649 5/23/84

VERTAC INC - WEST HELENA

TSD CHECKLIST

1. WASTE ANALYSIS - The waste analysis plan has been updated to include arsenic mixture. Vertac is constantly changing their products. This requires amendments to the waste analysis plan.

2. All security systems are adequate

3. Personnel Training - All plant personnel participate in training. There are 26 categories that all plant employees cover for their training. Job descriptions are given to the positions that are held to include responsibilities.

4. Operating Record - Propanil is batch made & tanks that are used are part of the process. Therefore waste is not planned until it reaches the storage tanks.

ARD990660649 Arsenic Mixture Drums 5/23/84

CONTAINERS STORAGE CHECKLIST
(Subpart I - Use and Management of Containers 265.170)

1. Does the facility store hazardous waste in containers? ✓ Yes ___ No

   If no, do not complete this form.

2. Are the containers in good condition? (check for leaks, corrosion, bulges, etc.) ✓ Yes ___ No

   If no, explain in narrative and document with photograph.

3. If a container is found to be leaking, does the operator transfer the hazardous waste from the leaking container? ✓ Yes ___ No

4. Is the waste compatible with the containers and/or its liner? ✓ Yes ___ No

   If no, explain in narrative.

5. Are the stored containers closed? ✓ Yes ___ No

   If no, explain in narrative.

6. Are containers holding hazardous waste opened, handled or stored in such a manner as to cause the container to rupture or leak? ___ Yes ✓ No

   If yes, explain in narrative.

7. Are each of the containers inspected at least weekly? ✓ Yes ___ No

   If no, explain in the narrative the frequency of inspection.

8. Are containers holding ignitible or reactive wastes located at least 15 meters (50 feet) from the facility property line? ✓ Yes ___ No

   If no, explain in narrative and document with photograph.

9. Are incompatible wastes stored in the same containers? ___ Yes ✓ No

   If yes, explain in narrative.

10. Are containers holding incompatible wastes kept apart by physical barrier or sufficient distance? N/A ___ Yes ___ No

    If no, explain in narrative.

Revised 8/2/82

SURFACE IMPOUNDMENTS CHECKLIST
Subpart K - Surface Impoundments 265.220

NOTE: Check all surface impoundments. Fill out one checklist for any impoundment in violation. Fill out one checklist for all other impoundments in compliance. Indicate number of surface impoundments at the facility. 3. 1 EQUALIZATION POND 1 TREATMENT POND 1 FINISHING POND

1. Are there any surface impoundments which are not being used which the facility does not plan to use in the future? ___ Yes ✓ No

   a. If yes, has all hazardous waste and hazardous waste residue been removed from the impoundment? ___ Yes NA ___ No

2. Are impoundments presently used to treat or store waste? ✓ Yes ___ No

3. Does the impoundment appear to maintain at least 2 feet (60 cm) of freeboard? ✓ Yes ___ No

   a. If no, what was the freeboard? NA

4. Is there evidence of overtopping of the dike? ___ Yes ✓ No

   If yes, please describe. NA

5. Does the impoundment have a containment system? ___ Yes ___ No

   a. Does the earthen dike have adequate protective cover (e.g. grass, shale, rock) to minimize wind and water erosion? (Use narrative explanation sheet to explain deficiencies.) ✓ Yes ___ No

   b. Provide description of containment. EARTHEN DIKE PONDS WITH WITH ROCK TO MINIMIZE EROSION AT WATER LEVEL + GRASS TO MINIMIZE WIND EROSION

6. What wastes are treated or stored in the impoundment? (Use narrative explanations sheet).

7. Are hazardous wastes chemically treated in the impoundment? ✓ Yes ___ No

   a. If yes, are

      1. Waste analyses and trial tests conducted on these wastes or ✓ Yes ___ No

      2. Does the owner/operator have written documented information on similar treatment of similar wastes under similar operating conditions? ✓ Yes ___ No

   b. Is this information retained in the operating record? ✓ Yes ___ No

8. Is the impoundment inspected daily to check freeboard level? ✓ Yes ___ No

9. Is the impoundment, dike and vegetation surrounding the dike inspected to detect leaks, deterioration or failures at least once a week? (265.226 - Inspections) ✓ Yes ___ No

10. Does the facility maintain a record of the closure plan on site? ✓ Yes ___ No

11. Are ignitable or reactive wastes placed in the impoundment? ___ Yes ✓ No

    a. If no, do not complete b and c.
    b. If yes, are they treated, rendered or mixed before or immediately after placement in the impoundment so it no longer meets the definition of ignitable or reactive? ___ Yes ___ No

    OR

    c. Is the impoundment used solely for emergencies? N/A ___ Yes ___ No

        1. If yes, has further treatment, storage or disposal been conducted on these wastes? Describe this situation.

        _____

        _____

12. Has the facility ever placed incompatible wastes in the impoundment? ___ Yes ✓ No

    a. If yes, what were the results. (Use narrative explanation sheet.) (Look for signs of mixing of incompatible wastes e.g., fire, toxic mist, heat generation, bulging containers, etc.)

13. What is the impoundment lined with? Bentonite. Sealing Clay 100

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TANKS CHECKLIST
(Subpart J - Tanks, 265.190)

NOTE: If multiple tanks exist, list each tank and specify compliance or non-compliance. Complete an individual checklist for each tank not in compliance and a collective checklist for those in compliance.

1. Are there any tanks which are not being used which the facility no longer plans to use? ___ Yes ✓ No

   a. If yes, has all hazardous waste and hazardous waste residue been removed from these tanks, discharge control equipment, and discharge confinement structures? ___ Yes (N/A) ___ No

2. Are tanks presently used to treat or store waste? ✓ Yes ___ No
   a. If no, do not complete rest of form.
   b. If yes, check tanks.

3. Is there evidence that wastes placed in the tank are incompatible with the tank or liner? ___ Yes ✓ No

   NOTE: Any evidence of ruptures, leaks or corrosion. (Use narrative explanations sheet.)

4. Are there any uncovered tanks? ___ Yes ✓ No

   a. If no, do not complete 4b.-e.
   b. If yes, do they have 2 feet (60cm) freeboard? ___ Yes ___ No

   or

   c. A containment structure? (e.g. dike or trench) or ___ Yes ___ No

   d. A drainage control system? ___ Yes ___ No

   or

   e. A diversion structure? (e.g. standby tank) ___ Yes ___ No
   (NOTE: The structure in c, d or e must have a capacity that equals or exceeds the volume of the top 2 feet (60 cm) of the tank.

If the answers to 4b.-e. are "no", explain current conditions using narrative sheets.

5. Are any of the tanks continuous feed? ___ Yes ✓ No

   a. If yes, is it equipped with a means to stop inflow (e.g. waste feed cutoff or by-pass to a stand-by tank)? ___ Yes (N/A) ___ No

Waste Analysis

6. Is the tank used to store one waste exclusively? ✓ Yes ___ No

   a. If no, what are the different wastes stored in the tank? (Use narrative explanations sheet).

      1. Are waste analyses and trail tests conducted on these wastes ✓ Yes ___ No

      OR

      Does the owner/operator have written documented information on similar treatment of similar wastes under similar operating conditions? ✓ Yes ___ No

      2. Is this information retained in the operating record? ✓ Yes ___ No

Inspections (Note: This section does not exclude underground tanks)

7. Does the owner/operator inspect the following at least daily, where present? ✓ Yes ___ No

   (Indicate which items are present in 7 and 8.)

   a. Discharge control equipment (e.g. waste feed cut-off, by pass and/or drainage systems)? ✓ Yes ___ No

   b. Monitoring equipment (e.g. pressure and temperature gages)? ✓ Yes ___ No

   c. Level of waste in each uncovered tank? ___ ~~Yes~~ N/A ___ No

8. Does the owner/operator inspect the following at least weekly? ✓ Yes ___ No

   a. Construction materials of tanks for corrosion or leaks? ✓ Yes ___ No
   b. Construction materials of and area surrounding discharge confinement structures for erosion or signs of leakage? ✓ Yes ___ No

9. What is the procedure for assessing the condition of the tank(s)? Explain in narrative. (e.g. How does the procedure allow for detection of cracks, leaks or corrosion or procedures for emptying the tank to allow entrance, etc.)

10. Does the facility have a closure plan? ✓ Yes ___ No

    a. Does the plan address the closure of each tank? If no, explain in narrative. ✓ Yes ___ No

    b. Is the plan maintained at the facility? ✓ Yes ___ No

11. Are ignitable or reactive wastes placed in tanks? ✓ Yes ___ No

    a. If yes, are they treated, rendered or mixed before or immediately after placement in the tank so it no longer meets the definition of ignitable or reactive? ___ Yes ✓ No

    OR

    b. Is the waste protected from sources of ignition or reaction? ✓ Yes ___ No

        1. If yes, use narrative explanations sheet to describe separation and confinement procedures.

        2. If no, use narrative explanations sheet to describe sources of ignition or reaction

        OR

    c. Is the tank used solely for emergencies? ___ Yes ✓ No

12. Has the facility ever placed incompatible wastes in the tank? ___ Yes ✓ No

    a. If yes, what were the results. (Use narrative explanations sheet). (Look for signs of mixing of incompatible wastes, e.g. fire, toxic mist, heat generation, bulging containers, etc.)

13. If a waste is to be placed in a tank that previously held an incompatible waste, was that tank washed? N/A ___ Yes ___ No

    a. If yes, describe washing procedures (Use narrative explanation sheet.)

    Describe how it is possible for incompatible wastes to be placed in the same tank. (Use narrative explanations sheet.) NOT Possible

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VERTAC - WEST HELENA

TANKS - CHECK LIST.

1. TANKS ARE INSPECTED DAILY. WASTE IS USUALLY NOT STORED MORE THAN A WEEK. THIS ALLOWS FOR INSPECTION OF THE INSIDE OF THE TANK(S) MORE REGULARLY. ALL TANKS ARE LINED (2) ONE WITH CARBON STEEL (1) ONE WITH STAINLESS STEEL + (1) ONE WITH GLASS.

2. TANKS ARE CLOSED PREVENTING ANY SOURCE OF IGNITION

GROUNDWATER MONITORING CHECKLIST

The owner or operator of a surface impoundment, landfill, or land treatment facility which is used to manage hazardous waste must implement a groundwater monitoring program. (Part 265, Subpart F).

1. Specify the site(s) for which a groundwater monitoring system (has) or (should have) been installed: 3 Surface Impoundment Ponds.

2. What date was the monitoring program initiated (date of first sampling)?

   July, 1977 Required June, 1983.

3. Indicate by a map or sketch locations of each monitoring well and distance from active site(s) (attach). Also list depths, diameter and completion data on each well (or include well drilling and completion report). Indicate whether the wells are hydraulically upgradient or downgradient and the direction of flow of the groundwater.

4. A. Does the facility have a sampling and analysis plan? 265.92
   Yes ✓ No ____

   B. If yes, does the plan include procedures and techniques for:
      1. Method of determining elevation of groundwater?
         Yes ✓ No ____
      2. Sample collection?
         Yes ✓ No ____
      3. Sample preservation and shipment?
         Yes ✓ No ____
      4. Analytical procedures?
         Yes ✓ No ____
      5. Chain of custody control?
         Yes ✓ No ____

   C. Does the plan include:
      1. Parameters characterizing the suitability of the groundwater as a drinking water supply, as specified in Part 265, Appendix III?.
         Yes ✓ No ____
      2. Parameters establishing groundwater quality?
         Yes ✓ No ____
      3. Parameters used as indicators of groundwater contamination?
         Yes ✓ No ____

   D. Have samples been collected and analyzed quarterly during first year?
      Yes ✓ No ____

   E. After the first year are the parameters analyzed with the following frequencies:
      1. for groundwater quality annually?
         Yes ✓ No ____
      2. for groundwater contamination semi-annually?
         Yes ✓ No ____
      3. Are these results made part of the biennial report?
         Yes ✓ No ____

5. If a groundwater monitoring system has been installed, attach a copy of the groundwater sampling and analysis plan. Briefly describe sample collection technique for obtaining samples and the method used to establish elevation of groundwater for groundwater monitoring wells:

See Attached Plan In File

6. Has owner or operator prepared an outline of a groundwater quality assessment program? 265.93
Yes ✓ No _____

A. Has the owner or operator complied with 265.93(b) in utilizing the Student's t-Test?
Yes ✓ No _____

B. If yes, what were the comparisons? Attach results.

C. Did comparisons show a significant increase (or pH decrease)?
Yes _____ No ✓

D. If yes, has owner or operator obtained additional samples from the affected wells, split the samples into, and obtained analysis of all additional samples to determine if a laboratory error occurred?
Yes _____ No N/A _____

E. If no error was involved, did facility provide written notice to the Director that the facility may be affecting groundwater quality?
Yes _____ No N/A _____

F. If yes, was notice provided within seven (7) days of confirmation?
Yes _____ No N/A _____

G. Has the owner or operator submitted a groundwater quality assessment plan?
Yes _____ No N/A _____

1. If yes, was this plan submitted within 15 days of the initial notification?
Yes _____ N/A No _____

2. Does the plan include the following:

a. specify the number, location, and depth of wells
Yes _____ N/A No _____

b. sampling and analytical methods for those hazardous wastes or hazardous waste constituents in the facility?
Yes _____ N/A No _____

c. evaluation procedures, including any use of previously gathered groundwater quality information?
Yes _____ N/A No _____

d. a schedule of implementation?
Yes _____ N/A No _____

3. Is the plan certified by a qualified geologist or geotechnical engineer? N/A
Yes _____ No _____

7. Recordkeeping and reporting - 265.94

   A. For first year only:
      1. Is facility reporting, on a quarterly basis, those parameters found in Appendix III?
         Yes ✓ No _____
      2. Are they being reported within 15 days of completion of analysis?
         Yes ✓ No _____
      3. Does the facility identify seperately the wells where Appendix III parameters are being exceeded?
         Yes ✓ No _____

8. Indicate the name and address of the facility conducting the analysis.
   Sorrell Research, 8002 Stanton Rd Little Rock AR 72209

9. If no groundwater monitoring system has been installed, include a copy of Low Potential Groundwater Demonstration used to document a low potential for migration of hazardous waste or constituents. Also describe briefly what basis was used to justify the waiver of monitoring requirements:

_____

_____

_____

_____

VERTAC CHEMICAL CORPORATION
24th Floor • 5100 Poplar • Memphis, TN 38137 • 901-767-6851

REPLY TO: P. O. BOX 2648
WEST HELENA, AR 72390
(501) 572-3701

April 30,1984

Arkansas Department of Pollution Control & Ecology
8001 National Drive
Little Rock, AR 72209

Attn: Mr. Vince Blubaugh

Per your request a copy of our closure plan is attached.

Sincerely,
Joe E. Porter

cc: J.W.Shackelford
Thomas D.Clark
U.S.Environmental Protection Agency
Region VI
1201 Elm Street
Dallas, TX 75270

STATE OF ARKANSAS
DEPARTMENT OF POLLUTION CONTROL AND ECOLOGY
8001 NATIONAL DRIVE, P.O. BOX 9583
LITTLE ROCK, ARKANSAS 72209

PHONE: (501) 562-7444

April 25, 1984 Rec'd 4-27-84

Mr. Joe E. Porter
Vertac Chemical Corporation
P.O. Box 2648
West Helena, AR 72390

Re: EPA I.D.# ARD990660649
West Helena, AR

Dear Mr. Porter:

In order to facilitate the required reviews of your facility for compliance with federal and state regulations, please send one copy of your closure plan to EPA and one copy to the Arkansas Department of Pollution Control and Ecology by May 10, 1984.

Copies should be addressed to:

Thomas D. Clark
U.S. Environmental Protection Agency
Region VI
InterFirst Two Building
1201 Elm Street
Dallas, TX 75270

Vince Blubaugh
Arkansas Department of Pollution Control and Ecology
Post Office Box 9583
Little Rock, AR 72219

Thank you for your cooperation.

Sincerely,

Vince Blubaugh

Vince Blubaugh, Chief
Solid and Hazardous Waste Division

VB:mlw

CLOSURE PLAN - SECTION 265.110

Upon closure management will develop a listing of all containers of material which is, or will become, a hazardous waste. This assessment will include at a minimum the biological treatment system. There will probably be three other categories of waste containers: drums, tanks, and process vessels.

Process vessels. These containers will be cleaned out first since some of their contents may be placed in tanks, drums, and the treatment system. These vessels will cleaned of all hazardous materials which are, or may become, hazardous wastes.

Storage tanks. All storage tanks will be emptied and cleaned out. Their contents will be disposed of by the most appropriate manner, i.e., the wastewater treatment system or deep well injection. Any sludges cleaned from storage tanks will be drummed and disposed of at an off-site hazardous waste landfill.

Drums. All drums containg hazardous materials which are, or may become, hazardous wastes will be disposed of at an off-site hazardous waste landfill.

Biological treatment system. The treatment system will continue to discharge to the Mississippi River in accordance with it National Pollutant Discharge Elimination System (NPDES) Permit No. AR-003-6412. Upon closure, all remaining liquids will be drained an disposed of at an off-site deep well injection facility. Any remaining sludges will be tested for hazardous waste characteristics. If any are found, The sludges will be removed and disposed of at an off-site hazardous waste landfill. The ponmd areas will then be filled with adsorbent clays. After a period of drying, a clay cap will be added followed by topsoil and grass seeding. Groudwater monitoring will continue for the required period of time, currently thirty years.

File

STATE OF ARKANSAS
DEPARTMENT OF POLLUTION CONTROL AND ECOLOGY
8001 NATIONAL DRIVE, P.O. BOX 9583
LITTLE ROCK, ARKANSAS 72209

PHONE: (501) 562-7444

February 9, 1984

Mr. Joe Porter
Environmental Engineer
Vertac Chemical Corp.
P. O. Box 2648
West Helena, Arkansas 72390

Dear Mr. Porter:

It has come to our attention during a recent review of our groundwater monitoring files, that Vertac Chemical - West Helena Plant has failed to submit the quarterly reports of the Appendix III parameters as required by 40 CFR 265.94(a)(2)(i).

According to your letter to this office dated May 25, 1983, your groundwater monitoring program was to begin June 1983. This being the case, you should be in the third quarter monitoring with the previous two quarter's result available.

Failure to submit the above mentioned reports is a violation of the Arkansas Hazardous Waste Management Act (Act 406 of 1979, as amended) and as such are subject to penalties in accordance with the Arkansas Hazardous Waste Management Code Section 13. The reports as described above must be submitted to this office on or before February 15, 1984.

If you should have any questions, please feel free to contact this office.

Sincerely,

Mike Bates

Mike Bates
Hazardous Waste Supervisor
Compliance and Technical Assistance Branch

cc: Dennis Green

MB/lms

54-0068-H

2-3-84

STATE OF ARKANSAS
DEPARTMENT OF POLLUTION CONTROL AND ECOLOGY
8001 NATIONAL DRIVE, P.O. BOX 9583
LITTLE ROCK, ARKANSAS 72209

PHONE: (501) 562-7444

CERTIFIED MAIL: RETURN RECEIPT REQUEST 758900

February 2, 1984

Joe E. Porter
Vertac Chemical Corporation
Post Office Box 2648
West Helena, Arkansas 72390

Re: EPA I.D. # ARD990660649
West Helena, Arkansas

Dear Mr. Porter:

On January 24, 1984, the State of Arkansas was granted the authority by the U. S. Environmental Protection Agency to issue RCRA permits in Component C (Land Disposal) of the Federal Program. Along with the previous authority for Components A and B, the Department is now operating the state's hazardous waste management program in lieu of the federal program. This authority includes the responsibility for reviewing applications and issuing permits for both new and existing facilities.

This letter constitutes a formal request for Part B of your application for a hazardous waste management permit under the Resource Conservation and Recovery Act (RCRA) and the Arkansas Hazardous Waste Management Act (Act 406) for the above referenced facility. This request is made under the authority of 40 CFR 270.10(e)(4) and the Arkansas Hazardous Waste Management Code.

The requirements for a Part B application are contained in 40 CFR Parts 270 and 264 and the Arkansas Hazardous Waste Management Code. Enclosed for your reference are information sheets and checklists which summarize information applicable to your facility type, which is shown in your Part A to be S01, S02, T01, T02. Four copies of your Part B application must be received at this Department by August 15, 1984. If any of the information is being submitted under a claim of confidentiality, please indicate this fact and complete the confidentiality affidavit enclosed with the application packet. (For more information on confidentiality, see 40 CFR Part 2 and the Arkansas HWM Code, Section 6). Additionally, please include the required fee as provided by the HWM Code, Section 11.

Should you have any questions about these requirements, please contact Dick Quinn at (501) 562-7444, ext. 576, or the above address. We will be happy to meet with you to discuss the application requirements in more detail.

Sincerely,

John D. Ward
Manager
Permits Branch

JDW:cjh

Enclosure

SORRELLS RESEARCH
LABORATORY AND FIELD SERVICES

WPCF

CHEMISTS
ECOLOGISTS
CONSULTANTS
PLANNERS

8002 STANTON ROAD
LITTLE ROCK, ARKANSAS 72209

(501) 562-8139

Report of LABORATORY ANALYSIS

Date of Report: AUGUST 19 1983

Date Received: JUNE 15 1983

For VERTAC INC. P. O. BOX 2648 WEST HELENA AR 72390

Job GROUNDWATER MONITORING WELL ANALYSIS.

Sample From SUBMITTED BY ABOVE. WELLS 1 THROUGH 4.

(THIS IS PAGE 1 OF 3.)

I. PARAMETERS FOR SUITABILITY AS DRINKING WATER SUPPLY.

ANALYTES	UNITS	001	002	003	004
ARSENIC	MG/LITER	.006	< .004	< .004	< .004
BARIUM	"	1.07	.27	.36	.07
CADMIUM	"	.006	.005	.005	.002
CHROMIUM	"	.003	.006	.008	< .002
FLUORIDE	"	.44	.35	.29	.32
LEAD	"	.064	.055	.061	.017
MERCURY	"	.003	.0001	.0003	.0008
NITRATE-N	"	.078	< .01	.01	.02
SELENIUM	"	< .01	.05	.05	.06
SILVER	"	.002	.002	.002	<.001

COLLECTED BY
ANALYSIS BY ED SORRELLS/HARRY BEYER/CECIL SORRELLS/JERRY ELEY
Remarks

LABORATORY ANALYSIS CONDUCTED ACCORDING TO STANDARD METHODS, 15TH EDITION. SUMMARY x TEST/ANALYST/TIME/COEFF. VAR. x REFERENCE FEDERAL REGISTER SUBPART F- PARA 265.90... APPENDIX III QA PLAN FILED WITH EPA REGION VI INCLUDES 20 % REPLICATION & RECOVERY STUDIES BY RANDOM SELECTION. CALIB. RECORDS MAINTAINED.

Copies to

2-ABOVE; ATTN- MR. JOE E. PORTER ENVIRONMENTAL ENGINEER

6529.001 - 004 N.D. = NOT DETECTED. DET. LIMITS TO 4 PPTR FOR PESTICIDES TO 1 PPB FOR PHENOLS.

Laboratory No.

$ 1600+

SORRELLS RESEARCH
LABORATORY AND FIELD SERVICES

WPCF

CHEMISTS
ECOLOGISTS
CONSULTANTS
PLANNERS

8002 STANTON ROAD
LITTLE ROCK, ARKANSAS 72209

(501) 562-8139

Report of LABORATORY ANALYSIS

Date of Report: AUGUST 19 1983

Date Received: JUNE 15 1983

For VERTAC INC. P. O. BOX 2648 WEST HELENA AR 72390

Job GROUNDW ATER MONITORING WELL ANALYSIS.

Sample From SUBMITTED BY ABOVE. WELLS 1 THROUGH 4.

(THIS IS PAGE 2 OF 3.)

I. PARAMETERS FOR SUITABILITY AS DRINKING WATER SUPPLY. (CONTINUED FROM PAGE 1.)

ANALYTES	UNITS	001	002	003	004
ENDRIN	MG/LITER	N.D.	N.D.	N.D.	N.D.
LINDANE	"	"	"	"	"
METHOXYCHLOR	"	"	"	"	"
TOXAPHENE	"	"	"	"	"
2 4-D	"	"	"	"	"
2 4 5-TP	"	"	"	"	"
RADIUM	PCI/LITER	< 1	< 1	< 1	2 +- 1
GROSS ALPHA	"	< 2	< 2	< 2	< 2
GROSS BETA	"	< 3	< 3	< 3	< 3
TURBIDITY	UNITS	42.5	18.0	27.1	24.1
COLIFORM BACT.	# PER 100 ML	0	0	0	0

COLLECTED BY
ANALYSIS BY ED SORRELLS/HARRY BEYER/CECIL SORRELLS/JERRY ELEY

Remarks LABORATORY ANALYSIS CONDUCTED ACCORDING TO STANDARD METHODS, 15TH EDITION. SUMMARY x TEST/ANALYST/TIME/COEFF. VAR. x REFERENCE FEDERAL REGISTER SUBPART F- PARA 265.90... APPENDIX III QA PLAN FILED WITH EPA REGION VI INCLUDES 20 % REPLICATION & RECOVERY STUDIES BY RANDOM SELECTION. CALIB. RECORDS MAINTAINED.
2-ABOVE; ATTN- MR. JOE E. PORTER ENVIRONMENTAL ENGINEER

Copies to

6529.001 - 004 N.D. = NOT DETECTED. DET. LIMITS TO 4 PPTR FOR PESTICIDES TO 1 PPB FOR PHENOLS.

Laboratory No.

SORRELLS RESEARCH
LABORATORY AND FIELD SERVICES

CHEMISTS
ECOLOGISTS
CONSULTANTS
PLANNERS

8002 STANTON ROAD
LITTLE ROCK, ARKANSAS 72209

(501) 562-8139

Report of LABORATORY ANALYSIS

Date of Report: AUGUST 19 1983

Date Received: JUNE 15 1983

For VERTAC INC. P. O. BOX 2648 WEST HELENA AR 72390

Job GROUNDWATER MONITORING WELL ANALYSIS.

Sample From SUBMITTED BY ABOVE. WELLS 1 THROUGH 4

(THIS IS PAGE 3 OF 3.)

II. PARAMETERS FOR GROUNDWATER QUALITY AND III. FOR GROUNDWATER CONTAMINATION.

ANALYTES	UNITS	001	002	003	004
CHLORIDE	MG/LITER	2.6	88.7	.47	.47
IRON	..	8.55	.536	4.0	< .007
MANGANESE	..	.759	.074	.445	< .001
PHENOLS	..	N.D.	N.D.	N.D.	N.D.
SODIUM	..	30.9	72.9	36.2	24.9
SULFATE	..	27.7	24.8	7.7	33.5
PH +- S.D.	UNITS	7.53 +- .013	8.06 +- .018	7.47 +-.01	7.33 +- .014
SPEC. COND. +-	MICRO S/CM	648 +- 13	559 +- 10	489 +- 3	540 +- 1
TOC	MG/LITER	2.61 +-.021	16.3 +- .012	2.65 +-.015	3.60 +- .005
TOX +- S.D.	..	<.003+-.0003	<.003+-.0003	<.003+-.0003	<.003+-.0003

COLLECTED BY
ANALYSIS BY ED SORRELLS/HARRY BEYER/CECIL SORRELLS/JERRY ELEY

Remarks

LABORATORY ANALYSIS CONDUCTED ACCORDING TO STANDARD METHODS, 15TH EDITION. SUMMARY x TEST/ANALYST/TIME/COEFF. VAR. x REFERENCE FEDERAL REGISTERR SUBPART F- PARA 265.90... APPENDIX III QA PLAN FILED WITH EPA REGION VI INCLUDES 20 % REPLICATION & RECOVERY STUDIES BY RANDOM SELECTION. CALIB. RECORDS MAINTAINED.

Copies to

2-ABOVE; ATTN- MR. JOE E. PORTER ENVIRONMENTAL ENGINEER

6529.001 - 004 VERW

Laboratory No.

VERTAC CHEMICAL CORPORATION
24th Floor • 5100 Poplar • Memphis, TN 38137 • 901-767-6851

REPLY TO: P. O. BOX 2648
WEST HELENA, AR 72390
(501) 572-3701

Groundwater Monitoring Plan (Revised June 1983)

The following ground-water monitoring plan complies with the Federal guidelines as outlined in Part 265, subpart F.

Sampling and analysis (paragraph 265.92)

Sample collection will be on a frequency as outlined in the following analytical plan. The four plant monitoring samples will be collected using pitcher pumps, with proper sample preservation techniques applied, just prior to shipment to, or pick up by, an outside testing laboratory, or on-site plant analysis. Analytical procedures used will be in accordance with the most recent edition of Standard Methods for the analysis of Water and Wastewater.

For a period of one year, beginning June 1, 1983, monitoring well samples will be tested quarterly for the following parameters:

Group I - drinking water standards

Arsenic	Selenium	2,4,5-TP Silvex
Barium	Silver	Turbidity
Cadmium	Endrin	Coliform Bacteria
Chromium	Lindane	Radium
Flouride	Methoxychlor	Gross Alpha
Lead	Toxaphene	Gross Beta
Mercury	2,4-D	
Nitrate (as N)		

Group II - Groundwater quality

Chloride	Phenols
Iron	Sodium
Manganese	Sulfate

Group III - Groundwater contamination indicators

pH	Total organic carbon
Specific conductance	Total organic halogen

Elevation of the groundwater surface will be determined, at least, each time the monitoring wells are sampled. The results will be expressed in elevations above sea level.

Beginning June 1984, monitoring well samples will be analyzed with at least the following frequencies:

Group I	As neccessary/required
Group II	Annually
Group III	Semi-Annually

JUN 1983
RECEIVED
Ark. Dept. of
Pollution Control
& Ecology

VERTAC CHEMICAL CORPORATION
24th Floor • 5100 Poplar • Memphis, TN 38137 • 901-767-6851

REPLY TO: P. O. BOX 2648
WEST HELENA, AR 72390
(501) 572-3701

May 25, 1983

Arkansas Department of Pollution Control
and Ecology
8001 National Drive
Little Rock, AR 72209

Attn: Mr. Richard McDuffee

RE: RCRA Inspection - February 9, 1983

Dear Mr. McDuffee,

Pursuant to your letter of April 27, 1983 concerning our RCRA Inspection we are submitting the attached information. We are submitting an updated Contingency Plan and a new Groundwater Monitoring Plan.

We believe these to be in compliance with Federal and State Regulations. If you have any questions or comments about our plans, please let us know. We appreciate your assistance. We will endeavor to do our best with your guidance.

Sincerely,

Joe E. Porter
Environmental Engineer

CC: J.W. Shackelford
J.H. Miles

JEP/rmf

MAY 1983
RECEIVED
Ark. Dept. of
Pollution Control
& Ecology

VERTAC CHEMICAL CORPORATION
24th Floor • 5100 Poplar • Memphis, TN 38137 • 901-767-6851

REPLY TO: P. O. BOX 2648
WEST HELENA, AR 72390
(501) 572-3701
Revised May 1983

CONTINGENCY PLAN

The Vertac Chemical Contingency Plan follows guidelines of the Code of Federal Regulations, Title 40, paragraph 265.52. The purpose of this Plan is to minimize hazards to human health and the environment from fires, explosions, or any unplanned sudden or non-sudden release of hazardous materials to air, soil, or surface water.

This Plan will be carried out whenever there is a fire, explosion, or release of hazardous materials which could threaten human health or the environment.

The following attachments constitute the Vertac Chemical Corporation Contingency Plan. Additional information, such as MSDS (Material Safety Data Sheets) will be found in the Vertac Safety Manual. The Contingency Plan contents are modified portions of the Safety Manual.

1. Disaster/Evacuation Plan
2. Personnel Call Out List
3. Emergency Response Index
4. Emergency Response Teams
5. Spill Control and Countermeasures Plan (SPCC)
6. Emergency Equipment List

DISASTER PLAN

The Emergency Team is made up of the Shift Supervisor, who is the Team Captain and Operators, who are Team Members.

IN CASE OF EMERGENCY THE FOLLOWING WILL BE DONE :

1. Report over the P.A. system by dialing 89 and say "EMERGENCY" giving the location and nature of the emergency, THREE (3) times.

2. Shift Supervisor will report to the location of the emergency and act as Team Leader.

3. Upon hearing the report of EMERGENCY, the Lead Operator will put on his units' Scott Air Pak and remain in his unit on stand by. Breathe through the Air Pak only if necessary.

The Operator will report to the location of the Emergency and assist the Team Leader (Shift Supervisor).

4. If there is a fire and it gets out of control, the Team Leader (Shift Supervisor) will appoint an Operator, other than the Operator that works in the unit that is on fire, to go to the nearest phone with an outside line (Shift Supervisor's Office or Laboratory) and do the following:

Dial 89, which is the P.A. system and say "ALL UNITS SHUT DOWN". Then call all numbers on the Personnel Call Out List.

The Operator will then remain at the front gate to give instructions to firemen, ambulance, and police.

The Fire Chief will be in charge of the fire when the firemen arrive.

5. Upon hearing the words over the P.A. system ("ALL UNITS SHUT DOWN"), the Lead Operator in each unit will shut the valves on all storage tanks and pull the electrical main in his unit, killing the electrical power to his unit. He will continue to wear his Scott Air Pak and go to the location of the fire to assist the Team Leader, taking with him the spare Scott Air Pak in his unit.

NOTE: After hearing the first report over the P.A. system, the P.A. system will be used only to report any further emergency information until an 'all clear' is given.

Concerning #5: The Lead Operator must be mindful not to shut down anything that will cause a problem, such as cooling, to a reaction.

EMERGENCY RESPONSE AND EVACUATION

1. Maintenance and Packaging personnel, except for the employees working in the immediate area of the Emergency, will report to the Maintenance Shop. Personnel in the immediate area of the Emergency will assist the Emergency Team Leader.

The secondary report area will be in front of the rear breakroom.

2. Laboratory will perform the following:

   A. Communication
   B. First aid station
   C. Analyze unknown material as required

3. Utility Operator will remain on duty in the Safety Room.

4. Janitor will report to the Guard Shack.

5. Storeroom personnel will report to the shop. The secondary report area will be in front of the rear breakroom.

6. All visitors will leave the plant area by the nearest,safe route.

7. Production Clerk will report to the front office.

Revised May, 1983

PERSONNEL CALL OUT LIST

The Operator appointed by the Shift Supervisor to call the Fire Department if the fire gets out of control will do the following:

1. Dial 89 on the intercom and say the following three (3) times: "ALL UNITS SHUT DOWN".

2. Call the West Helena Fire Station - 572-7911.

3. Call the West Helena Police - 572-3411.

4. Call the Ambulance Service - 338-6707.

5. Call the Hospital to alert for disaster victims - 338-6411.

6. Call Bill Shackelford - 338-8695.

7. Call John Miles - 572-1835.

8. Call Richard Johns - 572-5189.

9. Call Greg Satterfield - 572-3266.

10. Call Beaver Schaffhauser - 572-5297 or 338-8248 or 572-3955.

11. Call Thel Lewis - 572-1848.

12. Call Dennis Gregory - 572-2611.

13. Call Tom Lodice - 601-337-4234.

14. Call Joe Porter - 572-2427.

After calling the above numbers, the Operator will proceed to the front gate to give directions to the firemen, ambulance, and police and then assist them in every way possible.

Revised May 1983

EMERGENCY USE INDEX

EMERGENCY REPORTING AND COORDINATION

Fire Departments	
West Helena	572-7911
Helena	338-3454
Police Departments	
West Helena	572-3411
Helena	338-7434
Phillips County Sheriff	338-8317 or 338-7434
Helena Hospital Ambulance Service	338-6707
Office of Emergency Services (OES)	
State Ofice (conway)	1-329-5601
County Coordinator - Neal Duke	338-6160/572-6662
Department of Pollution Control & Ecology	1-562-7444
Department of Health	
Little Rock - Environmental	1-661-2302
County Sanitarian - David Brown	572-9028
Phillips County Judge - A.Y.Gordon	338-3801
Chemical Transport Emergency Center (CHEMTREC)	1-800-424-9300
National Response Center (NRC)	1-800-424-8802
EPA Oil and Hazardous Materials Technical Assistance Data Systems (OHMTADS)	1-214-767-2666

EMERGENCY RESPONSE TEAMS

West Helena Fire Department

The West Helena Fire Department will respond to an emergency call by dispatching two fire trucks. The first truck will respond to plant site fire control. The second truck will respond to the protection of neighboring facilities.

The West Helena Fire Chief will alert the Helena Fire Department to be on stand-by. The request for additional fire control equipment will be at the disgression of the West Helena Fire Department.

West Helena Police Department

The West Helena Police Department will respond initially with one unit. Other units will respond at the disgression of the first unit as necessary.

Hospital and Ambulance

On first alert the hospital will respond with one ambulance. Upon arriving this ambulance will relay to the emergency room nurse at the hospital the nature of the problem. The emergency room nurse will call the doctor on duty. The Helena Hospital will treat victims as they arrive.

If necessary, a second ambulance will be requested. The second ambulance will carry two nurses. A total of four ambulances are potentially available from the ambulance service. A cooperative agreement with Marianna amd Forrest City could potentially provide a total of ten ambulances if necessary.

Revised May 1983

SPILL PREVENTION CONTROL AND COUNTERMEASURES PLAN

This Spill Prevention Control and Countermeasures Plan (SPCC Plan) is prepared in accordance with good engineering practice and has the full approval of Vertac Chemical Corporation management to commit necessary resources for its complete implementation. This Plan is prepared in accordance with 40 CFR Part 112, "Guidelines for the Preparation and Implementation of a Spill Control and Countermeasure Plan".

Site Description

Appropriate containment and/or diversionary structures and equipment are used to prevent chemicals from reaching a navigable water course:

Bulk Storage Tanks

All tanks are surrounded by concrete dikes to contain spilled materials. Any drain valves which may be present are of a manual, open-and-closed design. Diked areas are emptied by pumps which are manually operated.

Process areas

All chemical processing areas are floored and curbed with concrete dikes. Each process unit is equipped with a concrete sump to collect spills and washdown drainage. These sumps are emptied by pumps which are manually operated.

Plant Drainage

All plant drainage from undiked areas is through a network of ditches into a (stormwater) catchment basin of approximately 150,000 gallon volume. Drainage less than this volume is normally pumped to a biological treatment system preceded by a API separator. The treatment system is an NPDES permitted facility with a final discharge point at the Misissippi River.

Facility Drainage

Drainage from diked storage areas is removed by manually activated pumps. Accumulations are examined before pumping to be sure that no chemicals will be discharged into the plant drainage system. Depending on the quality of the contents of a diked area, the material may be pumped to either the drainage system or direct to the plant treatment system.

Drainage from undiked areas flows through a network of ditches to the stormwater catchment basin. The basin is equipped with a lift pump to the wastewater treatment system through an API separator with a separator storage tank. This provides a method by which a spill or process chemicals may be returned to the plant process area.

Bulk Storage Tanks

All bulk storage tanks are constructed with a concrete dike as the

primary containment measure. A secondary means of containment is provided by the plant drainage system. This system is arranged so that a spill will terminate and be safely confined in the stormwater catchment basin.

The stormwater catchment basin is of sufficient volume to contain the entire contents of the largest single tank plus sufficient freeboard to allow for precipitation and washdown. The largest single tank on the plant site is 30,000 gallons. Assuming that a spill washdown would require four (4) gallons of water for every gallon spilled, the total volume required would be 150,000 gallons (30,000 + 4 x 30,000 = 150,000).

The stormwater catchment basin is equipped with a bypass valve which is normally closed. Drainage of rainwater from the catchment basin is allowed to flow out only after inspection to ensure that water quality standards will not be exceeded and that it will not cause a harmful discharge as defined by 40 CFR Part 110. When rainwater is discharged, it is monitored as Outfall 001 of NPDES Permit No. AR 003 6412. Levels and mechanical operation of this system are inspected a minimum of three times per day (once per eight hour shift) to detect possible upsets or malfunctions and to maintain proper operating conditions.

Facility Tank Truck and Tank Car Loading/Unloading

Tank cars and tank trucks are parked at designated points. These areas are a portion of the plant drainage system and are capable of holding at least the maximum capacity of any single tank car or tank truck loaded or unloaded in the plant.

Employees trained in spill prevention measures are present at all times during these operations. Employees see that hoses are properly connected. All drains and outlets are examined for leakage to prevent liquid leakage while in transit.

Inspections and Records

All aboveground tanks are inspected routinely by visual inspection and non-destructive thickness testing. The exterior of storage tanks are observed by operating personnel for signs of deterioration, leaks, or accumulation of chemicals inside diked areas.

All storage tanks are equipped with either D-P (differential-pressure) instruments, sight glasses, or other liquid level indicating devices. Liquid levels are recorded daily by operating personnel as a portion of the operating record.

All drum storage areas are inspected daily for leakage and/or deterioration. Records of these inspections are a portion of the operating record and the Utility Operators shift inspection log.

All aboveground valves and pipelines are examined routinely by

operating personnel to determine the general condition of items such as flange joints, expansion joints, valve glands and bodies, and pipeline supports.

Security

All plant areas are fully fenced with entrance gates locked and/or guarded at all times. All valves and pumps which will permit discharge flows to occur are maintained in a closed position. All areas are inspected at least three times per day (once per eight hour shift) by the Utility Operator.

Personnel training and spill prevention operating personnel are instructed in the operation and maintenance of equipment to prevent the discharges of chemicals (process chemicals, wastes materials, or hazardous waste) which would violate applicable pollution control laws, rules, and regulations.

Operating personnel are instructed in spill prevention procedures and purposes to assure adequate understanding of the SPCC Plan for this facility. Instructions include, but are not limited to, known spill events, malfunctioning components, and precautionary measures.

Revised May 1983

EMERGENCY EQUIPMENT

Fire Extinguishers

1. Dry Chemical	Engineering Trailer
2. Dry Chemical	Accounting Trailer - inside back door
3. Dry Chemical	Front office by copy machine
4. Dry Chemical	Front office by front desk
5. Dry Chemical	Guard shack - inside
6. Dry Chemical	Safety room - inside
7. Dry Chemical	Front breakroom - inside
8. CO2 - 15 lb.	Laboratory - main entrance
9. CO2 - 15 lb.	Laboratory - main desk
10. CO2 - 15 lb.	Laboratory - balance room
11. CO2 - 15 lb.	Laboratory - inside back door
12. CO2 - 15 lb.	Truck weigh scales shack
13. Dry Chemical	Paint house
14. Dry Chemical	Pump shack - inside
15. Dry Chemical	Glass room
16. Dry Chemical	Maintenance - west end - inside
17. Dry Chemical	Maintenance - east end - inside
18. Dry Chemical	Maintenance - north side - inside by door
19. CO2 - 15 lb.	Instrument shack
20. Dry Chemical	Hydrogen tanks - east end
21. Dry Chemical	On pipe rack - south of Permethrin unit
22. Dry Chemical	On pipe rack - south of BSC unit
23. Dry Chemical	Propanil packaging bldg. - south end - inside
24. Dry Chemical	Propanil packaging bldg. - north end - inside
25. Dry Chemical	ICI warehouse - outside main entrance
26. Dry Chemical	ICI warehouse - outside main entrance
27. Dry Chemical	DSMA packaging bldg. - west end - inside
28. Dry Chemcial	DSMA packaging bldg. - north door - inside
29. Dry Chemcial	DSMA packaging bldg. - south door - inside
30. CO2 - 15 lb.	DRA - motor control center
31. CO2 - 15 lb.	DRA - control room
32. Dry Chemical	DRA - first floor by control room
33. Dry Chemical	DRA - west end - first floor
34. Dry Chemical	DRA - center - first floor
35. Dry Chemical	DRA - north end - first floor
36. Dry Chemical	DRA - southeast corner by sump
37. Dry Chemical	DRA - southeast corner by sump
38. Dry Chemical	DRA - northeast end by driers
39. Dry Chemical	DRA - second floor by R-M101
40. Dry Chemical	DRA - second floor by R-M101
41. Dry Chemcial	DRA - second floor by hot wash tank
42. Dry Chemical	DRA - second floor - top of stairs
43. Dry Chemical	DRA - second floor on catwalk by driers

84. CO2 - 15 lb. PERMETHRIN - control room
85. Dry Chemical PERMETHRIN - second floor - at breatheable air station
86. Dry Chemical PERMETHRIN - second floor emergency shower
87. Dry Chemical PERMETHRIN - second floor - north side
88. Dry Chemical PERMETHRIN - bottom of main stairway
89. Dry Chemical PERMETHRIN - first floor at breatheable air station
90. Dry Chemical PERMETHRIN - first floor at safety shower
91. Dry Chemical PROPANIL - tank farm by T-PR212
92. Dry Chemical across roadway from #91
93. Dry Chemical on pipe rack between hot oil heater and Permethrin unit
94. Dry Chemical PERMETHRIN - first floor, next I beam north of 80
95. Dry Chemical Boiler house - between no.1 and no.2 boiler
96. Dry Chemical boiler house - entrance to compressor room
97. Dry Chemical by gasoline tank
98. Dry Chemical Treatment system - pump house
99. Dry Chemical Treatment system - pump house
100. Dry Chemical Laboratory storage bldg. - east room - inside
101. Dry Chemical Laboratory storage bldg. - west room - inside
102. Dry Chemical Laboratory storage bldg. - north side of walkway
103. Dry Chemical Laboratory storage bldg. - north side of walkway

Dry Chemical Wheel Units - 350 lb.

1. Front gate
2. Flare
3. NW corner of MSMA packaging bldg.
4. DRA motor control center

Monitors - Hydrants - Sprinklers

Monitors	10
Hydrants	7
Sprinklers	4 tanks located in the DRA Unit

Eight of the monitors are also hydrants.

Fire Hose Boxes

All hoses are 1.5 inch, 25 feet long.

- Front gate
- Across from Maintenance Office
- Northeast corner of Storeroom
- Southeast corner of DRA Unit

Foam Cart

One drum of foam with eductor and cart

- winter storage - MSMA packaging building
- summer storage - front of supervisors office

Scott Air Paks - locations and quantities

Safety Room	2
Safety Room	spare bottles
Laboratory	1
Permethrin control room	2
Propanil control room	1
MSMA packaging bldg.	1
DRA control room	2

Emergency Escape Units - 5 Minute

Laboratory	2

Air Line Respirators

Safety Room	2
Safety Supervisors Off.	1

Mechanical Resuscitation Unit Locations

Saftey Room
Laboratory
Permethrin Control Room (during cyanide handling)
Shift Supervisors Office

Cyanide Antidote Kits

Safety Room
Laboratory
Permethrin Control Room (during cyanide handling)
Shift Supervisors Office

Miscellaneous

1. First aid kit with supplies sufficient for 100 people - Safety Room
2. CHEMTREC kit - Safety Supervisors front office
3. Oil-sorb for small spills is available in the storeroom
4. Foam may be used on spills as a fire prevention measure.

Communications and Alarms

Intercom system throughout the plant via the telephone by dialing '89'.

A Cyanide alert alarm is available in the Permethrin Unit during Cyanide handling procedures. It is available in the Safety Supervisors Office at other times.

The telephone system is prepared for electrical outage with special answering facilities. Outside lines can be accessed by the following phones. Note that in-plant call transfer is not possible during a power failure.

number	answering phone
572-3701	Laboratory - ext 37
572-3702	Laboratory - ext 33
572-3703	Switchboard -front office
572-5888	J.W.Shackelford's office
732-4403	Charlie Parker's office

Emergency Lighting

The following locations are equipped with battery powered light systems which are automatically activated during a power failure.

Laboratory
Permethrin Control Room
Propanil Control Room
DRA Control Room

Emergency Coordinator

The West Helena Plant Emergency Coordinator is Joe E. Porter. In his absence/unavailability, the succeeding coordinator shall be John Miles, Assistant Plant Manager. If either of these are absent/unavailable the coordinator shall be Bill Shackelford, Plant Manager.

The duties of the Emergency Coordinator shall be as follows whenever there is a release, fire, or explosion:

1. identify character, exact source, amount, and a real extent of any released materials.
2. assess possible hazards to human health or the environment that may result from the release, fire, or explosion.
3. if a determination is made of possible damage to human health or the environment, results will be reported as follows as necessary:
    a. National Response Center
    b. Office of Emergency Services
    c. Arkansas Department of Pollution Control & Ecology
4. take all reasonable measures to ensure that fires, explosions, and releases do not recur or spread.
5. monitor for leaks, pressure buildup, gas generation, or ruptures where appropriate.
6. provide for treating, storing, or disposing of any hazardous waste generated by a release, fire, or explosion.
7. ensure that all emergency equipment is cleaned and readied for use before operations are resumed.
8. make detailed notes of emergency condition incident
9. report to the Regional Administrator within 15 days after the incident with the following information:
    a. name, address, and telephone
    b. date, time, and type of incident
    c. identity and quantity of materials involved
    d. extent of injuries (if any)
    e. assessment of actual or potential hazards to human health or the environmental (where applicable).
    f. quantity and disposition of any recovered material

VERTAC CHEMICAL CORPORATION
24th Floor • 5100 Poplar • Memphis, TN 38137 • 901-767-6851

REPLY TO: P. O. BOX 2648
WEST HELENA, AR 72390
(501) 572-3701

Groundwater Monitoring Plan (Revised May 1983)

The following ground-water monitoring plan complies with the Federal guidelines as outlined in Part 265, subpart F.

Sampling and analysis (paragraph 265.92)

Sample collection will be on a frequency as outlined in the following analytical plan. The four plant monitoring samples will be collected using the pitcher pumps, with proper sample preservation techniques applied, just prior to shipment to, or pick up by, an outside testing laboratory, or on-site plant analysis. Analytical procedures used will be in accordance with the most recent edition of Standard Methods for the Analysis of Water and Wastewater.

For period of one year, beginning June 1, 1983, monitoring well samples will be tested quarterly for the following parameters:

Group I - drinking water standards

Arsenic	Selenium	2.4,5-TP Silvex
Barium	Silver	Turbidity
Cadmium	Endrin	Coliform bacteria
Chromium	Lindane	
Flouride	Methoxychlor	
Lead	Toxaphene	
Mercury	2,4-D	
Nitrate (as N)		

Group II - Groundwater quality

Chloride	Phenols
Iron	Sodium
Manganese	Sulfate

Group III - Groundwater contamination indicators

PH	Total organic carbon
Specific conductance	Total organic halogen

Parameters of Radium, Gross Alpha, and Gross Beta will not be tested for. The only radioactive sources associated with the plant site are analytical detection units in the plant laboratory.

Elevation of the groundwater surface will be determined, at least, each time the monitoring wells are sampled. The results will be expressed in elevations above sea level.

Beginning June 1984, monitoring well samples will be analyzed with at least the following frequencies:

Group I	As neccessary/required
Group II	Annually
Group III	Semi-Annually

REMOVAL ACTION WORK PLAN

CEDAR CHEMICAL
WEST HELENA, ARKANSAS

for:

Cedar Chemical Corporation
Memphis, Tennessee

June 1990

Woodward-Clyde Consultants

Consulting Engineers, Geologists, and Environmental Scientists
2822 O'Neal Lane, Baton Rouge, LA 70896

RECEIVED
JUN 28 1990

REMOVAL ACTION WORK PLAN

CEDAR CHEMICAL
WEST HELENA, ARKANSAS

for:

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1.0 INTRODUCTION

A work plan for the removal of drums and, contaminated soil adjacent to the drums and subsequent soil sampling from a proposed construction area at Cedar Chemical of West Helena, Arkansas, is presented in this document.

The work plan will be completed in three steps. The first step is the handling of drums for offsite disposal. The second step is the removal of contaminated soil adjacent to the drums. The third step is the sampling beneath the removed drums and excavated soil to determine if health-based standards for disposal are exceeded in the remaining soil.

2.0 SITE BACKGROUND

2.1 Site Location

The Cedar Chemical Company facility is located by the intersection of Arkansas Highway 242 and Industrial Park Road near West Helena, Arkansas (See Figure 1). A drum burial area that has been uncovered is located about 500 feet south of the main office building (See Figure 2).

2.2 Site History

During construction activities related to plant expansion, buried drums were uncovered. The drums were 6 feet below ground surface. Eight drums were removed upon unearthing. The drums have been analyzed and determined to contain DNBP. The drums were buried around 1972 when the plant manufactured DNBP and was operated by Ansul Corporation. DNBP or 2 (sec butyl) 4,6 dinitrophenol is no longer in use as a pesticide. It is still used as a diamine inhibitor in industrial processes, e.g., to deter polymerization of styrene in industrial processes.

2.3 Site Description

The extent of the drum burial area has been determined by a magnetometer survey and soil boring and sampling program to be approximately 20 feet to 35 feet from north to south and 60 feet to 85 feet from east to west and located in the southeast corner of the construction area for plant expansion.

3.0 SCOPE OF WORK

3.1 Drum Handling

Drum handling activities will consist of unearthing the drums. The drums will then be removed and prepared for shipment. Drums in rusty or deteriorated condition compromising container integrity will require overpacking for shipment. Containers will require a characteristic analysis for disposal. Once these results are available, the containers will be labeled, manifested and shipped for offsite incineration.

3.2 Soil Removal

All soil adjacent to the drums and contaminated by concentrations of dinoseb greater than the criteria established in the Interim Final RCRA Facility Investigation Guidance (EPA 530/SW-89-031) will then be excavated and placed in containers for disposal. The health-based criteria for DNBP in soil is 80.0 ppm. (Table 8.7 "Health-Based Criteria for Systemic Toxicants" is enclosed as Attachment 2). There is no implication that allowing soil with less than 80.0 ppm to remain on-site constitutes clean closure of the site. Characteristic analysis of the soil for disposal will also be required. Upon receipt of results, the containers will be labeled, manifested and shipped for offsite disposal.

3.3 Soil Sampling

After drum and soil removal, soil sampling will be performed. This sampling effort will establish the concentration of dinoseb remaining in the soil. The health-based criteria for DNBP in soil is 80 ppm. This concentration will be the criterion to achieve the objective of this remedial effort.

4.0 APPLICABILITY

Two investigational activities have been performed prior to the removal of the buried drums in the southeast corner of the construction area for plant expansion.

The first activity was a magnetometer survey of the construction. area. This area is approximately 250 feet north to south and 200 feet east to west. The survey was conducted to determine if other drum areas exist in the plant expansion area. If other areas of buried drums were indicated in the survey, then this work plan including the Health and Safety Plan included as Attachment 1 was to be applied to the additional buried drum areas. If new hazards were encountered then an evaluation of those hazards would be conducted and an addendum to the Health and Safety Plan and Removal Action Work Plan would address the additional concerns.

The second activity was a soil boring and sampling program performed in the same 250 feet by 200 feet area. This subsurface characterization determines if contaminant migration has occurred to the extent of the boring locations. Soil borings were conducted over the entire construction area on a 50-foot grid. Specific locations are noted on Figure 3.

A conclusion of the investigation, reported in the Site Characterization Report, was that there were no additional drum burial areas.

5.0 DRUM AND SURFACE SOIL REMOVAL

Cedar Chemical will dispose of the drums initially discovered during site preparation activities for a plant expansion at the West Helena facility. Soil adjacent to the drums and contaminated with concentrations of DNBP greater than 80 ppm will also be excavated, containerized and transported to a RCRA-permitted facility for disposal. Once the drums are unearthed, characterization of the contents for disposal will occur. This characterization will be performed to assess the waste streams at the site. The sampling and sample handling will be in accordance with the QA/QC plan in Section 9.0.

5.1 Waste Characterization of Drums for Disposal

The drums will be grouped to consolidate the similar wastes so that composite samples can be taken. This composite sampling will be used for waste stream characterization and manifesting.

5.2 Characterizations of Soil Adjacent to Drums

Cedar Chemical proposes to remove soil beneath and around the drums for characterization and disposal, if necessary; therefore, sampling for characterization will be performed for that soil.

5.3 Analysis of Drum Contents and Contaminated Soil

A sample of visibly contaminated soil and composited samples from each group of drums will be analyzed for the parameters as shown in table below. Analysis required by a off site TSD facility may be characteristics, such as ignitability, reactivity, corrosivity and TCLP. The TSD facility may require other analyses to define physical properties as well.

Number of Samples	Sample Type	Location	DNBP	Analysis Required by TSD Facility
One composite from Each Group of Drums	Drum Content Composite	Each Group	X	X
One composite	Soil Sample	Beneath and Around Drum Area	X	X

5.4 Removal Specifications for Drum and Soil Removal

When the results of the waste stream characterization are received, Cedar Chemical will implement the removal and disposal action step of this project. Cedar Chemical will retain subcontractors for the purpose of packing, overpacking, solidifying and handling drums to be disposed. Soil adjacent to Drums will also be excavated, characterized and drummed for disposal, if necessary. A licensed hazardous waste transporter will be selected for transporting the drums and contaminated soil found adjacent to the drums for disposal. A RCRA-permitted TSD disposal facility will be selected to receive and dispose the waste in an environmentally sound manner.

5.5 Implementation of Drum and Soil Removal

Cedar Chemical will implement the removal action after the subcontractors have been selected, details are confirmed and the subcontractors have mobilized onsite.

5.5.1 Site Preparation. Upon arrival at the site the subcontractor will meet with the site safety officer. The health and safety plan will be discussed and the compliance agreement will be signed by all workers. All health and safety training documentation will be collected from the subcontractors. The subcontractor will set up a temporary

decontamination facility sized to clean the largest piece of contaminated equipment at the BSC location (See Figure 2) within the facility.

The site will be cleared to facilitate drum removal and to expose areas of contaminated soil surrounding the drums for excavation and removal.

5.5.2 Drum Handling. Drum handling addresses the consolidation and/or handling of drummed waste before it is trucked to an offsite facility for disposal. Prior to execution of the work more detailed plans on drum excavation and handling, drum staging and opening, and recontainerization and interim storage will be written, consistent with 29 CFR1910.120 J. The following procedure will be utilized for handling the drums:

- Each drum will be visually inspected to determine the structural integrity of the drum (note punctures, corrosion, spillage, etc.) and the type of drum (open or closed top). The contents will also be evaluated (volume, physical state, odor, color) and compared to the associated waste profile sheet. Any discrepancies will be noted and resolved.

- Drums in good condition will be transported by front-end loader to the drum staging area. Drums shown to be incompatible with other drums or waste will be segregated and marked at the staging area.

- Drums that are determined to be in such poor condition that they cannot be moved to the staging area will be placed in overpack salvage drums.

- Any spilled material found at the site, at either the drum locations or staging area, will be excavated and placed into a new fiber pack container sized by the disposal facility.

- The onsite coordinator will then inspect the site and certify that all hazardous drums and spilled hazardous materials have been removed from the site.

5.5.3 Soil Removal. The potentially contaminated soil beneath and around the drums will be removed from the buried drum area, characterized then placed in appropriately sized fiber packs for disposal, if necessary.

5.5.4 Manifesting and Transporting of Drums and Soil. All drums in each category will be manifested then loaded onto a truck and shipped by a licensed hazardous waste transporter in accordance with all DOT and RCRA regulations. The manifesting will be completed to meet the TSD facility's requirements and all applicable state and federal regulations.

5.5.5 Decontamination

Any equipment or personal protective equipment that has come in direct contact with the waste will be deemed contaminated. Equipment involved in the closure of the area will essentially be construction equipment, such as backhoe, bulldozer, front-end loader, etc. Special personal protective equipment will be used and precautions taken as necessary. When practical the subcontractor will use disposable protective equipment. All disposable equipment will be containerized by the subcontractor and disposed of by Cedar Chemical Corporation. Contaminated equipment will be decontaminated at the site. Each piece of equipment will be thoroughly hosed down with high pressure water or steam. The contaminated parts of the equipment will be thoroughly scrubbed with detergent/water solution under pressure. All run-off will be collected in the existing sump at the BSC site (See Figure 2) where the subcontractor is to set up the temporary decontamination facility.

6.0 PROJECT OBJECTIVE SAMPLING

Once excavation of soils beneath and around the drums is complete, soil sampling will be conducted to assess the underlying soils to establish the completeness of remediation. The constituents that may be present in the soils have been identified as DNBP.

All field and laboratory QA/QC will be in accordance with the QA/QC found in Section 9.0 of this document.

6.1 Soil Sampling

Soil samples will be taken at selected locations in the area beneath the drums. Soil samples will be taken utilizing a 3-inch bucket auger. The auger will be advanced to a depth of 6 inches from the surface after excavation of visibly contaminated soil. The soil sample will be placed in sample bottles, appropriately labeled and placed on ice for transport to the laboratory. All equipment will be cleaned in accordance with decontamination procedures before collecting each sample.

All equipment will initially be decontaminated before use and again after each sample is collected. The following decontamination procedures will be employed:

- Steam cleaning
- Washing in a detergent solution (such as Alconox).
- Rinsing with clean water (distilled).

After decontamination, the sample equipment will be wrapped in a foil cover for protection until its subsequent use. All wash fluids will be containerized for disposal by Cedar Chemical.

6.2 Sample Locations

Sampling will be performed on the basis of a grid. This grid will require three samples. The sample locations would be sited on the centerline of the 60-foot to 85 foot length. Two samples would be 10 feet from each end and one sample in the center.

7.0 CLOSURE CERTIFICATION AND REPORT

Cedar Chemical intends to achieve a health-based closure of the drum site. The level of concentration of dinoseb must be equal or below the health-based standard for soil of 80 ppm in order to achieve this goal. This does not imply "clean closure". Upon receipt of analytical results from the project objective sampling, a final report of this project will be submitted. This report will be certified by an independent professional with WCC that the work has been completed in accordance with the work plan.

8.0 AUTHORITY AND RESPONSIBILITY

The following is a description of job responsibilities for this project:

8.1 Project Manager - Richard D. Karkkainen

For this project, the project manager has the following responsibilities:

- To provide oversight to see that the project is executed in accordance with this work plan and to safeguard the interests of Cedar Chemical.
- To see that the project is performed in a manner consistent with the WCC QA/QC program and health and safety program.
- To have an approved Health and Safety Plan prepared and properly implemented for this project.

- To provide the central operating group health and safety officer with project information related to health and safety matters and development of the Health and Safety Plan.
- To implement the Health and Safety Plan.
- To insure compliance with the Health and Safety Plan by WCC personnel.
- To coordinate with the central operating group health and safety officer on health and safety matters.
- To assist Cedar Chemical in the choice of remedial contractor.

The project manager has the authority to take the following actions:

- To determine matters relating to schedule, cost and personnel assignments on hazardous waste management projects.
- To temporarily suspend field activities, if the health and safety of personnel are endangered, pending further consideration by the central operating group health and safety officer or operating group health and safety officer.
- To temporarily suspend an individual from field activities for infractions of the Health and Safety Plan, pending further consideration by the central operating group health and safety officer or operating group health and safety officer.

8.2 Health and Safety Officer - Bob Siener

The health and safety officer has the following responsibilities:

- To interface with the project manager as may be required in matters of health and safety.

- To develop a Health and Safety Plan for the project and to submit it to the corporate health and safety officer for approval.
- To coordinate with a site safety officer to assist in implementing the Health and Safety Plan.
- To monitor compliance with the approved Health and Safety Plan.
- To assist the project manager in seeing that proper health and safety equipment is available for the project.
- To approve any WCC personnel to work on this site with regard to medical examinations and health and safety training.

The health and safety officer has the authority to take the following actions:

- To suspend work or otherwise limit exposures to personnel, if a health and safety plan appears to be unsuitable or inadequate.
- To direct personnel to change work practices, if they are deemed to be hazardous to health and safety of personnel.
- To remove personnel from the project, if their actions or condition endangers their health and safety or the health and safety of co-workers.

8.3 Site Safety Officer

The site safety officer has the following responsibilities:

- To direct health and safety activities onsite.
- To report safety-related incidents or accidents to the project manager and central operating group health and safety officer.
- To assist the project manager in all aspects of implementing the Health and Safety Plan.
- To maintain health and safety equipment onsite, as specified in the Health and Safety Plan.

- To perform health and safety activities onsite, as specified in the Health and Safety Plan, and report results to the project manager and the central operating group health and safety officer.
- To limit access to the site to authorized personnel.

The site safety officer has the authority to take the following actions:

- To temporarily suspend field activities, if health and safety of personnel are endangered, pending further consideration by the central operating group health and safety officer or operating group health and safety officer.
- To temporarily suspend an individual from field activities for infractions of the Health and Safety Plan, pending further consideration by the central operating group health and safety officer.
- To suspend work and notify Cedar Chemical security of unauthorized personnel entry into the site.

9.0 QA/QC PLAN

The object of the Quality Assurance/Quality Control program is to insure field and data quality objectives.

The project objective soil sampling will employ the following methods to achieve quality analytical data to assess the site status after drum and soil removal and appropriateness of health based closure designation.

9.1 Documentation of Sample Acquisition

All information pertinent to field observations and sampling will be recorded in the logbook with consecutively numbered pages. Entries in the logbook will include at least the following:

- Sketch of the disposal area with a grid
- A grid of the site area
- Purpose of sampling
- Number and approximate volume of samples taken
- Exact location of sampling point on grid
- Description of sampling point
- Date and time of collection
- Collector's sample identification number(s)
- References, such as maps or photographs of the sampling site
- Field observations
- Weather conditions

The documentation in the logbook will be sufficient to reconstruct the sampling situation without relying on the collector's memory.

Proper sample preservation is important in retaining the sample characteristics prior to analysis. Sample preservation is documented on the chain-of-custody form and also in the field logbook. The proposed analytical methods required that the sample be kept on ice until transferred to the laboratory.

Once the sample has been transferred to the appropriate laboratory sample container, a sample label will be completed and affixed to the sample container.

9.2 Sample Labeling

Each sample will be labeled and sealed properly immediately after collection.

Sample labels are necessary to prevent misidentification of samples. The label will include at least the following information:

- Project identification
- Name of collector
- Date and time of collection
- Sample location
- Collector's sample number, which uniquely identifies the sample

9.3 Chain-of-Custody

In addition to the field logbook, each sample will be recorded on a chain-of-custody record. An identifying code will be assigned to each sample and this code will be used on the chain-of-custody and in the logbook to ensure that the sample description is identifiable. A brief description of the sampling point will also be placed on the chain-of-custody form.

Chain-of-custody forms will become the permanent records of all sample handling and shipment. If standard sampling procedures are not used, a written justification of each deviation will be placed in the project file. Upon completion of sampling, the sample will be prepared for shipment in accordance with the applicable sampling instruction, including preservation, labeling, and logging.

The person collecting a sample will initiate document(s) at the source of sample and start the chain-of-custody procedure.

An example of the chain-of-custody that will be used is included as Attachment 3.

The sample will be kept in limited access or locked storage at the proper temperature until custody is relinquished from the site and formal documentation of the transfer is completed.

Upon each transfer of custody, the person involved will verify sample numbers and condition and will document the sample acquisition and transfer. The field sampler will properly package the samples, indicate the shipping, obtain documentation of the shipment, such as certified mail receipt or bill of lading number, and sample identification records (one of each with the shipment, one of each by mail to the laboratory, and one of each returned with field records).

On transfer of custody of the samples to the analytical laboratory, the field sample custodian will sign and retain a copy of the chain-of-custody after obtaining analytical laboratory custody signature. Custody procedures will then proceed according to the procedures of the selected testing laboratory.

9.4 Evaluation of Sampling Results

The analytical results from the sampling efforts will be summarized and evaluated. The raw data will be included as an appendix to the report submitted.

9.5 Analytical Methods and Parameters

The analytical laboratory will analyze the soil samples for dinoseb.

9.6 Field Quality Assurance/Quality Control Program

To attain the quality assurance objectives in terms of accuracy, precision, completeness, comparability and representativeness, the following requirements will be implemented in addition to the standard laboratory QA/QC measures:

a. One trip blank analysis will be performed to measure bias introduced by field, shipping and laboratory procedures.

b. The objective for completeness for this project is 90 percent for each medium, where the media is soil, ground water, etc.

c. Representativeness of the data will be assured by meticulous sampling and testing and not solely by statistical methods or duplicate analyses.

10.0 HEALTH AND SAFETY PLAN

The Health and Safety plan is presented in this document as Attachment 1. The plan has been developed to address the known potential hazards at the construction site at the Cedar Chemical facility near West Helena, Arkansas.

The health and safety guidelines and requirements presented are based on a review of available information and an evaluation of potential hazards which may be present during the work tasks anticipated by WCC and their subcontractors. This plan outlines the health and safety procedures and equipment required for activities at this site to minimize the potential for exposures to field personnel.

Work tasks conducted by other contractors may require an additional evaluation of potential hazards. The information presented in this plan may be used as guidelines for other contractors working at the site in preparation of their health and safety plan.

ATTACHMENTS

ATTACHMENT 1

HEALTH AND SAFETY PLAN

DRUM BURIAL AREA

CEDAR CHEMICAL, WEST HELENA FACILITY

1.0 INTRODUCTION

This Health and Safety Plan has been developed to provide the health and safety guidelines which will be required to conduct field activities associated with the drum and soil removal and soil sampling at the Cedar Chemical facility near West Helena, Arkansas.

All employees of Woodward-Clyde Consultants (WCC) and WCC subcontractors involved in this project are required to abide by the provisions of this plan. They are required to read this plan and sign the attached Compliance Agreement. The information presented in this plan may be used only as guidelines to aid non-WCC employees/subcontractors in preparation of their own task-specific health and safety plans.

Each contractor is responsible for implementation of their company's health and safety plan and compliance with applicable OSHA regulations. The health and safety guidelines and requirements presented are based on a review of available information and an evaluation of potential hazards which may be present during the work tasks anticipated by WCC and their subcontractors. This plan outlines the health and safety procedures and equipment required for activities at this site to minimize the potential for exposures of field personnel.

Work tasks conducted by other contractors may require an additional evaluation of potential hazards. This plan may be modified by the WCC project manager with the approval of the central operating group health and safety officer in response to additional information obtained regarding the potential hazards to field investigative personnel.

All WCC employees, visitors, and their subcontractors, while on the jobsite, are required to comply with the provisions of this manual. Cedar Chemical's standard

procedures which may constitute a part of this manual as an Addendum and must also be complied with by all WCC employees, visitors and subcontractors.

2.0 SITE BACKGROUND

2.1 Site Location

The Cedar Chemical Company facility is located by the intersection of Arkansas Highway 242 and Industrial Park Road near West Helena, Arkansas. The entire Cedar site consists of approximately 40 acres. The drum burial area that has been uncovered is located about 500 feet east of the main office building.

2.2 Site History

During construction activities for the purpose of plant expansion, buried drums were uncovered. The drums were 6 to 12 feet below ground surface. Eight drums were removed upon unearthing. The drums have been analyzed and determined to contain DNBP. It has been determined that the drums were buried around 1972 when the plant manufactured DNBP and was operated by Ansul Corporation. DNBP or 2 (sec butyl) 4,6 dinitrophenol is no longer in use as a pesticide. It is still used as a diamine inhibitor in industrial processes, e.g., to deter polymerization of styrene in industrial processes.

Analytical results from Cedar Laboratories for soil samples collected near the original tank farm area and adjacent to the buried drum location indicate concentrations of DNBP another herbicides or derivatives. One sample contained DNBP concentration of 36,087 mg/kg. Additional contaminants found to be present in the sampled soils and suspected to be within the soils surrounding the buried drums include DCA (Dichloroanaline), ODCB (Orthodichlorobenzene), and Propanil.

2.3 Site Description

The drum burial area is approximately 20 feet from north to south and 60 feet from east to west and located in the southeast corner of the construction area for plant expansion.

The source of the contamination in the soil in the entire area proposed for the DCA plant is not known at this time. Since the concentration gradients do not increase as the drum burial area is approached it is apparent that the source of the soil contamination is not the drum area.

With the exception of two hot spots (boring C1.5 and B2.5) the soil contamination is indicative of transport by spillage and/or surface run off from process areas. Since the entire area has been a topographically low lying area that has been raised by the addition of fill dirt, it is possible that the fill dirt was from cleanup of spills; it is reasonable to believe that analytical results in borings C1.5 and B2.5 indicate contaminated soil brought to the area.

3.0 KEY PERSONNEL

The following is a description of job responsibilities for this project:

3.1 Project Manager - Richard D. Karkkainen

For this project, the project manager has the following responsibilities:

- To see that the project is executed in accordance with the work plan and to safeguard the interests of Cedar Chemical.
- To see that the project is performed in a manner consistent with the WCC QA/QC program and health and safety program.

- To have an approved Health and Safety Plan prepared and properly implemented for this project.
- To provide the central operating group health and safety officer with project information related to health and safety matters and development of the Health and Safety Plan.
- To implement the Health and Safety Plan.
- To insure compliance with the Health and Safety Plan by WCC and contractor personnel.
- To coordinate with the central operating group health and safety officer on health and safety matters.

The project manager has the authority to take the following actions:

- To determine matters relating to schedule, cost and personnel assignments on hazardous waste management projects.
- To temporarily suspend field activities, if the health and safety of personnel are endangered, pending further consideration by the central operating group health and safety officer or operating group health and safety officer.
- To temporarily suspend an individual from field activities for infractions of the Health and Safety Plan, pending further consideration by the central operating group health and safety officer or operating group health and safety officer.

3.2 Health and Safety Officer - Bob Siener

The health and safety officer has the following responsibilities:

- To interface with the project manager as may be required in matters of health and safety.

- To develop a Health and Safety Plan for the project and to submit it to the corporate health and safety officer for approval.
- To appoint or approve a site safety officer to assist in implementing the Health and Safety Plan.
- To monitor compliance with the approved Health and Safety Plan.
- To assist the project manager in seeing that proper health and safety equipment is available for the project.
- To approve personnel to work on this site with regard to medical examinations and health and safety training.

The health and safety officer has the authority to take the following actions:

- To suspend work or otherwise limit exposures to personnel, if a health and safety plan appears to be unsuitable or inadequate.
- To direct personnel to change work practices, if they are deemed to be hazardous to health and safety of personnel.
- To remove personnel from the project, if their actions or condition endangers their health and safety or the health and safety of co-workers.

3.3 Site Safety Officer - To Be Selected at Site

The site safety officer has the following responsibilities:

- To direct health and safety activities onsite.
- To report safety-related incidents or accidents to the project manager and central operating group health and safety officer.
- To assist the project manager in all aspects of implementing the Health and Safety Plan.
- To maintain health and safety equipment onsite, as specified in the Health and Safety Plan.

- To perform health and safety activities onsite, as specified in the Health and Safety Plan, and report results to the project manager and the central operating group health and safety officer.
- To limit access to the site to authorized personnel.

The site safety officer has the authority to take the following actions:

- To temporarily suspend field activities, if health and safety of personnel are endangered, pending further consideration by the central operating group health and safety officer or operating group health and safety officer.
- To temporarily suspend an individual from field activities for infractions of the Health and Safety Plan, pending further consideration by the central operating group health and safety officer.
- To suspend work and notify Cedar Chemical security of unauthorized personnel entry into the site.

4.0 SCOPE OF WORK

4.1 Drum Handling

Drum handling activities will consist of unearthing the drums. The excavation activities will proceed slowly in order to preserve drum in an intact position and minimize waste exposure to personnel and the environment. The drums will then be removed and prepared for shipment. Drums in rusty or deteriorated condition compromising container integrity will require overpacking for shipment. Containers will require a characteristic analysis for disposal. Once these results are available, the containers will be labeled, manifested and shipped for offsite incineration. Prior to implementation of the excavation activities, a drum handling and sampling procedure will be prepared in accordance with OSHA 29 CFR1910.120 J, "Handling Drum and Containers".

4.2 Soil Removal

All soil surrounding the drums and contaminated by concentrations of DNBP greater than the standard established in the Interim Final RCRA Facility Investigation Guidance (EPA 530/SW-89-031) will then be excavated and placed in containers for disposal. The health-based standard for dinoseb in soil is 80.0 ppm. Characteristic analysis of the soil for disposal will also be required. Upon receipt of results, the containers will be labeled, manifested and shipped for offsite disposal.

4.3 Soil Sampling

After drum and soil removal, soil sampling will be performed. This sampling effort will establish the concentration of dinoseb remaining in the soil. The health-based standard for DNBP in soil is 80 ppm. This concentration will be the criterion to achieve the objective of this remedial effort.

5.0 HAZARD EVALUATION

Chemical Hazards

- Inhalation of low concentrations of organic vapors and particulate
- Skin and eye contact with organic contaminants
- Ingestion of organic contaminants

Physical Hazards

- Heat stress
- Noise

Biological Hazards

- o Mosquitos and snakes

5.1 Chemical Hazards

Personnel may be exposed to chemical hazards through three routes of exposure: inhalation, skin and eye contact and ingestion.

Inhalation exposures may be present during the work activities. Substances listed in this section indicate allowable exposure limits for inhalation. These limits are intended as guidelines and should not be construed as fine lines between safe and unsafe conditions. Efforts will be made to keep concentrations as low as possible. These guidelines are concentrations of contaminants that most workers can be exposed to for a 40-hour work week on a permanent basis with out significant health effects.

The Permissible Exposure Limit (PEL) represents the standards promulgated by the Occupational Safety and Health Administration. The PELs may be promulgated for 8-hour time weighted averages (TWA) or short-term exposure limits (STEL).

Threshold Limit Values (TLV) are guidelines recommended by the American Conference of Governmental Industrial Hygienists (ACGIH). TLVs may be recommended for TWA or STEL exposures.

Concentrations which are Immediately Dangerous to Life and Health (IDLH) represent the maximum level from which one could escape within 30 minutes without any impairing symptoms or irreversible health effects. IDLHs are not available for some contaminants and are not recommended for chemicals which are potential carcinogens.

Skin and eye contact with chemical hazards can cause serious burns, rashes or irritations. In addition, skin contact may increase internal body exposure through absorption. Chemicals with known skin contact hazards are indicated after the chemical name. All field personnel should report any skin or eye contact symptoms to their site safety officer and be treated as soon as possible by a physician.

Ingestion of chemical hazards will be controlled on this site by prohibiting any eating, smoking, or drinking in the immediate work area and by requiring all field personnel who become exposed to contaminants to decontaminate themselves upon leaving the work area.

The chemical hazards which may potentially be present at the site have been determined by Cedar Chemical Corporation. DNBP, a pesticide no longer in agricultural use but with some use in industrial processes; Propanil, a herbicide; orthodichlorobenzene (ODCB) and dichloroaniline (DCA) are the principal compounds of concern. The potential exists for exposure to other previously manufactured pesticides/herbicides or their derivative which may be present in smaller amounts.

Table 5-1 and Appendix 3 lists specific chemical hazards of the aforementioned compounds.

TABLE 5-1

CONTAMINANTS POTENTIALLY PRESENT SUBSURFACE ENVIRONMENT

Chemical Name	Description	Exposure Limits	Hazard/Effects of Exposure
Dinoseb or Dinitrobutylphenol	Reddish-brown liquid, or Yellow to brown solid pungent, organic acid odor	ACGIH-TLV 0.3 mg/m^3 or 30 ppb	Poisonous, toxic, readily absorbed by skin. Possible fire risk. Strong Irritant.
Kerosene (Burner Fuel)	Pale Yellow or water-white, mobile, oily liquid; mild petroleum odor	NIOSH recommended 10 Hr TWA 100 mg/m^3 or 14 ppm	High vapor concentration or liquid contact can irritate eyes. Prolonged or repeated contact with skin can cause defalting, irritation and dermatitis.
Dichloroaniline (DCA)	Data not available	Data not available	Data not available
Propanil	Brown crystalline solid; contact herbicide	No standards set	Possible CNS depression
Orthodichlorobenzene	Colorless to pale yellow liquid with pleasant aromatic odor	OSHA PEL-TWA 75 ppm OSHA - STEL 110 ppm IDLH 1000 ppm	Headaches, eye irritation, anorexia, nausea, vomiting, liver and kidney damage, skin blistering, jaundice, cirrhosis.

Potential hazards may be minimized by protecting against exposures to contaminated soils by utilizing appropriate personal protective equipment. Personal protective equipment to protect the body against contact with known or anticipated chemical hazards has been divided into four categories by the EPA (i.e., Level A., B, C and D) according to the degree of protection afforded.

The first step will consist of sampling of drum contents to characterize the waste for disposal. Due to the potential of skin absorption to dinoseb, polycoated Tyvek or equivalent has been selected to provide greater dermal protection than regular Tyvek. Level C personal protective equipment has been selected including respirators approved for exposure to pesticides.

The second step consists of drum and soil removal. As the drums are handled for transport, dermal protection will be afforded by the use of polycoated Tyvek or equivalent. Level C personal protective equipment utilizing polycoated Tyvek and approved pesticide air purifying respirators have been selected for this activity.

The soil sampling will use polycoated Tyvek and no respiratory protection. Sampler exposure to potentially contaminated soil will occur only at the sampler's hands which will be gloved.

Field activities have been grouped by the levels of protection required and listed in Table 5-2.

TABLE 5-2

WORK ACTIVITIES ASSOCIATED WITH LEVELS OF PROTECTION

Drum Sampling and Drum Removal

Personnel/Activity	PPE Level
Samplers performing all other drum sampling	Level C with Polycoated Tyvek or equivalent
Laborers and operators performing drum removal	Level C with Polycoated Tyvek or equivalent
Decontamination	Level C with Polycoated Tyvek or equivalent
All others	Modified Level D

Soil Removal and Soil Sampling

Personnel/Activity	PPE Level
Laborers and operators performing soil removal	Level C
Samplers performing soil sampling after soil removal	Modified Level D
Decontamination	Level C
All others	Modified Level D

5.2 Physical Hazards

Personnel should be cognizant of the fact that when protective equipment such as respirators, gloves, and protective clothing are worn, visibility, hearing, and manual dexterity are impaired. Personnel involved in drum handling activities should be aware of hazards associated with working around heavy equipment.

- Heat Stress

Protective equipment required for some activities, including coveralls and respirators, places a physical strain on the wearer. Heat exhaustion and heat stroke are possible, especially during warm weather. The risk of heat illness is especially high for workers wearing chemical protective clothing. The body temperature is normally maintained in a safe range by evaporative cooling. Humidity, air movement and air temperature all affect the sweat evaporation rate and resultant cooling. Impervious suits greatly reduce the potential for perspiration to evaporate.

The normal heat stress index involves use of an index that incorporates dry bulb air temperature, wet bulb air temperature (which is influenced by humidity and air movement) and radiant heat. The index used is referred to as WBGT. The Threshold Limit Values for heat stress are based on the formula:

> WBGT = 0.7 natural wet bulb + 0.2 globe temperature + 0.1 dry bulb temperature

The TLV limits are based on a combination of work load, WBGT temperature in degrees centigrade and the work/rest regimen. The values may be seen in Table 5-3.

The WBGT index specifically is for workers in normal clothes and must not be applied directly for workers in impervious suits. The chemically protective suits are estimated

to add between 6° and 11° C to the WBGT index (AIHA Journal, May 1987). The use of personal cooling devices (ice vests, etc.) for employees not working in environmentally controlled (air conditioned) areas will be a main heat stress reduction technique and will make the WBGT table more applicable to the anticipated work conditions.

If in the opinion of the Health and Safety Officer heat stress monitoring is appropriate, it will be performed. The high heat and humidity which may be present at this project may require WBGT monitoring whenever the ambient temperature exceeds 70° F or 21° C. The instrument used will be a Reuter-Stokes RSS-212 Portable Heat Stress Monitor or equivalent.

Heat stress testing (as stated in Appendix 1, the heat stress casualty prevention plan) for site employees wearing impermeable clothing may begin when the WBGT temperature reaches 75° F or 24° C. The TLV WBGT schedule for work/rest is the recommended standard. The Site Safety Officer will evaluate the results of heat stress testing provided (heart rates, oral temperature, body weight change) to determine if rest period modifications are required. Fluids will be provided on site in order to maintain body fluid levels of the field personnel. Where feasible, worker rotation into positions of less heat stress should be done to limit worker fatigue. All rest areas will be environmentally controlled (approximately 76° F).

TABLE 5-3

PERMISSIBLE HEAT EXPOSURE THRESHOLD LIMIT VALUES
(VALUES ARE GIVEN IN ° C WBGT)

Work/Rest Regimen	Work Load		
	Light*	Moderate**	Heavy***
Continuous work	30.0	26.7	25.0
75% Work - 25% Rest, each hour	30.6	28.0	25.9
50% Work - 50% Rest, each hour	31.4	29.4	27.9
25% Work - 75% Rest, each hour	32.2	31.1	30.0

* Light work	Sitting or standing to control machines, performing light hand or arm work (up to 200 Kcal/hr or 800 Btu/hr)
** Moderate work	Walking about with moderate lifting and pushing (200 to 350 Kcal/hr or 800 to 1400 Btu/hr)
*** Heavy work	Pick and shovel work (350 to 500 Kcal/hr or 1400 to 2000 Btu/hr)

o Noise

Noise hazards may be present from process equipment, maintenance activities or heavy equipment operations. Personnel exposed to noise levels in excess of permissible noise exposures as defined by 29 CFR 1910.95 shall be protected. Where feasible, administrative or engineering controls shall be utilized. If control measures are not effective and until controls are implemented, personnel shall wear approved personal protective equipment in the form of ear plugs or muffs.

Personnel who are exposed to a time weighted average of greater than 85dBA shall be required to participate in a hearing conservation program as defined by 29CFR 1910.95.

5.3 Biological Hazards

Mosquitoes, fire ants and snakes have been identified as biological hazards. Care should be taken not to move through tall grass or around vegetative deadfall without

CEDAR CHEMICAL CORPORATION

P.O. Box 2749, Hwy. 242 S. • West Helena, AR 72390
(501) 572-0701 • Fax No. 501-572-3795

November 8, 1991

Mr. Joseph M. Hoover
Enforcement Branch Manager
ADPC&E
Hazardous Waste Division
P.O. Box 8913
Little Rock, AR 72219

Re: Disposition of Accumulated Stormwater

Dear Mr. Hoover:

I am hereby providing supplemental information in order to clarify certain facts in my letter to Mike Core on October 30, 1991. That letter is enclosed.

The waste drums being removed were buried in 1972-73, prior to RCRA regulations. At the time of the storm last week, which caused the subject accumulation of water, three of the four vertical excavation faces and the bottom of the hole had been cleaned back beyond any detectable sign of the original 1972-73 burial of waste. Sampling data confirmed that the bottom and vertical faces were below the clean-up levels set pursuant to our consent administrative order. The fourth vertical excavation face still showed signs of the original 1972-73 excavation. This face was a clean excavation in which a row of drums could be seen. I personally observed this excavation face before the storm event. It was clear from my observation that the drums were intact, and there was no discernible sign of any leakage from the drums into the surrounding soil. We believe that this row of drums in the fourth excavation face is the last layer of drums. Before the storm event occurred, the removal contractor had sealed off the fourth excavation face from the rest of the hole with a layer of visqueen. There was no dirt or debris left in the hole and all dirt and debris that had been removed from the hole up to this point had been sent to landfill, so the area around the hole was also clean by the time the storm occurred.

The stormwater which entered the hole has been sampled and found to contain Dinoseb at a level of 13 parts per million. You should note that we routinely collect, sample, and treat stormwater from portions of the plant that include the excavation site. It is not unusual for such stormwater to contain Dinoseb in the low parts per million range.

In summary, based on my personal observation of the excavation site and knowledge of the subsequent events, I am confident that the water in question has only been in contact with surface areas at the plant and clean or undisturbed excavation faces. Based on the foregoing facts, it is my understanding that the water does not constitute or contain a RCRA-regulated waste.

To the extent my previous telephone conversation with you suggested that there was RCRA-regulated waste involved with the excavation, I was referring to the fact that we are treating all drums and other material excavated from the hole as RCRA-regulated hazardous waste after they have been excavated.

If you have any questions or would like further information regarding this matter, please do not hesitate to call me or our counsel, Allan Gates. After you have had a chance to review this letter, I would appreciate it if you would speak with Dick Quinn and confirm with him your understanding of the regulatory status of the water. I appreciate the Department's prompt attention to this matter.

Sincerely,

John A. Wagner

CEDAR CHEMICAL CORPORATION

P.O. Box 2749, Hwy. 242 S. • West Helena, AR 72390
(501) 572-3701 • Fax No. 501-572-3795

October 30, 1991

Mr. Mike Core
ADPC&E
Water Division
P.O. Box 8913
Little Rock, AR 72219

Re: Stormwater Treatment Short-Term Authorization Request

Dear Mike:

With this letter Cedar Chemical Corporation hereby requests approval to pump an accumulation of surface runoff stormwater into our biotreatment system prior to discharging it into the Mississippi River through outfall 002 which is permitted under NPDES number AR0036412.

This request comes about because of an ongoing buried drum removal project pursuant to a Consent Administrative Order (No. LIS 91-118) from ADPC&E entered into in July 1991.

On October 1 a Cedar contractor, ENRAC Division of Chemical Waste Management, Inc., began implementation of the removal plan as approved by ADPC&E. On October 27 we were within one day of completing the removal when, despite the installation of preventive barriers, runoff from a storm caused the hole to fill with ten feet of water. On October 29 another storm filled it completely. Three sides and the bottom of the hole had been scraped back to what appeared to be clean soil. Dinoseb has a very strong yellow dye affect. The east side and the bottom were sampled and determined to be below the health based closure limit of 80 ppm for Dinoseb in soil. Lab analysis indicated a concentrationa of 21.2 ppm and 26.5 ppm (see enclosure). The fourth side, where we were still working, was completely covered with visqueen prior to the storms. Therefore the water is only in contact with the three "clean" sides. There are now approximately 150,000 gallons of water in the hole.

The possibility of rain was discussed when the project was being planned. However, because of all the unknowns (number of drums, condition of drums, contents of drums and how they were placed in the hole), which would determine the length of the project, and the impossibility of trying to anticipate at what point in the project it might rain, we determined that requesting prior authorization for all these contingencies would create too much potentially

unnecessary work for both PC&E and Cedar.

We currently collect and pump normal stormwater discharge into our biotreatment system. Since the water in the hole is a combination of water backed up from the stormwater discharge system and trapped surface runoff, we request short-term authorization to likewise pump this water into our 150,000 gallon stormwater holding pond for transfer into our treatment system. The treatment system is made up of an 8,000,000 gallon equalization basin, a 600,000 gallon aeration pond and a 4,000,000 gallon polish pond. Lab analysis for Dinoseb shows a level of 13 ppm in the accumulated water (see enclosure). Further dilution of the water will occur in each of the treatment steps.

This is a one-time, emergency, request because the project is now on standby. Any expediting of this decision would be very much appreciated so we can proceed with the closure.

Cedar Chemical's point of contact for questions regarding the laboratory analysis is Greg Satterfield. Please direct any other questions to me.

Sincerely,

John Wagner

cc: Mr. Mike Bates
Mr. Dennis Green
Ms. Pat Crossley

#11 RECD DEC 6 1988

CEDAR CHEMICAL CORPORATION

24th Floor • 5100 Poplar Avenue • Memphis, TN 38137 • 901-685-5348

REPLY TO: P. O. BOX 2749
WEST HELENA, AR 72390
(501) 572-3701

Nov. 21, 1988

Karen Deere
Arkansas Department of Pollution Control & Ecology
P.O. Box 9583 - 8001 National Drive
Little Rock, Ar. 72209

Re: Partial Facility Closure

Dear Karen:

We have completed the facility plan for partial closure. This includes the Hazardous Waste Drum Storage Area and Tank T-B112. The plan is detailed in the followed communications:

Cedar Chemical to ADPC&E -	February 19, 1988
ADPC&E to Cedar Chemical -	March 24, 1988
Cedar Chemical to ADPC&E -	April 27, 1988
ADPC&E to Cedar Chemical -	May 6, 1988
Cedar Chemical to ADPC&E -	May 16, 1988
ADPC&E to Cedar Chemical -	May 24, 1988
Cedar Chemical to ADPC&E -	August 23, 1988
ADPC&E to Cedar Chemical -	August 31, 1988

The closure is a clean closure with no contaminants referenced in the above documents being found above those of background. The only element found above detection limit criteria was that of Arsenic and this level can be demonstrated to be a naturally occurring element. Therefore, there is no indication of increased levels of Arsenic due to plant operations.

A certification of closure plan completion by a registered, Professional Engineer is attached. This statement certifies their review of the drum storage area and tank T-B112 closure plan, communications, review of regulatory requirements, and inspections.

The drum storage will now be used for hazardous wastes in drums with less than 90 day storage on the plant site. A monthly inventory will reflect storage durations. Tank T-B112 will be removed and replaced with a double-walled tank meeting the generator regulatory requirements for tanks used for less than 90 day accumulation of hazardous waste.

Cedar Chemical will continue compliance with all applicable interim status regulations until the Department has released the financial assurance mechanisms and the Part B Permit Application.

Sincerely,

Joe E. Porter
Environmental Engineer

cc: J.H. Miles
G.L. Pratt
A.T. Malone

Karen

RECD APR 28 1988

CEDAR CHEMICAL CORPORATION

24th Floor • 5100 Poplar Avenue • Memphis, TN 38137 • 901-685-5348

REPLY TO: P. O. BOX 2749
WEST HELENA, AR 72390
(501) 572-3701

April 27, 1988

#17

Karen Deere
Arkansas Department of Pollution Control & Ecology
8001 National Drive - P.O. Box 9583
Little Rock, Arkansas 72209

Re: Surface Impoundment Analysis Report

Dear Karen:

With this letter we are submitting to the Department a report of sampling and analysis of the surface impoundments at our plant. We believe this report satisfies the requirement of the Consent Order as well as questions concerning this biological treatment system.

We request that the Department review this report and comment. At that time we can discuss the report further. Please call if you have immediate questions.

Sincerely,

Joe E. Porter

Joe E. Porter
Environmental Engineer

cc: J. Miles
G. Pratt
A. Malone

Gary → Derrick

RECD MAY 2 1988

CEDAR CHEMICAL CORPORATION

24th Floor • 5100 Poplar Avenue • Memphis, TN 38137 • 901-685-5348

#9

540068

CSR ..... Permit No. .....
Media: Air, Water, Solid, Hazardous
Sub-Permit, Compliance, Legal, Misc.

REPLY TO: P. O. BOX 2749
WEST HELENA, AR 72390
(501) 572-3701

April 27, 1988

Mike Bates
Arkansas Department of Pollution Control & Ecology
8001 National Drive - P.O. Box 9583
Little Rock, ar. 72209

Re: Tank and Container Storage Closure Plans

Dear Mr. Bates:

We have reviewed the modification requirements to our closure plan stated in your letter of March 24, 1988. We wish to have further definition of the analytical requirements of Item 6. It appears that unless the parameters of volatiles and semi-volatiles are better defined then a very large portion of our closure period could be tied up with laboratory work.

In our review of Methods 8240 and 8250 (SW-846) there are two lists of compounds which have been evaluated using these procedures on the specified GC/MS system. Of the compounds on these lists we find nine compounds which have been handled on our plantsite. With this information we propose that the analytical determinations be specifically aimed at these nine compounds. Of course, arensic, cyanide, and pH will also be included.

For your convenience we have attached a list of the nine compounds. Should this proposal warrant further discussion, we welcome a meeting with you and your analytical staff who may know more about this type of analysis.

Sincerely,

Joe E. Porter

Joe E. Porter
Environmental Engineer

cc: J.H. Miles, Jr.
G.L. Pratt
A.T. Malone

List of Parameters for Analysis in Soil Samples

Benzene
Carbon Disulfide
Chlorobenzene
1,2-Dichloroethane
Methylene Chloride
Toluene
Xylene
Isophorone
Phenol
Arsenic
Cyanide
pH

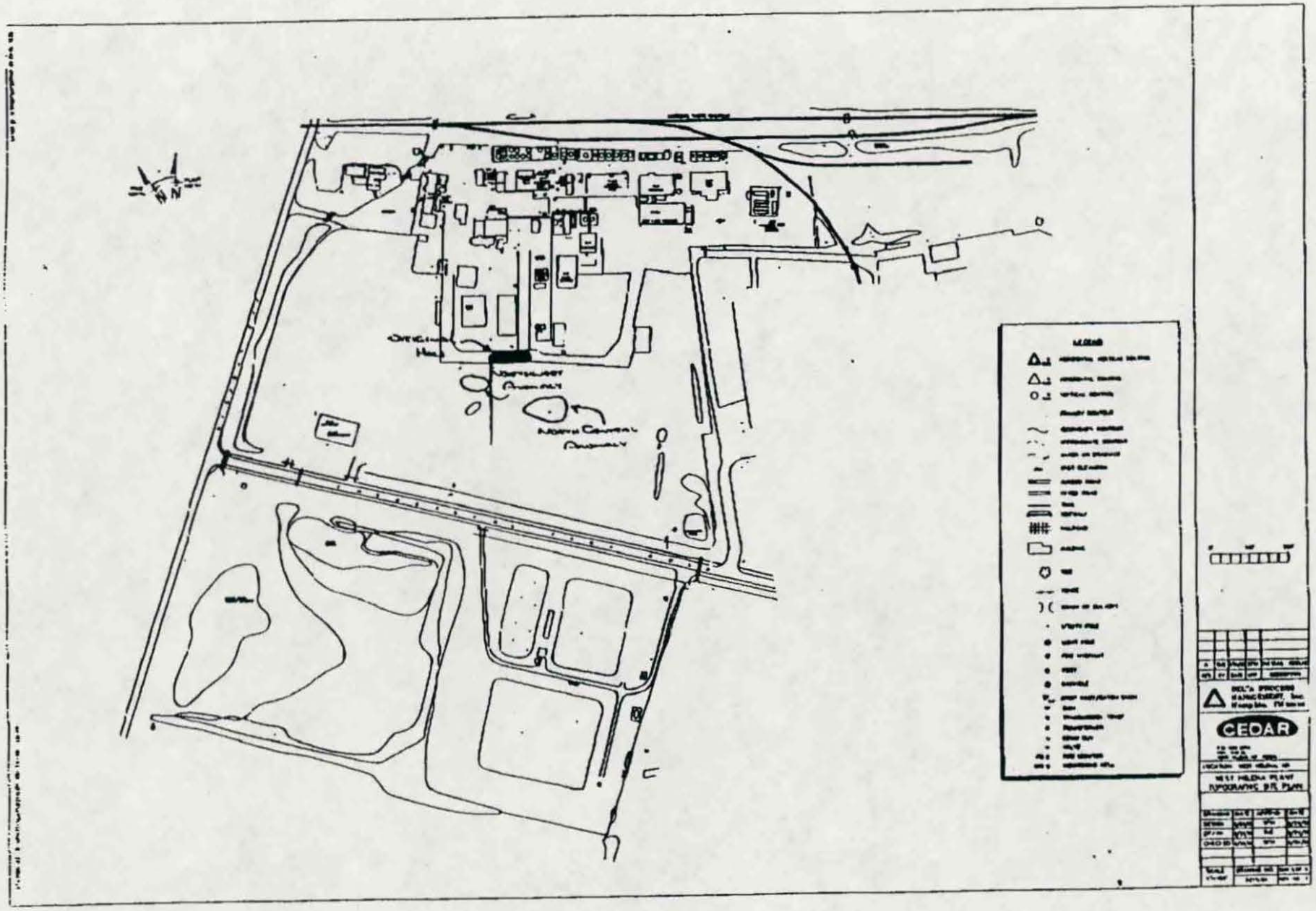


Figure 2

RECD APR 28 1988

CEDAR CHEMICAL CORPORATION

24th Floor • 5100 Poplar Avenue • Memphis, TN 38137 • 901-685-5348

REPLY TO: P. O. BOX 2749
WEST HELENA, AR 72390
(501) 572-3701

April 26, 1988

#13

Karen Deere
Arkansas Department of Pollution Control & Ecology
8001 National Drive - P.O. Box 9583
Little Rock, Ar. 72209

Re: Hydrogeologic Investigation

Dear Karen:

Attached is a proposal for the Hydrogeological Study as prepared by Grubbs, Garner & Hoskyn, Inc. of Little Rock. They have reviewed your recent comments and we believe they have a good program.

We present their proposal to you for review and comment. Upon your response we will set a date to begin work.

Sincerely,

Joe E. Porter

Joe E. Porter
Environmental Engineer

cc: J.H. Miles
G.L. Pratt
A.T. Malone

Grubbs, Garner & Hoskyn, Inc.
Consulting Engineers
10501 Stagecoach Road
P.O. Box 5239
Little Rock, AR 72215
501-455-2536

April 21, 1988

Cedar Chemical Corporation
P. O. Box 2749
West Helena, Arkansas 72390

Attention: Mr. Joe E. Porter

HYDROGEOLOGICAL STUDY - MANUFACTURING PLANT SITE
CEDAR CHEMICAL CORPORATION
WEST HELENA, ARKANSAS

Gentlemen:

We are pleased to submit this revised proposal and cost estimate for conducting a hydrogeological study at the Cedar Chemical Corporation manufacturing plant site located adjacent to Highway 242 in West Helena, Arkansas. Our initial proposal dated March 10, 1987 was submitted in response to your letter of January 22, 1987. This revised proposal was prepared in response to recent phone conversations and review of correspondence you have had with ADPC&E since our initial proposal was submitted.

We have outlined the scope of work which we understand has been approved by ADPC&E, revised our initial cost estimate, and presented an estimate of time required to complete the various phases of work.

We appreciate the opportunity to submit this revised proposal and look forward to the opportunity to work with you on this project. If you have questions about the proposal, please call. If the proposal is satisfactory and acceptable, please sign one of the enclosed copies and return it to our office as authorization.

Sincerely,

GRUBBS, GARNER & HOSKYN, INC.

John P. Hoskyn, P.E.
Vice President

JPH/dgf

Attachments: Schedule 40.01 (July 85)
Schedule 42.04 (Aug 81)
Schedule 43.04 (June 81)

Copies Submitted: Cedar Chemical Corporation (3)
Attn: Mr. Joe E. Porter

DATE AUTHORIZATION

GENERAL

We understand that Cedar Chemical Corporation is in the initial stages of developing a ground water monitoring program for their plant site in West Helena, Arkansas. To develop such a program, the first requirement is to complete a hydrogeologic assessment of the site. This proposal addresses only the hydrogeologic assessment aspect of developing a ground water monitoring program.

In brief form, the hydrogeologic assessment includes two (2) primary tasks:

1) Defining the geology beneath the site; and
2) Identifying ground water flow-paths and rates.

The study proposed herein is designed to accomplish these primary tasks, and thus provide information essential to developing a ground water monitoring program for the plant site.

PROPOSED SCOPE OF WORK

To accomplish the tasks required, we propose to complete the following work items or sub-tasks:

1) Review available geologic, hydrologic, and topographic information to aid in determining probable characater and thickness of the underlying soil strata and depth to ground water;

2) In concert with Cedar Chemical Corporation (CCC) representatives, assemble and evaluate available information about chemical compounds that may be encountered during the subsurface exploration and develop an appropriate health and safety plan to be used by personnel involved in the field work phase of the proposed study;

3) Conduct the approved subsurface investigation, modifying the program, as required, based on information developed during the course of the investigation;

4) Establish location and elevation of all borings and piezometers (this can be accomplished with 3 above);

5) Perform physical laboratory tests on samples of soil strata encountered to aid in assessing hydraulic conductivity;

6) Make periodic measurements of ground water levels to aid in assessing possible seasonal variations in the potentiometric surface; and

7) Analyze all data developed during the course of the study and prepare a report transmitting the data and presenting an interpretive analysis of that data to include a narrative description of the geology and the ground water flow patterns, potentiometric map(s), hydrologic/geologic cross sections and boring/well logs.

Based on our recent discussions, we understand the field investigation will include:

... Drilling ten (10) sample borings to depths of about 20 to 100 ft, with approximately three (3) of these borings penetrating to or slightly below the base of the alluvial aquifer;

... Installing and developing piezometers in all of the boreholes to determine depth to (elevation of) ground water;

... Performing slug tests in selected piezometers to aid in assessing hydraulic conductivities; and

... Making periodic measurements of ground water levels to assess possible seasonal variations.

PERSONNEL AND EQUIPMENT REQUIREMENTS

We propose to complete the required tasks and scope of work primarily with in-house technical and field personnel and equipment.

Review of available information, design and supervision of the investigation program, data analysis and report preparation will be accomplished by a senior engineer and a project manager/principal.

Soil borings, piezometer installation and development, performing slug tests and water level measurements will be done under the supervision of a senior engineer by a three-man drill crew equipped with a truck-moutned rotary drill rig, water/tool truck, pickup and appropriate drill tools and supplies.

Survey work required to establish location and elevation of borings and piezometers will be done either by our personnel or by Cline-Frazier Consulting Engineers (who have done other survey work at the site).

To review and evaluate chemical compounds that may be encountered by field personnel and to develop an appropriate health and safety plan, we propose to retain the services of B & F Engineering, Inc., a Hot Springs, Arkansas firm with whom we have worked on a number of similar projects and in whom we have great confidence.

COST ESTIMATE

We estimate the cost of the anticipated scope of work will be about $29,000, depending upon actual subsurface conditions encountered and possible alterations in the anticipated study which may be indicated by our findings or imposed by ADPC&E.

This cost estimate is based on a preliminary review of the information furnished, our general knowledge of the area subsurface conditions, the approved program of investigation and recent experience on similar projects. As discussed during our recent phone conversations, the final program of study required may be more or less comprehensive than the anticipated program upon which we have based our cost estimate.

The cost estimate assumes that access to the boring/piezometer locations will be provided by CCC and that a readily-accessible supply of potable water will be available at the plant site. It also assumes that the health and safety plan will require no more than Level C personnel protective gear and that drilling fluids and cuttings will not need to be containerized. If containerization is required, we understand CCC will furnish drums or other containers and will be responsible for their storage and/or disposal.

We have included an estimate of time (and cost) for the decontamination between borings, which we discussed. Per our discussions, we understand CCC has a hot-water, high-pressure cleaner which will be available for use to decontaminate equipment and tools. Therefore, a cost for cleaner rental has not been included in our estimate.

The cost estimate does not include any contingency allowance for unforeseen conditions or modifications to the anticipated study. For planning purposes, we recommend an allowance of 15 to 20 percent of the estimate be added to the overall cost.

Actual charges for services provided would be based on the attached Schedules of Fees. Your attention is called to the General Conditions on Schedule 40.01 (July 85). If liability coverage in excess of that shown in Item 3.3 is desired, please so indicate.

PROJECTED TIME SCHEDULE

We estimate that the overall project would require approximately nine (9) to eleven (11) weeks to complete, depending upon weather, access problems (if any) and delays occasioned by ADPC&E reviews. This estimate is based on the following task-time breakdown:

TASK(S)	TIME
Review available information, Meet with CCC & Develop Health and Safety Plan	2 to 4 weeks
Field Investigation	2 weeks
Laboratory Testing	3 weeks
Analysis and Report	3 weeks
ESTIMATED TOTAL TIME	10 to 11 weeks

The time estimate shown above should be sufficient to develop the initial hydrogeologic assessment. We have proposed to continue periodic water level measurements to check for possible seasonal variations. Therefore, a follow-up supplemental report would be required after a period of sufficient duration (probably a year) to detect seasonal variations.

inspecting placement of feet. Ant hills could be encountered or snakes as well. A First Aid Kit will be available to administer to insect bites or snake bites.

6.0 GENERAL HEALTH AND SAFETY REQUIREMENTS

6.1 Medical Examination

All personnel working on site must take an annual medical examination as part of a medical surveillance program as required in CFR 29 Part 1910. Contractors involved in hazardous field activities shall provide for medical examinations for their employees. Physicians opinions on all workers will be submitted to the Site Safety Officer prior to starting work. Personnel with jobs of short duration (2 to 4 hours) who are fully escorted may be exempted from the physician's opinion requirements at the discretion of the Site Safety Officer and the WCC project manager.

6.2 Safety Training Documentation

Once operations have begun, all personnel working on site will supply certificate or equivalent attesting to completing 40 hours of required training per OSHA 1910.120. Site supervisors will be required to supply a certificate indicating that an additional 8 hours of training has been completed. Escorted visitors may be allowed in the restricted area without 40 hours training at the discretion of the Site Safety Officer and the WCC project supervisor.

6.3 Compliance Agreement

The Site Safety officer shall hold meetings with all field personnel before work commences. During the meeting, the plan shall be reviewed and discussed and questions answered. Signed Compliance Agreement Forms and Safety Orientation Forms shall be filed by the Site Safety Officer. Individuals refusing to sign the form will not be allowed to work on the site.

6.4 Site Entry Notification

Cedar Chemical Corporation, contractors, and subcontractors shall provide a written list of their employees who will be entering the site for approval prior to actually entering the site. All other personnel must inform the WCC Project Manager or his representative before entering the site; appropriate escorting will be provided. Cedar Chemical personnel may be on site whenever work is performed. Personnel must be in visual contact with each other or carry two-way radios during all field activities.

If any unidentified potential hazards are discovered during any field work, the Project Manager or his designated representative will be called for further instructions.

6.5 Site Safety Meetings

During field operations, daily safety meetings will be held by the Health and Safety Representative to review and plan the specific health and safety aspects of scheduled work for that day.

6.6 Prohibitions

- Smoking, eating, drinking, chewing gum or tobacco, storing food or food containers shall not be permitted on the work site. Good personal hygiene should be practiced by field personnel to avoid ingestion of contaminants or spread of contaminated materials.
- Ignition of flammable liquids within, on, or through improvised heating devices or space heaters
- Approach or entry into areas or spaces where toxic or explosive concentrations of gases or dust may exist without proper equipment available to enable safe entry.
- Conducting on site operations within waste handling zone without back up personnel in the non-contaminated staging area.

6.7 Incident Reporting

Any incident or accident involving personnel on site will require that an Incident/Accident Report be filed. Situations, no matter how minor, covered by this policy include but are not limited to fires, explosions, illnesses, injuries, and automobile accidents. These reports must be sent to the employee's Health and Safety Representative. Worker's Compensation Insurance reports should be filed within 48 hours of each accident or illness which results from work related activities and requires medical attention. See Appendix 2 for an example of Hazardous Waste Incident Report. Use this form in case of an accident or incident.

6.8 Project Safety Log

Project logs will be used to record the names, entry and exit dates and times of all personnel and of project site visitors; accidents, injuries, and illnesses; incidences of safety infractions by field personnel; air quality and personal exposure monitoring data; and other information related to safety matters. All accidents, illnesses or other incidences shall be reported immediately to the Site Safety Officer and the WCC Project Manager or his representative.

6.9 Safety Equipment Required

Potential hazards from contaminants may be minimized by protecting against exposures to toxic materials by utilizing appropriate personal protective equipment. Personal protective equipment to protect the body against contact with known or anticipated chemical hazards has been divided into four categories by U. S. EPA (i.e., Level A, B, C and D) according to the degree of protection afforded.

All personnel engaged in activity at the site will employ the following basic personnel protective equipment:

- Safety glasses

- Hard hat
- Boots with steel toes
- Chemical splash goggles

Personnel shall wear the first three items at all times except in designated locations, and shall have the goggles readily available at all times.

Because of the possibility that respiratory protection may be necessary, all subcontractors and their employees must submit documentation indicating that proper fit has been demonstrated for specific models of air-purifying respirators.

Level A protection should be worn when the highest level of respiratory, skin and eye protection is needed. The protective equipment for Level A include:

- Pressure-demand, self-contained breathing apparatus (SCBA), approved by the Mine Safety and Health Administration (MSHA) and National Institute of Occupational Safety and Health (NIOSH)
- Fully encapsulating chemical-resistant suit
- Gloves (outer), chemical-resistant; viton, nitrile, PVC or neoprene
- Boots, chemical-resistant
- 2-way, intrinsically-safe radio

Level B protection should be employed when the highest level of respiratory protection is needed but a lesser level of skin protection is required. The equipment for Level B protection includes:

- Pressure-demand (self-contained) breathing apparatus (SCBA) or pressure-demand supplied air respirator with escape SCBA (including 5 minute bottle)(MSHA/NIOSH approved)
- Chemical-resistant clothing with hood; disposable Tyvek Saranex
- Gloves (outer), chemical-resistant; viton, nitrile, PVC or neoprene
- Boots, chemical-resistant

- 2-way, intrinsically-safe radio

Level C protection is selected when the types of airborne substance(s) is known, the concentration(s) is measured and the criteria for using air purifying respirators are met. Level C protective equipment include:

- Full-face or half-face, air purifying, cartridge-equipped (organic vapor and particulate) respirator (MSHA/NIOSH approved) for use with pesticides.
- Chemical-resistant clothing; such as disposable polycoated Tyvek
- Face shield, if half-face respirators are used
- Gloves (outer), chemical-resistant; viton, nitrile, PVC or neoprene
- Boots, chemical-resistant;

Modified Level D provides for dermal protection, but no respiratory protection.

- Chemical-resistant clothing; such as polycoated Tyvek
- Gloves, chemical-resistant; viton, nitrile, PVC or neoprene
- Face shields where splash hazards are present
- Boots, chemical-resistant
- Safety glasses with side shields
- Hard hat

Level D protection includes:

- Chemical-resistant clothing; such as disposable Tyvek
- Gloves, chemical resistant; viton, nitrile, PVC or neoprene
- Boots, chemical resistant

The protection levels which have been selected are based on the hazard evaluation (Section 5.0) and may be revised based on field measurements during field activities.

Therefore all subcontractors and their employees must provide the documentation of the following:

- Annual medical examination with favorable physician's opinion for hazardous waste work
- OSHA 40-hour training for hazardous waste work activities
- Annual 8-hour refresher training for hazardous waste work activities as applicable
- Air-purifying respirator fit-test

6.10 Work Zones

To minimize the movement of contaminants from the site to uncontaminated areas, three work zones will be set up after the site assessment and prior to the removal action and sampling of drums. The three work zones will include the following:

Zone 1:	Exclusion Zone
Zone 2:	Contamination Reduction Zone
Zone 3:	Support Zone

The exclusion zone is the zone where contamination does or could occur. The exclusion zone will be defined initially by a 20-foot area around the drums. Air monitoring and observation by the site safety officer will determine the extent of the zones. All persons entering this zone must wear the level of protection set forth in Section 5.0, Hazard Evaluation. These levels of protection guidelines are based on the different types of field activities.

Between the exclusion zone and support zone is the personnel contamination reduction zone (CRZ) which provides a transition zone between the contaminated and clean areas of the site. This zone will be located directly outside of the exclusion zone and will be defined as a 10-foot zone directly outside the exclusion zone.

The support zone will be an uncontaminated area from which operations will be directed. It is essential that contamination from the site be kept out of this area. Included in this area will be a storage area for decontaminated clothing, personal protective equipment and some personal clothing, such as shoes.

6.11 Equipment Decontamination

The equipment decontamination procedure will be conducted using a steam cleaner. Decontamination will be done prior to project site arrival. Decontamination will take place in the field by washing directly above drums or the temporary decon area set up by the subcontractor or the BSC area (See Figure 2). Decontamination fluids will be collected and disposed by Cedar Chemical.

Decontamination facilities must be adequate in size to handle the largest piece of contaminated equipment, for example, the blade of a bulldozer.

6.12 Personnel Decontamination

All personnel will be required to undergo decontamination when leaving the exclusion zone.

The following steps must be taken for decontamination of personnel:

- Deposit equipment that needs to be decontaminated on plastic drop cloths.
- Wash suits, boots and outer gloves with long handled brushes in No. 3 wash tub containing detergent water.
- Rinse suits, boots and outer gloves with long handled brushes in a No. 3 wash tub containing clear water or use a sprayer to rinse off boots and gloves if one is available.

Coveralls should be removed by turning the clothing inside out. A general sequence of doffing procedures is outlined below. The extent of washing required, or modifications to the sequence, may be specified as appropriate.

Steps in decontamination will be as follows:

- Wash and rinse outer protective coverall
- Wash work gloves and boots
- Remove outer protective clothing
- Rinse respirator
- Wash hands and face

Any contaminated protective clothing will be properly disposed of in sealable containers. Provisions for emergency decontamination will be available in the construction zone. For example, clean water will be provided for decontamination of personnel (to rinse work gloves and boots, etc.), in the event of an emergency situation. Potable water must be used for personal decontamination. Personnel decontamination will take place in the field. Decontamination fluids will be placed in drums provided by Cedar Chemical.

7.0 LABORATORY CONSIDERATIONS

7.1 Field Sampling

WCC will conduct field sampling as required by the work plan. Additional information regarding field sampling considerations may be presented in an Addendum to this plan.

8.0 PERSONAL PROTECTIVE EQUIPMENT

This section outlines the general usage guidelines for personal protective equipment.

8.1 Head Protection

Hard hats must be worn by all personnel working onsite.

8.2 Eye Protection

Safety glasses must be worn by all personnel performing activities at all times. Safety goggles will be carried by all personnel at all times and worn as necessary. An eyewash station will be set up by the site safety officer prior to commencing field activities and should be placed so that it could be used quickly in an emergency. Faceshields will be worn by all personnel in Level C not protected by full face respirators when splash hazards are present.

8.3 Skin Protection

Chemically-resistant coveralls are required and gloves must be worn by all personnel engaged in waste-related activities at the site. Where hoods are required,they can be either attached to, or separate from, the coveralls. Used disposable items may be re-used after decontamination provided they are not torn or breeched and show no signs of fabric contamination. Disposable items will be disposed of in a designated sealable container after each use or when they become worn or punctured. Non-disposable items will be decontaminated after each use and disposed of in a designated sealable container when they become worn or punctured.

8.4 Foot Wear

Chemically resistant boots will be worn by field personnel engaged in all field activities at the site.

8.5 Respiratory Protection

For work zones requiring Level A or B protection, the following NIOSH-approved equipment will be provided: pressure-demand, full-face piece, self-contained breathing apparatus (SCBA), or pressure-demand supplied air respirator with escape SCBA (in-line, 5 minute bottle) must be used by all personnel engaged in Level A or B work activities at the site. After use, all respiratory protective equipment must be taken to the decontamination and repair station. No facial hair will be allowed that will interfere with mask fit.

For Level C work, the following protective equipment will be provided: respirators, full-face or half-face mask, with organic vapor/acid gas and dust air purifying cartridges must be worn by all personnel engaged in all activities in the affected area. All personnel must be fit-tested for the specific brand of respirator to be used. The Contractors shall be responsible for fit testing their employees and shall provide proper records of the fit tests to the Site Safety Officer. A respirator which has not been successfully fit-tested cannot be used by an individual on the project. To ensure a proper fit, no facial hair will be allowed that will interfere with mask operation. Air purifying respirators will be used only if the following conditions are met:

- The oxygen content of the air is greater than 19.5 percent
- Concentrations of air contaminants are known and monitored.
- Most of the contaminants of concern all have good warning properties (i.e., odor threshold below TLV value).
- The protection factor is adequate and TLVs are not exceeded
- If concentrations of air contaminants exceed IDLH value, personnel must immediately evacuate.
- Cartridges are changed daily or whenever breakthrough occurs, whichever occurs first.
- Each person has been fit-tested for the specific brand and size of respirator used.
- The respirator is MSHA and NIOSH approved.

9.0 AIR QUALITY MONITORING DURING REMOVAL ACTION

The primary goal of onsite air quality monitoring will be compliance with the specified contaminant action levels. The secondary goal will be documentation of personal exposures as required by OSHA 1910.120.

9.1 Responsibility/Authority

The Site Safety Officer (SSO) is responsible for implementation of the air monitoring program. The SSO must insure adequate instrumentation availability, proper calibration, proper field measurement techniques and recording of instrument response in the safety log book.

When action levels are exceeded, the SSO will communicate the required actions to the WCC project manager. In an emergency situation, the SSO may directly initiate an area evacuation.

Personal air monitoring results are required by OSHA to be communicated to the workers potentially exposed. A system of providing air sample results to workers will be coordinated.

9.2 Air Monitoring Zones

Air monitoring will be the key factor in determining the size of the Level B, C and D exclusion zones. Two separate sets of action levels have been developed. One set of action levels summarized in Table 9-1 is for work areas within the Level B zone. A second set of action levels summarized in Table 9-2 represents maximum levels in the C and D zones at the perimeter of the Level B zone. If these perimeter action levels are exceeded, the Level B exclusion zone will be expanded.

9.3 Air Quality Monitoring Instrumentation

The HNu PI 101 Photoionization Meter equipped with a 10.2 eV probe will be used to detect trace concentrations of certain organic gases and a few inorganic gases in the air. The HNu is most sensitive to aromatic hydrocarbons, aliphatic amines, and unsaturated chlorinated hydrocarbons. Carbonyl and unsaturated hydrocarbons, sulfides, ammonia, and the heavier paraffins (C_5 - C_7) can also be detected, but with a lesser degree of sensitivity. Methane, ethane and other light paraffins are not detected by the HNu.

Dust concentrations in the construction area will be monitored with a GCA Mini Ram or equivalent instrument. Response to particulate fugitive dust concentrations will be as follows:

TABLE 9-1
AIR MONITORING ACTION LEVELS FOR LEVEL B WORK AREAS

DRUM SAMPLING AND DRUM REMOVAL

Instrument	Instrument Reading	Action Taken
HNu PI 101 with 10.2 eV Probe	50 - 250 ppm	Continue Working
	>250 ppm	Evacuate Area

SOIL REMOVAL AND SOIL SAMPLING

Instrument	Instrument Reading	Action Taken
HNu PI 101 with 10.2 eV Probe	50 - 250 ppm	Continue Working
	>250 ppm	Evacuate Area

RESPONSE LEVEL 1

Name	Action Concentration	Field Actions
Particulates	1 mg/m^3	o Wear Level C Protection o Continue work and monitoring in immediate area o Take action to supress dust - Spray exposed areas with water

RESPONSE LEVEL II

Name	Action Concentration	Field Actions
Particulates	10 mg/m^3	o Suspend work activities o Take action to suppress dust as above in Response Level I o Move area personnel upwind of source o Resume work when action concentration is no longer exceeded in immediate area

TABLE 9-2

AIR MONITORING ACTION LEVELS FOR LEVEL C AND D WORK AREAS*

DRUM SAMPLING AND DRUM REMOVAL

Instrument	Instrument Reading	Action Taken
HNu PI 101 with 10.2 eV Probe	Background - 10 ppm	Modified Level D
	10 - 100 ppm	Continue Working, Upgrade to Level C
	>100 ppm	Evacuate Area or Implement Level B Work Zone Requirement

Instrument	Instrument Reading	Action Taken
HNu PI 101 with 10.2 eV Probe	Background - 10 ppm	Level D
	10 - 100 ppm	Continue Working Upgrade to Level C
	>100 ppm	Evacuate Area

* These levels must not be exceeded at edge of Level B work zones.

10.0 EMERGENCIES/ACCIDENTS

There is risk associated with injury resulting from contact with the drums and operation of heavy equipment. All personnel should be aware that the protective apparel (Level C, D) limits visibility, hearing, and manual dexterity. In addition, the protective equipment places a physical strain on the wearer, especially in warm weather.

Any illness, injury or accident occurring onsite must be attended to immediately. The WCC site supervisor shall implement the following procedures where and when appropriate.

- The WCC site supervisor should stop site work and determine appropriate actions.
- Decontaminate and move any affected personnel to safety from the immediate hazard.
- Determine the nature of the emergency and the type of assistance needed, for example fire equipment, or medical help.
- Contact the West Helena Fire Department, West Helena Municipal Police or hospital emergency ambulance service if emergency assistance is needed.

- Report the incident to the Cedar Chemical representative and to the site safety officer.
- Complete a WCC-Hazardous Waste Incident Report, using Form HS-502 (Appendix 2).
- Develop procedures to prevent a reoccurrence of the illness, injury or accident and submit the procedures to the WCC Project Manager and project health and safety officer.

Emergency telephone numbers:

Helena Regional Medical Center	338-5900
Emergency Ambulance Service	572-9227
West Helena Fire Department	572-7911
West Helena Municipal Police Department	572-3441

11.0 HEALTH AND SAFETY MANUAL APPROVAL

Richard D. Karkkainen
WCC Project Manager

Date

Francis R. Siener, Jr., C. I. H.
Baton Rouge Health and Safety Officer

Date

Phil Jones, C. I. H.
WCC Corporate Health and Safety Officer

Date

12.0 HEALTH AND SAFETY PLAN COMPLIANCE AGREEMENT

I, _____ (print name), have reviewed a copy of the Health and Safety Plan for the Drum and Soil Removal and Soil Sampling at Cedar Chemical Corporation (90B550C-3). I understand it and agree to comply with all of its provisions. I understand that I could be prohibited from working on the project for violating any of the safety requirements specified in the plan.

Signed:

_____ _____
(Signature) (Date)

Firm: _____

ecial Fire Fighting Procedures:
Self-contained air supply. Confine water used in fire fighting.

usual Fire and Explosion Hazards:
Noxious fumes may form. Material undergoes rapid exothermic decomposition at 190°C. Vapors may ignite.

ECTION V REACTIVITY DATA

ability: Stable in normal use and storage.
onditions to Avoid: Heating above 100°C. Product undergoes rapid exothermic decomposition at 190°C. Avoid ignition sources.
compatibility: Strong Bases and Strong Oxidizers
azardous Decomposition or Byproducts: Oxides of Nitrogen
azardous Polymerization: Will not occur. No known conditions to avoid.

ICTION VI HEALTH HAZARD DATA

outer(s) of Entry: Inhalation: Moderate Toxicity
Skin: Readily Absorbed
Ingestion: Highly Toxic

alth Hazards (Acute and Chronic):

Oral Ingestion: High Single Dose Oral Toxicity. LD_{50} for Rats 25 mg/kg. May be fatal if swallowed.

Eye Contact: May cause severe irritation and corneal injury. Corneal injury should heal in 1-2 weeks.

Skin Contact: May cause slight irritation or mild burn. Colors the skin yellow.

Skin Absorption: Readily absorbed through skin, high toxicity. LD_{50} rabbits 80mg/kg.

Inhalation: May be irritating. Cedar industrial guide for Dinoseb is 0.3 mg/m³.

arcinogenicity: NTP: Negative
IARC Monographs: Negative
OSHA Regulated: Negative.

igns and Symptoms of Exposure:
Fatigue, sweating, thirst, and fever. Increased metabolic rate.

edical Conditions Generally Aggravated by Exposure:
Liver and kidney problems may be aggravated by extreme exposure.

Emergency and First Aid Procedures:

Oral Ingestion:	Toxic by ingestion. Induce vomiting and seek medical help immediately.
Eye Contact:	Flush immediately with continuous irrigation with flowing water for at least thirty minutes. Seek medical consultation immediately.
Skin Contact:	Immediately flush skin with plenty of water for at least fifteen minutes while removing contaminated clothing. Consult physician. Wash clothing before reuse.
Inhalation:	Remove to fresh air if effects occur. Consult physician.

Note to Physician:
Eyes: Stain for evidence of corneal injury. If cornea is burned, instill antibiotic steroid preparation frequently. Consult ophthalmologist. May cause temporary injury.
Overexposure: Treat for symptoms. No specific antidote. Human effects not established.

SECTION VII PRECAUTIONS FOR SAFE HANDLING AND USE

Steps to Be Taken in Case Material Is Released or Spilled:
Use proper safety equipment. Absorb spill with absorbant inert material such as oil-dry. Dike area for large spills. Keep out of streams and water supplies.

Waste Disposal Method:
Dispose of in non-crop area away from water supplies or in an approved landfill in accordance with State, Federal, and local regulations.

Precautions to Be Taken in Handling and Storing:
Do not get on skin, on clothing, or in eyes. Keep out of reach of children.

Other Precautions:
Do not breathe spray mists. Keep away from heat or flame.

SECTION VIII CONTROL MEASURES

Respiratory Protection:
None normally needed. During spraying use organic vapor respirator.

Ventilation: Required to control level of dinoseb.
Protective Gloves: Impervious rubber gloves
Eye Protection: Chemical workers' goggles
Other Protective Clothing or Equipment: Rubber boots and apron and body-covering clothing.
Work/Hygenic Practices: Shower after handling.

THE INFORMATION HEREIN IS SUPPLIED IN GOOD FAITH, BUT NO WARRANTY, EXPLICITE OR IMPLIED, IS MADE.

MATERIAL SAFETY DATA SHEET
Equivalent to OSHA form 174

PRODUCT NAME: TECHNICAL DINOSEB DATE: 08/15/86 PAGE 1
EPA REG. NO.: 36077-3

SECTION I

Manufacturer's Name: Cedar Chemical Corporation
5100 Poplar Ave. 24th Floor
Memphis, TN 38137
Emergency Phone Number: 1-800-424-9300
Information Phone Number: 1-601-636-1231
Prepared by: M. S. Bernard

SECTION II HAZARDOUS INGREDIENTS/IDENTITY INFORMATION

INGREDIENT	OSHA PEL	ACGIH TLV	PERCENT
Dinoseb	n/d	0.5mg/m³	95.00
Dinoseb (2-sec-butyl-4,6-dinitrophenol) CAS # 88-85-7			
Impurities	n/d	n/d	5.00

SECTION III PHYSICAL/CHEMICAL CHARACTERISTICS

Boiling Point(°F)	above 212	Specific Gravity	1.258
Vapor Pressure(mm Hg.)	below 1	Melting Point(°F)	90
Vapor Density(Air=1)	n/a	Evaporation Rate	n/d

Solubility in Water: 0.0052g/100ml
Appearance and Odor: Brown solid, organic acid odor

SECTION IV FIRE AND EXPLOSION HAZARD DATA

Flash Point(Method Used): 350.6°F TCC
Flammable Limits: LEL- n/d UEL- n/d
Extinguishing Media:
Water Fog, Foam, Alcohol Foam, CO_2, and Dry Chemical

CONTINUED ON PAGE 2

ATTACHMENT 2

Table 8.7 "Health-Based Criteria for Systemic Toxicants"

From "Interim Final RCRA Facility Investigation

Guidance (EPA 530/SW-89-031)"

Table 8-7. Health-Based Criteria for Systemic Toxicants[1]

Constituent	CAS No.	RfD[2] (mg/kg/day)	Soil (mg/kg)	Water (ug/l)	Air (ug/m^3)
Acetone	67-64-1	1E-01	8E+03	4E+03	–
Acetonitrile	75-05-8	6E-03	5E+02	2E+02	–
Acetophenone	98-86-2	1E-01	8E+03	4E+03	–
Aldicarb	116-06-3	1E-03	8E+01	4E+01	5E+00
Aldrin	309-00-2	3E-05	2E+00	1E+00	–
Allyl alcohol	107-18-6	5E-03	4E+02	2E+02	–
Aluminum phosphide	20859-73-8	4E-04	3E+01	1E+01	–
Antimony	7440-36-0	4E-04	3E+01	1E+01	–
Barium	7440-39-3	5E-02	4E+03	See MCL	–
Barium cyanide	542-62-1	7E-02	6E+03	2E+03	–
Benzidine	92-87-5	2E-03	2E+02	7E+01	–
Beryllium	7440-41-7	5E-03	4E+02	2E+02	–
Bis(2-ethylhexyl) phthalate	117-81-7	2E-02	2E+03	7E+02	–
Bromodichloromethane	75-27-4	2E-02	2E+03	7E+02	7E+01
Bromoform	75-25-2	2E-02	2E+03	7E+02	–
Bromomethane	74-83-9	4E-04	3E+01	1E+01	–
Calcium cyanide	592-01-8	4E-02	3E+03	1E+03	–
Carbon disulfide	75-15-0	1E-01	8E+03	4E+03	–
Carbon tetrachloride	56-23-5	7E-04	6E+01	See MCL	–
Chlordane	57-74-9	5E-05	4E+00	2E+00	–
Chlorine cyanide	506-77-4	5E-02	4E+03	2E+03	–
Chlorobenzene	108-90-7	3E-02	2E+03	1E+03	–
1-Chloro-2,3 epoxypropane (Epichlorohydrin)	106-89-8	2E-03	2E+02	7E+01	–
Chloroform	67-66-3	1E-02	8E+02	4E+02	–
Chromium (III)	16065-83-1	1E+00	8E+04	4E+04	–
Chromium (VI)	7440-47-3	5E-03	4E+02	See MCL	–
Copper cyanide	544-92-3	5E-03	4E+02	2E+02	–
Cresols	1319-77-3	5E-02	4E+03	2E+03	–
Crotonaldehyde	123-73-9	1E-02	8E+02	4E+02	–
Cyanide		2E-02	2E+03	7E+02	–
Cyanogen	460-19-5	4E-02	3E+03	1E+03	–
2,4-D	94-75-7	1E-02	8E+02	See MCL	–
DDT	50-29-3	5E-04	4E+01	2E+01	–
Di-n-butylphthalate	84-74-2	1E-01	8E+03	4E+0	–

Note: These criteria are subject to change and will be confirmed by the regulatory agency prior to use.

Table 8-7. (continued)[1]

Constituent	CAS No.	RfD[2] (mg/kg/day)	Soil (mg/kg)	Water (µg/l)	Air (µg/m³)
Dichlorodifluoromethane	75-71-8	2E-01	2E+04	7E+03	–
1,1-Dichloroethylene	75-35-4	9E-03	7E+02	See MCL	–
Dichloromethane (Methylene chloride)	75-09-2	6E-02	5E+03	2E+03	–
2,4-Dichlorophenol	120-83-2	3E-03	2E+02	1E+02	1E+01
1,3-Dichloropropene	26952-23-8	3E-04	2E+01	1E+01	–
Dieldrin	60-57-1	5E-05	4E+00	2E+00	–
Diethyl phthalate	84-66-2	8E-01	6E+04	3E+04	–
Dimethoate	60-51-5	2E-02	2E+03	7E+02	–
2,4-Dinitrophenol	51-28-5	2E-03	2E+02	7E+01	7E+00
Dinoseb	88-85-7	1E-03	8E+01	4E+01	–
Diphenylamine	127-39-4	3E-02	2E+03	1E+03	–
Disulfoton	298-04-4	4E-05	3E+00	1E+00	–
Endosulfan	115-29-7	5E-05	4E+00	2E+00	2E-01
Endothal	145-73-3	2E-02	2E+03	7E+02	–
Endrin	72-20-8	3E-04	2E+01	See MCL	1E+00
Ethylbenzene	100-41-4	1E-01	8E+03	4E+03	–
Heptachlor	76-44-8	5E-04	4E+01	2E+01	–
Heptachlor epoxide	1024-57-8	1E-05	8E-01	4E-01	–
Hexachlorobutadiene	87-68-3	2E-03	2E+02	7E+01	–
Hexachlorocyclopentadiene	77-47-4	7E-03	6E+02	2E+02	–
Hexachloroethane	67-72-1	1E-03	8E+01	4E+01	–
Hydrogen cyanide	74-90-8	2E-02	2E+03	7E+02	–
Hydrogen sulfide	7783-06-4	3E-03	2E+02	1E+02	–
Isobutyl alcohol	78-83-1	3E-01	2E+04	1E+04	1E+03
Isophorone	78-59-1	2E-01	2E+04	7E+03	–
Lindane (hexachlorocyclohexane)	58-89-9	3E-04	2E+01	See MCL	–
Maleic hydrazide	108-31-6	5E-01	4E+04	2E+04	–
Methacrylonitrile	126-98-7	1E-04	8E+00	4E+00	–
Methomyl	16752-77-5	3E-02	2E+03	1E+03	–
Methyl ethyl ketone	78-93-3	5E-02	4E+03	2E+03	–
Methylisobutylketone	108-10-01	5E-02	4E+03	2E+03	–

Note: These criteria are subject to change and will be confirmed by the regulatory agency prior to use.

Table 8-7. (continued)[1]

Constituent	CAS No.	RfD[2] (mg/kg/day)	Soil (mg/kg)	Water (µg/l)	Air (µg/m3)
Methyl mercury	22967-92-6	3E-04	2E+01	1E+01	--
Methyl parathion	298-00-0	3E-04	2E+01	1E+01	1E+00
Nickel	7440-02-0	2E-02	2E+03	7E+02	--
Nitric oxide	10102-43-9	1E-01	8E+03	4E+03	--
Nitrobenzene	98-95-3	5E-04	4E+01	2E+01	--
Nitrogen dioxide	10102-44-0	1E+00	8E+04	4E+04	--
Octamethylpyro-phosphoramide	152-16-9	2E-03	2E+02	7E+01	--
Parathion	56-38-2	3E-04	2E+01	1E+01	--
Pentachlorobenzene	608-93-5	8E-04	6E+01	3E+01	3E+00
Pentachloronitro-benzene	82-68-8	3E-03	2E+02	1E+02	--
Pentachlorophenol	87-86-5	3E-02	2E+03	1E+03	1E+02
Perchloroethylene (Tetrachloro-ethylene)	127-18-4	1E-02	8E+02	4E+02	--
Phenol	108-95-2	4E-02	3E+03	1E+03	--
Phenyl mercuric acetate	62-38-4	8E-05	6E+00	3E+00	--
Phosphine	7803-51-2	3E-04	2E+01	1E+01	--
Potassium cyanide	151-50-8	5E-02	4E+03	2E+03	--
Potassium silver cyanide	506-61-6	2E-01	2E+04	7E+03	--
Pronamide (Kerb)	23950-58-5	8E-02	6E+03	3E+03	--
Pyridine	110-86-1	1E-03	8E+01	4E+01	--
Selenious Acid	7782-49-2	3E-03	2E+02	See MCL	--
Selenourea	630-10-4	5E-03	4E+02	2E+02	--
Silver	7440-22-4	3E-03	2E+02	See MCL	--
Silver cyanide	506-64-9	1E-01	8E+03	4E+03	--
Silvex (2,4,5-TP)	93-72-1	8E-03	6E+02	3E+02	--
Sodium cyanide	143-33-9	4E-02	3E+03	1E+03	--
Strychnine	57-24-9	3E-04	2E+01	1E+01	--
Styrene	100-42-5	2E-01	2E+04	7E+03	--
1,2,4,5-Tetrachlorobenzene	95-94-3	3E-04	2E+01	1E+01	1E+00

Note: These criteria are subject to change and will be confirmed by the regulatory agency prior to use.

Table 8-7. (continued)[1]

Constituent	CAS No.	RfD[2] (mg/kg/day)	Soil (mg/kg)	Water (µg/l)	Air (µg/m³)
2,3,4,6-Tetrachlorophenol	58-90-2	3E-02	2E+03	1E+03	1E+02
Tetraethyl lead	78-00-2	1E-07	8E-03	4E-03	4E-04
Thallic oxide	1314-32-5	4E-04	3E+01	1E+01	–
Thallium acetate	563-68-8	5E-04	4E+01	2E+01	–
Thallium carbonate	6533-73-9	4E-04	3E+01	1E+01	–
Thallium chloride	7791-12-0	4E-04	3E+01	1E+01	–
Thallium nitrate	10102-45-1	5E-04	4E+01	2E+01	–
Thallium selenite	12039-52-0	5E-04	4E+01	2E+01	–
Thallium sulfate	10031-59-1	3E-04	2E+01	1E+01	–
Thiram	137-26-8	5E-03	4E+02	2E+02	–
Toluene	108-88-3	3E-01	2E+04	1E+04	–
1,2,4-Trichlorobenzene	120-82-1	2E-02	2E+03	7E+02	–
1,1,1-Trichloroethane	71-55-6	9E-02	7E+03	See MCL	–
1,1,2-Trichloroethane	79-00-5	2E-01	2E+04	7E+03	–
Trichloromono-fluoromethane	75-69-4	3E-01	2E+04	1E+04	–
2,4,5-Trichlorophenol	95-95-4	1E-01	8E+03	4E+03	4E+02
2,4,5-Trichloro-phenoxy acetic acid (2,4,5-T)	93-76-5	3E-03	2E+02	See MCL	–
1,1,2-Trichloropropane	598-77-6	5E-03	4E+02	2E+02	–
1,2,3-Trichloropropane	96-18-4	1E-03	8E+01	4E+01	–
Vanadium pentoxide	1314-62-1	2E-02	2E+03	7E+02	–
Warfarin	81-81-2	3E-04	2E+01	1E+01	–
Xylene (total)	1330-20-7	2E+00	2E+05	7E+04	–
Zinc cyanide	557-21-1	5E-02	4E+03	2E+03	–
Zinc phosphide	1314-84-7	3E-04	2E+01	1E+01	–

1 These criteria are subject to change and will be confirmed by the regulatory agency prior to use.

2 See Table 8-2 for the appropriate intake assumptions used to derive these criteria.

ATTACHMENT 3

CHAIN-OF-CUSTODY FORM

Woodward-Clyde Consultants

CHAIN - OF - CUSTODY RECORD

SAMPLE NO.	MATRIX	YR:___ DATE MM/DD	TIME	SAMPLE DEPTH FROM	SAMPLE DEPTH TO	STATION LOCATION	TOTAL NO. CONTAINERS					

SAMPLE COLLECTION:

PROJECT NO. AND NAME _____

LOCATION OF SAMPLE: _____

TEAM LEADER: _____ TELEPHONE: ( ) _____

COMPANY NAME: _____

ADDRESS: _____

WITNESS: _____ COMPANY NAME: _____

FIELD INFORMATION:

TYPES OF SAMPLES: LIQUID (LI) FISH (FI) SLUDGE (SL) SOIL (SO)
(MATRIX) WIPE (WI) SEDIMENT (SE) OTHER (SPECIFY) _____

FIELD NOTES: _____

TRANSPORTER: _____ AIRBILL/INVOICE: _____ DESTINATION: _____

SAMPLE TRANSFER (Original must be retained with sample at all times)

		RELINQUISHED BY	DATE/TIME	RECEIVED BY	DATE/TIME
1	NAME:				
	COMPANY:				
2	NAME:				
	COMPANY:				
3	NAME:				
	COMPANY:				

TERMINATION OF CHAIN-OF-CUSTODY:

AUTHORIZED BY: _____ DATE: _____ TIME: _____

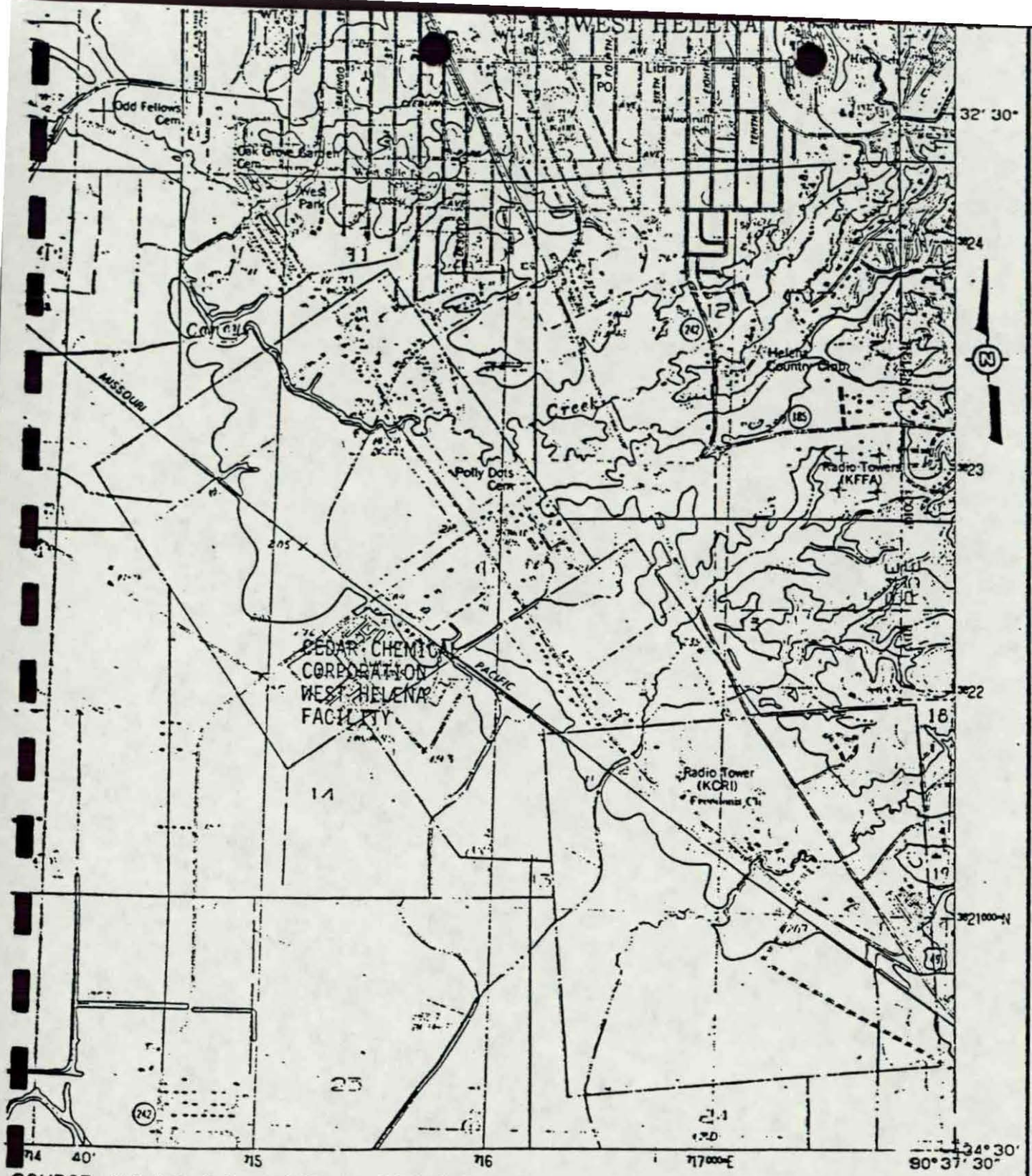
COMPANY NAME: _____

SAMPLE DISPOSTION: STORAGE _____ DISPOSAL _____ OTHER _____

FIGURES

FIGURE 1

SITE LOCATION



SOURCE: U.S.G.S. 7.5 MINUTE QUADRANGLE MAP, WEST HELENA, ARKANSAS

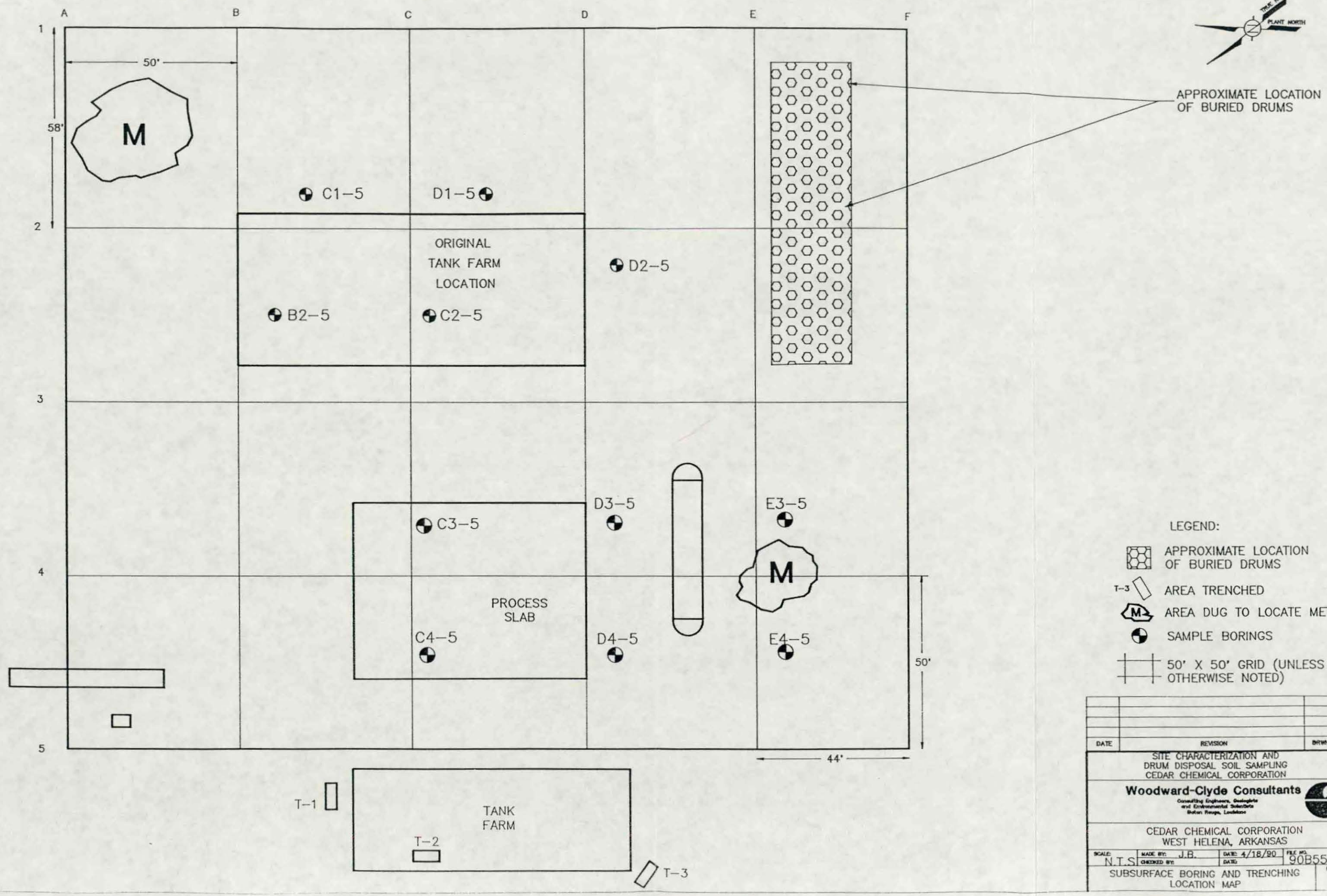
CEDAR CHEMICAL COMPANY WEST HELENA, ARKANSAS	**Woodward-Clyde Consultants** Consulting Engineers, Geologists and Environmental Scientists Baton Rouge, Louisiana	SITE LOCATION	FILE NO. 90B550C
	SCALE: 1:24000 / DRAWN BY: J.B. / DATE: 4/18/90 / CHKD. BY: FAP / DATE:		FIG. NO. 1

FIGURE 2

SITE MAP

FIGURE 3

BORING LOCATIONS


A
B
C
D
E
F
1
2
3
4
5
50'
58'
M
C1-5
D1-5
ORIGINAL
TANK FARM
LOCATION
D2-5
B2-5
C2-5
C3-5
D3-5
E3-5
M
PROCESS
SLAB
C4-5
D4-5
E4-5
50'
44'
T-1
TANK
FARM
T-2
T-3
TRUE NORTH
PLANT NORTH
APPROXIMATE LOCATION
OF BURIED DRUMS
LEGEND:
APPROXIMATE LOCATION
OF BURIED DRUMS
T-3
AREA TRENCHED
M
AREA DUG TO LOCATE METAL
SAMPLE BORINGS
50' X 50' GRID (UNLESS
OTHERWISE NOTED)
DATE
REVISION
DRWN/CHKD
SITE CHARACTERIZATION AND
DRUM DISPOSAL SOIL SAMPLING
CEDAR CHEMICAL CORPORATION
Woodward-Clyde Consultants
Consulting Engineers, Geologists
and Environmental Scientists
Baton Rouge, Louisiana
CEDAR CHEMICAL CORPORATION
WEST HELENA, ARKANSAS
SCALE: N.T.S
MADE BY: J.B.
CHECKED BY:
DATE: 4/18/90
DATE:
FILE NO. 90B550C
SUBSURFACE BORING AND TRENCHING
LOCATION MAP
FIGURE
3