December 10, 1984

Mr. Rick Statter
Kerr-McGee Chemical Company
P.O. Box 55
Henderson, Nevada 89015

Dear Mr. Statter:

On November 29, 1984, a hazardous waste investigation was conducted at your facility by the Nevada Division of Environmental Protection. The information was gathered in accordance with Section 444.764 of the Nevada Revised Statutes (NRS), and a copy of the investigation report is enclosed for your information.

If you have any questions concerning this matter, please contact me at (702) 885-4670.

Sincerely,

Alene Coulson
Environmental Management Specialist
Waste Management Section

de
Enclosure

cc: Gary Lance, U.S. EPA, Region IX

KERR-McGEE CHEMICAL CORPORATION
POST OFFICE BOX 55 • HENDERSON, NEVADA 89015

RECEIVED
NOV - 8 1984
ENVIRONMENTAL PROTECTION

November 7, 1984

Ms. Alene Coulson
Environmental Specialist
Waste Management Section
Division of Environmental Protection
Nevada Department of Conservation
and Natural Resources
Capitol Complex
Carson City, Nevada 89710

Dear Ms. Coulson:

This letter is to confirm a telephone conversation on November 5, 1984 between Mr. Doug Martin, NDEP, and Mr. R. Stater, Kerr-McGee Chemical Corporation, regarding the November 29, 1984 hazardous waste inspection scheduled for the Henderson facility of Kerr-McGee Chemical Corporation. As Mr. Stater mentioned on the telephone, there are no known conflicts at this time with the date selected.

The person representing the Kerr-McGee Chemical Corporation facility will be Mr. R. Stater, P. O. Box 55, Henderson, Nevada, 89015, telephone 702/565-8901.

Very truly yours,

R. B. Chase, Jr.
Plant Manager

RBC/js

November 1, 1984

Mr. Rick Statter
Kerr-McGee Chemical Corporation
P.O. Box 55
Henderson, Nevada 89015

Dear Mr. Statter:

The Nevada Division of Environmental Protection (NDEP) has assumed responsibility from the U.S. Environmental Protection Agency (U.S. EPA) for enforcing the hazardous waste program as authorized in the Resource Conservation and Recovery Act of 1976 (RCRA), Section 3006.

The U.S. EPA provided NDEP with information which indicates that your facility is a treatment, storage, or disposal facility for hazardous waste. A hazardous waste investigation of your facility is scheduled for November 29, 1984, at 9:00 a.m.

Within fifteen (15) days of receipt of this letter, please provide NDEP, Waste Management Section, with the name, address, and telephone number of the individual who will be representing your facility during the investigation.

If you have any questions concerning this letter, please contact me at (702) 885-4670.

Sincerely,

Alene Coulson
Environmental Management
Specialist
Waste Management Section

de

October 9, 1984

CERTIFIED MAIL #P22-1673131
RETURN RECEIPT REQUESTED

Rolfe B. Chase, Jr.
Plant Manager
Kerr-McGee Chemical Corporation
P.O. Box 55
Henderson, Nevada 89015

Dear Mr. Chase:

The Division has reviewed your submittal of June 13, 1984, which comprised the revision to the closure/post-closure plan for the hazardous waste landfill at the Henderson facility. The plan has been determined to be deficient with respect to the following items:

(1) No description of the groundwater monitoring plan was included in the closure or post-closure plan;

(2) No description of the types of analyses required during closure, i.e., from the date that final wastes were received until closure is certified by the professional engineer was provided;

(3) No description of the maintenance program to ensure that the groundwater monitoring system remains functional during the post-closure care period was provided; and

(4) No estimate of the number of inspections to be performed by the professional engineer for certification of closure was provided.

It should also be noted that the native soil from beneath Pond S-1 used for the upper fill is considered a hazardous waste, as chromium values ranged from 7.7 to 14.4 mg/kg. As was indicated in the Division's letter to Kerr-McGee of August 17, 1984, chromium values of 5 ppm or greater are an indication of a hazardous waste.

The Division hereby requests that Kerr-McGee respond to the aforementioned deficiencies on or before October 26, 1984, and submit the response in such a way as to be incorporated in the closure plan for the hazardous waste landfill.

Should you have any questions regarding this matter, please contact me.

Sincerely,

Thomas J. Fronapfel, P.E.
Environmental Engineer
Waste Management Section

de

cc: Gary Lance, U.S. EPA
Region IX (T-2-1)

P22 1673131

RECEIPT FOR CERTIFIED MAIL

NO INSURANCE COVERAGE PROVIDED—
NOT FOR INTERNATIONAL MAIL
(See Reverse)

SENT TO Rolfe B. Chase, Jr.
Plant Mngr.
STREET AND NO.
Kerr-McGee Chem. Corp.
P.O., STATE AND ZIP CODE
P.O. Box 55, Henderson, NV.

POSTAGE	89015	$
CERTIFIED FEE		¢
SPECIAL DELIVERY		¢
RESTRICTED DELIVERY		¢
RETURN RECEIPT SERVICE — SHOW TO WHOM AND DATE DELIVERED		¢
RETURN RECEIPT SERVICE — SHOW TO WHOM, DATE, AND ADDRESS OF DELIVERY		¢
RETURN RECEIPT SERVICE — SHOW TO WHOM AND DATE DELIVERED WITH RESTRICTED DELIVERY		¢
RETURN RECEIPT SERVICE — SHOW TO WHOM, DATE AND ADDRESS OF DELIVERY WITH RESTRICTED DELIVERY		¢
TOTAL POSTAGE AND FEES		$

CONSULT POSTMASTER FOR FEES
OPTIONAL SERVICES

POSTMARK OR DATE
10-09-84
TJF/de

PS Form 3800, Apr. 1976

EPA ID: NVD008127033 9

HANDLER NAME: Kerr-McGee Chemical Corporation

ADDRESS: P.O. Box 55 · Henderson, NV 89015

4. Handler Type: [X] Major [ ] Non-Major

DATE OF INITIAL EVALUATION WHICH IS THE BASIS FOR THIS REPORT: 10/9/84

5a. AGENCY RESPONSIBLE FOR EVALUATION: Put code in box [ ] Choose one

E = EPA; S = State; J = Joint; C = Contractor/EPA; O = Other; B = Contractor/State; X = Oversight

TYPE OF EVALUATION COVERED BY THIS REPORT: Put code in box [3] Choose one

1 = Evaluation Inspection
2 = Sampling Inspection
3 = Record Review
4 = Ground Water Monitoring Evaluation
5 = Follow Up
6 = Other - Citizen Complaint
7 = Other - Part B Call-In
8 = Other - Withdrawal Candidate
9 = Other - Closed Facility
10 = Other - General

DATE OF EVALUATION COVERED BY THIS REPORT (enter only if different from 5): 3/5/85

AREA AND CLASS OF VIOLATION (enter 'X' in appropriate box if violations found. Enter '0' if no violations found in Area violated.)

Class of Violation	Area of Violation: GWM	CL/PC	Fin.Res	Pt. B	Cmpl.Sch	Manifest	Other
I	0	0	0	0	0	0	0
II	0	0	0	0	0	0	0

ENFORCEMENT ACTIONS:

Class	Area of Violation	Type (use code)	Date Action Taken	Compliance Dates: Scheduled	Compliance Dates: Actual	Penalty: Assessed	Penalty: Collected	Resp.Ag. (use code)
								S

Codes for Types of Enforcement Actions: 03 = Warning Letter; 05 = Administrative Order; 10 = Informal; 11 = Filed Civil Action; 12 = Filed Criminal Action
(See instruction for additional codes)
Codes for Responsible Agency: E = EPA S = State X = EPA oversight

Comments: Record Review of Closure Plans- Determined to be adequate.

(Limit each comment to 80 characters. Up to 99 comments are possible.)

KERR-McGEE CHEMICAL CORPORATION
POST OFFICE BOX 55 • HENDERSON, NEVADA 89015

RECEIVED
OCT 9 - 1984
ENVIRONMENTAL PROTECTION

October 4, 1984

Certified Mail No. P 331 934 012

Mr. H. LaVerne Rosse
State of Nevada
Division of Environmental Protection
Capitol Complex
201 South Fall Street
Carson City, NV 89710

Re: RCRA Groundwater Monitoring

Dear Mr. Rosse:

Kerr-McGee Chemical Corporation's Henderson facility conducted semi-annual RCRA groundwater monitoring as required in 40 CFR 265.92(d)(1) in June, 1984. Analytical results were compared with baseline values as required under 40 CFR 265.93(c).

Statistically significant increases were observed for the following parameters in the indicated wells:

Surface Impoundments

M-1 (upgradient) - specific conductivity
M-2 - pH
M-9 - specific conductivity and TOC

Landfill

M-5 (upgradient) - pH
M-7 - pH
H-28 - pH

Additional groundwater samples were collected and analyzed as required under 40 CFR 265.93(c)(2). Statistical comparison performed on these analytical results indicated the following increases:

Surface Impoundments

M-1 (upgradient) - specific conductivity
M-2 - pH
M-9 - specific conductivity

Landfill

M-5 (upgradient) - pH
H-28 - pH

Analytical results, statisticals comparisons, resample results, and water levels are attached.

The surface impoundment downgradient well M-9 analyses indicated a statistically significant increase in specific conductivity when compared to the upgradient well M-1. It has been demonstrated that the specific conductivity of groundwater in this area varies considerably. Furthermore, the baseline values for well M-9 range from 15,000 to 40,000 µmhos. The values for M-9 for this sample period fall within its baseline range. The pH for downgradient well M-2 indicates a statistically significant increase when compared to well M-1. However, the pH value for M-2, taken at the site, would indicate no significant increase was present. Well M-9 TOC analysis showed a statistically significant increase, compared to well M-1, on initial sampling. However, on resampling the value was within statistical limits. The landfill downgradient well H-28 analyses indicate statistically significant increase in pH when compared to the upgradient well M-5 analyses. The initial pH value of 7.36 is within the 7.0 to 7.5 pH range of the H-28 baseline values. No other parameters indicate a statistically significant increase. As noted in the analytical table attached, there is no chromium present which is the element of concern, since that is the item most representative of the waste contained in the landfill. As mentioned in the previous semi-annual monitoring report, the water levels have continued to drop, which is most likely the result of the Stauffer groundwater cleanup program in the area. Well M-6 was indeed found to be dry at the time of sampling.

Based on the above, it appears that the regulated units have not affected groundwater quality. KMCC will continue with RCRA groundwater monitoring, as specified in 40 CFR 265.92(d).

If there are any questions, please contact me or R. Stater at 565-8901.

Sincerely,

KERR-McGEE CHEMICAL CORPORATION

R. B. Chase, Jr.
Plant Manager

RBC:jc

cc: Bill Wilson, US EPA, Region IX
Certified Mail No. P 331 934 011

KERR-McGEE CHEMICAL CORPORATION

HENDERSON FACILITY

GROUNDWATER QUALITY PARAMETERS*

		Replicates				Mean	t Value
Surface Impoundments							
M-1 Up	pH	7.34	7.21	7.26	7.48	7.32	0.896
	SpCd	16,400	16,400	16,400	16,400	16,400	22.825
	TOC	9.3	4.9	10.5	10.7	8.9	0.650
	TOH	5.27	5.50	5.00	5.20	5.24	3.626
M-2	pH	7.58	7.72	7.68	7.72	7.68	3.113
	SpCd	10,340	10,320	10,290	10,290	10,310	7.423
	TOC	3.35	2.78	2.78	2.76	2.92	2.029
	TOH	2.24	2.50	2.30	2.00	2.26	3.651
M-8	pH	7.42	7.56	7.48	7.49	7.49	1.940
	SpCd	7,850	7,830	7,820	7,800	7,825	19.765
	TOC	12.2	13.7	13.9	7.7	11.9	0.043
	TOH	0.51	0.44	0.55	0.40	0.47	3.666
M-9	pH	7.33	7.35	7.49	7.36	7.38	1.279
	SpCd	24,500	24,500	24,500	24,400	24,500	62.839
	TOC	20.7	24.8	25.4	21.5	23.1	2.621
	TOH	2.97	3.10	2.80	3.20	3.02	3.646
Background M-1							
	pH	Values result of 16				7.20	-
	SpCd	replicates (4 per quarter)				11,805	-
	TOC	Truesdail Lab				11.7	-
	TOH					436	-
Landfill							
M-5 Up	pH	7.23	7.26	7.36	7.19	7.26	5.331
	SpCd	10,460	10,450	10,420	10,420	10,440	0.302
	TOC	107.3	103.7	105.1	104.9	105.3	1.984
	TOH	45.20	44.30	45.90	45.10	45.13	0.332
M-7	pH	6.76	7.05	6.83	6.77	6.85	2.938
	SPCd	9,570	9,550	9,540	9,530	9,550	8.912
	TOC	40.1	36.1	40.2	39.9	39.1	1.074
	TOH	9.59	9.35	9.40	10.00	9.59	4.919
H-28	pH	7.33	7.28	7.48	7.34	7.36	5.885
	SpCd	8,210	8,190	8,190	8,170	8,190	22.045
	TOC	21.8	21.8	22.3	22.6	22.1	1.857
	TOH	12.01	11.50	12.00	11.80	11.83	3.646
M-6		DRY WELL					
Background M-5							
	pH					6.34	
	SpCd					10,469	
	TOC					62.3	
	TOH					47.7	

Units - pH, units; SpCd μmhos, TOC and TOH, mg/l

Sample dates: June 26, 27, 28, 1984

JUL 18 1984

WATER ANALYSIS LABORATORY
DESERT RESEARCH INSTITUTE

REPORT DATE: 12-JUL-84
FILE NAME: 8506KM.TBL

LAB # / DATE	SAMPLE POINT	CL MG/L	NA MG/L	SO4 MG/L	FE MG/L	MN MG/L	CR MG/L	PHEN MG/L
8506 26-JUN-84	M-1	2130	1430	1200	.02	.19	17	.006
8507 26-JUN-84	M-8	1010	744	1010	.03	.02	6.4	<.003
8522 27-JUN-84	M-2	1680	2030	819	<.01	.08	3.9	<.003
8523 27-JUN-84	M-5	2470	1240	2190	22	1.1	.04	.624
8524 27-JUN-84	M-7	1960	1380	2360	128	2.9	<.02	.135
8525 27-JUN-84	M-9	4070	4730	1710	<.01	.1	34	<.003
8526 28-JUN-84	H-28	1880	1060	1540	3.0	1.7	<.02	.030

KERR-McGEE CHEMICAL CORPORATION

HENDERSON FACILITY

GROUNDWATER QUALITY PARAMETERS

(RESAMPLE DATA)

Surface Impoundments

		Replicates				Mean	t value
M-1 (up)	SpCd	17,200	17,200	17,300	17,200	17,200	26.88
M-2	pH	7.71	7.76	7.80	7.80	7.77	3.702
M-9	SpCd	25,400	25,200	25,300	25,400	25,300	66.774
	TOC	12.9	10.5	10.2	13.4	11.75	0.140
Landfill							
M-5 (up)	pH	7.13	7.25	7.49	7.41	7.32	5.517
M-7	pH	6.17	6.09	6.19	6.16	6.15	1.085
H-28	pH	7.61	7.55	7.73	7.75	7.66	7.622

Units - pH, units; SpCd, µmhos; TOC, mg/l

Sample dates: August 20 and 24, 1984

KERR-McGEE CHEMICAL CORPORATION

HENDERSON FACILITY

WATER LEVELS - RCRA WELLS

	6/84	12/83
Surface Impoundments		
M-1 (upgradient)	1,748.11	1,749.43
M-2	1,743.74	1,744.96
M-8	1,744.20	1,745.17
M-9	1,742.99	1,744.12
Landfill		
M-5 (upgradient)	1,714.08	1,715.04
M-6	1,693.69 (dry)	1,696.00
M-7	1,699.35	1,700.50
H-28	1,694.33	1,696.50

KERR-McGEE CHEMICAL CORPORATION
POST OFFICE BOX 55 • HENDERSON, NEVADA 89015

RECEIVED
OCT 1 - 1984
ENVIRONMENTAL PROTECTION

September 26, 1984

Thomas J. Fronapfel, P.E.
Environmental Engineer
Waste Management Section
Division of Environmental Protection
Nevada Department of Conservation
and Natural Resources
Capitol Complex
Carson City, NV 89710

Subject: Kerr-McGee Chemical Corporation
Henderson, Nevada Facility
ID #NVD-008290330
August 17, 1984, Response on Impoundment
Closure/Post-Closure Plan

Dear Mr. Fronapfel:

Thank you for your letter of August 17, 1984, and for granting an extension to October 1 for our reply. Your comments in this letter were very constructive, and we are following your recommendations in modifying the closure plan for S-1 and P-1 impoundments.

Closure Plan

It was very helpful to receive NDEP's definition of "how clean is clean" and learn this procedure is applicable for the closure of KMCC surface impoundments S-1 and P-1. Compliance with this procedure will make it unnecessary to take background measurements or make statistical comparisons with affected areas.

We enclose a revised closure plan for S-1 and P-1 to replace the one originally submitted to NDEP on April 9, 1984. KMCC has performed additional sampling and analysis for chromium in soils from potentially affected areas and has reanalyzed the samples previously collected from those areas. Analysis for chromium was performed by the laboratory at Desert Research Institute. Procedures used are specified in 40CFR 261.24. Levels of chromium detected were below the 5 mg/l standard. Therefore, KMCC concludes that the cleanup of S-1 has been completed in compliance with NDEP standards.

We are also glad to know the portion of the closure plan which covers the P-1 impoundment appears adequate to the NDEP. We also will follow the foregoing procedures for sampling and analyzing soil beneath P-1 for chromium and will remove and dispose of offsite any contaminated material containing 5 mg/l total chromium or above, as determined in accordance with 40CFR 261.24 specifications.

We believe the above comments and the attached changes in the impoundment closure plan respond to comments (1), (2), (3), and (5) on pages 1 and 2 of your letter and items (1) and (2) on page 2.

Our revised closure plan also addresses the potential sources of contamination. As discussed later in this letter, KMCC believes chromium contamination is the result of losses from processes and not from the impoundments.

Chromium Contamination

You suggested in item (4), page 1, of your letter that KMCC give some thought to routes it might take to address the issue of chromium contamination at the Henderson facility. We appreciate your concern, and in reply we have briefly summarized the present program and progress and our general plans for further work as follows:

- NDEP is aware of the Desert Research Institute (DRI) studies several years ago identifying chromium contamination in groundwater in the Muddy Creek formation. The Muddy Creek formation lies generally north-northwest at depths up to 40 feet or greater beneath the KMCC Henderson facility.

- Kerr-McGee installed monitoring wells around its HW surface impoundments and landfill in compliance with RCRA requirements. These wells penetrated down into the Muddy Creek, and groundwater samples indicated chromium contamination of the aquifer.

- In March, 1983, ERTEC, Rocky Mountain, Inc., a groundwater consultant retained by US EPA, conducted a site review of KMCC's groundwater-monitoring program at Henderson.

- On December 5, 1983, representatives of KMCC met with NDEP's Mr. LaVerne Rosse and his staff in Carson City,

Nevada, and discussed our ongoing groundwater-monitoring program. This program was summarized in a letter to Mr. Rosse dated December 7, 1983 (Certified #P331934035) with attached maps showing locations of the existing monitor wells. At the meeting, both NDEP and KMCC agreed that groundwater-monitoring data did not indicate any hazardous waste constituents had migrated from the surface impoundments to the groundwater. The source of chromium was identified as seepage of process water from the basements of process cell house Units 4 and 5 considerably south and upgradient from impoundments S-1 and P-1.

- On December 5 and confirmed by the letter of December 7, 1983, KMCC agreed to report appropriate groundwater-monitoring data to NDEP after the first series of annual sampling was completed in December, 1983.

- By letter dated February 1, 1984, KMCC reported results of its groundwater-assessment program which included installation of 15 monitoring wells in addition to the RCRA monitoring wells. These results confirmed that the chromium contamination was from process Units 4 and 5 rather than the surface impoundments. A map showing the well locations and analytical results was included in the report to NDEP.

- Sodium dichromate, used as a corrosion inhibitor and pH buffer in the electrolytic cells, is the source chemical for this chromium contamination.

- In March, 1984, KMCC reduced seepage from the basements of Units 4 and 5 by (1) more intensive pumping of cell liquors back to the process and (2) sealing the existing concrete walls and bottom with a polymeric compound. Submersible pumps were ordered to recover contaminated water from two wells directly north of these basements for return to the process.

- KMCC also began recovery pumping from other groundwater-monitoring wells.

- KMCC agreed to further expand its monitoring program with additional wells and to periodically report analytical results to the NDEP.

- On February 23, 1984, Mr. Allen Biazzi, NDEP, met with representatives of KMCC in Henderson on pumping from

monitor wells. KMCC identified the locations of monitor wells inserted into the Muddy Creek formation north of the Beta (surface) drainage ditch and provided well logs, construction details, and analytical data to Mr. Biazzi.

- On March 16, 1984, KMCC confirmed by letter to Mr. Biazzi the joint discussions of February 23 and provided drawings and specifications, including all logs and details of groundwater monitoring well construction. It was agreed in this letter to confine cleanup operations to the area south of the Beta ditch. Further, each month, KMCC would measure water level in each well and analyze samples for chromium. At appropriate intervals, the results would be reported to NDEP.
- KMCC has continued its groundwater-monitoring-assessment program by routine sampling and analysis, together with installing more wells for a total of 26.

Future Program

We plan to submit a summary report to the State of this work by November 30, 1984. This report will also address our ongoing plans for monitoring and recovery wells as well as technical study of potential methods to treat and/or remove chromium from affected groundwater.

We request the opportunity to meet with you and your associates to discuss all these matters at a mutually convenient time in the near future. We suggest meeting in Henderson to allow you the opportunity to observe our onsite activities and discuss possible alternative programs.

If you are agreeable, please call me or R. Stater at 565-8901 to arrange the meeting.

Sincerely,

KERR-McGEE CHEMICAL CORPORATION

R. B. Chase, Jr.
Plant Manager

RBC:jc
Attachment

cc: EPA, Region IX

KERR-McGEE CHEMICAL CORPORATION

HENDERSON, NEVADA FACILITY

HAZARDOUS WASTE CLOSURE/POST-CLOSURE PLAN

Revision 1 - September 28, 1984

I. Background

A revised Part A "Application for a Hazardous Waste Permit" for Kerr-McGee Chemical Corporation's (KMCC) Henderson, Nevada facility was submitted on July 14, 1982, to the U. S. Environmental Protection Agency (EPA), Region IX, with a copy to the Nevada Division of Environmental Protection (NDEP).

This application identified three hazardous wastes generated at the facility, together with the TSD Hazardous Waste Management facilities. These were reported as follows:

1. Liquid waste containing chromium from manufacturing potassium perchlorate which was stored in two lined surface impoundments, designated P-1 and S-1.

2. Filter cake mud containing chromium from the sodium chlorate production process which was disposed of in a hazardous waste landfill located onsite.

3. Waste solvents stored in one 55-gallon steel drum.

In September of 1982, KMCC permanently terminated potassium perchlorate production. As described below in the closure plans for ponds S-1 and P-1, the potassium perchlorate operation was completely cleaned and the equipment transferred to other uses. All hazardous materials, including the liner, were removed from pond S-1 and placed in the onsite hazardous waste landfill prior to January 25, 1983. Neither the landfill nor pond P-1 received hazardous waste after January 25, 1983. - now 7/26/82

At this time, KMCC desires to close the two surface impoundments and the hazardous waste landfill under interim status standards. The generator identification number will be retained to allow offsite shipment of hazardous waste to permitted disposal facilities. The closure/post-closure plans for the two surface

impoundments are described below. The closure/post-closure plan for the landfill was submitted on June 13, 1984.

As a result of its review of the KMCC Plan dated April 5, 1984, NDEP advised KMCC by letter dated August 17, 1984, of certain deficiencies in the Plan and requested KMCC to make appropriate revisions to the closure portions.

This revision to the April 5 Plan addresses the concerns identified by the NDEP and, more accurately, reflects NDEP's closure requirements. The following revisions are made:

A. Procedures are described for cleaning up S-1, P-1, and all affected areas to a level below that specified for total chromium in 40 CFR, Part 261.24, which is 5 ppm.

B. KMCC will not establish background levels of chromium or use statistical comparisons, such as the students' t-test, to determine cleanup of contaminated areas.

C. Chromium in soil samples from the impoundments and affected areas will be analyzed by Desert Research Institute (DRI) in accordance with the procedures given in 40 CFR 261.

D. Procedures are given for verifying that all affected areas were properly cleaned.

E. A new section is added to the Plan that identifies the source of chromium contamination.

II. Closure/Post-Closure Plan for Surface Impoundment S-1

1. History

Pond S-1 was constructed in October of 1974. It was excavated in the native soil and the liner was installed by Hydraulic Materials, a company which specialized in installing liners for surface impoundments. The excavation was smoothed and the bottom was sealed with 20-mil PVC. The east berm was covered with 30-mil laminated-reinforced CPE, and the other three side berms were covered with 30-mil plain CPE. The sides were covered with CPE because of its greater resistance to sunlight. Pond S-1 had an approximate surface area of 47,500 ft.^{2} and an approximate total volume of 270,000 ft.^{3}. Cleanup and closure of S-1, described below, were completed before January 25, 1983.

single liner

2. Maximum Inventory

The maximum hazardous waste inventory that could have been stored in S-1, allowing 2' freeboard, was approximately 1,700,000 gallons. The liquid waste had a total chromium concentration above 5 ppm which made it hazardous by definition. Salts, such as potassium chloride, crystallized on the bottom and sides below the water level as the solution became saturated as the result of solar evaporation. These crystals contained less than 5 ppm chromium when subjected to the "EP Toxicity" test, as shown in the attached data regarding the solid phase of pond P-1. The chromium remained mostly in the liquid phase.

3. Removal of Contents from S-1

Soon after potassium perchlorate production was terminated in 1982, S-1 was removed from service. Some liquid was allowed to solar evaporate, but no additional equipment was used to increase evaporation. The remaining free liquid was transferred by pumps and heavy-duty hose lines to pond P-1. The dewatered solids (containing about 10 percent moisture) and the bottom and side liners were removed with a clamshell and paddle scraper. These bulk materials were handled as hazardous wastes and transported to the hazardous waste landfill onsite. Also, the two feet of soil under the liner, as well as any contaminated soil resulting from closure, was removed and placed in the landfill.

By letter dated August 17, 1984, the NDEP notified KMCC that for closure of a surface impoundment all areas affected by S-1 and P-1 must be cleaned to a level below that specified for chromium in 40 CFR 261.24, which is 5 ppm. Kerr-McGee has complied with this criteria in cleaning up S-1 and/or cleaning P-1 to the same level.

In the fall of 1982, KMCC cleaned pond S-1 by removing residual solids together with the bottom and side liners using a clamshell and paddle scraper. All these materials were buried in the hazardous waste landfill onsite before January 25, 1983. Two feet of soil from beneath the liner were also removed and placed in the landfill prior to January 25, 1983.

After the above work was completed, KMCC verified that all hazardous waste constituents were removed from the S-1 pond area by the following sampling and analysis procedures:

A. Six soil corings to a depth of four feet were taken from the pond site at locations shown on the S-1 sketch map, Figure 1.

B. Three soil corings to a depth of three feet were taken from outlying areas away from the pond to identify any possible contamination.

C. A composite sample of each coring made up of equal portions of each foot was prepared for analysis.

D. Four additional samples were taken in August, 1984, at four locations from the cleaned bottom of pond S-1 and analyzed by the procedures given in 40 CFR 261.24 by DRI.

E. Samples of surface and core soil previously collected in March, 1984, were preserved by DRI and reanalyzed by proper procedures of 40 CFR 261.24.

Analytical results reported by DRI on the samples are given in Table I. These show that the chromium contamination in all the samples was less than 1/100 of the cleanup level of 5 ppm.

Therefore, KMCC concludes that cleanup has been completed to a level well below the criteria established by NDEP, and there is no contamination in the bottom of pond S-1 or affected areas.

There are no plans to fill the impoundment area. After certification of proper closure, it could be used for other purposes.

4. Decommissioning and Cleanup of Manufacturing Area

When production of potasssium perchlorate was terminated, all in-process product was finished and delivered to inventory for commercial sale. All process piping, pumps, and vessels were drained, and the liquors transferred to pond P-1. The entire operation (pipes, vessels, etc.) was flushed with copious amounts of water to remove the hazardous waste component (chromium) as well as any residual salt solution that might remain. All rinsate streams were pumped to pond P-1 for storage, evaporation, and recycle.

After decontamination, as described above, most of the equipment was put in service in other

areas of the plant. Unusable piping, tanks, etc., were sold as scrap. Complete cleaning was easily determined because any liquid residue crystallized on the equipment when the water evaporated. This was avoided by thorough flushing followed by inspection of the equipment after drying.

5. Decontamination of Cleanup Equipment

The clamshell, trucks, paddle scraper, transfer pipes, etc., used in the solids removal and clean-up operation were thoroughly flushed with fresh water. The rinsate was delivered to pond P-1.

6. Decontamination of Surrounding Area

Soil around pond S-1 that was contaminated during the cleanup was removed and placed in the hazardous waste landfill. This was monitored by visual and physical inspection. There is no runoff from S-1 since the tops of the berms are about one foot above ground level. In addition, there are no stormwater ditches or drainage systems which run into S-1 that could be contaminated. As discussed in No. 3, all hazardous waste constituents were removed from the pond site.

7. Pollutant Migration

Any migration of the applicable hazardous waste constituent chromium into the underlying soil would have been detected by the soil sampling and analyses described in No. 3. Also groundwater monitoring, described below, would indicate pollutant migration.

8. Groundwater Monitoring

Monitoring will be required under RCRA for the HW landfill

Closure/post-closure groundwater monitoring is not required for pond S-1 since all hazardous waste constituents have been removed. However, groundwater monitoring in the Henderson plant area is a separate program being conducted under Nevada State Groundwater Regulations. Monitoring in this program includes groundwater in the area of S-1. Data from this program demonstrate that no hazardous waste constituent (i.e., chromium) was traceable to S-1.

9. Closure/Cover Materials

As mentioned in No. 3 above, the pond S-1 site will not be filled, pending a decision to use

the area for other purposes. Cover is not required since all hazardous waste constituents have been removed.

10. Closure/Post-Closure Costs

Kerr-McGee has already expended funds in the amount of approximately $30,000 to close pond S-1. Final certification by a Professional Engineer for the two surface impoundments and landfill will cost $1,500.

11. Closure Schedule

As stated above, surface impoundment S-1 was closed prior to January 25, 1983. Sampling and analyses were conducted after the solids and liner had been removed. After approval of closure plans for pond P-1 and the landfill, all work will be completed within 180 days, and the work will be monitored by responsible K-M officials and a Registered PE. The NDEP will be properly notified and provided with a certified copy of the PE inspection report.

III. Closure/Post-Closure Plan for Surface Impoundment P-1

1. History

Pond P-1 was constructed in April of 1972 and relined in 1980. The new liner was installed by B. F. Goodrich and consisted of 30-mil Hypalon. Pond P-1 has an approximate surface area of 26,000 $ft.^2$ and approximate volume of 125,000 $ft.^3$. Pond P-1 has not received any hazardous waste since January 25, 1983.

2. Maximum Inventory

The maximum hazardous waste inventory that could have been stored in P-1, allowing 2' freeboard, is approximately 700,000 gallons. The liquid waste had a total chromium concentration above 5 ppm which made it hazardous by definition. Salts, such as potassium chloride, have crystallized on the bottom and sides below the water level as the solution became saturated as the result of solar evaporation. These crystals contain less than 5 ppm chromium when subjected to the "EP Toxicity" test, as shown in the attached data.

3. Removal of Contents from P-1

As described in the S-1 closure plan, pond P-1 received some hazardous waste from the closure

of S-1 and the decommissioning of the potassium perchlorate manufacturing process. Pond P-1 has not received any hazardous waste since January 25, 1983.

As stated above, the liquid phase of the potassium perchlorate waste contained chromium in excess of 5 ppm. All liquid has been solar evaporated or recycled back to the process to take advantage of chromium's corrosion inhibition characteristics. The pump and line used for recycle were flushed with fresh water and the rinsate placed in pond P-1 and allowed to solar evaporate. No other equipment was used to aid or promote evaporation.

To confirm the remaining solids in pond P-1 were nonhazardous, the solids were sampled and analyzed by Desert Research Institute as specified below:

A. Solid samples were taken from the bottom of the pond at locations shown on the attached map to a depth of one foot.

B. These solids were subjected to the EP Toxicity Extractions and analyzed for the "EP Toxic" metals.

The attached analyses indicate the remaining Solids in pond P-1 are not hazardous. KMCC proposes to remove these solids and liner and place in the onsite nonhazardous waste landfill. After this has been completed, KMCC proposes to demonstrate that no hazardous constituents have migrated from the P-1 pond area as described below in Section 7, "Pollutant Migration."

4. Decommissioning of Manufacturing Area

Pond P-1 received wastes from the potassium perchlorate operation as did pond S-1. The decommissioning of the potassium perchlorate production area is described in detail in Section II.4., which is part of the pond S-1 closure plan.

5. Decontamination of Surrounding Area

Since the solids remaining in pond P-1 are not hazardous, special care in decontaminating the cleanup equipment will not be necessary.

6. Decontamination of Surrounding Area

Any surrounding soil affected by the removal of the nonhazardous solids in P-1 will be removed

and placed in the nonhazardous waste landfill. This will be monitored by visual and physical inspection. Again, it should be noted that the waste remaining in P-1 is not hazardous.

7. Pollutant Migration

Any pollutant migration of chromium, the applicable hazardous waste constituent from pond P-1, during its operational life, will be determined by the following sampling and analysis procedures:

A. After the remaining nonhazardous solids and liner are removed, six soil corings to a depth of four feet will be taken from the pond site area at locations shown in attached sketch P-1, Figure 2.

B. A composite sample of each foot of core will be made and analyzed for chromium by DRI following procedures in 40 CFR 261.24.

C. Surface samples to a depth of three to four inches will be taken near each core location and separately analyzed for chromium by the same procedures.

D. Evidence of chromium concentration of 5 ppm or above will constitute reason to remove soil from the area to a depth where the chromium concentration is less than 5 ppm. All excavated soil will be transported to Beatty, Nevada for disposal at the U. S. Ecology's landfill.

E. Surface samples and core samples to a depth of four feet will be collected from adjacent potentially affected areas and analyzed for chromium migration if chromium is detected below one foot depth in the P-1 bottom. Based on the experience with pond S-1, KMCC does not anticipate any migration of chromium from P-1.

Currently, there are no plans to fill the pond area. After certification of proper closure, it potentially could be relined and used for a nonhazardous waste impoundment.

8. Groundwater Monitoring

Closure/post-closure groundwater monitoring will not be required for pond P-1 since all hazardous waste constituents will be removed. However,

groundwater monitoring in the Henderson plant area is a separate program being conducted under Nevada State Groundwater Regulations. Monitoring in this program includes groundwater in the area of P-1. Data from this program demonstrate that no hazardous waste constituent (i.e., chromium) was traceable to P-1.

9. Closure/Cover Materials

As mentioned in No. 7 above, the pond P-1 site will not be filled, pending a decision to use the area for other purposes. Cover is not required since all hazardous waste constituents have been removed.

10. Closure/Post-Closure Costs

Kerr-McGee has already expended funds in the amount of approximately $5,000 to recycle liquid from pond P-1 and conduct sampling and analyses. Future closure costs are estimated below:

Removal/Disposal of Solids	-	$10,000
Sampling and Analyses	-	2,000
Administrative	-	2,500
PE Certification	-	500*
Total		$20,000

*Based on one-third total certification - $1,500

11. Closure Schedule

After approval of the closure plan, the schedule below will be followed:

Removal/Disposal of Solids - within 60 days
Sampling and Analyses - within 90 days
PE Certification - within 120 days

also want all analytical results for samples taken during closure process.

Closure will be monitored by responsible K-M officials and a Registered Professional Engineer. The NDEP will be properly notified and provided with a certified copy of the PE inspection report.

IV. Sources of Chromium Contamination

1. Impact of Surface Impoundments S-1 and P-1

Sampling and analysis of surface soil and corings beneath S-1 and in potentially affected areas showed no chromium migration had occurred. Cleanup of the areas of concern was completed to chromium concentration less than 1/100 of the 5 ppm upper

limit as specified in 40 CFR 261.24. This was done with minimum removal of soil from the bottom berm and adjacent areas.

The operational life of pond P-1 was essentially the same as S-1. There is no evidence of chromium contamination from P-1 unless analyses of soil from the bottom and affected areas indicate that chromium migration occurred.

2. Impact of Process Sources

KMCC has constructed 26 wells to monitor groundwater beneath its facility for chromium. The highest chromium levels were found in M-11 and M-12 that are just north and downgradient from the sodium chlorate process buildings, Units 4 and 5.

These buildings were constructed as part of the original World War II government installation. For many years, liquids from the electrolytic cells in these buildings were collected in the old concrete basements and pumped back through the process for reuse in the cells. These liquids contained sodium dichromate as a corrosion inhibitor and buffer. The concrete basements slowly deteriorated, allowing seepage and subsequent chromium contamination of the groundwater.

KMCC has done several things to prevent this seepage and reduce the groundwater contamination as follows:

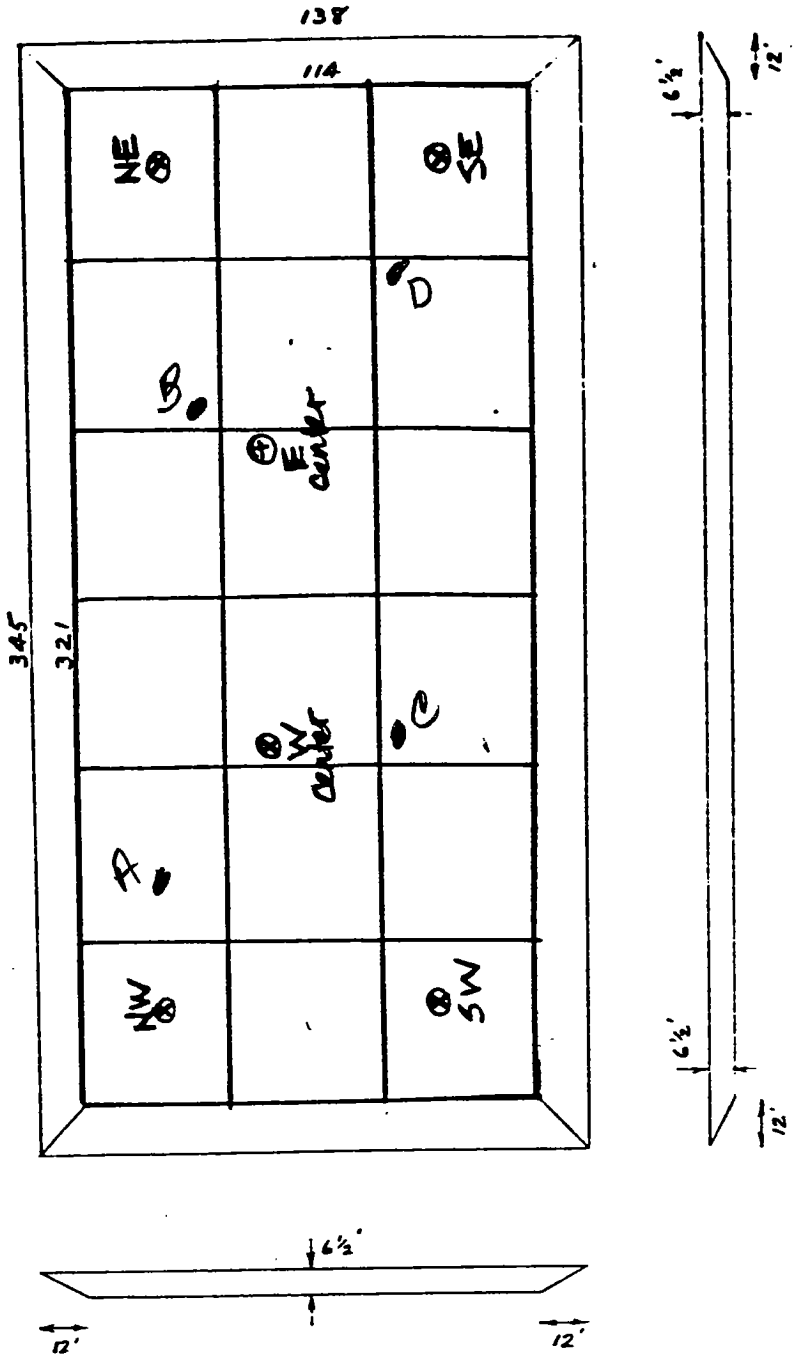
A. Installed two wells, M-11 and M-12, on the north side of Units 4 and 5, to pump contaminated water back to the process and recapture the chromium values.

B. Reduced seepage by minimizing the accumulation of liquid in the basements by regular pumping back to the process.

C. Sealing the floor and walls of the basements with a special plastic coating to further reduce seepage.

D. Committing to Clark County Health Department to replace all these cells (over 1,300 units) with new ones by August 1, 1988. The new cells will be of the most modern design and will eliminate leaks, spills, and other escape of cell liquors.

Evidence, therefore, is preponderant that the process units were the source of chromium contamination and the surface impoundments were not.



EVAPORATION POND S-1

Analyses Attached

Figure 1

Pond S-1

XIC GKS 9/24 GLH

SEP 24 1984

WATER ANALYSIS LABORATORY — REPORT DATE: 20-SEP-84
DESERT RESEARCH INSTITUTE — FILE NAME: 7714KM.TBL

LAB # / DATE	SAMPLE POINT	CR MG/L
7714 2-MAR-84	EP-TOX S1 NW CORNER	0.05
7715 2-MAR-84	EP-TOX S2 SW CORNER	<.02
7716 2-MAR-84	EP-TOX S3 W CENTER	<.02
7717 2-MAR-84	EP-TOX S4 E CENTER	0.11
7718 2-MAR-84	EP-TOX S5 NE CORNER	0.02
7719 2-MAR-84	EP-TOX S6 SE CORNER	<.02
7720 2-MAR-84	EP-TOX M1 BACKGROUND	<.02
7721 2-MAR-84	EP-TOX M21 BACKGROUND	<.02
7722 2-MAR-84	EP-TOX M4 BACKGROUND	<.02

Pond S-1

all levels <5ppm

Table I

SEP 17 1984

WATER ANALYSIS LABORATORY
DESERT RESEARCH INSTITUTE

REPORT DATE: 13-SEP-84
FILE NAME: 8701KM.TBL

LAB # / DATE	SAMPLE POINT	CR EPTOX
8701 24-AUG-84	A-1	.03
8702 24-AUG-84	A-2	<.02
8703 24-AUG-84	A-3	.02
8704 24-AUG-84	A-4	.02
8705 24-AUG-84	A-5	<.02
8706 24-AUG-84	A-6	<.02
8707 24-AUG-84	B-1	<.02
8708 24-AUG-84	B-2	<.02
8709 24-AUG-84	B-3	<.02
8710 24-AUG-84	B-4	<.02
8711 24-AUG-84	B-5	<.02
8712 24-AUG-84	B-6	<.02
8713 24-AUG-84	C-1	<.02
8714 24-AUG-84	C-2	<.02
8715 24-AUG-84	C-3	<.02

Pond S-1

All results <5ppm

RESULTS ON EP-TOX EXTRACTS REPORTED IN MG/L.

Table I (continued)

WATER ANALYSIS LABORATORY
DESERT RESEARCH INSTITUTE

REPORT DATE: 13-SEP-84
FILE NAME: 8701KM.TBL

LAB # / DATE	SAMPLE POINT	CR EPTOX
8716 24-AUG-84	C-4	<.02
8717 24-AUG-84	C-5	<.02
8718 24-AUG-84	C-6	<.02
8719 24-AUG-84	D-1	.02
8720 24-AUG-84	D-2	<.02
8721 24-AUG-84	D-3	<.02
8722 24-AUG-84	D-4	<.02
8723 24-AUG-84	D-5	<.02
8724 24-AUG-84	D-6	<.02

pond S-1

all values < 5ppm

RESULTS ON EP-TOX EXTRACTS REPORTED IN MG/L.

WATER ANALYSIS LABORATORY
DESERT RESEARCH INSTITUTE

REPORT DATE: 21-MAR-84
FILE NAME: 7724KG.TBL

LAB # / DATE	SAMPLE POINT	AG MG/L	AS MG/L	BA MG/L	CD MG/L	CR MG/L	HG MG/L
7724 18-OCT-83	P-1, EP-EX SAMPLE-1	<0.1	<0.1	<0.5	<0.1	1.3	<.002
7725 18-OCT-83	P-1, EP-EX SAMPLE-2	<0.1	<0.1	<0.5	<0.1	<.2	<.002
7726 18-OCT-83	P-1, EP-EX SAMPLE-3	<0.1	<0.1	<0.5	<0.1	<.2	<.002
7727 18-OCT-83	P-1, EP-EX SAMPLE-4	<0.1	<0.1	<0.5	<0.1	0.8	<.002
7728 18-OCT-83	P-1, EP-EX SAMPLE-5	<0.1	<0.1	<0.5	0.1	0.7	<.002
7729 18-OCT-83	P-1, EP-EX SAMPLE-6	<0.1	<0.1	<0.5	<0.1	1.1	<.002

Values OK - results for solids remaining in Pond P-1

POND P-1 ANALYSIS

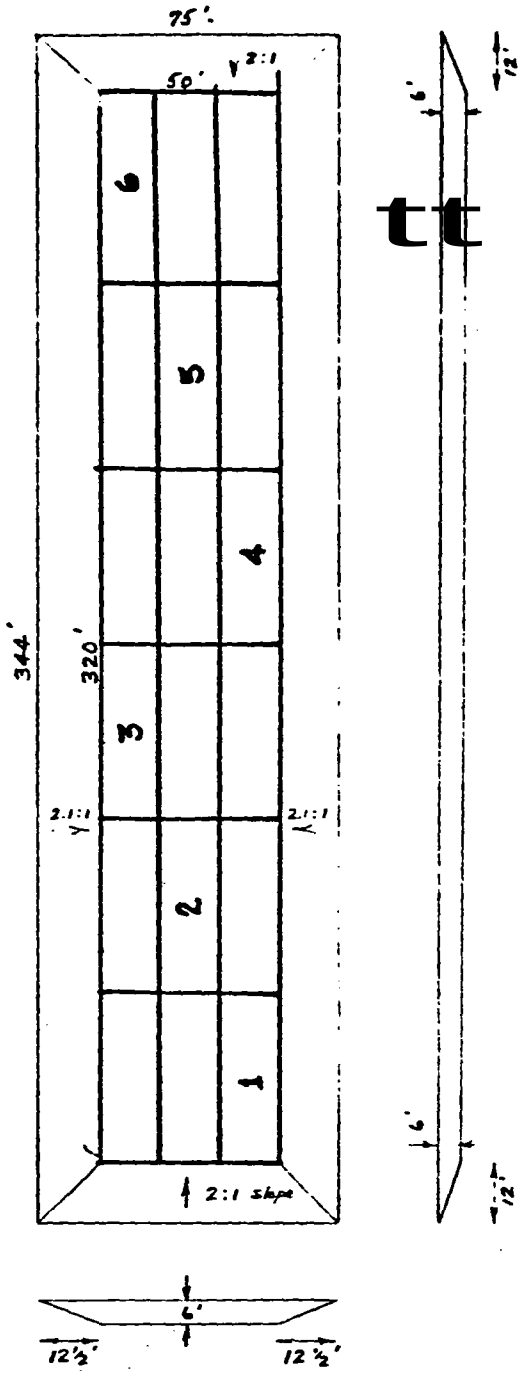
WATER ANALYSIS LABORATORY
DESERT RESEARCH INSTITUTE

REPORT DATE: 21 MAR 84
FILE NAME: 7724G.TBL

LPBP3

LAB #	B MG/L	SE MG/L
7724	<0.5	<0.1
7725	<0.5	<0.1
7726	<0.5	<0.1
7727	<0.5	<0.1
7728	<0.5	<0.1
7729	<0.5	<0.1

Pond P-1



Analyses Attached

POND P-1

Figure 2

9/26/84

Wendell:

Do you have any comments?

Verne

Joe review & prepare comments or questions which need ans. by 10/1 DM

KERR-McGEE CHEMICAL CORPORATION
POST OFFICE BOX 55 • HENDERSON, NEVADA 89015

RECEIVED
SEP 26 1984
ENVIRONMENTAL PROTECTION

September 24, 1984

Mr. H. LaVerne Rosse, P.E.
Program Director, Waste Management Section
Nevada Division of Environmental Protection
Capitol Complex
Carson City, NV 89710

Dear Mr. Rosse:

Earlier this year, KMCC discussed with your office the disposal of nonhazardous waste onsite at the Henderson facility. Ms. Brothers of KMCC indicated that there was no objection to such a plan by NDEP. This verbal approval has been questioned by KMCC corporate personnel. Therefore, I am requesting written approval by NDEP of this disposal plan.

The main waste that would be disposed of onsite at the Henderson facility is manganese tails from the manganese dioxide manufacturing process. In addition, there would be waste that could result from chemical spills onsite. This disposal would be after approval by NDEP. Concrete debris from demolition is normally transported offsite but could be disposed of in this area if needed. The location of this site is directly north of the plant cooling tower (see the attached sketch).

The manganese tails have been analyzed to insure they are nonhazardous in accordance with the "EP Toxicity" test. The attached printout from Desert Research Institute shows the results of this test.

If you have any questions regarding this request, please contact R. Stater at 565-8901.

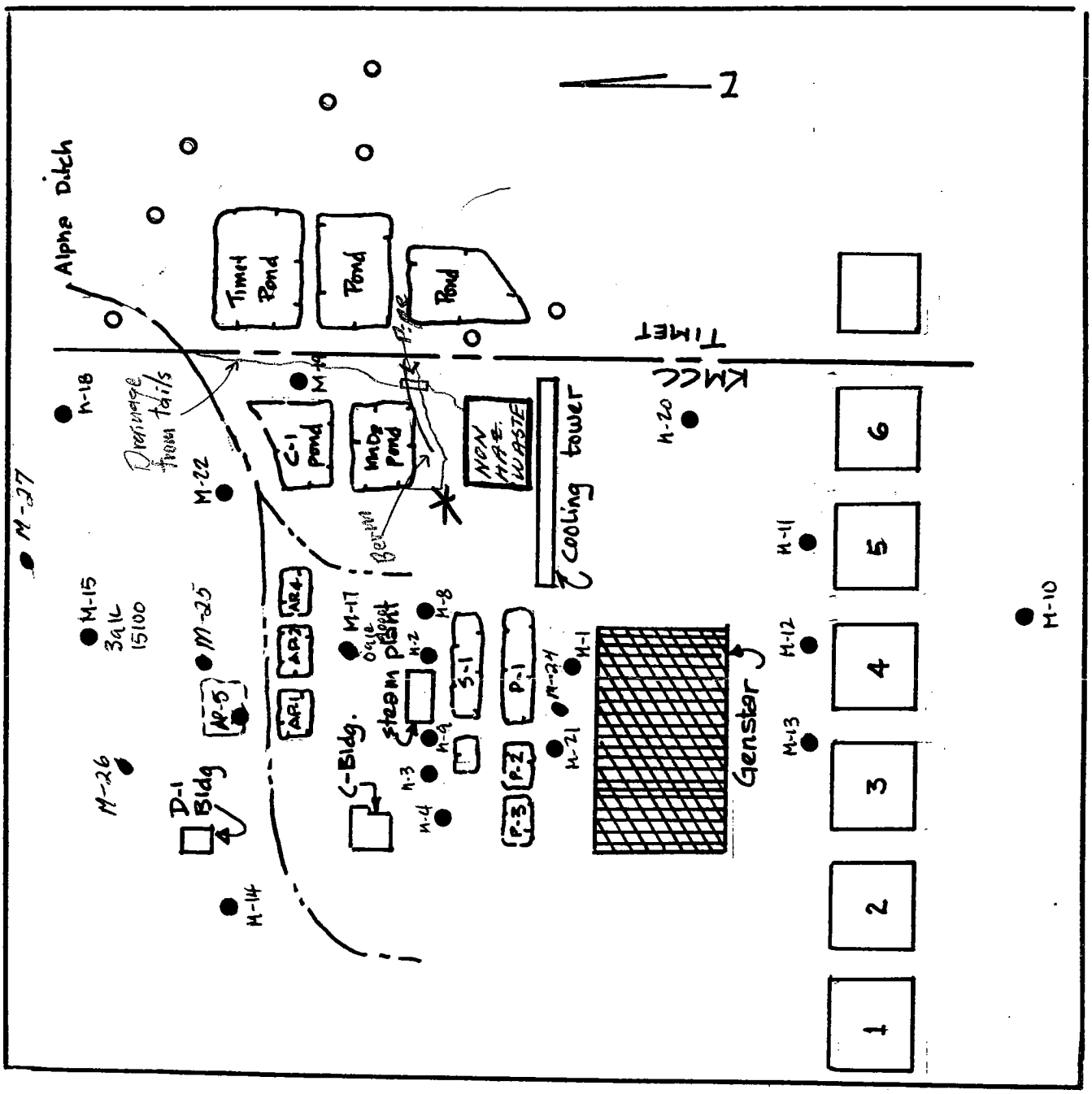
Sincerely,

RBBartholomew

R. B. Bartholomew
Manager - Operations

RBB:jc
Attachments

NON-HAZARDOUS WASTE DISPOSAL SITE.



WATER ANALYSIS LABORATORY
DESERT RESEARCH INSTITUTE

REPORT DATE: 21-MAR-84
FILE NAME: 7723KG.TBL

LAB # / DATE	SAMPLE POINT	AG MG/L	AS MG/L	BA MG/L	CD MG/L	CR MG/L	HG MG/L
7723 2-MAR-84	EP-EX TAILS	<0.1	<0.5	<0.5	<0.1	<0.02	<.002

WATER ANALYSIS LABORATORY
DESERT RESEARCH INSTITUTE

REPORT DATE: 21-MAR-84
FILE NAME: 7723KG.TBL

LAB #	PB	SE
	MG/L	MG/L
7723	<0.5	<0.1

1. Are manganese tails regulated by solid waste?
   Question of beneficiation of ores or minerals.

2. Protection of groundwater.

3. What is the water content of "Tails"

4. Inorganic analysis of leachate

September 10, 1984

CERTIFIED MAIL #P25-0874638
RETURN RECEIPT REQUESTED

Mr. Gary Lance
RCRA State Programs Section
Toxics & Waste Management Division
U.S. EPA, Region IX (T-2-1)
215 Fremont Street
San Francisco, California 94105

Dear Gary:

On August 27, 1984, the Division granted Kerr-McGee Chemical Corporation an extension to October 1, 1984, for submittal of their Closure/ Post-Closure Plan response to the Division's letter of August 17, 1984. The response was originally to be submitted on September 3, 1984.

The extension was granted for various reasons. Based on a telephone conversation with Rolfe Chase on August 24, 1984, it was determined that Kerr-McGee could not adequately respond to all of the issues by September 3, 1984. Rolfe indicated that it was their intention to provide us with a "proper" response which would specifically address the items in our letter of August 17, 1984. Kerr-McGee also indicated that the CERCLA issue would have to be discussed with the Oklahoma office, as no decision could be prepared solely by the Henderson facility. Kerr-McGee also felt that more time was needed to determine the various sources of contamination at the facility, whether from process upsets, spills, etc.

It is Kerr-McGee's intention to provide the Division with an adequate and complete response to the Division's August 17, 1984, letter. As such, the Division felt it appropriate to grant the extension.

Should you have any questions regarding this matter, please contact me.

Sincerely,

Thomas J. Fronapfel, P.E.
Environmental Engineer
Waste Management Section

de

PS Form 3811, Dec. 1980

● **SENDER:** Complete items 1, 2, 3, and 4.
Add your address in the "RETURN TO" space on reverse.

(CONSULT POSTMASTER FOR FEES)

1. The following service is requested (check one).
   - ☒ Show to whom and date delivered ..... ¢
   - ☐ Show to whom, date, and address of delivery ..... ¢
2. ☐ **RESTRICTED DELIVERY** ¢
   (The restricted delivery fee is charged in addition to the return receipt fee.)

TOTAL $

3. **ARTICLE ADDRESSED TO:**
Mr. Gary Lance
U.S. EPA, Region IX (T-2-1)
215 Fremont Street
San Francisco, CA. 94105

4. **TYPE OF SERVICE:**
☐ REGISTERED ☐ INSURED
☒ CERTIFIED ☐ COD
☐ EXPRESS MAIL

ARTICLE NUMBER
P25-0874638

(Always obtain signature of addressee or agent)

I have received the article described above.
SIGNATURE ☐ Addressee ☐ Authorized agent

5. **DATE OF DELIVERY** **POSTMARK**

6. **ADDRESSEE'S ADDRESS** *(Only if requested)*

7. **UNABLE TO DELIVER BECAUSE:** 7a. **EMPLOYEE'S INITIALS**

FRANCISCO GMF POSTAGE DUE SEC SEP 21 1984 USPS

RETURN RECEIPT, REGISTERED, INSURED AND CERTIFIED MAIL

P25 0874638

RECEIPT FOR CERTIFIED MAIL

NO INSURANCE COVERAGE PROVIDED—
NOT FOR INTERNATIONAL MAIL
(See Reverse)

SENT TO Mr. Gary Lance
U.S. EPA, Region IX
STREET AND NO. 215 Fremont St.
P.O., STATE AND ZIP CODE San Francisco, CA. 94105

POSTAGE		$
CONSULT POSTMASTER FOR FEES	CERTIFIED FEE	¢
OPTIONAL SERVICES	SPECIAL DELIVERY	¢
OPTIONAL SERVICES	RESTRICTED DELIVERY	¢
OPTIONAL SERVICES — RETURN RECEIPT SERVICE	SHOW TO WHOM AND DATE DELIVERED	¢
OPTIONAL SERVICES — RETURN RECEIPT SERVICE	SHOW TO WHOM, DATE, AND ADDRESS OF DELIVERY	¢
OPTIONAL SERVICES — RETURN RECEIPT SERVICE	SHOW TO WHOM AND DATE DELIVERED WITH RESTRICTED DELIVERY	¢
OPTIONAL SERVICES — RETURN RECEIPT SERVICE	SHOW TO WHOM, DATE AND ADDRESS OF DELIVERY WITH RESTRICTED DELIVERY	¢
TOTAL POSTAGE AND FEES		$
POSTMARK OR DATE		

09-18-84

TJF/de

PS Form 3800, Apr. 1976

August 27, 1984

Rolfe B. Chase, Jr.
Plant Manager
Kerr-McGee Chemical Corporation
P.O. Box 55
Henderson, Nevada 89015

Dear Mr. Chase:

Pursuant to our telephone conversation and your letter of August 24, 1984, the Division hereby grants an extension to the deadline for submittal of your response on the closure/post-closure plan comments. Your response is now to be submitted on or before October 1, 1984.

Should you have any questions concerning this matter, please contact me.

Sincerely,

Thomas J. Fronapfel

Thomas J. Fronapfel, P.E.
Environmental Engineer
Waste Management Section

TJF:kh

cc: Gary Lance

Certified Mail #1673796
Return Receipt Requested

UNITED STATES POSTAL SERVICE
OFFICIAL BUSINESS

LAS VEGAS NV 890 PM 30 AUG 1984

PENALTY FOR PRIVATE USE, $300

U.S. MAIL®

SENDER INSTRUCTIONS
Print your name, address, and ZIP Code in the space below.
- Complete items 1, 2, 3, and 4 on the reverse.
- Attach to front of article if space permits, otherwise affix to back of article.
- Endorse article "Return Receipt Requested" adjacent to number.

RECEIVED
SEP 4 - 1984
ENVIRONMENTAL PROTECTION

RETURN TO

Attn: Tom F.

ENVIRONMENTAL PROTECTION
(Name of Sender)
CAPITOL COMPLEX
201 SOUTH FALL STREET, ROOM 221
(Street or P.O. Box)
CARSON CITY, NEVADA 89710
(City, State, and ZIP Code)

P22 1673796

RECEIPT FOR CERTIFIED MAIL
NO INSURANCE COVERAGE PROVIDED—
NOT FOR INTERNATIONAL MAIL
(See Reverse)

SENT TO Rolfe B. Chase, Jr.	
STREET AND NO. Plant Manager/Kerr McGee Chemical Corp.	
P.O., STATE AND ZIP CODE P.O. Box 55 Henderson, NV 89015	
POSTAGE	¢
CONSULT POSTMASTER FOR FEES — CERTIFIED FEE	¢
OPTIONAL SERVICES — SPECIAL DELIVERY	¢
OPTIONAL SERVICES — RESTRICTED DELIVERY	¢
RETURN RECEIPT SERVICE — SHOW TO WHOM AND DATE DELIVERED	¢
RETURN RECEIPT SERVICE — SHOW TO WHOM, DATE, AND ADDRESS OF DELIVERY	¢
RETURN RECEIPT SERVICE — SHOW TO WHOM AND DATE DELIVERED WITH RESTRICTED DELIVERY	¢
RETURN RECEIPT SERVICE — SHOW TO WHOM, DATE AND ADDRESS OF DELIVERY WITH RESTRICTED DELIVERY	¢
TOTAL POSTAGE AND FEES	$
POSTMARK OR DATE	

PS Form 3800, Apr. 1976

KERR-McGEE CHEMICAL CORPORATION
POST OFFICE BOX 55 • HENDERSON, NEVADA 89015

RECEIVED
AUG 27 1984
ENVIRONMENTAL PROTECTION

August 24, 1984

Certified Mail No. P 331 933 996

Mr. Thomas J. Fronapfel, P.E.
Environmental Engineer
Waste Management Section
State of Nevada
Department of Conservation
and Natural Resources
Division of Environmental Protection
Capitol Complex
Carson City, NV 89710

Dear Mr. Fronapfel:

As discussed with you today, I would like to ask for additional time to respond to your August 17, 1984 letter which commented on our closure/post-closure plans for the S-1 and P-1 surface impoundments. The workload is such that we feel we cannot adequately respond until on or about October 1, 1984.

Would you please let me know if this revised date is satisfactory.

Sincerely,

R. B. Chase, Jr.
Plant Manager

RBC:jc

Response Mailed 9/7/84

August 17, 1984

CERTIFIED MAIL #P22-1673102
RETURN RECEIPT REQUESTED

Rolfe B. Chase, Jr.
Plant Manager
Kerr-McGee Chemical Corporation
P.O. Box 55
Henderson, Nevada 89015

Dear Mr. Chase:

The Division has reviewed your submittal of April 5, 1984, which contained the closure/post-closure plans for the S-1 and P-1 surface impoundments. Based on this review, the Division has several concerns and comments which must be satisfactorily addressed before the plans can be approved. These concerns were also discussed via telephone with Rick Stater on August 17, 1984. Our concerns are as follows:

(1) Background samples M-1, M-4, and M-21 are not appropriate for use in comparing samples taken from beneath pond S-1, as they do not represent background in an area which has been unaffected by the facility;

(2) The use of the Student's t-test for statistical comparison is a good approach. However, its main drawback is that the use of contaminated background samples can bias the results in such a way as to show no contamination has resulted from operating practices. This is exemplified in the calculations done for the S-1 impoundment;

(3) The Division has previously set a precedent for "how clean is clean?", in terms of closure of a surface impoundment. The precedent is that cleanup must be to a level below that specified for chromium in 40 CFR Part 261.24, which is 5 ppm. This level has no bearing on what the actual background values may be;

(4) Due to the extensive chromium contamination problem at the Kerr-McGee facility, the Division feels that EPA may be looking at the site from a CERCLA standpoint. As such, it is suggested that some thinking be done as to the routes Kerr-McGee may wish to take to address this issue. CERCLA makes no distinction as to whether contamination is from operational practices or from waste handling practices; and

(5) As submitted, the portion of the plan for the P-1 impoundment appears adequate. It is possible that the same concerns could arise after the soil beneath P-1 has been sampled.

In response to these concerns, the Division hereby requests that, on or before September 3, 1984, Kerr-McGee revise the closure plan for the S-1 impoundment to include the following:

(1) The procedures which will be utilized by Kerr-McGee to clean the areas affected by the S-1 and P-1 impoundments to a level below 5 ppm chromium;

(2) The procedures to be used to verify that the affected areas have been properly cleaned;

(3) A summary identifying the sources which have contaminated the areas surrounding impoundments S-1 and P-1; and

(4) A summary specifying how Kerr-McGee will determine if chromium contamination is a result of losses from the process or from the impoundments.

The Division will be glad to meet with Kerr-McGee to discuss these issues, either in Henderson or in Carson City. Please contact us if you wish to arrange such a meeting, or if you have any questions regarding the above.

Sincerely,

Thomas J Trenapfel

PS Form 3811, Dec. 1980

● **SENDER:** Complete items 1, 2, 3, and 4.
Add your address in the "RETURN TO" space on reverse.

(CONSULT POSTMASTER FOR FEES)

1. The following service is requested (check one).
   - ☒ Show to whom and date delivered ..... ¢
   - ☐ Show to whom, date, and address of delivery.. ¢
2. ☐ RESTRICTED DELIVERY ¢
   (The restricted delivery fee is charged in addition to the return receipt fee.)

TOTAL $

3. ARTICLE ADDRESSED TO:
Rolfe B. Chase, Jr.
Plant Manager
KERR-McGEE CHEMICAL CORPORATION
P.O. Box 55
Henderson, NV. 89015

4. TYPE OF SERVICE:
☐ REGISTERED ☐ INSURED
☒ CERTIFIED ☐ COD
☐ EXPRESS MAIL

ARTICLE NUMBER
P22-1673102

(Always obtain signature of addressee or agent)

I have received the article described above.

SIGNATURE ☐ Addressee ☐ Authorized agent

George A. Clarke

5. DATE OF DELIVERY
8/21/84

POSTMARK

6. ADDRESSEE'S ADDRESS (*Only if requested*)

7. UNABLE TO DELIVER BECAUSE:

7a. EMPLOYEE'S INITIALS

RETURN RECEIPT, REGISTERED, INSURED AND CERTIFIED MAIL

P22 1673102

RECEIPT FOR CERTIFIED MAIL
NO INSURANCE COVERAGE PROVIDED—
NOT FOR INTERNATIONAL MAIL
(See Reverse)

SENT TO Rolfe B. Chase, Jr.
STREET AND NO. Plant Manager Kerr-McGee Chem. Corp. P.O. Box 55
P.O., STATE AND ZIP CODE Henderson, NV. 89015

POSTAGE	$
CERTIFIED FEE	¢
SPECIAL DELIVERY	¢
RESTRICTED DELIVERY	¢
RETURN RECEIPT SERVICE: SHOW TO WHOM AND DATE DELIVERED	¢
RETURN RECEIPT SERVICE: SHOW TO WHOM, DATE, AND ADDRESS OF DELIVERY	¢
RETURN RECEIPT SERVICE: SHOW TO WHOM AND DATE DELIVERED WITH RESTRICTED DELIVERY	¢
RETURN RECEIPT SERVICE: SHOW TO WHOM, DATE AND ADDRESS OF DELIVERY WITH RESTRICTED DELIVERY	¢
CONSULT POSTMASTER FOR FEES	
OPTIONAL SERVICES	
TOTAL POSTAGE AND FEES	$
POSTMARK OR DATE	08/17/84

TJF/de

PS Form 3800, Apr. 1976

July 23, 1984

CERTIFIED MAIL #166217
RETURN RECEIPT REQUESTED

Mr. Rolfe B. Chase, Jr.
Plant Manager
Kerr-McGee Chemical Corporation
P.O. Box 55
Henderson, Nevada 89015

Dear Mr. Chase:

The Division has reviewed your submittals of April 30, June 8, June 21, and July 13, 1984, which are in response to our Order issued on March 21, 1984.

It appears that the requirements of the March 21, 1984, Order have been satisfied, and that the "basement" area used for the waste pile storage has been adequately cleaned. It also appears that no migration from the "basement" area has occurred as a result of the waste pile operation.

Should you have any questions concerning this matter, please contact me.

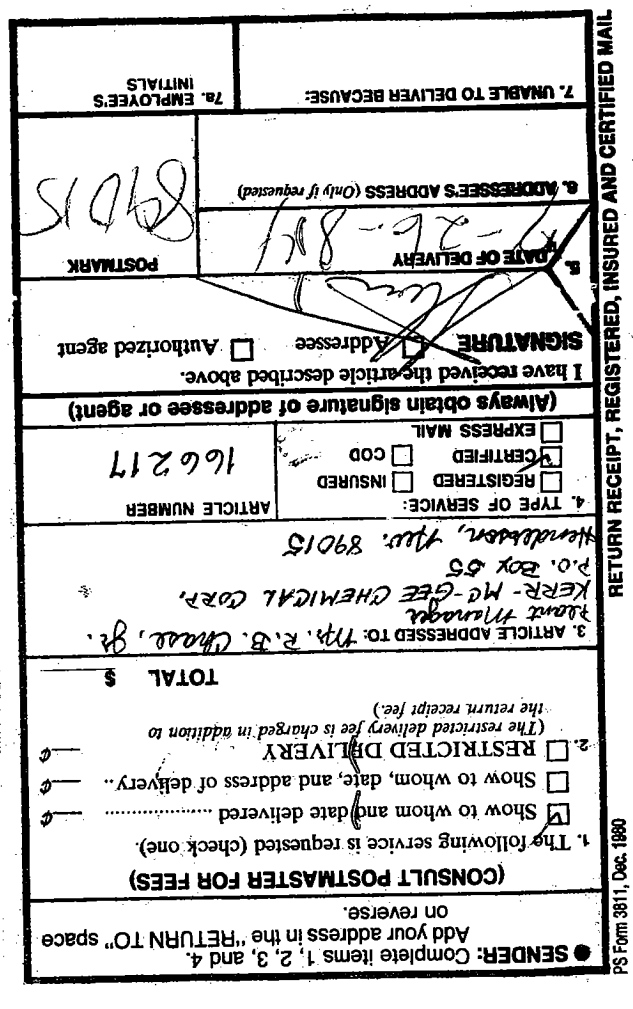
Sincerely,

Thomas J. Fronapfel

Thomas J. Fronapfel, P.E.
Environmental Engineer
Waste Management Section

de

cc: Gary Lance, EPA (T-2-1)



● **SENDER:** Complete items 1, 2, 3, and 4.
Add your address in the "RETURN TO" space on reverse.

(CONSULT POSTMASTER FOR FEES)

1. The following service is requested (check one).
- ☑ Show to whom and date delivered ..... ¢
- ☐ Show to whom, date, and address of delivery .. ¢
- 2. ☐ RESTRICTED DELIVERY ¢
(The restricted delivery fee is charged in addition to the return receipt fee.)

TOTAL $

3. ARTICLE ADDRESSED TO: Mr. R.B. Chase, Jr.
Plant Manager
KERR-MC-GEE CHEMICAL CORP.
P.O. Box 55
Henderson, Nev. 89015

4. TYPE OF SERVICE:
- ☐ REGISTERED ☐ INSURED
- ☑ CERTIFIED ☐ COD
- ☐ EXPRESS MAIL

ARTICLE NUMBER: 166217

(Always obtain signature of addressee or agent)

I have received the article described above.

SIGNATURE ☐ Addressee ☐ Authorized agent

8. DATE OF DELIVERY: 7-26-84

POSTMARK: 8AM 15

8. ADDRESSEE'S ADDRESS (Only if requested)

7. UNABLE TO DELIVER BECAUSE:

7a. EMPLOYEE'S INITIALS

PS Form 3811, Dec. 1980

RETURN RECEIPT, REGISTERED, INSURED AND CERTIFIED MAIL

No. 166217

RECEIPT FOR CERTIFIED MAIL

NO INSURANCE COVERAGE PROVIDED—NOT FOR INTERNATIONAL MAIL

(See Reverse)

SENT TO: Mr. R.B. Chase, Jr.
Plant Manager
STREET AND NO.: KERR-McGEE CHEM. CORP.
P.O. Box 55
P.O., STATE AND ZIP CODE: Henderson, NV. 89015

POSTAGE	$
CERTIFIED FEE	¢
SPECIAL DELIVERY	¢
RESTRICTED DELIVERY	¢
RETURN RECEIPT SERVICE — SHOW TO WHOM AND DATE DELIVERED	¢
RETURN RECEIPT SERVICE — SHOW TO WHOM, DATE, AND ADDRESS OF DELIVERY	¢
RETURN RECEIPT SERVICE — SHOW TO WHOM AND DATE DELIVERED WITH RESTRICTED DELIVERY	¢
RETURN RECEIPT SERVICE — SHOW TO WHOM, DATE AND ADDRESS OF DELIVERY WITH RESTRICTED DELIVERY	¢
TOTAL POSTAGE AND FEES	$

CONSULT POSTMASTER FOR FEES — OPTIONAL SERVICES

POSTMARK OR DATE
07/23/84

TJF/de

PS Form 3800, Apr. 1976

KERR-McGEE CHEMICAL CORPORATION
POST OFFICE BOX 55 • HENDERSON, NEVADA 89015

July 13, 1984

RECEIVED
JUL 16 1984
ENVIRONMENTAL
PROTECTION

Mr. Thomas J. Fronapfel, P.E.
Environmental Engineer
Waste Management Section
State of Nevada
Division of Environmental Protection
Capitol Complex
Carson City, NV 89710

Dear Mr. Fronapfel:

In your letter of 29 June, 1984, regarding our cleanup of the chlorate storage site, you requested that additional samples be taken to determine chromium background levels for that area. The sampling was done in an area 20 feet south of the storage site and at an equivalent level to the previous site samples. The results of these samples were:

Location	Concentration
East Sample	.28 ppm
West Sample	.40 ppm

A statistical analysis of the above data, in correlation to the site samples, shows that no significant difference exists and therefore no migration has occurred.

Sincerely,

RB Chase Jr RBB

R. B. Chase, Jr.
Plant Manager

RBC:jc

KERR-McGEE CHEMICAL CORPORATION
POST OFFICE BOX 55 • HENDERSON, NEVADA 89015

RECEIVED
JUN 25 1984
ENVIRONMENTAL PROTECTION

June 21, 1984

Mr. Thomas J. Fronapfel, P.E.
Environmental Engineer
Waste Management Section
State of Nevada
Division of Environmental Protection
Capitol Complex
Carson City, NV 89710

Dear Mr. Fronapfel:

In response to your letter of June 12, 1984, regarding further information on the cleanup of the chlorate storage site, the following is provided:

1. The equipment used for cleanup of the site was decontaminated at the site when removal would cause dispersement of the hazardous substance. This involved the tractor used to scrape the surface and the sandblasting vehicle. The manual tools, shovels, brooms, etc., were cleaned at the Chlorate Recovery area where all washdown liquids are returned to the process.

2. The soil was sampled at three locations within the chlorate mud storage area shown in the attached map. The soil corings were taken to a depth of 6 feet. Samples were taken at the two-, four-, and six-foot levels. The samples were subjected to a total nitric acid extraction and the leachate analyzed for total chromium. The results were:

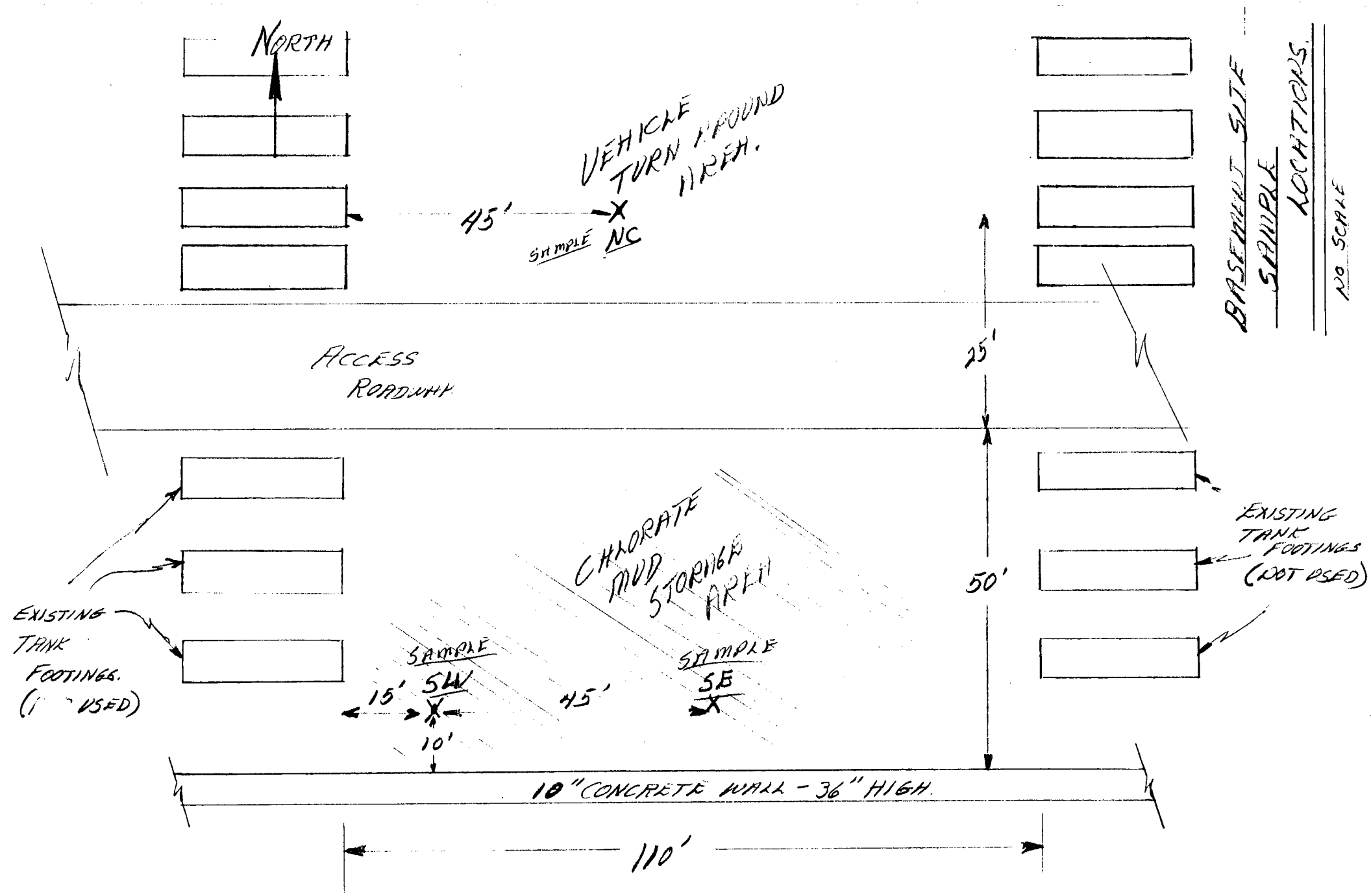
SW - 0.1 ppm
SE - 2.1 ppm
NC - 0.8 ppm

These values were compared to the background values for the Kerr-McGee area as reported to NDEP in the Closure Plan for Surface Impoundment S-1, dated April 5, 1984. This comparison demonstrates that no migration occurred at this site.

Sincerely,

R. B. Chase, Jr.
Plant Manager

RBC:jc
Attachment


NORTH
VEHICLE TURN AROUND AREA.
45'
SAMPLE NC
ACCESS ROADWAY
25'
50'
CHLORATE MUD STORAGE AREA
EXISTING TANK FOOTINGS (NOT USED)
EXISTING TANK FOOTINGS. (NOT USED)
SAMPLE SW
SAMPLE SE
15'
45'
10'
10" CONCRETE WALL - 36" HIGH.
110'
BASEMENT SITE SAMPLE LOCATIONS.
NO SCALE

KERR-McGEE CHEMICAL CORPORATION
POST OFFICE BOX 55 • HENDERSON, NEVADA 89015

CERTIFIED - RETURN RECEIPT REQUESTED

RECEIVED
JUN 11 1984
ENVIRONMENTAL PROTECTION

June 8, 1984

Mr. Thomas J. Fronapfel
Environmental Engineer
Waste Management Section
State of Nevada
Division of Environmental Protection
Capitol Complex
Carson City, Nevada 89710

Dear Mr. Fronapfel:

The Finding of Violation and Order issued to Kerr-McGee on March 29, 1984, required that the site being used to store chlorate process waste be closed, and that action be taken to cleanup the site. Kerr-McGee stated in a letter to you on April 30, 1984, that the use of this site for storage had been terminated and cleanup would be initiated.

The following methods were used to clean the storage site.

1. A small tractor with scraper was used to break loose the waste that had adhered to the flooring of the site.

2. The waste piles were shoveled into drums which were removed daily to the trailer being used to transport this waste to the Beatty hazardous waste site.

3. Manual hand scrapers were used to remove waste material where the tractor could not maneuver. Material was disposed as in Step 2 above.

4. The entire site was swept to remove the fine dust remaining. A water mist was used during the sweeping process to hold down the dust and prevent airborne dispersion.

5. After the above four steps had removed all the visible waste material, the location was sandblasted and swept to remove any latent film present.

6. Three soil corings were taken to determine if any migration of chronium had occurred through the asphalt surface.

The above actions have been successful in removing the chlorate process waste material, and the samples show that the hazardous constituent in the waste has not migrated into the soil.

Based on the above actions and your approval, Kerr-McGee Chemical Corporation requests this site be considered closed and clean.

Sincerely yours,

Rolfe B. Chase, Jr.
Plant Manager
Kerr-McGee Chemical Corporation

RBC/mjd

EMERY WORLDWIDE

INTERNATIONAL SERVICES* | **U.S./CANADA SERVICES***

- [ ] FIRST CLASS Door-to-Door
- [ ] BUSINESS CLASS Door-to-Door
- [ ] STANDARD CLASS Door to Airport / Airport-to-Airport
- [ ] Other ____
- [ ] SAME DAY
- [ ] 9 AM
- [ ] AM
- [x] PM
- [ ] DAY 2
- [ ] Other ____
- [ ] Saturday Delivery Required

*See reverse side of this copy for conditions under which service is available.

Shipper's Account Number KY-OKMC55 **Date** 7/13/84 **Origin Office** LAS **Shipment Number** 39565

From		Collect Shipper's Charges on Delivery	To	
(Your Name) R. B. CHASE	Phone 565-8901	C.O.D.	(Contact Name) THOMAS J. FRONAPFEL, P.E.	Phone
Company Name KERR-MCGEE CHEMICAL CORP.	Dept./Floor	$	Company Name DIVISION OF ENVIRONMENTAL PROTECTION	Dept./Floor
Address LAKE MEAD DRIVE (P.O. BOX 55)			Address CAPITOL COMPLEX STATE OF NEVADA	
City HENDERSON, State NEVADA	Zip Code (Required) 89015	[ ] Company Check Payable to Shipper Acceptable	City CARSON CITY, State NEVADA	Zip Code (Required) 89710
Shipper's Reference No.	Declared Value $		Consignee's Account No.	Consignee's Reference No.

Number of Pieces	Description and Marks (Check Here if [XX] Urgent Letter [ ] Emery Envelope)	Commodity Code	Weight	Pcs.	L	W	H
1	URGENT LETTER		2 OZ				

SPECIAL INSTRUCTIONS [ ] GOVT.

This non-negotiable air way bill is subject to the Terms and Conditions of Contract set forth on the reverse side of this copy. Emery shall not be liable for special, incidental, or consequential damages and disclaims all warranties, expressed or implied, with respect to carriage of this shipment. Unless a higher value is declared and an additional charge paid, the liability of Emery for this shipment is limited to an amount set forth in the Emery Service Guide in effect on the date of shipment.

Subject to terms and conditions on reverse Shipper's Signature X Le Dean Campbell

For International Shipments only: Declared Value for Customs $ International Insurance Amount $

Form of Payment [XX] Prepaid [ ] Collect [ ] GBL

[ ] Cash or Check on Pick Up $ ____ Received By (Initials) ____

[ ] **Bill To:** (Address Below) Paying For [XX] Shipper [ ] Consignee [ ] Third Party

Goods Received At [x] Shipper's Door [ ] Residence Door [ ] City Terminal [ ] Airport Terminal [ ] Carrier's Advance [ ] Other Carrier's Door [ ] Drop Box

Time 15:10 Date 7/13 No. Shipments This Stop 2

By Scott LeBaron Advance at Origin $

Non-Negotiable Airbill Form OP-1 Rev. 2-83 Printed in U.S.A. **Executive Offices** Wilton, Connecticut 06897 **1 - Consignee's Copy**

June 29, 1984

Mr. Rolfe B. Chase, Jr.
Plant Manager
Kerr-McGee Chemical Corporation
P.O. Box 55
Henderson, NV 89015

Dear Mr. Chase:

The Division has reviewed your submittals of June 8 and June 21, 1984 which were in response to our Order dated March 21, 1984 and has identified the following deficiencies:

1) Your letter of June 21, 1984, stated that the analytical results for the soil corings from the waste pile area had been compared to background area values, specifically those values obtained from soil samples M-1, M-4 and M-21, as identified in the closure plan for the S-1 impoundment. Based on the information submitted, and that in our files, samples M-1, M-4 and M-21 are not hydraulically downgradient from those taken from the waste pile area. The Division therefore feels that no direct correlation can be made in order to identify if migration has or has not occurred.

2) Historically, samples obtained to identify or establish background values are done so in areas unaffected by the facility. This is not the case for samples M-1, M-4 and M-21, which range in chromium content from 7.5 to 19ppm. In addition, background generally infers upgradient rather than downgradient.

In order to better ascertain whether migration has occurred from the waste pile area, the Division hereby requests that Kerr-McGee complete the following by the date specified:

P22 1673784

RECEIPT FOR CERTIFIED MAIL

NO INSURANCE COVERAGE PROVIDED—
NOT FOR INTERNATIONAL MAIL
(See Reverse)

SENT TO R. CHASE JR
KERR-MCGEE
STREET AND NO. PO BOX 55
P.O., STATE AND ZIP CODE HENDERSON NV 89015

POSTAGE		$
CONSULT POSTMASTER FOR FEES — OPTIONAL SERVICES	CERTIFIED FEE	¢
	SPECIAL DELIVERY	¢
	RESTRICTED DELIVERY	¢
	RETURN RECEIPT SERVICE — SHOW TO WHOM AND DATE DELIVERED	¢
	RETURN RECEIPT SERVICE — SHOW TO WHOM, DATE, AND ADDRESS OF DELIVERY	¢
	RETURN RECEIPT SERVICE — SHOW TO WHOM AND DATE DELIVERED WITH RESTRICTED DELIVERY	¢
	RETURN RECEIPT SERVICE — SHOW TO WHOM, DATE AND ADDRESS OF DELIVERY WITH RESTRICTED DELIVERY	¢
TOTAL POSTAGE AND FEES		$
POSTMARK OR DATE		

PS Form 3800, Apr. 1976

RETURN RECEIPT

● **SENDER:** Complete items 1, 2, 3, and 4.
Add your address in the "RETURN TO" space on reverse.

(CONSULT POSTMASTER FOR FEES)

1. The following service is requested (check one).
☑ Show to whom and date delivered ..... ¢
☐ Show to whom, date, and address of delivery .. ¢
2. ☐ RESTRICTED DELIVERY ..... ¢
(The restricted delivery fee is charged in addition to the return receipt fee.)

TOTAL $

3. ARTICLE ADDRESSED TO: Kerr-McGee Chem Corp
P.O. Box 55 Henderson NV 89015

4. TYPE OF SERVICE: ☐ REGISTERED ☐ INSURED ☑ CERTIFIED ☐ COD ☐ EXPRESS MAIL
ARTICLE NUMBER: P 613787

(Always obtain signature of addressee or agent)

I have received the article described above.
SIGNATURE ☐ Addressee ☐ Authorized agent

5. DATE OF DELIVERY: 7-2-84
POSTMARK (may be on reverse side)

6. ADDRESSEE'S ADDRESS (Only if requested)

7. UNABLE TO DELIVER BECAUSE:

7a. EMPLOYEE'S INITIALS

PS Form 3811, July 1982

* GPO: 1982-379-593

By July 13, 1984, provide the Division with analytical results and documentation showing background values for the soil upgradient (south) of the waste pile area. Samples should be taken at equivalent depths to those taken from the waste pile area, and in an area unaffected by the facility.

Should you have any questions regarding this matter, please call me.

Sincerely,

Thomas J. Fronapfel, P.E.
Environmental Engineer
Waste Management Section

TJF/sjp

cc: Gary Lance

Certified Mail #1673784

Return Receipt Requested

June 12, 1984

Mr. Rolfe B. Chase, Jr.
Plant Manager
Kerr-McGee Chemical Corporation
P.O. Box 55
Henderson, Nevada 89015

Dear Mr. Chase:

The Division has reviewed your submittal of June 8, 1984, and hereby requests that you submit the following additional information within ten (10) days of receipt of this letter in accordance with 40 CFR Part 265 and Nevada Administrative Code 444.8850:

The procedures used to decontaminate any equipment used during the cleanup of the chlorate waste pile; and

The analytical results from the three soil corings which were taken.

Should you have any questions regarding this matter, please contact me.

Sincerely,

Thomas J. Fronapfel

Thomas J. Fronapfel, P.E.
Environmental Engineer
Waste Management Section

TJF/sjp

Certified Mail #1673777
Return Receipt Requested

PS Form 3811, July 1982

● **SENDER:** Complete items 1, 2, 3, and 4.
Add your address in the "RETURN TO" space on reverse.

(CONSULT POSTMASTER FOR FEES)

1. The following service is requested (check one).
   - ☑ Show to whom and date delivered ..... ____¢
   - ☐ Show to whom, date, and address of delivery .. ____¢
2. ☐ **RESTRICTED DELIVERY**..... ____¢
   (The restricted delivery fee is charged in addition to the return receipt fee.)

TOTAL $____

3. **ARTICLE ADDRESSED TO:** MR R. B. CHASE JR
KERR-MCGEE CHEMICAL CORP
PO BOX 55 HENDERSON NV 89015

4. **TYPE OF SERVICE:**
   - ☐ REGISTERED ☐ INSURED
   - ☑ CERTIFIED ☐ COD
   - ☐ EXPRESS MAIL

ARTICLE NUMBER
P 673777

(Always obtain signature of addressee or agent)

I have received the article described above.

SIGNATURE ☐ Addressee ☐ Authorized agent

5. **DATE OF DELIVERY** JUN 15 1984

POSTMARK (may be on reverse side)

6. **ADDRESSEE'S ADDRESS** *(Only if requested)*

7. **UNABLE TO DELIVER BECAUSE:**

7a. EMPLOYEE'S INITIALS

RETURN RECEIPT

★ GPO: 1982-379-593

PS Form 3800, Apr. 1976

RECEIPT FOR CERTIFIED MAIL
NO INSURANCE COVERAGE PROVIDED—
NOT FOR INTERNATIONAL MAIL
(See Reverse)

SENT TO MR. R. B. CHASE JR
PLANT MANAGER
STREET AND NO. KERR-MCGEE CORP.
P.O. STATE AND ZIP CODE P.O. BOX 55, HENDERSON, NV 89015

POSTAGE		$
CERTIFIED FEE		¢
SPECIAL DELIVERY	OPTIONAL SERVICES	¢
RESTRICTED DELIVERY		¢
SHOW TO WHOM AND DATE DELIVERED	RETURN RECEIPT SERVICE	¢
SHOW TO WHOM, DATE, AND ADDRESS OF DELIVERY		¢
SHOW TO WHOM AND DATE DELIVERED WITH RESTRICTED DELIVERY		¢
SHOW TO WHOM, DATE AND ADDRESS OF DELIVERY WITH RESTRICTED DELIVERY		¢
TOTAL POSTAGE AND FEES		$

CONSULT POSTMASTER FOR FEES

POSTMARK OR DATE

P22 673777

KERR-McGEE CHEMICAL CORPORATION
POST OFFICE BOX 55 • HENDERSON, NEVADA 89015

RECEIVED
JUN - 8 1984
ENVIRONMENTAL
PROTECTION

June 7, 1984

Mr. H. LaVerne Rosse, P.E.
Program Director, Waste Management Section
Nevada Division of Environmental Protection
Capitol Complex
Carson City, Nevada 89710

Dear Mr. Rosse:

In the April 30, 1984 letter to Mr. Fronapfel, Kerr-McGee stated that procedures for decontaminating the site used for storage of chlorate process waste would be submitted to Nevada Department of Environmental Protection by June 1, 1984. However, due to personnel changeover and work loads, the June 1 date could not be met. I am requesting that an extension be given to June 11, 1984, for submission of this information.

The site cleanup and sampling was completed on June 6, 1984. The results of the laboratory tests will not be available until June 8, 1984. The completed report will be submitted subsequent to the receipt of these results.

I regret not being able to meet this stated response date, but will ensure this does not happen again.

Sincerely yours,

R. B. Chase, Jr.
Plant Manager
Kerr-McGee Chemical Corporation

RBC/mjd

ld s/t

6/5/89

565-8901

LW ta

Called Ralfe Chase 6/7 He will send letter today

rvtq

6/6

Lew:

I expect Kerr-McGee will go all the way to court on this, knowing the attitude. Plus they will complain about losing their government contracts w/ the Defense Dept for Ammonium Perchlorate, they may go to the Governor concerning economic issues.

Verne

LM25

June 5, 1984

Certified Mail #
Return Receipt Requested

Mr. Rolfe B. Chase, Jr.
Plant Manager
Kerr-McGee Chemical Corporation
P.O. Box 55
Henderson, Nevada 89015

Dear Mr. Chase:

Enclosed is a Finding of Violation and Proposed Stipulated Civil Penalty issued to Kerr-McGee Chemical Corporation.

The offer for the proposed stipulated civil penalty expires on July 10, 1984. With the payment of this penalty, Kerr-McGee will be released from further liability for the enumerated violation.

If you wish to discuss this proposed offer, please contact Verne Rosse, Division of Environmental Protection, 201 South Fall Street, Carson City, Nevada 89710, (702)885-4670.

Sincerely,

H. LaVerne Rosse, P.E.

Program Director

Waste Management Section

HLR:ldz

cc: Gary Lance, EPA, Region IX

L.H. Dodgion

March 8 '84

DRAFT

LM26-27

In the Matter of) FINDING OF VIOLATION
Kerr-McGee Chemical Corporation) AND PROPOSED STIPULATED CIVIL PENALTY

INTRODUCTION

This finding of violation is made and a stipulated civil penalty is proposed by the Nevada Division of Environmental Protection (NDEP) to Kerr-McGee Chemical Corporation (Kerr-McGee), whose principal place of business is located on Lake Mead Drive, Henderson, Nevada 89015.

NDEP bases its finding on all information available as a result of an inspection of the Kerr-McGee facility on March 8, 1984, an Administrative Order issued by NDEP on March 21, 1984, a Show Cause Hearing with Kerr-McGee representatives on April 3, 1984, and on a compliance schedule submitted to NDEP by Kerr-McGee on April 30, 1984.

The factual findings and probably violations enumerated below will serve as the basis for legal action to impose a civil penalty pursuant to Nevada Revised Statutes (NRS) 444.774.

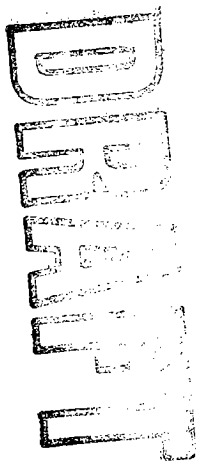
In lieu of instituting civil action, NDEP hereby offers Kerr-McGee an opportunity to stipulate to the payment of a civil penalty as specified below. The penalty proposed is based on the seriousness of the violation and the threat of harm to public health or the environment. The factual findings and probably violations which would serve as the basis for a civil action are as follows:

1. Kerr-McGee operates a facility located on Lake Mead Drive in Henderson, Nevada.

2. An inspection by NDEP on March 8, 1984 revealed that Kerr-McGee was in violation of 40 CFR §270.13, 40 CFR §262.34(a)(1), (a)(2), and (a)(3), 40 CFR §265.14, 265.15, 265.31 and Subparts D, G and L

of 40 CFR Part 265, for operation of a waste pile for storage of hazardous waste.

3. On March 21, 1984, NDEP issued an Administrative Order to Kerr-McGee as a result of the aforementioned violations. This Order required that:



(a) Kerr-McGee cease and desise the use of the waste pile (basement area);

(b) Kerr-McGee provide NDEP with a compliance schedule which detailed the actions to be taken to bring the facility into compliance; and

(c) Kerr-McGee appear in the offices of NDEP for a Show Cause Hearing.

4. On April 3, 1984, Kerr-McGee representatives appeared in the offices of NDEP for the required Show Cause Hearing.

5. On April 30, 1984, Kerr-McGee submitted a compliance schedule to NDEP which specified that the procedure for decontaminating the "basement" area would be prepared and submitted to NDEP by June 1, 1984, for approval. As of June 5, 1984, no submittal has bewen received.

6. Kerr-McGee is in violation of the terms of the Administrative Order issued on March 21, 1984, as the June 1, 1984 date specified in the compliance schedule of April 30, 1984 was not adhered to, in violation of NRS 444.774.

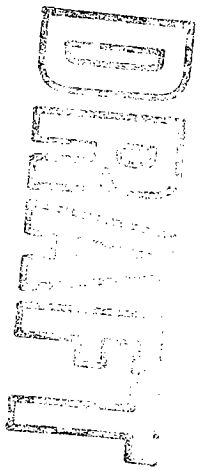
PROPOSED CIVIL PENALTY

NRS 444.774 authorized a civil penalty of up to $10,000.00 per day for each violation of NRS 444.700 through 444.764, inclusive. NDEP policy is to seek the maximum penalty available for each violation if civil action must be instituted. NDEP proposes the following stipulated civil penalty in the interest of pre-litigation settlement:

Violation of Item 2 of the Administrative Order issued to Kerr-McGee on March 21, 1984 . . . . . $ 5,200.00
NRS 444.774

1. In the event of Kerr-McGee's agreement, the total amount of $5,200 shall be made by certified or cashier's check payable to the Treasurer of the State of Nevada and remitted to the Division of Environmental Protection, 201 South Fall Street, Carson City, Nevada 89710.

2. This offer expires by limitation on July 10, 1984.



Upon Kerr-McGee's agreement to and payment of the stipulated civil penalty, NDEP shall execute a release of Kerr-McGee from any liability for civil and criminal penalties attributable to the enumerated violation.

If you wish to discuss this proposed offer during the period that remains outstanding, please contact Verne Rosse, Division of Environmental Protection, 201 South Fall Street, Carson City, Nevada 89710, (702)885-4670.

Date

H. LaVerne Rosse, P.E.
Program Director
Waste Management Section

Mr. Rosse

STATE OF NEVADA
DEPARTMENT OF CONSERVATION AND NATURAL RESOURCES
DIVISION OF ENVIRONMENTAL PROTECTION
CAPITOL COMPLEX
CARSON CITY, NEVADA 89710

TELEPHONE (702) 885-4670

May 7, 1984

Kerr-McGee Chemical Corp.
Mr. Rolfe B. Chase Jr.
Plant Manager
P.O. Box 55
Henderson, Nevada 89015

Dear Mr. Chase:

This letter is to confirm approval of your proposal, dated November 4, 1982, to replace ponds no. 1 and no. P-2 and your proposal, dated March 9, 1984, to reline the existing ponds and amend the leakage-detection program to incorporate double liners with a leachate collection, detection and removal system. It is our understanding that all of your ponds will be double-lined in accordance with the drawings and specifications which you submitted on the above cited dates, with the possible exception of the P-2 Pond which may be relined. Since the proposed changes to the ponds and the leak-detection system are consistent with the existing terms and conditions of the permit, these will not require any amendments to the permit. The new specifications will simply be appended.

The proposals dated November 23, 1983 to add an additional outfall (002) and to relocate the sampling point have also been reviewed. Discharges of zinc and phosphorous are not authorized by the present permit so any discharge of these elements would be a violation of Nevada Revised Statute (NRS) 445.221-- unlawful discharge of a pollutant without a permit. The present phosphorous limit on permitted point source effluent discharges into Lake Mead or its tributaries is 1.0 mg/l. This translates to an allowable discharge limit of 3 mg/l of PO_4. Since zinc and phosphorous are "New, different pollutants", any discharge of these elements must be reported and accompanied by an application in accordance with Part II.A.1 of the permit.

In addition to these considerations, we would like to draw your attention to Part II.A.7 of the permit-- "Safeguards to Electric Power Failure"-- which may apply to the cooling water recirculation pumps insofar as they are necessary to maintain compliance with the effluent conditions of the permit.

Your proposal to relocate the sample collection point for the TDS and NACl parameters to a point directly after the process equipment is approved as long as it is consistent with condition I.C.1 of the permit. This requires that the sample shall be representative of the volume and nature of the monitored discharge. In other words, the sampling must reflect what is being discharged by the company.

I hope this letter has answered some of your questions. If there is a further need for discussion or clarification of these issues, please give me a call.

Sincerely,

Joe Livak
Water Quality
Enforcement Officer

JL/sjp
cc: H. LaVerne Rosse
John Merkel

KERR-McGEE CHEMICAL CORPORATION
POST OFFICE BOX 55 • HENDERSON, NEVADA 89015

April 30, 1984

RECEIVED
MAY 1 - 1984
ENVIRONMENTAL PROTECTION

Mr. H. LaVerne Rosse, P.E.
Program Director
Waste Management Section
State of Nevada
Division of Environmental Protection
Capitol Complex
Carson City, NV 89710

Re: Hazardous Waste Activity - Annual Report

Dear Mr. Rosse:

Attached are the completed annual reports for Kerr-McGee Chemical Corporation's (KMCC) Henderson facility. Both the "Hazardous Waste Generator Report" and the "Hazardous Waste Treatment, Storage, and Disposal Report" were completed. As you know, KMCC did operate a hazardous waste landfill during the first part of January; however, the landfill has not received any waste since January 25, 1983.

As we have discussed, the closure/post-closure plan for the landfill is currently under revision. This revision includes the cost estimate for the closure/post-closure plan. This will be submitted to the Nevada Division of Environmental Protection (NDEP) upon completion, which is anticipated to be the end of May.

If there are any questions regarding the attached, please contact me at 565-8901, Ext. 234.

Sincerely,

K. Brothers

K. Brothers
Staff Process Engineer

KB:jc
Attachments

cc: R. B. Chase, Jr.
T. L. Hurst
J. R. Kelley
E. T. Still

KERR-McGEE CHEMICAL CORPORATION
POST OFFICE BOX 55 • HENDERSON, NEVADA 89015

April 30, 1984

RECEIVED
MAY 1 - 1984
ENVIRONMENTAL PROTECTION

Mr. Thomas J. Fronapfel
Environmental Engineer
Waste Management Section
State of Nevada
Division of Environmental Protection
Capitol Complex
Carson City, NV 89710

Dear Mr. Fronapfel:

On the basis of the Finding of Violation and Order received by Kerr-McGee Chemical Corporation (KMCC) on March 29, 1984 we hereby report the actions taken and provide a compliance schedule for those actions which will be taken by KMCC to comply with that Order.

1. Chlorate process waste has been removed from the "basement" (tank) and the basement will no longer be used for waste storage. Procedures for decontaminating this area are being prepared and will be submitted to the Nevada Department of Environmental Protection (NDEP) by June 1, 1984, for approval. This action corrected the several violations listed in paragraphs C, D, E, F, G, and H of the Findings of Violation.

2. The chlorate process waste is now being placed directly into the DOT-approved transport container. This container has been properly marked "Hazardous Waste" (40CFR 262.34 [a][3] and NAC 444.8665 [4]), and the date upon which each period of accumulation begins is clearly marked (40CFR 262.34 [a][2] and NAC 444.8665 [3]).

3. KMCC submitted revised closure/post-closure plans for two hazardous waste surface impoundments to the NDEP on April 5, 1984. An amended closure/post-closure plan for our hazardous waste landfill will be submitted in May. Earlier closure/post-closure plans, submitted on June 9, 1983, stated it was KMCC's intent to close all hazardous waste management facilities and retain our EPA hazardous waste generator ID number to ship such wastes offsite. That submittal also stated a request to withdraw the Part A application would be submitted after final closure of all hazardous waste management units.

4. On April 3, 1984, KMCC representatives, K. Brothers, R. Chase, and T. Hurst, met with the NDEP in Carson City. At that time, we discussed and agreed upon appropriate procedures to comply with the Finding of Violation and Order. This meeting fulfills the requirement of Item 3 of that Order.

We believe we have properly responded to the requirements listed in the Finding of Violation and Order. If there are any questions please contact me or K. Brothers at 565-8901.

Sincerely,

KERRMcGEE CHEMICAL CORPORATION

R. B. Chase, Jr.
Plant Manager

RBC:jc

EMERY WORLDWIDE

INTERNATIONAL SERVICES *

- ☐ 1ST CLASS — Door-to-Door
- ☐ BUSINESS CLASS — Door-to-Door
- ☐ STANDARD CLASS — Door to Airport / Airport-to-Airport
- ☐ Other _____

U.S./CANADA SERVICES *

- ☐ SAME D[illegible] ☐ 9 AM
- ☒ AM
- ☐ DAY 2
- ☐ Other 1 - 1984
- ☐ Saturday Delivery Required

RECEIVED MAY 1 - 1984 ENVIRONMENTAL PROTECTION

*See reverse side of this copy for conditions under which service is available.

Shipper's Account Number KY-OKMC55 **Date** 4/30/84 **Origin Office** LAS **Shipment Number** 39556

From (Your Name) KAYRENE BROTHERS — Phone 565-8901
Company Name KERR-MCGEE CORPORATION — Dept./Floor
Address P.O. BOX 55
City HENDERSON — State NEVADA — Zip Code (Required) 89015
Shipper's Reference No.
Declared Value $

Collect Shipper's Charges on Delivery
C.O.D. $
☐ Company Check Payable to Shipper Acceptable

To (Contact Name) DIVISION OF ENVIRONMENTAL PROTECTION — Phone
Company Name STATE OF NEVADA (ROSSE AND FRONTIER) — Dept./Floor
Address CAPITOL COMPLEX
City CARSON CITY, — State NEVADA — Zip Code (Required) 89710
Consignee's Account No.
Consignee's Reference No.

Number of Pieces	Description and Marks	Check Here if	Commodity Code	Weight	Package Dimension Pcs.	L	W	H
1	[illegible] URGENT LETTER	☒ Urgent Letter ☐ Emery Envelope	EL	4 oz				

SPECIAL INSTRUCTIONS ☐ GOVT.

Subject to terms and conditions on reverse Shipper's Signature X LeAnn Campbell

This non-negotiable air way bill is subject to the Terms and Conditions of Contract set forth on the reverse side of this copy. Emery shall not be liable for special, incidental, or consequential damages and disclaims all warranties, expressed or implied, with respect to carriage of this shipment. Unless a higher value is declared and an additional charge paid, the liability of Emery for this shipment is limited to an amount set forth in the Emery Service Guide in effect on the date of shipment.

For International Shipments only:
Declared Value for Customs $
International Insurance Amount $

Form of Payment ☒ Prepaid ☐ Collect ☐ GBL

☐ Cash or Check on Pick Up $ _____ Received By (Initials) _____
☐ **Bill To:** (Address Below) Paying For ☒ Shipper ☐ Consignee ☐ Third Party

Goods Received At
☒ Shipper's Door ☐ Residence Door ☐ City Terminal ☐ Airport Terminal ☐ Carrier's Advance ☐ Other Carrier's Door ☐ Drop Box

Time 1500 Date 4-30-84 No. Shipments This Stop 2
By Tom Advance at Origin $

Non-Negotiable Airbill Form OP-1 Rev. 2-83 Printed in U.S.A. **Executive Offices** Wilton, Connecticut 06897 **1 - Consignee's Copy**

STATE OF NEVADA
DEPARTMENT OF CONSERVATION AND NATURAL RESOURCES
DIVISION OF ENVIRONMENTAL PROTECTION
Capitol Complex
CARSON CITY, NEVADA 89710

Telephone (702) 885-4670

April 11, 1984

MEMORANDUM

TO: L.H. Dodgion, P.E., Administrator

FROM: Thomas J. Fronapfel, P.E., Environmental Engineer
Waste Management Section

SUBJECT: SUMMARY OF MEETING WITH KERR-McGEE ON 04/03/84.

On April 3, 1984, a Show Cause meeting was held with Kerr-McGee Chemical Corporation to discuss the violations as specified in our Administrative Order of March 21, 1984. Present at the meeting from Kerr-McGee were:

Kay Brothers, Environmental Engineer
Rolf Chase, Jr., Plant Manager
Tom Hurst, Consultant

Present from DEP were:

Tom Fronapfel, Environmental Engineer
Doug Martin, Environmental Management Specialist
Verne Rosse, Program Director
Lew Dodgion, Administrator

DEP contends that Kerr-McGee is operating a waste-pile for storage of hazardous waste. This contention is based upon the discovery that storage is taking place in an old foundation that was designed to support a building; it is in what was once used to support a redwood storage building. Kerr-McGee contends that this foundation meets the criteria for a tank. The RCRA definition of a tank specifies that it must be designed to handle an accumulation of hazardous waste. Tom Hurst's reply to this was "Design comprehends use."

In addition, the process as used is considered "treatment" because one of the three hazardous waste streams has free liquids which are dried by solar evaporation. The amount of material requiring drying in this manner is approximately 20% of the total waste stream. The remaining 75-80% can be placed directly into a DOT approved container for shipment.

We suggested that the "wet" waste stream (cell-washings) be placed in containers with absorbent material as a possible solution. Kerr-McGee felt that this would be a plausible solution.

The possibility of determining if any subsurface contamination had occurred was also discussed, as were ways in which the storage area could be sealed for continued use.

Rolf Chase decided that the ideal situation would be to get away from current practices as quickly as possible and to reevaluate the process to find other ways to handle the "wet" waste to avoid having to obtain a RCRA permit. He emphasized that Kerr-McGee wishes only to maintain their status as a generator, not as a treatment, storage, or disposal facility. The possible solution of adding the wet waste to a container with absorbent material in it will be addressed by Kerr-McGee.

Kerr-McGee will address the items outlined in the Order within the specified 30-day period. This submittal will include the steps to be taken to remedy the current practice, and a schedule which outlines when compliance will be achieved.

A separate submittal will be made addressing the question of contamination of soils underlying the waste-pile. Kerr-McGee represented that they will drill through the pad at a location near the stem wall where wastes were piled and take a one-foot deep soil sample and analyze for chromium. This should be completed and submitted by May 30, 1984.

Kerr-McGee was also concerned about verbal communication with DEP and the lack of written approvals from this office. They would like to have all approvals, verifications, etc., in writing. These concerns related specifically to their NPDES permit.

Kerr-McGee will also be submitting revised RCRA closure plans for their landfill and surface impoundment.

Thomas J. Fronapfel

Thomas J. Fronapfel, P.E.
Environmental Engineer

de

April 3, 1984

Ms. Kay Brothers
Kerr-McGee Chemical Corporation
P.O. Box 55
Henderson, Nevada 89015

Dear Ms. Brothers:

On March 8, 1984, a hazardous waste investigation was conducted at the Kerr-McGee Chemical Corporation facility by the Nevada Division of Environmental Protection. The information was gathered in accordance with Section 444.764 of the Nevada Revised Statutes (NRS), and copies of the investigation reports are enclosed for your information.

If you have any questions concerning this letter, please contact me at (702) 885-4670 or toll free 1-800-992-0900, extension 4670.

Sincerely,

Alene Coulson
Environmental Management
Specialist
Waste Management Section

de
Enclosures

cc: Gary Lance, EPA, Region IX

March 21, 1984

Certified Mail #P22-1672990
Return Receipt Requested

Mr. R.B. Chase, Jr.
Plant Manager
Kerr-McGee Chemical Corporation
P.O. Box 55
Henderson, Nevada 89015

Dear Mr. Chase:

The enclosed Finding of Violation and Order are issued by the Administrator of the Division of Environmental Protection pursuant to Nevada Revised Statutes (NRS) 444.766 and 444.768.

The Finding of Violation and Order relate to the violation of interim status requirements regarding storage of hazardous waste in a waste pile.

Any violation of the terms of this Order could subject Kerr-McGee to an action for appropriate relief pursuant to NRS 444.772, 444.774, or 444.778.

This Order is final and not subject to review unless within thirty (30) days after the date such Order is served, a request by written petition for a hearing is received by the State Environmental Commission, 201 South Fall Street, Room 221, Capitol Complex, Carson City, Nevada 89710.

If you have any questions concerning this matter, please contact me at (702) 885-4670 or toll free 1-800-992-0900, extension 4670.

Sincerely,

Thomas J. Fronapfel, P.E.
Environmental Engineer
Waste Management Section

de
Enclosures

3/29 x 15 days

3/29 x 30 days 4/28

cc sent to Gary Lance

P22 1672990

RECEIPT FOR CERTIFIED MAIL

NO INSURANCE COVERAGE PROVIDED—
NOT FOR INTERNATIONAL MAIL
(See Reverse)

SENT TO: R.B. Chase, Jr.
Plant Manager
STREET AND NO.: Kerr-McGee Chem. Corp.
P.O., STATE AND ZIP CODE: P.O. Box 55, Henderson, NV. 89015
POSTAGE $

CONSULT POSTMASTER FOR FEES	CERTIFIED FEE	¢
OPTIONAL SERVICES	SPECIAL DELIVERY	¢
	RESTRICTED DELIVERY	¢
RETURN RECEIPT SERVICE	SHOW TO WHOM AND DATE DELIVERED	¢
	SHOW TO WHOM, DATE, AND ADDRESS OF DELIVERY	¢
	SHOW TO WHOM AND DATE DELIVERED WITH RESTRICTED DELIVERY	¢
	SHOW TO WHOM, DATE AND ADDRESS OF DELIVERY WITH RESTRICTED DELIVERY	¢
TOTAL POSTAGE AND FEES		$

POSTMARK OR DATE
03-21-84
TJF/de

PS Form 3800, Apr. 1976

CERTIFIED
P22 1672990
MAIL

PS Form 3811, July 1982

● **SENDER:** Complete items 1, 2, 3, and 4.
Add your address in the "RETURN TO" space on reverse.

(CONSULT POSTMASTER FOR FEES)

1. The following service is requested (check one).
   - ☑ Show to whom and date delivered ..... ¢
   - ☐ Show to whom, date, and address of delivery .. ¢
2. ☐ RESTRICTED DELIVERY..... ¢
   (The restricted delivery fee is charged in addition to the return receipt fee.)

TOTAL $

3. ARTICLE ADDRESSED TO: R.B. Chase, Jr.
Plant Manager
Kerr-McGee Chem. Corp.
P.O. Box 55, Henderson, NV. 89015

4. TYPE OF SERVICE:
   - ☐ REGISTERED ☐ INSURED
   - ☑ CERTIFIED ☐ COD
   - ☐ EXPRESS MAIL

ARTICLE NUMBER: P22-1672990

(Always obtain signature of addressee or agent)

I have received the article described above.
SIGNATURE ☐ Addressee ☐ Authorized agent
J R Caldwell

5. DATE OF DELIVERY: 3/24/84
POSTMARK (may be on reverse side)

6. ADDRESSEE'S ADDRESS *(Only if requested)*

7. UNABLE TO DELIVER BECAUSE:

7a. EMPLOYEE'S INITIALS

RETURN RECEIPT

MAR 29 1984

☆ GPO: 1982-379-593

In the Matter of)
Kerr-McGee Chemical)
Corporation)

FINDING OF VIOLATION

I. This Finding is made on the basis of the following facts, to wit:

A. The State of Nevada, Division of Environmental Protection, under the authority of Nevada Revised Statutes (NRS) 444.764, conducted a hazardous waste inspection of the Kerr-McGee Henderson facility on March 8, 1984.

B. Based on the information gathered during the aforementioned inspection, the Division of Environmental Protection finds Kerr-McGee to be in violation of various State and Federal requirements governing the management of hazardous waste.

C. Kerr-McGee is currently operating a waste pile for storage of chlorate process waste in an open basement.

D. Kerr-McGee did not indicate on their RCRA Part A Application that a waste pile would be operated, which is a violation of 40 CFR Part 270.13 and Nevada Administrative Code (NAC) 444.8745.

E. During the March 8, 1984, inspection, Kerr-McGee indicated that their "waste pile" is considered a tank. The Division has determined that the open basement does not meet the requirements for a tank and, therefore, Kerr-McGee is in violation of 40 CFR Part 262.34(a)(1) and NAC 444.9115.

F. There is no accumulation date marked on the "tank", which is in violation of the generator requirements of 40 CFR Part 262.34(a)(2) and NAC 444.8665(3).

G. The "tank" is not marked "Hazardous Waste", which is in violation of 40 CFR 265.34(a)(3) and NAC 444.8665(4).

In the Matter of)
Kerr-McGee Chemical)
Corporation)

Finding of Violation

H. In addition, Kerr-McGee is in violation of the following requirements regarding storage of hazardous waste in a waste pile:

1. The security requirements of 40 CFR Part 265.14;

2. The inspection requirements of 40 CFR Part 265.15;

3. The preparedness and prevention requirements of 40 CFR Part 265.31;

4. The requirements of Subpart D of 40 CFR Part 265 - Contingency Plan and Emergency Procedures;

5. The requirements for Closure and Post-Closure specified in Subpart G of 40 CFR Part 265; and

6. The requirements for waste piles specified in Subpart L of 40 CFR Part 265.

March 21, 1984
Date

Thomas J. Frohapfel
Thomas J. Frohapfel, P.E.
Environmental Engineer

TJF/de

In the Matter of)
Kerr-McGee Chemical)
Corporation)

ORDER

The following Order is issued this date pursuant to the duties vested in the Director by Nevada Revised Statutes (NRS) Chapter 444.730, and in accordance with NRS 444.760, 444.766, Subsection 1, and NRS 444.768.

On the basis of the Finding of Violation attached hereto and made part of this Order, the Administrator of the Division of Environmental Protection, pursuant to the authority delegated to him by the Director of the Department of Conservation and Natural Resources, has determined that Kerr-McGee Chemical Corporation is in violation of 40 CFR Parts 270.13, 262.34(a)(1), 262.34(a)(2), 262.34(a)(3), 265.14, 265.15, 265.31, and Subparts D, G, and L of 40 CFR Part 265 governing management of hazardous waste as outlined in the Finding of Violation.

IT IS HEREBY ORDERED:

That Kerr-McGee Chemical Corporation complete the following acts by the dates specified:

1. Immediately cease and desist the use of the "basement" area (tank) for storage of the chlorate process waste;

2. Within thirty (30) days of receipt of this Order, provide the Division with a schedule for compliance which details the actions to be taken by Kerr-McGee to bring the facility into compliance with the requirements specified in the Finding of Violation; and

3. Within fifteen (15) days of receipt of this Order, representatives of Kerr-McGee Chemical Corporation shall appear in the offices of the Division of Environmental Protection to show cause why the Administrator should not proceed with civil actions against Kerr-McGee Chemical Corporation as provided in Nevada Revised Statutes for the aforementioned violations. With due regard and in a timely manner, these representatives shall contact Thomas J. Fronapfel, P.E., Environmental Engineer, at (702) 885-4670, to schedule this meeting. These representatives should be prepared to provide all relevant information with supportive documentation pertaining to the regulation violations.

3/21/84
Date

L.H. Dodgion, P.E.
Administrator
Division of Environmental Protection

LHD/de

March 21, 1984

Certified Mail #P22-1672990
Return Receipt Requested

Mr. R.B. Chase, Jr.
Plant Manager
Kerr-McGee Chemical Corporation
P.O. Box 55
Henderson, Nevada 89015

Dear Mr. Chase:

The enclosed Finding of Violation and Order are issued by the Administrator of the Division of Environmental Protection pursuant to Nevada Revised Statutes (NRS) 444.766 and 444.768.

The Finding of Violation and Order relate to the violation of interim status requirements regarding storage of hazardous waste in a waste pile.

Any violation of the terms of this Order could subject Kerr-McGee to an action for appropriate relief pursuant to NRS 444.772, 444.774, or 444.778.

This Order is final and not subject to review unless within thirty (30) days after the date such Order is served, a request by written petition for a hearing is received by the State Environmental Commission, 201 South Fall Street, Room 221, Capitol Complex, Carson City, Nevada 89710.

If you have any questions concerning this matter, please contact me at (702) 885-4670 or toll free 1-800-992-0900, extension 4670.

Sincerely,

Thomas J. Fronapfel, P.E.
Environmental Engineer
Waste Management Section

de
Enclosures

cc sent to
Gary Lance

March 21, 1984

Certified Mail P22-1672990
Return Receipt Requested

Mr. R.B. Chase, Jr.
Plant Manager
Kerr-McGee Chemical Corporation
P.O. Box 55
Henderson, Nevada 89015

Dear Mr. Chase:

The enclosed Finding of Violation and Order are issued by the Administrator of the Division of Environmental Protection pursuant to Nevada Revised Statutes (NRS) 444.760 and 444.768.

P22 1672990

The Finding of Violation and Order relate to the viol
storage of hazardous waste i

of this Order could subjec
pursuant to NRS 444.772, 444

t subject to review unless
is served, a request by wri
e Environmental Commission,
ex, Carson City, Nevada 897

concerning this matter, pl
00-882-0900, extension 4572

Sincerely,

Thomas J. Fronapfe
Environmental Eng
Waste Management

RECEIPT FOR CERTIFIED MAIL

NO INSURANCE COVERAGE PROVIDED—
NOT FOR INTERNATIONAL MAIL
(See Reverse)

SENT TO R.B. Chase, Jr.
Plant Manager
STREET AND NO. Kerr-McGee Chem. Corp.
P.O., STATE AND ZIP CODE P.O. Box 55, Henderson, NV. 89015
POSTAGE $

CERTIFIED FEE		¢
OPTIONAL SERVICES	SPECIAL DELIVERY	¢
	RESTRICTED DELIVERY	¢
	RETURN RECEIPT SERVICE: SHOW TO WHOM AND DATE DELIVERED	¢
	RETURN RECEIPT SERVICE: SHOW TO WHOM, DATE, AND ADDRESS OF DELIVERY	¢
	RETURN RECEIPT SERVICE: SHOW TO WHOM AND DATE DELIVERED WITH RESTRICTED DELIVERY	¢
	RETURN RECEIPT SERVICE: SHOW TO WHOM, DATE AND ADDRESS OF DELIVERY WITH RESTRICTED DELIVERY	¢
TOTAL POSTAGE AND FEES		$

POSTMARK OR DATE
03-21-84
TJF/de

CONSULT POSTMASTER FOR FEES

CERTIFIED
P22 1672990
MAIL

PS Form 3811, July 1982

● SENDER: Complete items 1, 2, 3, and 4.
Add your address in the "RETURN TO" space on reverse.

(CONSULT POSTMASTER FOR FEES)

1. The following service is requested (check one).
☑ Show to whom and date delivered ..... ✓ ¢
☐ Show to whom, date, and address of delivery .. ____ ¢
2. ☐ RESTRICTED DELIVERY ..... ____ ¢
(The restricted delivery fee is charged in addition to the return receipt fee.)

TOTAL $ ____

3. ARTICLE ADDRESSED TO: R.B. Chase, Jr.
Plant Manager
Kerr-McGee Chem. Corp.
P.O. Box 55 Henderson, NV. 89015

4. TYPE OF SERVICE:
☐ REGISTERED ☐ INSURED
☑ CERTIFIED ☐ COD
☐ EXPRESS MAIL

ARTICLE NUMBER
P22-1672990

(Always obtain signature of addressee or agent)

I have received the article described above.
SIGNATURE ☐ Addressee ☐ Authorized agent
J R Caldwell

5. DATE OF DELIVERY
3/29/84

POSTMARK (may be on reverse side)
MAR 29 1984

6. ADDRESSEE'S ADDRESS (Only if requested)

7. UNABLE TO DELIVER BECAUSE:

7a. EMPLOYEE'S INITIALS

RETURN RECEIPT

☆ GPO: 1982-379-593

In the Matter of)
Kerr-McGee Chemical)
Corporation)

FINDING OF VIOLATION

I. This Finding is made on the basis of the following facts, to wit:

A. The State of Nevada, Division of Environmental Protection, under the authority of Nevada Revised Statutes (NRS) 444.764, conducted a hazardous waste inspection of the Kerr-McGee Henderson facility on March 8, 1984.

B. Based on the information gathered during the aforementioned inspection, the Division of Environmental Protection finds Kerr-McGee to be in violation of various State and Federal requirements governing the management of hazardous waste.

C. Kerr-McGee is currently operating a waste pile for storage of chlorate process waste in an open basement.

D. Kerr-McGee did not indicate on their RCRA Part A Application that a waste pile would be operated, which is a violation of 40 CFR Part 270.13 and Nevada Administrative Code (NAC) 444.8745.

E. During the March 8, 1984, inspection, Kerr-McGee indicated that their "waste pile" is considered a tank. The Division has determined that the open basement does not meet the requirements for a tank and, therefore, Kerr-McGee is in violation of 40 CFR Part 262.34(a)(1) and NAC 444.9115.

F. There is no accumulation date marked on the "tank", which is in violation of the generator requirements of 40 CFR Part 262.34(a)(2) and NAC 444.8665(3).

G. The "tank" is not marked "Hazardous Waste", which is in violation of 40 CFR 265.34(a)(3) and NAC 444.8665(4).

H. In addition, Kerr-McGee is in violation of the following requirements regarding storage of hazardous waste in a waste pile:

1. The security requirements of 40 CFR Part 265.14;

2. The inspection requirements of 40 CFR Part 265.15;

3. The preparedness and prevention requirements of 40 CFR Part 265.31;

4. The requirements of Subpart D of 40 CFR Part 265 - Contingency Plan and Emergency Procedures;

5. The requirements for Closure and Post-Closure specified in Subpart G of 40 CFR Part 265; and

6. The requirements for waste piles specified in Subpart L of 40 CFR Part 265.

March 21, 1984
Date

Thomas J. Fronapfel
Thomas J. Fronapfel, P.E.
Environmental Engineer

TJF/de

In the Matter of)
Kerr-McGee Chemical)
Corporation)

ORDER

The following Order is issued this date pursuant to the duties vested in the Director by Nevada Revised Statutes (NRS) Chapter 444.730, and in accordance with NRS 444.760, 444.766, Subsection 1, and NRS 444.768.

On the basis of the Finding of Violation attached hereto and made part of this Order, the Administrator of the Division of Environmental Protection, pursuant to the authority delegated to him by the Director of the Department of Conservation and Natural Resources, has determined that Kerr-McGee Chemical Corporation is in violation of 40 CFR Parts 270.13, 262.34(a)(1), 262.34(a)(2), 262.34(a)(3), 265.14, 265.15, 265.31, and Subparts D, G, and L of 40 CFR Part 265 governing management of hazardous waste as outlined in the Finding of Violation.

IT IS HEREBY ORDERED:

That Kerr-McGee Chemical Corporation complete the following acts by the dates specified:

1. Immediately cease and desist the use of the "basement" area (tank) for storage of the chlorate process waste;

2. Within thirty (30) days of receipt of this Order, provide the Division with a schedule for compliance which details the actions to be taken by Kerr-McGee to bring the facility into compliance with the requirements specified in the Finding of Violation; and

3. Within fifteen (15) days of receipt of this Order, representatives of Kerr-McGee Chemical Corporation shall appear in the offices of the Division of Environmental Protection to show cause why the Administrator should not proceed with civil actions against Kerr-McGee Chemical Corporation as provided in Nevada Revised Statutes for the aforementioned violations. With due regard and in a timely manner, these representatives shall contact Thomas J. Fronapfel, P.E., Environmental Engineer, at (702) 885-4670, to schedule this meeting. These representatives should be prepared to provide all relevant information with supportive documentation pertaining to the regulation violations.

Date 3/21/84

L.H. Dodgion, P.E.
Administrator
Division of Environmental Protection

LHD/de

February 17, 1984

Ms. Kay Brothers
Kerr-McGee Chemical Corporation
P.O. Box 55
Henderson, Nevada 89015

Dear Ms. Brothers:

Pursuant to our telephone conversation of February 13, 1984, I have scheduled an Interim Status Inspection of your facility for March 7, 1984, at 1:00 p.m. Enclosed is a copy of the inspection form. Please have all requisite reports and records available at the time of inspection.

Upon completion of the report, I would like to visually inspect and photograph the waste handling facilities.

Please call me if you have any questions regarding this inspection.

Sincerely,

Douglas J. Martin
Environmental Management
Specialist
Waste Management Section

de
Enclosure

KERR-McGEE CHEMICAL CORPORATION
POST OFFICE BOX 55 • HENDERSON, NEVADA 89015

RECEIVED
MAR - 9 1984
ENVIRONMENTAL PROTECTION

March 7, 1984

Mr. Verne Rosse
State of Nevada
Division of Environmental Protection
Capitol Complex
201 South Fall Street
Carson City, NV 89710

Re: RCRA Groundwater Monitoring

Dear Mr. Rosse:

Kerr-McGee Chemical Corporation's Henderson facility conducted semi-annual RCRA groundwater monitoring as required in 40 CFR 265.92(d)(1) in December, 1983. Analytical results were statistically compared with baseline values as required under 40 CFR 265.93(c).

Statistically significant increases were observed for the following parameters in the following wells:

Surface Impoundments

M-1 (upgradient)	-	specific conductivity
M-2	-	pH and specific conductivity
M-8	-	pH
M-9	-	specific conductivity

Landfill

M-5 (upgradient)	-	pH
M-6	-	pH
H-28	-	pH

Additional groundwater samples were collcted as required under 40 CFR 265.93(c)(2). Statistical comparisons performed on these analytical results indicated the following increases:

Surfact Impoundments

M-1 (upgradient)	-	specific conductivity
M-9	-	specific conductivity

Landfill

M-5 (upgradient)	-	pH
H-28	-	pH

Analytical results, statistical comparisons, resample results, and water levels are attached.

As you know, specific conductivity of groundwater in this area varies significantly. The surface impoundments downgradient well (M-9) analyses indicate a statistically significant increase in specific conductivity when compared to the upgradient well (M-1) analyses. However, baseline values for the downgradient well (M-9) range from 15,000-40,000 µmhos. The attached specific conductivity values for M-9 fall within its baseline range. No other parameters indicate a statistically significant increase.

Even though the landfill downgradient monitor well (H-28) analyses indicate a statistically significant increase when compared to the upgradient well (M-5) analyses, the individual values are within the 7.0-7.5 pH range of the H-28 baseline values. No other parameters indicate a statistically significant increase. Of particular note is the fact that chromium is not detected in the landfill monitoring wells. As you know, chromium is the parameter most representative of the waste contained in the landfill. The absence of chromium in the downgradient wells indicates there has been no migration. Water levels in the landfill wells have decreased significantly, which is most likely a result of the Stauffer groundwater cleanup program in the area.

Based on the above, it appears the regulated units have not affected groundwater quality. KMCC will continue with RCRA groundwater monitoring, as specified under 40 CFR 265.92(d).

If there are any questions, please contact me or K. Brothers at 565-8901

Sincerely,

KERR-McGEE CHEMICAL CORPORATION

R. B. Chase, Jr.
Plant Manager

RBC:jc
Attachment

cc: Bill Wilson, EPA, Region IX

TE COPY TO: K. BROTHERS
HENDERSON

KERR-McGEE CHEMICAL CORPORATION
HENDERSON FACILITY
GROUNDWATER QUALITY PARAMETERS*

SURFACE IMPOUNDMENTS		REPLICATES				MEAN	VARIANCE	t
M-1 (UP)								
	pH	7.53	7.56	7.56	7.59	7.56	0.0006	2.401
	SpCd	15400	15500	15500	15500	15475	2500	18.203
	TOC	1.55	1.39	1.38	1.37	1.42	0.007	2.376
	TOH	0.195	0.200	0.210	0.215	0.205	0.00008	-
M-2								
	pH	7.72	7.73	7.71	7.72	7.72	0.00007	3.409
	SpCd	13400	13500	13500	13600	13500	6667	8.385
	TOC	1.99	2.09	2.11	2.01	2.05	0.003	2.230
	TOH	0.250	0.240	0.200	0.210	0.225	0.0006	-
M-8								
	pH	7.69	7.70	7.69	7.74	7.71	0.0006	3.313
	SpCd	8310	8370	8370	8360	8353	825	17.142
	TOC	1.70	1.66	1.71	1.69	1.69	0.0005	2.314
	TOH	0.220	0.230	0.220	0.250	0.23	0.0002	-
M-9								
	pH	7.00	7.00	7.07	7.00	7.01	0.001	1.009
	SpCd	27700	28000	28000	28000	27925	22500	78.946
	TOC	4.32	4.14	4.28	4.17	4.23	0.007	1.726
	TOH	0.620	0.590	0.620	0.600	0.61	0.0002	-
Background M-1								
	pH	values result of 16 replicates				7.2	0.097	
	SpCd	(4 per quarter)				11805	155600	
	TOC	Truesdail Laboratory				11.7	71.7	
	TOH					436	54.200	
LANDFILL								
M-5 (UP)								
	pH	7.50	7.39	7.43	7.40	7.43	0.002	6.331
	SpCd	10200	10200	10200	10200	10200	0	2.601
	TOC	68.78	68.29	68.82	69.47	68.84	0.234	0.302
	TOH	0.135	0.130	0.133	0.138	0.134	0.00001	-
M-6								
	pH	7.35	7.22	7.27	7.29	7.28	0.003	5.473
	SpCd	9450	9460	9470	9460	9460	66.7	9.762
	TOC	17.65	18.14	18.28	18.32	18.10	0.095	2.043
	TOH	0.186	0.190	0.183	0.189	0.187	0.00001	-
M-7								
	pH	6.84	6.70	6.87	6.87	6.82	0.007	2.780
	SpCd	9670	9660	9680	9670	9670	66.7	7.730
	TOC	19.70	19.33	19.12	19.26	19.35	0.061	1.985
	TOH	1.230	1.250	1.210	1.220	1.23	0.0003	-
M-28								
	pH	7.68	7.49	7.66	7.38	7.55	0.020	6.934
	SpCd	8380	8390	8390	8390	8388	25	20.144
	TOC	11.34	11.55	11.50	11.61	11.50	0.013	2.348
	TOH	0.132	0.134	0.135	0.138	0.135	0.000006	-
Background M-5								
	pH					6.34	0.113	
	SpCd					10469	40958	
	TOC					62.3	47.7	
	TOH					1798	229.3	

* Units - pH, units; SpCd, umhos, TOC and TOH, mg/l
SAMPLE DATE: December 13, 1983

KERR-McGEE CHEMICAL CORPORATION
HENDERSON FACILITY
GROUNDWATER QUALITY PARAMETERS*

SURFACE IMPOUNDMENTS	Na	Fe	Mn	Cr**	Phenol	Cl	SO_4
M-1 (UP)	1380	0.11	0.32	9.5	<0.003	2060	1060
M-2	2720	0.03	0.07	5.6	0.003	2400	2050
M-8	881	0.10	0.05	6.7	<0.003	1080	1090
M-9	3960	0.07	0.17	29.7	<0.003	5240	2610
LANDFILL							
M-5 (UP)	1280	14.4	1.2	<0.02	0.210	2450	2230
M-6	1390	19.1	1.8	<0.02	0.035	1980	2490
M-7	1500	20.2	1.5	<0.02	0.090	1980	2580
M-28	1130	74.6	2.0	<0.02	0.020	1880	1810

* = Analysis results in mg/l.
** = Cr added since it is indicative of waste stored or disposed at the facility.
SAMPLING DATE: December 13, 1983

KERR-McGEE CHEMICAL CORPORATION
HENDERSON FACILITY
GROUNDWATER QUALITY PARAMETERS
(RESAMPLING*)

SURFACE IMPOUNDMENTS		REPLICATES	MEAN	VARIANCE	t
M-1 (UP)	Sp.Cd.	13600; 13500; 13500; 13600	13550	3333	8.650
M-2	pH	7.23; 7.21; 7.20; 7.23	7.22	0.0002	0.248
	Sp.Cd.	11800; 11700; 11900; 11800	11800	6667	0.025
M-8	pH	7.20; 7.22; 7.24; 7.25	7.23	0.0005	0.311
M-9	Sp.Cd.	26300; 25900; 26000; 26200	26100	33333	69.540
LANDFILL					
M-5 (up)	pH	6.88; 6.89; 6.86; 6.88	6.88	0.002	3.130
M-6	pH	6.44; 6.49; 6.51; 6.51	6.49	0.001	0.861
H-28	pH	7.20; 7.24; 7.24; 7.25	7.23	0.0005	5.194

* Units - pH, units; Sp.Cd., umhos
SAMPLE DATE: February , 1984

KMCC HENDERSON FACILITY

WATER LEVELS

RCRA WELLS

	12/83	
Surface Impoundments		
M-1 (upgradient)	1749.43	
M-2	1744.96	
M-8	1745.17	
M-9	1744.12	
Landfill		
M-5 (upgradient)	1715.04	1716.00 (6/83)
M-6	1696.00	1697.07 (3/83)
M-7	1700.50	1701.23 (3/83)
H-28	1696.50	1698.08 (1/83)

gl

February 27, 1984

Ms. Kay Brothers
Kerr-McGee Chemical Corporation
P.O. Box 55
Henderson, Nevada 89015

Re: Hazardous Waste Activity - Annual Report

Dear Ms. Brothers:

Under Nevada hazardous waste management regulations, those persons which notified the U.S. Environmental Protection Agency of hazardous waste activity as defined by the Resource Conservation and Recovery Act (RCRA) are required to complete an annual report. The enclosed instructions and forms are provided to aid you with the completion of your 1983 annual report. Your report is to be completed and returned by May 1, 1984, to the following address:

Department of Conservation and Natural Resources
Division of Environmental Protection
Waste Management Section
201 South Fall Street, Room 221
Capitol Complex
Carson City, Nevada 89710

If your firm did not generate, treat, store, or dispose of regulated quantities of hazardous waste during 1983, you are required to only complete and return the appropriate one-page status sheet for nonregulated generators or facilities (enclosed).

If you have any questions about the procedures or your obligations, please contact the Nevada Division of Environmental Protection, Waste Management Section, at (702) 885-4670.

Sincerely,

H. LaVerne Rosse, P.E.
Program Director
Waste Management Section

de
Enclosures

February 17, 1984

Ms. Kay Brothers
Kerr-McGee Chemical Corporation
P.O. Box 55
Henderson, Nevada 89015

Dear Ms. Brothers:

Pursuant to our telephone conversation of February 13, 1984, I have scheduled an Interim Status Inspection of your facility for March 7, 1984, at 1:00 p.m. Enclosed is a copy of the inspection form. Please have all requisite reports and records available at the time of inspection.

Upon completion of the report, I would like to visually inspect and photograph the waste handling facilities.

Please call me if you have any questions regarding this inspection.

Sincerely,

Douglas J. Martin
Environmental Management
Specialist
Waste Management Section

de
Enclosure

KERR-McGEE CHEMICAL CORPORATION
POST OFFICE BOX 55 • HENDERSON, NEVADA 89015

February 1, 1984

RECEIVED
FEB - 6 1984
ENVIRONMENTAL
PROTECTION

Mr. Verne Rosse
State of Nevada
Division of Environmental Protection
Capitol Complex
201 South Fall Street
Carson City, NV 89710

Re: Groundwater Monitoring
KMCC, Henderson, NV Facility

Dear Mr. Rosse:

As we discussed at our December 5 meeting with you, elevated chromium concentrations were found in upgradient and downgradient monitor wells that were installed around surface impoundments S-1 and P-1. We initiated a groundwater assessment program to determine possible sources of this chromium contamination, since it was apparent, from upgradient well data, the source was not from the regulated units. During the months May to October, 1983, we installed a total of 15 additional groundwater monitoring wells. These wells are shown on the attached map. Wells previously installed around the landfill for compliance with RCRA are not shown. Well completion data and chromium analyses are attached.

Sources of Contamination

The source of chrome contamination has been traced to the basements of Units 4 and 5. These basements have been used for many years as sumps to collect sodium chlorate process liquor, spillage, wash water, and storm water runoff. These comingled liquids are pumped back to the process. These concrete basements were constructed as part of the original buildings in the early 1940's. As one would expect, over the years, deterioration and cracking has occurred.

Sodium dichromate is added in concentrations up to 4-5 grams per liter to the sodium chlorate process cell liquor as a pH buffer and a corrosion inhibitor. This is the only source of chromium at the KMCC Henderson facility.

As we also explained to you, a new sodium chlorate plant, now in the early design phase, will eliminate the use of these basements. The new plant will be operational August 1, 1988.

In the interim, areas of structural deterioration and cracking in the basements have been or are being repaired with sealants to alleviate leakage. In addition, we have instituted the following procedures:

a. Pumping liquid back to the process from the basement sumps as soon as possible rather than allowing it to accumulate.

b. Pumping the two monitor wells directly north of the basements back to the process as continuously as practicable.

Plume Movement

Groundwater under the KMCC Henderson facility moves to the north, northwest (see attached map). The eastern extent of the chromium plume has been located on KMCC property just west of the KMCC-Timet property line. The western boundary extends north from Unit 3 and west of the steam plant between wells M-3 and M-4. The chromium concentration decreases to the north with increasing distance from Units 4 and 5.

Chromium Concentrations

As the attached data indicate, chromium concentrations in a number of our groundwater monitoring wells have dropped significantly over the past months. This reduction in chromium is thought to have resulted from our efforts to:

a. Repair cracks and structural deterioration in the Unit 4 and Unit 5 basements,

b. Pump various groundwater monitoring wells back to the process as practicable, and

c. Implement procedures to return liquid which accumulates in the basement sumps back to the process as soon as possible.

Summary

KMCC has an active program to identify and control the chromium plume that appears in groundwater under our Henderson facility. It appears that our efforts have been successful in reducing chromium values in a number of wells. These efforts will continue and we will keep the NDEP informed of our progress by periodic reports to your office.

If there are any questions regarding the above, please contact me or Kay Brothers.

Sincerely,

KERR-McGEE CHEMICAL CORPORATION

R. B. Chase, Jr.
Plant Manager

RBC:jc
Attachments

WELL DATA

Well M-1

Total Depth - 45'

I.D. - 5"

Casing - Steel

Casing Elevation - 1,792.68'

Chromium Concentrations

Date	ppm
1/14/82	12.2
6/1/82	12.9
10/5/82	12.7
1/28/83	9.9
12/14/83	9.5

The 25% reduction in chromium may reflect revised procedures for handling basement liquors (i.e., returning liquor from the basements to the process as soon as possible).

Well M-2

Total Depth - 40'

I.D. - 5"

Casing - Steel

Casing Elevation - 1,780.02'

Chromium Concentrations

Date	ppm
1/14/82	9.0
6/1/82	10.0
10/5/82	9.15
1/7/83	10.7
12/15/83	5.6

This approximate 50% reduction in chromium content may be due to extended pumping of M-3, a well near M-2.

Well M-3

Total Depth - 40'

I.D. - 5"

Casing - Steel

Casing Elevation - 1,780.46'

Chromium Concentrations

Date	ppm
1/14/82	31.1
6/1/82	46.7
9/12/83	37.5
10/83 Avg.	30.0
11/83 Avg.	25.0
12/83 Avg.	20.0

This approximate 40% reduction in chromium is thought to be a result of pumping M-3 (rate approximately 15 gpm) for an extended period of time.

Well M-4

Total Depth - 40'

I.D. - 5"

Casing - Steel

Casing Elevation - 1,781.45'

Chromium Concentrations

Date	ppm
1/14/82	0.18
6/1/82	0.01
8/24/82	<0.02

Well M-4 indicates the western extent of the chromium plume.

Well M-8

Total Depth - 40'

I.D. - 5"

Casing - Steel

Casing Elevation - 1,780.00'

Chromium Concentrations

Date	ppm
10/5/82	5.1
1/7/83	6.0
3/10/83	0.67
6/22/83	2.96
12/14/83	6.7

Additional samples will be collected and analyzed during the month of February.

Well M-9

Total Depth - 40'

I.D. - 5"

Casing - Steel

Casing Elevation - 1,778.92'

Chromium Concentrations

Date	ppm
10/5/82	16.3
1/7/83	18.5
3/10/83	24.5
6/22/83	26.0
12/14/83	29.7

M-9 is located approximately 75' east of M-3; however, it only makes approximately 1-2 gpm. Between the two wells there appears to be a "sink" as indicated on the attached map. It is thought that the extended pumping of M-3 has essentially equalized the chromium concentration in this "sink" area.

Well M-10

Total Depth - 63'

I.D. - 5"

Casing - Steel

Casing Elevation - 1,834.76'

Chromium Concentrations

Date	ppm
6/20/83	<0.02
8/24/83	<0.02

As shown on the attached map, this well is located upgradient of the Unit 4 and Unit 5 basements.

Well M-11

Total Depth - 53'

I.D. - 5"

Casing - Steel

Casing Elevation - 1,814.45'

Chromium Concentrations

Date	ppm
6/14/83	72
8/24/83	92
10/83	44

The approximate 50% drop in chromium concentration in this well, located north of Unit 5, is a result of pumping M-11 and repairing cracks in the Unit 5 basement.

Well M-12

Total Depth - 52'

I.D. - 5"

Casing - Steel

Casing Elevation - 1,814.90'

Chromium Concentrations

Date	ppm
6/14/83	44
8/24/83	42

Additional samples will be collected and analyzed during the month of February.

Well M-13

Total Depth - 48'

I.D. - 5"

Casing - Steel

Casing Elevation - 1,814.23'

Chromium Concentrations

Date	ppm
6/20/83	0.14
8/24/83	1.1

Well M-13 indicates the western extent of the chromium plume.

Well M-14

Total Depth - 38'

I.D. - 2"

Casing - PVC

Casing Elevation - 1,759.43'

Chromium Concentrations

Date	ppm
6/20/83	0.34
8/24/83	0.41

Well M-14 indicates the western extent of the chromium plume.

Well M-15

Total Depth - 41'

I.D. - 2"

Casing - PVC

Casing Elevation - 1,750.31'

Chromium Concentrations

Date	ppm
6/20/83	6.5
8/24/83	6.3

Additional samples will be collected and analyzed for chromium during the month of February.

Well M-16

Total Depth - 38'

I.D. - 2"

Casing - PVC

Casing Elevation - 1,762.20

Chromium Concentrations

Date	ppm
6/20/83	9.0
8/24/83	7.0

Additional samples will be collected and analyzed for chromium during the month of February.

Well M-17

Total Depth - 42'

I.D. - 2"

Casing - PVC

Casing Elevation - 1,770.22'

Chromium Concentrations

Date	ppm
6/20/83	7.0
8/24/83	6.7

Additional samples will be collected and analyzed for chromium during the month of February.

Well M-18

Total Depth - 28'

I.D. - 2"

Casing - PVC

Casing Elevation - 1,738.93'

Chromium Concentrations

Date	ppm
8/24/83	0.73

Well M-18 indicates the eastern extent of the chromium plume.

Well M-19

Total Depth - 40'

I.D. - 2"

Casing - PVC

Casing Elevation - 1,766.93'

Chromium Concentrations

Date	ppm
8/24/83	0.03

Well M-19 indicates the eastern extent of the chromium plume.

Well M-20

Total Depth - 44'

I.D. - 2"

Casing - PVC

Casing Elevation - 1,798.21

Chromium Concentrations

Date	ppm
8/24/83	0.02

Well M-20 indicates the eastern extent of the chromium plume.

Well M-21

Total Depth - 43'

I.D. - 2"

Casing - PVC

Casing Elevation - 1,790.50'

Silted In

Well M-22

Total Depth - 35'

I.D. - 2"

Casing - PVC

Casing Elevation - 1,758.91

Chromium Concentrations

Date	ppm
8/24/83	1.5

Well M-22 indicates the eastern edge of the chromium plume.

Well M-23

Total Depth - 43'

I.D. - 2"

Casing - PVC

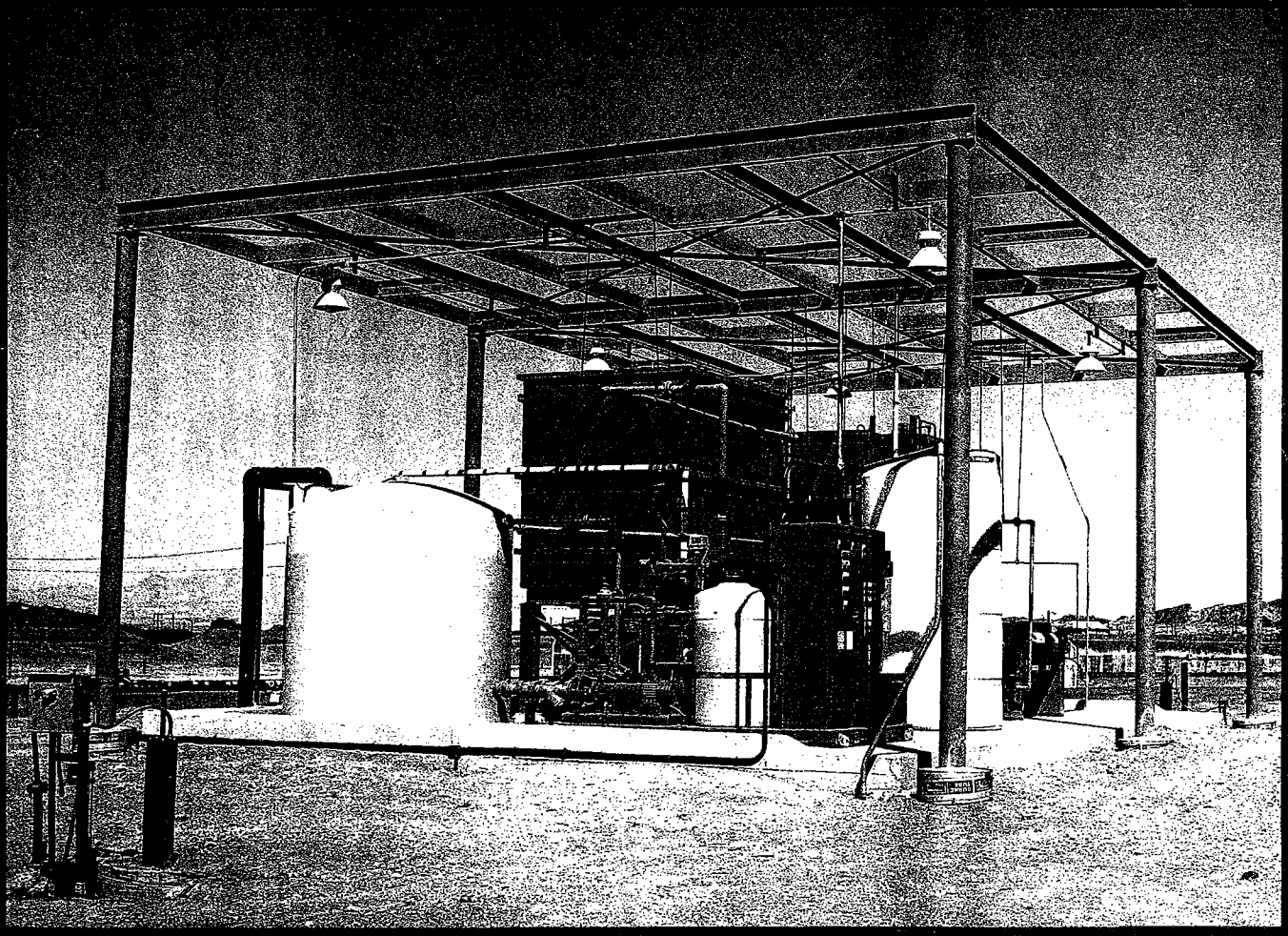
Casing Elevation - 1,717.61'

Chromium Concentrations

Date	ppm
8/24/83	3.5

Additional samples will be collected and analyzed for chromium during the month of February.

An Economical Solution to Heavy Metal Removal From Groundwater



Removal of heavy metals from contaminated groundwater at remote desert site.

Andco Electrochemical System treating hexavalent chrome contaminated groundwater for down gradient reinjection of treated effluent. The system operating at 125 gpm reduces hexavalent chromium from 3.5 ppm to <.005 ppm before reinjection.

GROUNDWATER SAMPLING AND ANALYSIS PLAN

Groundwater System

The groundwater monitoring system consists of eight wells. Four wells each are located around the pond (P-1) and landfill with one well hydraulically upgradient and three wells downgradient of each operational unit. The following sampling and analysis plan is based on the attached corporate outline by T. Bentley, et al, April 1, 1981.

Sample Collection

Groundwater samples shall be collected of all wells on a quarterly basis for one year and analyzed for parameters listed below. After the first year, wells around active and closed waste management units shall be sampled semi-annually and analyzed for groundwater quality or indicator parameters as is appropriate. When possible, samples shall be collected by pumping. At least one case volume shall be removed if samples are collected by bailing. At the time of sampling, water elevations shall be determined.

Sample Preservation and Shipment

Samples for pesticides, herbicides, and phenol shall be collected at the well and preserved in glass bottles. Preservation for pesticides and herbicides is cooling to 4°C and for phenols 1 g $CuSO_4$ and adjusting pH to below 2 with phosphoric acid using methyl red as an indicator and storage at 4°C.

Samples for the remaining parameters listed in 40 CFR 265.92, b-1, -3, shall be taken from a five-gallon sample collected from each well. The following parameter shall be preserved as indicated below:

Parameter	Sample Container	Preservation
Metals, As Radiological	Plastic (P) or Glass (G)	Acidify to pH <2 with HNO_3
F, Cl, SO_4, NO_3(N), Coliform, Specific Conductance	"	Cool to 4°C
Total Organic Carbon, Total Organic Halogen	"	Acidify to pH <2 with H_2SO_4 or HCl

Chain of custody shall be indicated by a form specifically to accompany samples and/or some other equivalent documents which indicate that samples arrived at laboratory undisturbed and in good condition, e.g., shipping documents or statements in laboratory report. Samples shall be packed for shipment in suitable containers (e.g., in chests to preserve temperature) and sent to a commercial laboratory for analysis.

Sample Analysis

The laboratory shall indicate that all analyses were performed using methods in the EPA publication, *Methods for Chemical Analysis of Water and Wastes*, a recognized equivalent, or shall produce such evidence upon request. Analysis of pH and specific conductance shall be done on site using suitable standards to calibrate instruments. For specific conductance, measurement shall be taken at 25°C.

Several parameters listed in 40 CFR 265.92 must be determined in quadruplicate on upgradient well(s). They are specific conductance, pH, total organic carbon, and total organic halogen.

The results of analyses shall be summarized in a report to the Region IX Administrator with a copy sent to the Nevada State Department of Environmental Protection, not later than 15 days after receipt of complete laboratory report.

EXPLANATION OF GEOLOGICAL AND WELL CONSTRUCTION DATA

KERR-McGEE HENDERSON FACILITY

RCRA INTERIM STATUS GROUNDWATER MONITORING PROGRAM

Enclosed are:

1) Map showing RCRA Interim Status Monitor Well location.

2) Well construction diagrams for RCRA Interim Status Groundwater Monitoring Wells M-1, M-2, M-5, M-6, M-7, M-8, and M-9. (Note: No construction diagram is shown for Well H-28; however, well construction details are enclosed.)

3) Tables showing detailed lithological description of Wells M-5, M-6, M-7, M-8, M-9, and H-28. (Note: The detailed lithological descriptions for Wells M-1 and M-2 are shown on the well construction diagrams.)

4) Well construction and completion tables for Wells M-5, M-6, M-7, M-8, and M-9. (Note: The detailed well construction and completion tables for Wells M-1 and M-2 were not made. Details of construction are shown on the well construction diagrams.)

LOCATION OF RCRA GROUND-WATER MONITORING WELLS

Kerr-McGee Chemical Corporation's Henderson Facility

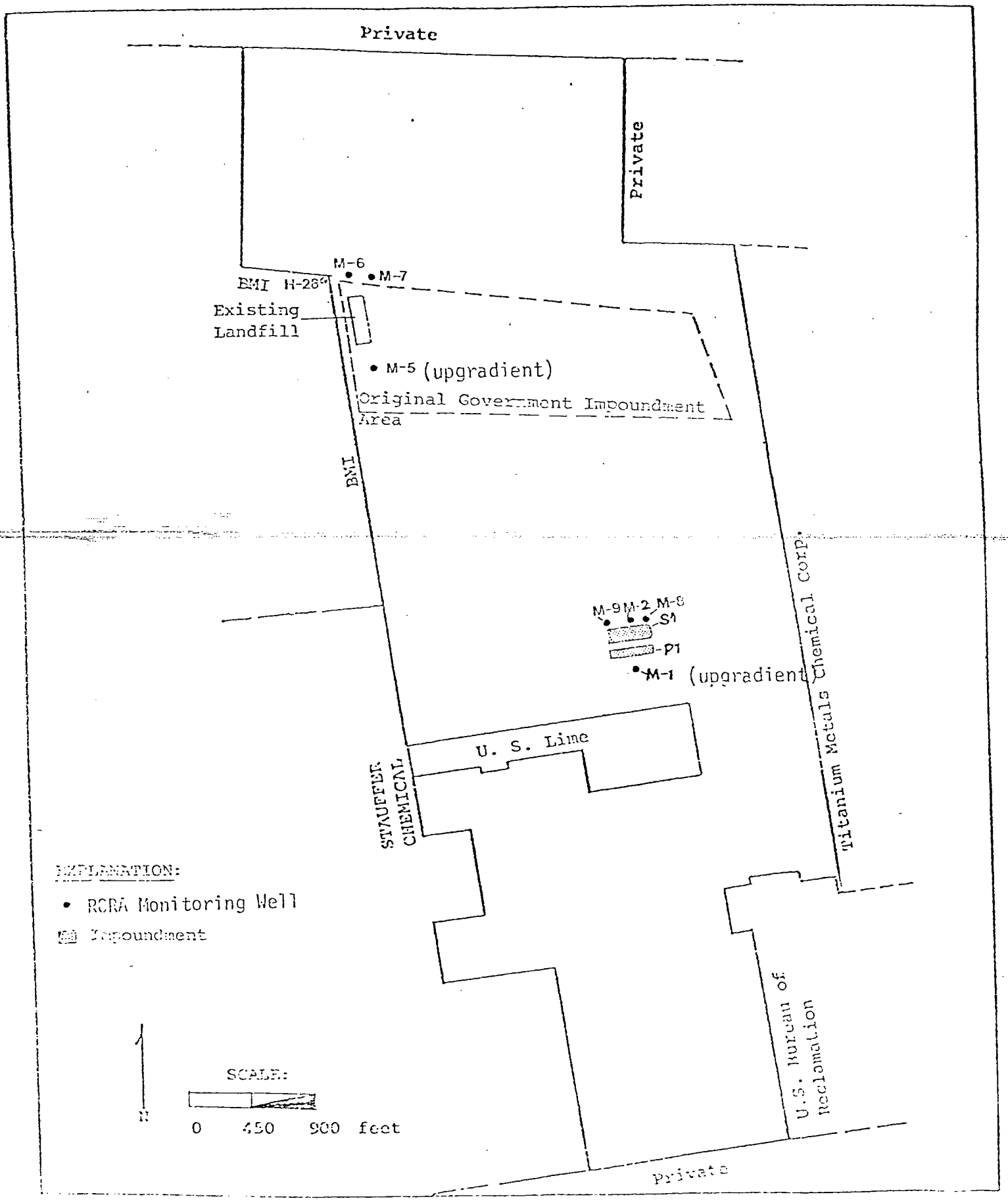
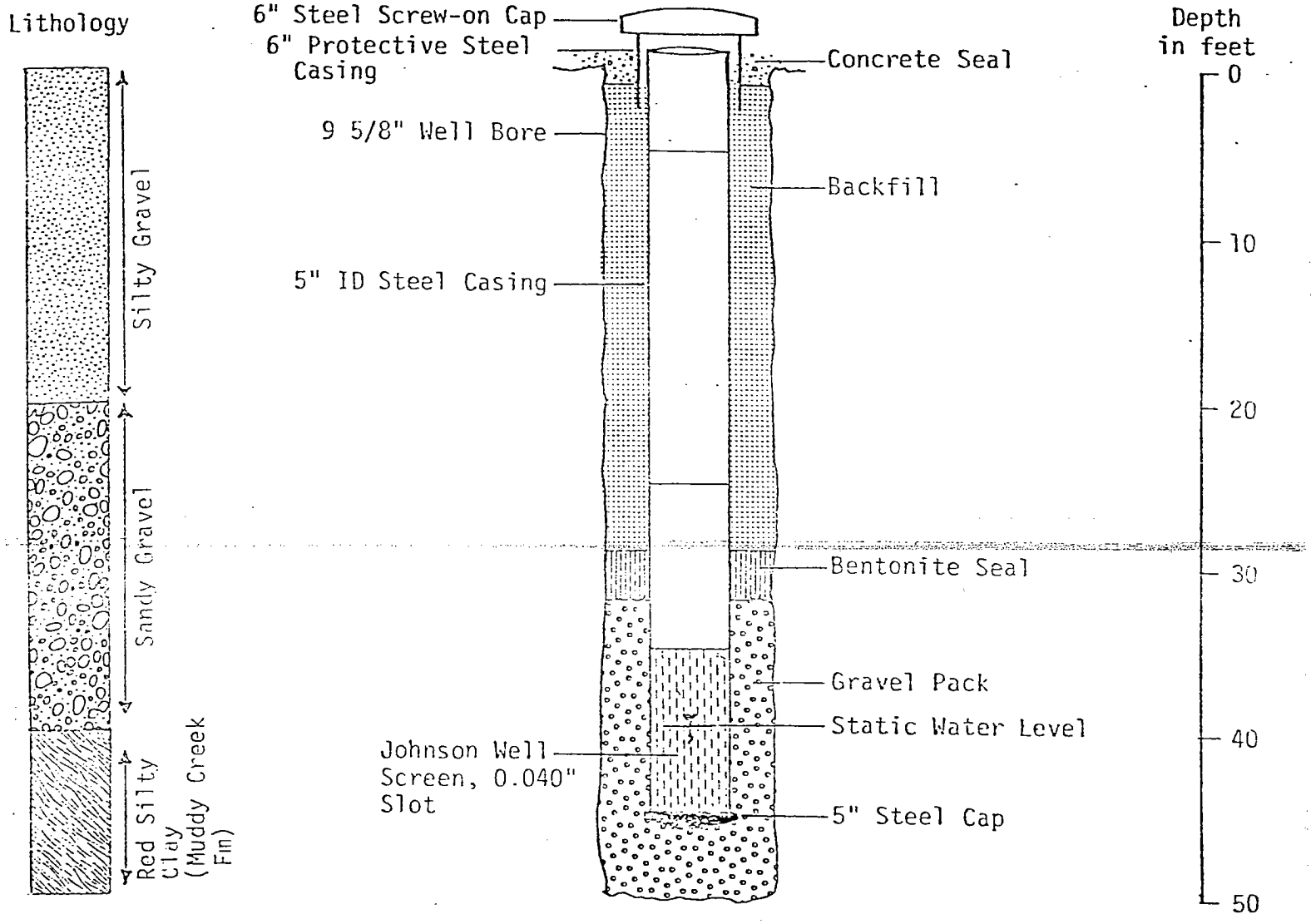


Figure 1.

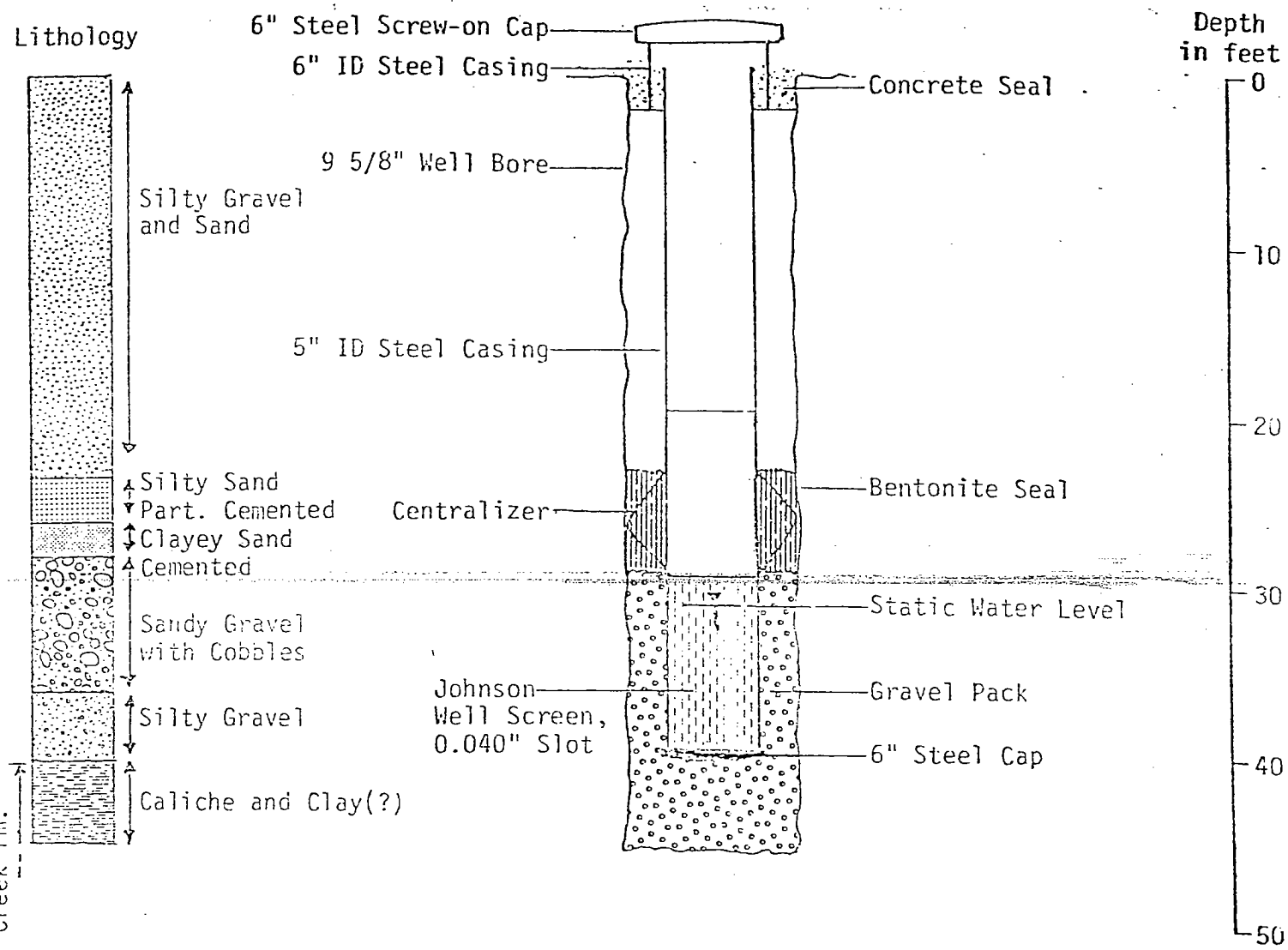
K-M CHEMICAL CORPORATION
Henderson, Nevada Facility
Well No. M-1



Well Yield: Approximately 1/2 gpm
Water Level on 1-14-82: 41.05' (from protector pipe top)
Casing Elevation: 1792.68' above MSL

Geological and Well Construction Data from Converse Consultants 81-3258, 11-13-81.

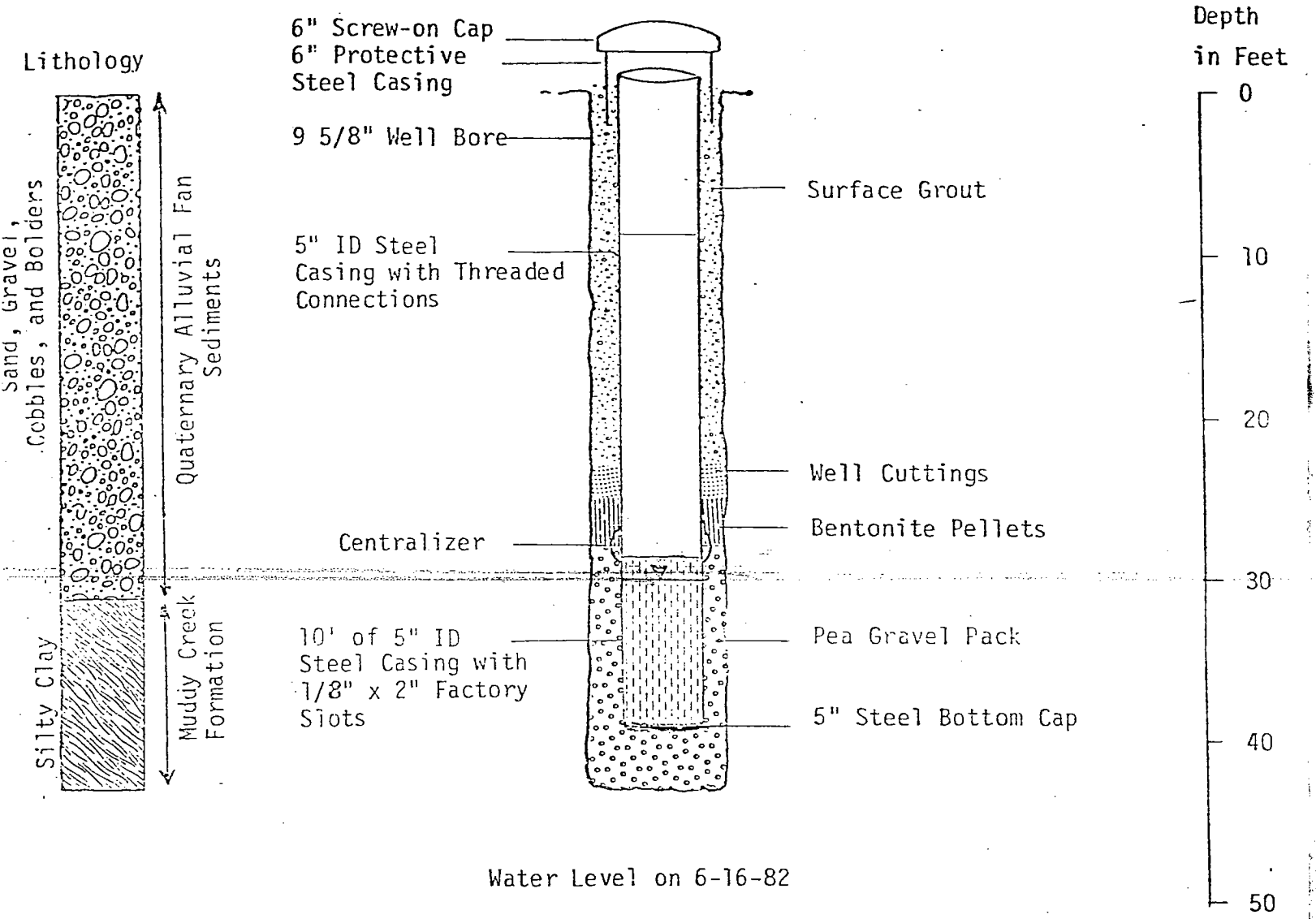
K-M CHEMICAL CORPORATION
Henderson, Nevada Facility
Well No. M-2



Well Yield: Approximately 15 gpm
Water Level on 1-14-82 : 33.25' (from protector pipe top)
Casing Elevation: 1780.02 ft. above MSL

Geological and Well Construction Data from Converse Consultants 81-3258, 11-13-81.

K-M Chemical Corporation
Henderson, Nevada Facility
Well No. M-5

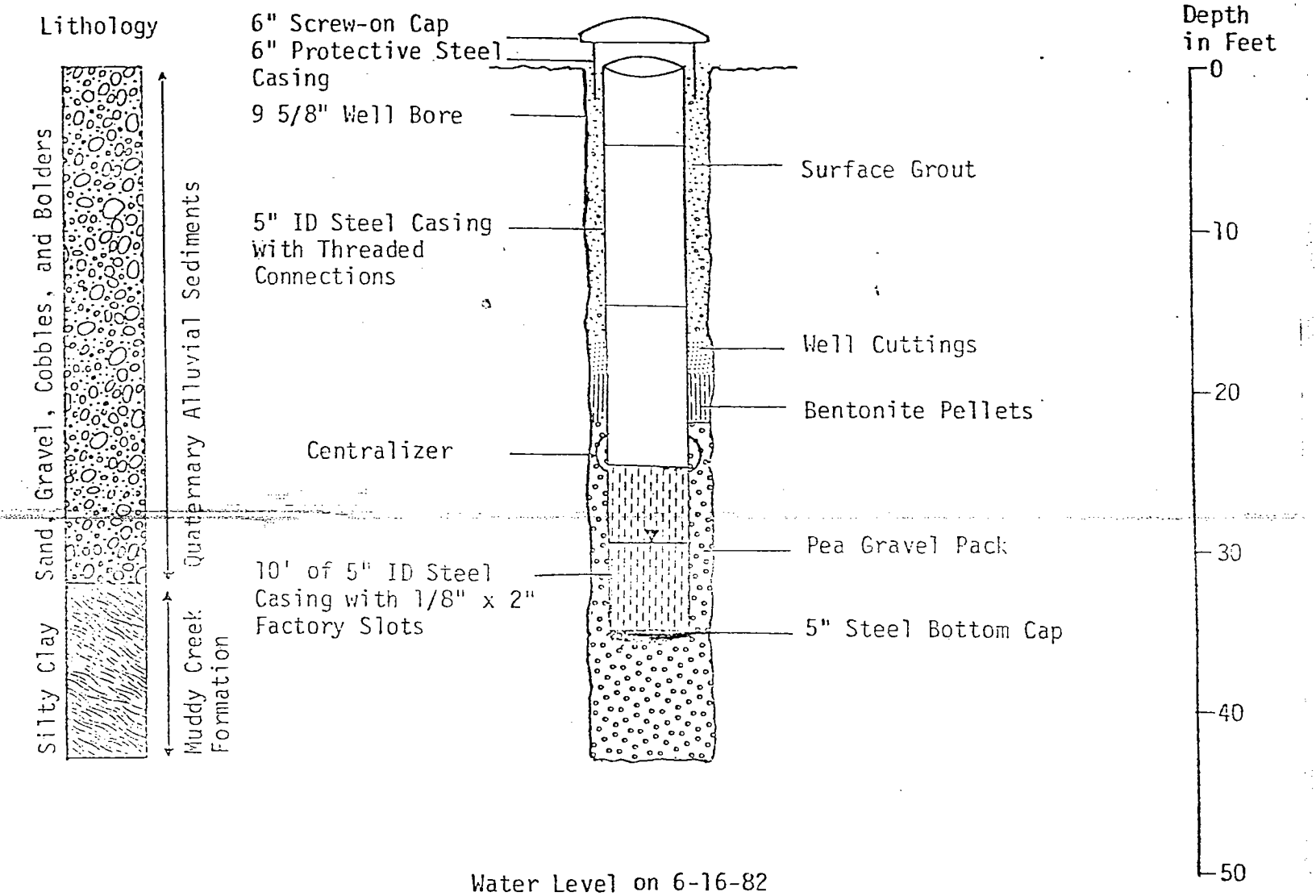


Water Level on 6-16-82

31' 4 3/8"

Measured from Top of Protective Casing

K-M Chemical Corporation
Henderson, Nevada Facility
Well No. M-6

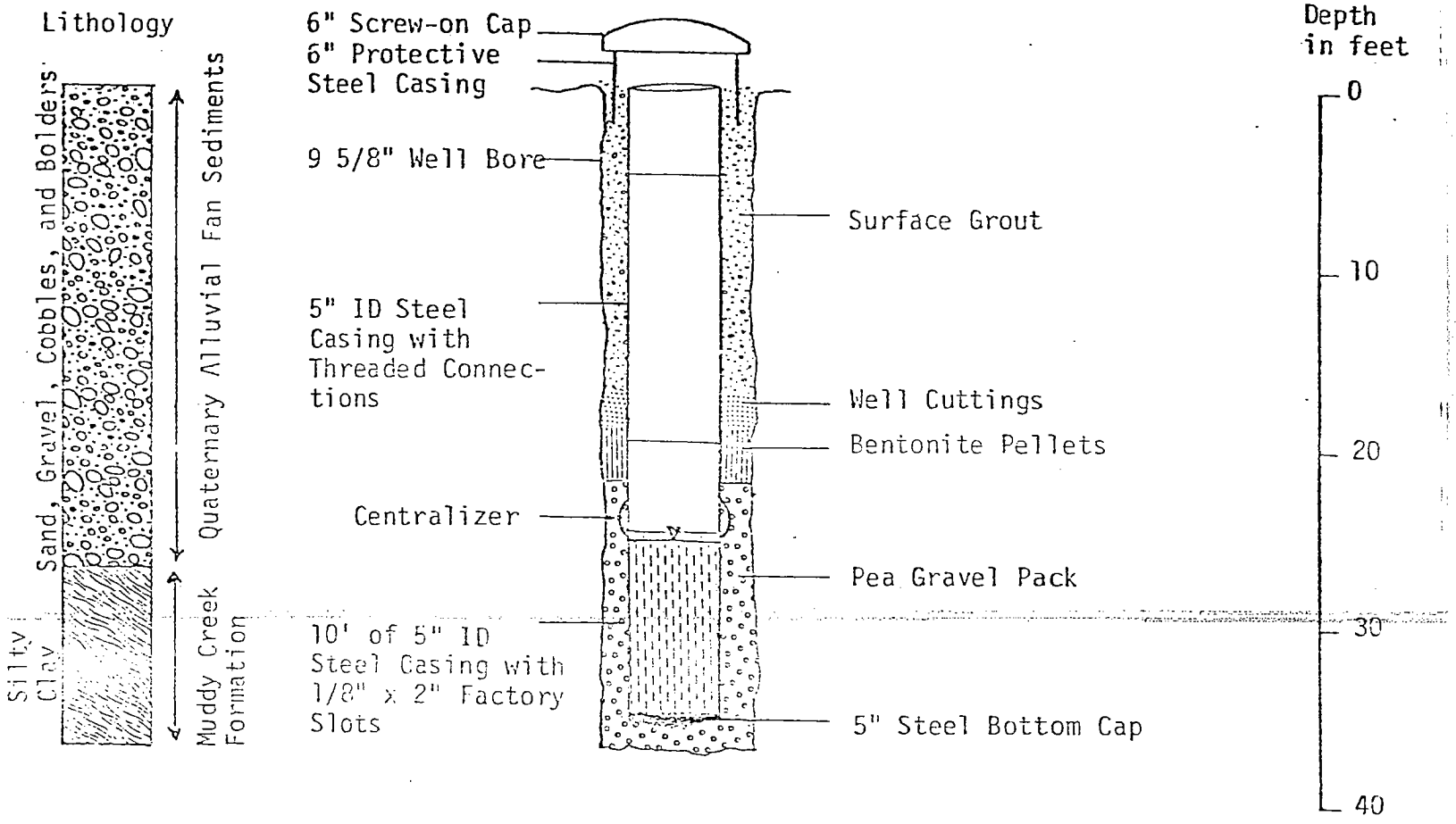


Water Level on 6-16-82

31' 4"

Measured from Top of Protective Casing

K-M Chemical Corporation
enderson, Nevada Facility
Well No. M-7

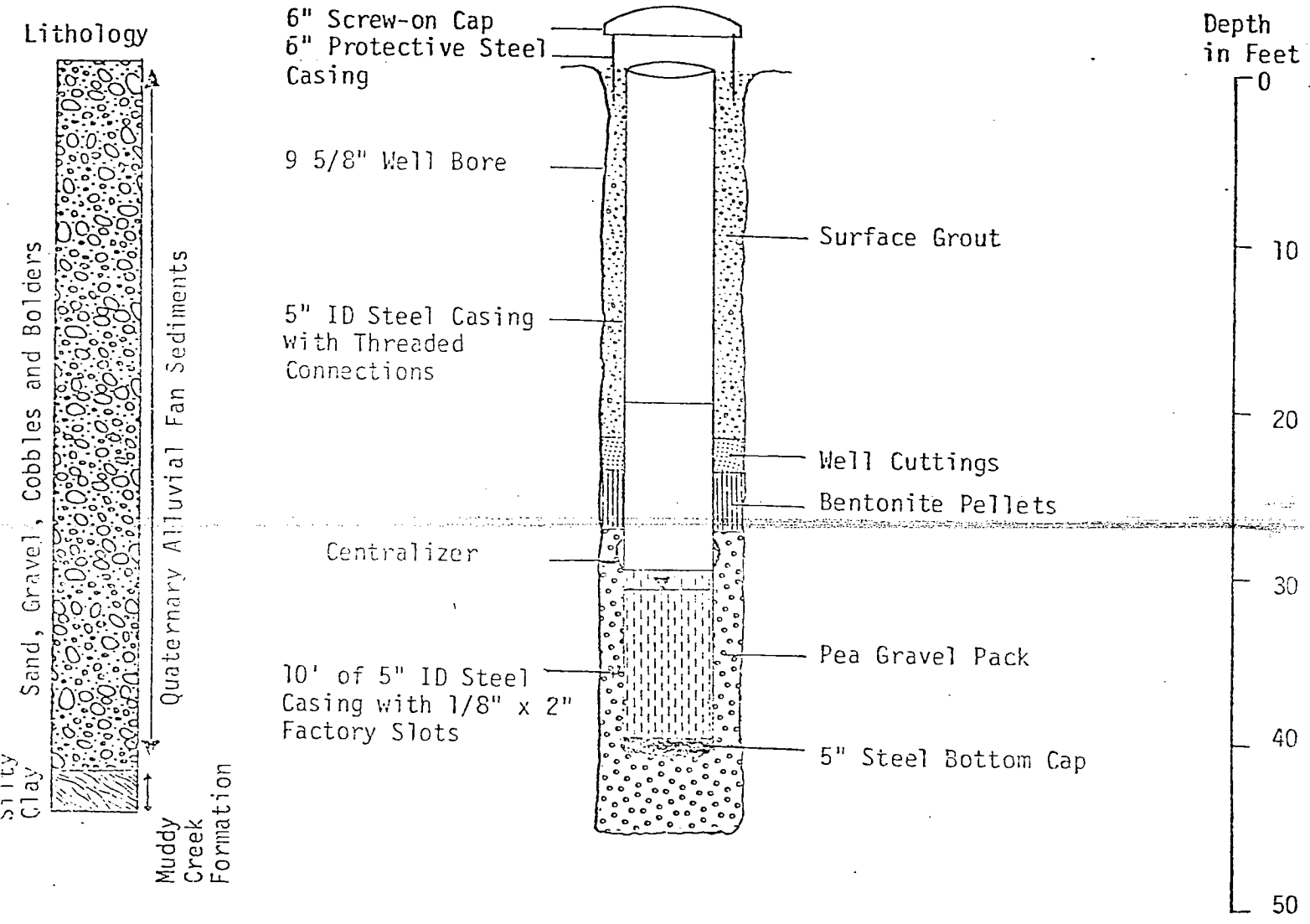


Water Level on 6-16-82

27' 11 3/4"

Measured from Top of Protective Casing

K-M Chemical Corporation
Henderson, Nevada Facility
Well No. M-8

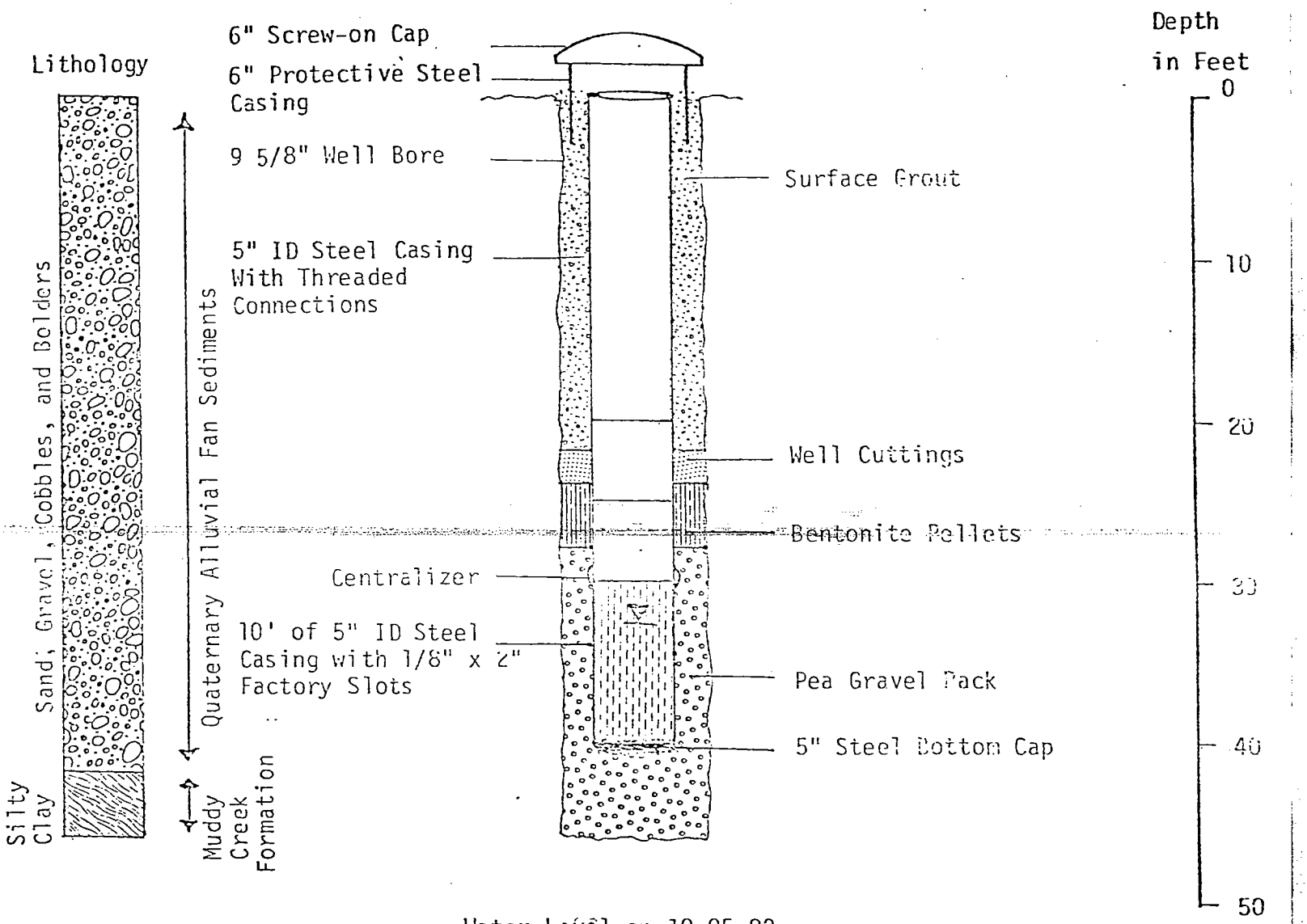


Water Level on 6-16-82

33' 8"

Measured from Top of Protective Casing

K-M Chemical Corporation
Henderson, Nevada Facility
Well No. M-9



Water Level on 10-05-82
33' 9"
Measured from Top of Protective Casing

Lithology Log
for Henderson
Well No. M-5

Depth in Feet	Lithology Description
0-12.0	Silty sandy gravel
12.0-15.0	Partially cemented sand and gravel
15.0-20.0	Cobbles
20.0-23.0	Silty sand and gravel
23.0-24.5	Gravel and sand with cobbles
24.5-25.5	White clay and gravel with gypsum and cobbles
25.5-28.0	Brown clayey silt with about 50% gypsum
28.0-31.0	Brown clayey silt with sand and gravel and white streaks
31.0-43.0	Brown clay with occasional thin caliche lenses

Top of Muddy Creek at 31 feet

Lithology Log
for Henderson
Well No. M-6

Depth in Feet	Lithology Description
0-29.0	Silty gravel and sand; slightly cemented from 12' - 13'
29.0-32.0	Silty sand and gravel with gypsum
32.0-32.5	Brown silty clay
32.5-34.0	Silty sand and gravel
34.0-38.0	Brown silty clay
38.0-43.0	Brown clay with sand and gravel

Top of Muddy Creek at 32 feet

Lithology Log
for Henderson
Well No. M-7

Depth in Feet	Lithology Description
0-15.0	Silty gravel and sand
15.0-18.0	Silty gravel and sand with gypsum
18.0-22.5	Silty gravel and sand with abundant gypsum; approximately 40% gypsum
22.5-28.0	Light brown silty clay with thin beds of caliche. Cemented from 27' - 27.5'
28.0-29.5	Clayey gravel (Not cemented)
29.5-37.0	Brown silty clay.

Top of Muddy Creek at 29.5'

Lithology Log
for Henderson
Well No. M-8

Depth in Feet	Lithology Description
0-25.0	Silty sandy gravel
25.0-25.5	White dry clayey sand
25.5-33.0	Silty sandy gravel with cobbles; gypsum stringer at 27'
33.0-40.5	Caliche-cemented sand and gravel
40.5-42.5	Sandy gravel slightly cemented
42.5-45.0	Silty clay

Top of Muddy Creek at 42.5'

Lithology Log
for Henderson
Well No. M-9

Depth in Feet	Lithology Description
0-19.0	Sand and gravel; unconsolidated
19.0-20.0	Harder sand and gravel with some caliche cementation
20.0-35.0	Sand and gravel; not as hard. Some cementation
35.0-42.0	Gravel, sand, clay, and silt; clay reddish brown; some gypsum at 37'
42.0-45.0	Silty clay and sand

Top of Muddy Creek @ 42.0

LITHOLOGY LOG

FOR HENDERSON

WELL NO. H-28

Description	Depth Below Land Surface (feet)
Sand, silty to clayey, grayish-brown very fine to very coarse (poorly sorted), and gravel, pebbles, cobbles and boulders, rounded to subangular; also with layers of caliche and caliche-cemented sand and gravel	0 - 44½
Clay, silty, to silt, clayey, light brown with traces of sand and gravel in matrix; also, with occasional thin layers of sand, reworked caliche, and caliche (Muddy Creek Formation)	44½ - 51

Data from Geraghty and Miller, Inc., October, 1980.

HLR

KERR-McGEE CHEMICAL CORPORATION
POST OFFICE BOX 55 • HENDERSON, NEVADA 89015

December 7, 1983

RECEIVED
DEC 12 1983
ENVIRONMENTAL PROTECTION

H. LaVerne Rosse, P.E.
Program Director
Waste Management Section
State of Nevada
Division of Environmental Protection
Capitol Complex
Carson City, NV 89710

Dear Mr. Rosse:

We appreciate meeting with you, Tom Fronapfel, and Marvin Tebeau on December 5, 1983 to discuss your November 8, 1983 letter regarding the RCRA hazardous waste management program for Kerr-McGee Chemical Corporation's Henderson facility.

The following summarizes the major points of our discussion and outlines future KMCC actions regarding our hazardous waste management program:

1. EPA's consultant, Ertec Rocky Mountain, Inc., conducted their review of the Henderson facility's groundwater monitoring program in March of 1983. Since March, our baseline data have been completed for all groundwater monitoring wells around the landfill and pond P-1. A map showing these wells is attached. The first semi-annual sampling will be completed this month. Statistical comparisons, as required in 40 CFR 265.93 (b), will be calculated upon receipt of the analyses and reported to you, if appropriate.

2. As we agreed, groundwater monitoring data do not indicate that any hazardous waste constituents have migrated from the regulated units to the groundwater. Therefore, we will be in compliance with the requirements of 40 CFR 265.111 at closure

3. Closure and post-closure plans previously submitted for the hazardous waste landfill and pond P-1 will be amended to address the items outlined in the review transmitted with your November 8, 1983 letter. The extensive data required in items 4, 5, and 6 of page 4 of the review will be prepared by a soils engineering consultant. Because of the time required to collect all

these data, we anticipate completing the necessary revisions and submitting our response to you by the end of January, 1984.

We understand this letter, together with our meeting on December 5, meets the 30-day reply condition imposed by your November 8 letter.

If there are any questions regarding our meeting or future plans, please contact me or K. Brothers at 565-8901.

Sincerely,

KERR-McGEE CHEMICAL CORPORATION

R. B. Chase, Jr.
Plant Manager

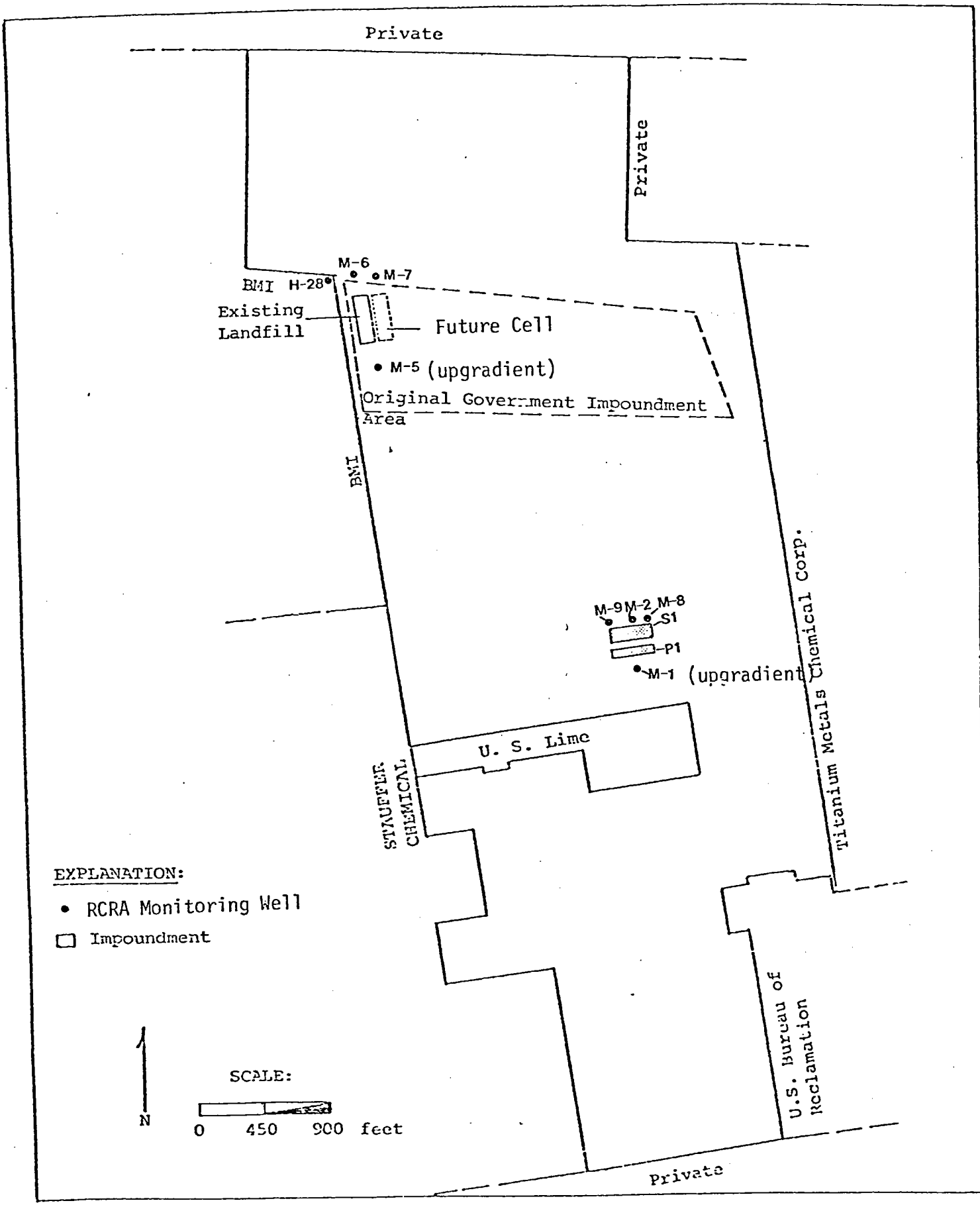
RBC:jc
Attachment

CERTIFIED MAIL NO. P 331 934 035

FIGURE 1

LOCATION OF RCRA GROUND-WATER MONITORING WELLS

Kerr-McGee Chemical Corporation's Henderson Facility



April 6, 1983

Ms. Karen Schwinn
Regional Project Officer
U. S. Environmental Protection Agency
215 Fremont Street
San Francisco, California 94103

Dear Ms. Schwinn:

Enclosed you will find the materials which we have prepared under Work Assignment R-09-011 relative to the Kerr McGee Facility in Henderson, Nevada.

We have enclosed four copies each of the Groundwater Inspection report, the 265 Subpart F Groundwater Monitoring Evaluation and the 264 Subpart F Groundwater Monitoring Evaluation.

It is our feeling that the most critical deficiency with the data gathered by Kerr McGee is the failure to have gathered a sufficient number of samples since the regulations took effect. It is fairly obvious that some contamination is taking place, originating from the RCRA units at Kerr McGee. We believe that if they had taken a sufficient number of samples to run a student's t-test, it is likely that significant differences between upgradient and downgradient groundwater quality would be demonstrated.

In addition, depending upon the background standard and the hazardous constituents chosen by the Region IX Regional Administrator, it seems likely that Kerr McGee will function in a compliance monitoring - corrective action made under 264 Subpart F.

Please do not hesitate to contact us if you have any questions regarding these reports.

Sincerely,

ERTEC ROCKY MOUNTAIN, INC.

Kyla Smith-Juvonen

Kyla Smith-Juvonen
Hydrogeologist

David W. Stoner
Manager of Hydrology

Enclosures

November 15, 1983

Ms. Kay Brothers
Kerr-McGee Chemical Corporation
P.O. Box 55
Henderson, Nevada 89015

Dear Ms. Brothers:

On September 27, 1983, a Hazardous Waste Investigation was conducted at your Henderson, Nevada, facility by the Nevada Division of Environmental Protection. The information was gathered in accordance with Section 444.764 of the Nevada Revised Statutes and a copy of the inspection report is enclosed for your information.

If you have any questions concerning this letter, please contact me at (702) 885-4670 or toll free 1-800-992-0900, extension 4670.

Sincerely,

Alene Coulson
Environmental Management
Specialist
Waste Management Section

de
Enclosure

cc: Mr. Gary Lance
U.S. EPA, Region IX

September 8, 1983

Mr. Rolf Chase
Plant Manager
Kerr-McGee Chemical Corporation
P.O. Box 55
Henderson, Nevada 89015

Dear Mr. Chase:

Inspectors from the Nevada Division of Environmental Protection will be in the Las Vegas area to conduct Hazardous Waste Generator/Transporter Investigations in accordance with Section 3007 of the Resource Conservation and Recovery Act of 1976 (RCRA).

Your firm has notified the U.S. Environmental Protection Agency (EPA) that the facility listed below is a generator, transporter, and treatment, storage, or disposal facility for hazardous waste. The investigation of the facility is scheduled for September 27, 1983, at 1:30 p.m.

Kerr-McGee Chemical Corporation
Lake Mead Drive
Henderson, Nevada

As soon as possible, please provide this office with the name, address, and telephone number of the individual who will be representing your firm during the investigation.

If you have any questions concerning this letter, please contact me at (702) 885-4670, or toll free 1-800-992-0900, extension 4670.

Sincerely,

Alene Coulson
Environmental Management Specialist
Waste Management Section

de

November 8, 1983

Certified Mail #P22-1672957

Mr. R.B. Chase, Jr.
Plant Manager
Kerr-McGee Chemical Corporation
P.O. Box 55
Henderson, Nevada 89015

Re: Ground Water Monitoring Data, Closure/Post-Closure Plans

Dear Mr. Chase:

The Division of Environmental Protection has reviewed your closure and post-closure plans for your landfill and P-1 impoundment in conjunction with the review done by the EPA, a copy of which is attached. It is imperative that the deficiencies identified in this review be corrected before closure is completed, and that the closure performance standard of 40 CFR Part 265.111(b) be met in order for closure to be acceptable.

In addition, several deficiencies in Kerr-McGee's ground water monitoring program were noted based on a review by Ertec Rocky Mountain, Inc. These deficiencies are as follows:

1) The monitoring program began approximately six (6) months after required.

2) During the quarterly sampling, all wells were not sampled with the required frequency.

3) Replicate measurements of the indicator parameters (pH, specific conductance, Total Organic Carbon, and Total Organic Halogen) were not obtained for the upgradient well (M-1) samples during the first year.

Consequently, the initial background arithemitc mean and variance were not calculated and the statistical analysis comparing downgradient values to the background cannot be performed.

Although no statistical comparison of the data was done, it seems to indicate that hazardous constituents may have migrated from the facility to the ground water. If this is the case, closure must include the elimination of hazardous waste constituents from the ground water, pursuant to 40 CFR Part 265.111 (NAC 444.8850).

Within thirty (30) days of receipt of this letter, please submit revised closure and post-closure plans for the landfill and P-1 impoundment which address the deficiencies as outlined in the attached review, and which include provisions for cleanup of contaminated ground water pursuant to 40 CFR Part 265.111. In addition, within thirty (30) days of receipt of this letter, please submit data, if available, which would allow for statistical comparison of downgradient and background values and please describe why the deficiencies outlined above in the ground water monitoring program exist.

Should you have any questions regarding this matter, please contact me.

Sincerely,

H. LaVerne Rosse, P.E.
Program Director
Waste Management Section

de
Attachment

cc: Karen Schwinn, EPA

PS Form 3811, Dec. 1980

● SENDER: Complete items 1, 2, 3, and 4.
Add your address in the "RETURN TO" space on reverse.

(CONSULT POSTMASTER FOR FEES)

1. The following service is requested (check one).
☑ Show to whom and date delivered ..... ¢
☐ Show to whom, date, and address of delivery.. ¢
2. ☐ RESTRICTED DELIVERY ¢
(The restricted delivery fee is charged in addition to the return receipt fee.)
TOTAL $

3. ARTICLE ADDRESSED TO: Mr. R.B. Chase, Jr., Plant Mgr.
Kerr-McGee Chem. Corp.
P.O. Box 55
Henderson, Nev. 89015

4. TYPE OF SERVICE:
☐ REGISTERED ☐ INSURED
☑ CERTIFIED ☐ COD
☐ EXPRESS MAIL
ARTICLE NUMBER: P22-1672957

(Always obtain signature of addressee or agent)
I have received the article described above.
SIGNATURE ☐ Addressee ☐ Authorized agent

5. DATE OF DELIVERY
POSTMARK: HENDERSON, NEV. NOV 11 1983 USPO

6. ADDRESSEE'S ADDRESS (Only if requested)

7. UNABLE TO DELIVER BECAUSE:
14. EMPLOYEE'S INITIALS

RETURN RECEIPT, REGISTERED, INSURED AND CERTIFIED MAIL

P22 1672957

RECEIPT FOR CERTIFIED MAIL
NO INSURANCE COVERAGE PROVIDED—
NOT FOR INTERNATIONAL MAIL
(See Reverse)

SENT TO: R.B. Chase, Jr., Plant Mgr.
STREET AND NO.: Kerr-McGee Chem Corp.
P.O., STATE AND ZIP CODE: P.O. Box 55, Henderson, NV. 89015
POSTAGE $
CERTIFIED FEE ¢
SPECIAL DELIVERY ¢
RESTRICTED DELIVERY ¢
CONSULT POSTMASTER FOR FEES
OPTIONAL SERVICES
RETURN RECEIPT SERVICE
SHOW TO WHOM AND DATE DELIVERED ¢
SHOW TO WHOM, DATE, AND ADDRESS OF DELIVERY ¢
SHOW TO WHOM AND DATE DELIVERED WITH RESTRICTED DELIVERY ¢
SHOW TO WHOM, DATE AND ADDRESS OF DELIVERY WITH RESTRICTED DELIVERY ¢
TOTAL POSTAGE AND FEES $
POSTMARK OR DATE: 11-08-83/de
HLR

PS Form 3800, Apr. 1976

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION IX
215 Fremont Street
San Francisco, Ca. 94105

RECEIVED
SEP 30 1983
ENVIRONMENTAL
PROTECTION

28 SEP 1983

H. LaVerne Rosse, P.E.
Program Director
Waste Management Program
Division of Environmental Protection
Capitol Complex
Carson City, NV 89710

Dear Mr. Rosse:

On January 21, 1983, Kerr-McGee Chemical Corporation submitted to your office a closure plan for their hazardous waste landfill which was to be taken out of service as of January 25, 1983. On June 9, 1983, Kerr-McGee sent EPA a a closure plan for surface impoundment P-1, claiming no hazardous waste was disposed in the impoundment after January 25, 1983. At that time, the facility stated that closure of pond P-1 constitutes final closure of all RCRA-regulated operations. However, to our knowledge, no closure plan has yet been submitted for the other pond(s).

Review of the above-referenced closure plans pursuant to the interim status requirements have revealed a number of deficiencies. These are described in detail in Attachment I. These deficiencies must be corrected before closure is completed. Since the facility is closing under interim status and will not be permitted, it is especially important that the closure performance standard of Part 265.111(b) be met for closure to be acceptable.

On March 15, 1983, a RCRA ground water monitoring inspection was conducted at Kerr-McGee by Ertec Rocky Mountain Inc., an EPA contractor. During the course of the inspection, information was gathered in accordance with Section 3007 of the Resource Conservation and Recovery Act (RCRA). A copy of the inspection report, dated April 6, 1983, is enclosed. Also enclosed is a copy of a report which reviews the ground water monitoring program pursuant to 40 CFR Part 265.

In addition, ground water monitoring data has been submitted to EPA and DEP by Kerr-McGee as required by 40 CFR Part 265.94. Copies of these submittals are attached. The Ertec report includes a review of this data.

The following deficiencies in Kerr-McGee's ground water monitoring program were observed during the records review and facility inspection:

40 CFR 265.90-94, (NAC Section 444.8850) - The monitoring

program began approximately six months after required. During the quarterly sampling, all wells were not sampled with the required frequency. Replicate measurements of the indicator parameters (pH, specific conductance, Total Organic Carbon, and Total Organic Halogen) were not obtained for the upgradient well (M-1) samples during the first year. Consequently, the initial background arithmetic mean and variance was not calculated and the statistical analysis comparing downgradient values to the background can not be performed.

Although no statistical comparison of the data was done, it seems to indicate that hazardous constituents may have migrated from the facility to the ground water. If this is the case, closure must include the elimination of hazardous waste constituents from the ground water, pursuant to 40 CFR Part 265.111 (NAC Section 444.8850).

The purpose of this letter is to provide notice, pursuant to Section 3008(a)(2) of RCRA, that EPA has found Kerr-McGee Chemical Corporation to be in violation of various State requirements found in the Nevada Administrative Code and various Federal requirements contained in 40 CFR Part 265.

Section II.H. of the Memorandum of Agreement (MOA) makes it the primary obligation of the State to take timely and appropriate action against persons in violation of facility standards. This section includes violations detected by Federal compliance evaluation inspections.

EPA believes that it is appropriate that the State initiate enforcement action ordering compliance by a date certain. Please provide us with a copy of your compliance action, or evidence of compliance as soon as possible. Please record your compliance actions related to this case on your quarterly inspection and compliance report.

Should the State fail to order compliance by a date certain and/or remedy the deficiencies noted in our inspection report and the closure plan review EPA would exercise its right to initiate enforcement action under Section 3008(a)(2) of RCRA.

If you have any questions or require additional information, please contact Karen Schwinn of my staff at (415) 974-8158.

Sincerely yours,

for Harry Seraydarian
Director
Toxics and Waste Management Division

Enclosures

KERR-McGEE CHEMICAL CORPORATION
POST OFFICE BOX 55 • HENDERSON, NEVADA 89015

August 18, 1983

CERTIFIED MAIL NO. P 331 934 064

Mr. Bill Wilson, Chief
Technical Assessment Section
Toxics and Waste Programs Branch
U. S. Environmental Protection Agency
Region IX
215 Fremont Street
San Francisco, CA 94105

Re: Groundwater Monitoring Data

Dear Mr. Wilson:

Attached are RCRA groundwater monitoring data for Kerr-McGee Chemical Corporation's Henderson, Nevada facility. These data for surface impoundment monitoring wells M-8 and M-9 complete all baseline data. These data summaries are supplied in accordance with 40 CFR 265.94(a)(2)(i).

The cadmium and chromium concentrations in both wells exceed the National Interim Primary Drinking Water Standard (NIPDWS) of 0.01 mg/l and 0.05 mg/l, respectively. Nitrate exceeds the NIPDWS of 10 mg/l in well M-9.

If there are any questions regarding the above, please contact K. Brothers at (702) 565-8901.

Sincerely,

R. B. Chase, Jr.
Plant Manager

RBC:jc
Attachments

cc: Verne Rossc, NDEP
CERTIFIED MAIL NO. P 331 934 065

TABLE I

Parameter (mg/l)	Well M-8	Well M-9
Arsenic	0.01	0.01
Barium	0.09	0.15
Cadmium	0.10	0.10
Chromium	2.96	26.0
Fluoride	<1	<1
Lead	<0.01	<0.01
Mercury	<0.001	<0.001
Nitrate - N	5.8	22.4
Selenium	<0.005	<0.005
Silver	0.05	0.02
Endrin	<0.0002	<0.0002
Lindane	<0.004	<0.004
Methoxychlor	<0.1	<0.1
Toxaphene	<0.005	<0.005
2, 4 - D	<0.1	<0.1
2, 4, 5 - TP (Silvex)	<0.01	<0.01
Radium (pCi/l)	<2	<2
Gross Alpha (pCi/l)	<30	<50
Gross Beta (pCi/l)	60±40	300±100

KERR-McGEE CHEMICAL CORPORATION
POST OFFICE BOX 55 • HENDERSON, NEVADA 89015

RECEIVED
JUL 21 10 38 AM '83

July 15, 1983

CERTIFIED MAIL P 26 0233580

Mr. Bill Wilson, Chief
Technical Assessment Section
Toxics and Waste Program Branch
U.S. Environmental Protection Agency
Region IX
215 Fremont Street
San Francisco, California 94105

Re: Groundwater Monitoring Data

Dear Mr. Wilson:

Attached are RCRA groundwater monitoring data for Kerr-McGee Chemical Corporation's Henderson, Nevada facility. This completes all baseline data for landfill monitoring wells M-5, M-6, and M-7.

Attached groundwater monitoring data for surface impoundment monitoring wells M-8 and M-9 are results from the third quarter baseline sampling. Baseline data for all other RCRA groundwater monitoring wells (M-1, M-2, and H-28) are complete and have been previously submitted. This data summary is supplied in accordance with 40CFR 265.94(a)(2)(i).

The cadmium concentration in all reported wells exceeds the National Interim Primary Drinking Water Standard (NIPDWS) of 0.01 mg/l. Chromium exceeds the NIPDWS of 0.05 mg/l in wells M-8 and M-9. Nitrate exceeds the NIPDWS of 10 mg/l in well M-9. Silver exceeds the NIPDWS of 0.05 mg/l in well M-9.

If there are any questions regarding the above, please contact Kay Brothers at (702) 565-8901.

Very truly yours,

R. B. Chase, Jr.
Plant Manager

RBC/js

cc: Verne Rosse, NDEP

TABLE I

S.U.

Parameter mg/l	M-1	M-6	M-7	M-8	M-9
Arsenic	0.05	<0.01	0.01	<0.01	0.01
Barium	0.44	0.44	0.32	0.38	0.44
Cadmium	0.02	0.02	0.02	0.02	0.07
Chromium	<0.01	<0.01	<0.01	0.67	24.5
Fluoride	1.0	1.0	1.0	<1.0	1.0
Lead	<0.01	<0.01	<0.01	<0.01	<0.01
Mercury	<0.001	<0.001	<0.001	<0.001	<0.001
Nitrate	0.11	0.13	0.40	7.6	15.3
Selenium	<0.005	<0.005	<0.005	<0.005	<0.005
Silver	0.03	0.02	0.02	0.02	0.06
Endrin	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Lindane	<0.004	<0.004	<0.004	<0.004	<0.004
Methoxychlor	<0.1	<0.1	<0.1	<0.1	<0.1
Toxaphene	<0.005	<0.005	<0.005	<0.005	<0.005
2, 4-D	<0.1	<0.1	<0.1	<0.1	<0.1
2, 4, 5-TP (Silvex)	<0.01	<0.01	<0.01	<0.01	<0.01
Coliform Bacteria (MPN/100 ml)	<2.2	<2.2	<2.2	<2.2	<2.2
Radium (PCi/l)	<2	<2	<2	<2	<2
Gross Alpha (PCi/l)	<30	<30	<30	<40	<100
Gross Beta (PCi/l)	50 $\pm$ 40	80 $\pm$ 40	50 $\pm$ 30	100 $\pm$ 50	500 $\pm$ 200

Annual Report

KERR-McGEE CHEMICAL CORPORATION
POST OFFICE BOX 55 • HENDERSON, NEVADA 89015

RECEIVED
U.S. EPA, REGION IX
MAR 4 10 45 AM '83

March 2, 1983

CERTIFIED MAIL NO. P21 7028066

Mr. Bill Wilson, Chief
Technical Assessment Section
Toxics and Waste Programs Branch
U. S. Environmental Protection Agency
Region IX
215 Fremont Street
San Francisco, CA 94105

Re: 1982 RCRA Groundwater Monitoring Summary
Henderson, Nevada Facility
Kerr-McGee Chemical Corporation
EPA ID No. NV D 008290330

Dear Mr. Wilson:

Enclosed is the 1982 RCRA groundwater monitoring data for the landfill (monitor wells 5, 6, 7, and H-28) and surface impoundments (monitor wells 1, 2, 8, and 9) at the referenced facility.

In accordance with our Part A application amendment dated July 14, 1982, we deleted process vessels from the hazardous waste management areas. Wells 8 and 9 were then installed to replace previous wells 3 and 4 to more accurately monitor the area. These well locations were described on the map submitted to you earlier. Monitoring of these wells began with the October sampling.

Evaluation of groundwater elevation data confirms that monitor wells 1 and 5 are upgradient and properly designated.

Sincerely,

R. B. Chase, Jr.
Plant Manager

RBC:jc

cc: Verne Rosse, NV DEP

or Gen. No. N V D ...

Company Well Number: N-1

Gradient Up: XX Down:

Report for: 1982

GROUND WATER MONITORING REPORT FOR HAZARDOUS WASTE FACILITIES

Name: Kerr-McGee Chemical Corporation — Phone: (702) 565-8901

Address: P. O. Box 55, Henderson, Nevada — Zip: 89015

Surface Impoundment

...meter ...its	Ground Water Elev. Ft. Sample Occurrence	pH Standard	Conductivity µmhos mg/l	Total Organic Carbon mg/l	Total Organic Halogen mg/l	Chloride mg/l	Iron mg/l	Manganese mg/l	Phenols mg/l	Sodium mg/l	Sulfate mg/l
Year (initial) Background ...e mean		••	••	••	••						
/82	1751.63	7.3	11,350	4.3	528	1450	0.27	0.07	0.01	1260	868
82	1750.51	7.4	12,250	18.3	51.5	1625	0.16	0.04	<0.01	1085	1190
/82	1750.72	7.3	11,600	21.3	615	2000	0.40	0.09	<0.01	1170	1120

...meter ...ts	Arsenic mg/l	Barium mg/l	Cadmium mg/l	Chromium mg/l	Fluoride mg/l	Lead mg/l	Mercury mg/l	Nitrate mg/l (as N)	Selenium mg/l	Silver mg/l
/82	0.01	0.21	0.03	12.2	1.0	<0.01	0.001	0.91	<0.005	0.04
82	<0.01	0.18	0.03	12.9	0.7	<0.01	<0.001	11.2	<0.005	0.04
/82	<0.01	0.20	0.03	12.7	1.0	<0.01	<0.001	18.7	<0.005	0.02

...meter ...ts	Endrin mg/l	Lindane mg/l	Methoxychlor mg/l	Toxaphene mg/l	2,4-D mg/l	2,4,5-TP Silvex mg/l	Radium pCi/l	Gross Alpha pCi/l	Gross Beta pCi/l	Coliform Bacteria 1/100 ml
/82	<0.0002	<0.004	<0.1	<0.005	<0.1	<0.01	<2	<15	<20	<2.2
82	<0.0002	<0.004	<0.1	<0.005	<0.1	<0.01	<2	<100	80±20	<2.2
/82	<0.0002	<0.004	<0.1	<0.005	<0.1	<0.01	<2	<50	50±30	<2.2

, or Gen. No. NV D 0 0 8 2 9 0 5 5 0

GROUND WATER MONITORING REPORT
FOR HAZARDOUS WASTE FACILITIES

Company Well Number M-2

Gradient Up [ ] Down [X]

Report for: 19 8 2

any Name: Kerr-McGee Chemical Corporation Phone: (702) 565-8901

ss Address: P. O. Box 55 Henderson, Nevada Zip: 89015

E 1 Surface Impoundment

rameter Units	Ground Water Elev. Ft. Sample Occurance	pH Standard	Conductivity µmhos mg/l	Total Organic Carbon mg/l	Total Organic Halogen mg/l	Chloride mg/l	Iron mg/l	Manganese mg/l	Phenols mg/l	Sodium mg/l	Sulfate mg/l
irst Year (initial) Background ithmetic mean		**	**	**	**						
4/82	1746.77	7.3	20,000	5	870	3800	0.03	0.04	<0.01	4430	2900
/82	1744.40	7.2	34,000	9	23	7210	0.27	0.05	<0.01	6350	4180
5/82	1746.35	7.3	22,000	45	59	4750	0.34	0.07	<0.01	4190	1190

E 2

rameter Units	Arsenic mg/l	Barium mg/l	Cadmium mg/l	Chromium mg/l	Fluoride mg/l	Lead mg/l	Mercury mg/l	Nitrate mg/l (as N)	Selenium mg/l	Silver mg/l
4/82	0.02	0.18	0.04	9.0	0.95	<0.01	<0.001	0.45	<0.005	0.05
/82	0.03	0.23	0.05	10.0	1.0	<0.01	<0.001	8.8	<0.005	0.10
5/82	0.02	0.13	0.04	9.15	2.0	<0.01	<0.001	14.7	<0.005	0.03

rameter Units	Endrin mg/l	Lindane mg/l	Methoxychlor mg/l	Toxaphene mg/l	2,4-D mg/l	2,4,5-TP Silvex mg/l	Radium pCi/l	Gross Alpha pCi/l	Gross Beta pCi/l	Coliform Bacteria f/100 ml
4/82	<0.0002	<0.004	<0.1	<0.005	<0.1	<0.01	<3	<15	<20	<2.2
/82	<0.0002	<0.004	<0.1	<0.005	<0.1	<0.01	<2	<100	720±40	<2.2
5/82	<0.0002	<0.004	<0.1	<0.005	<0.1	<0.01	<2	<60	300±100	<2.2

or Gen. No.

GROUND WATER MONITORING REPORT
FOR HAZARDOUS WASTE FACILITIES

Company Well Number: M-8

Gradient Up [ ] Down [X]

Report for: 19 [8] [2]

ny Name: Kerr-McGee Chemical Corporation Phone: (702) 565-8901

is Address: P. O. Box 55 Henderson, NV Zip: 89015

: 1 Surface Impoundment

rameter Units	Ground Water Elev. Ft. Sample Occurrence	pH Standard	Conductivity µmhos mg/l	Total Organic Carbon mg/l	Total Organic + Halogen mg/l	Chloride mg/l	Iron mg/l	Manganese mg/l	Phenols mg/l	Sodium mg/l	Sulfate mg/l
st Year (initial) Background ... mean		**	**	**	**						
'5/82	1746.62	7.1	11,000	54	435	2000	0.22	0.12	<0.01	1490	1680

: 2

ameter Units	Arsenic mg/l	Barium mg/l	Cadmium mg/l	Chromium mg/l	Fluoride mg/l	Lead mg/l	Mercury mg/l	Nitrate mg/l (as N)	Selenium mg/l	Silver mg/l
5/82	<0.01	0.23	0.02	5.1	2.0	<0.01	<0.001	14.7	<0.005	0.02

ameter Units	Endrin mg/l	Lindane mg/l	Methoxychlor mg/l	Toxaphene mg/l	2,4-D mg/l	2,4,5-TP Silvex mg/l	Radium pCi/l	Gross Alpha pCi/l	Gross Beta pCi/l	Coliform Bacteria #/100 ml
5/82	<0.0002	<0.004	<0.1	<0.005	<0.1	<0.01	<2	<30	100±60	<2.2

, or Gen. No.

GROUND WATER MONITORING REPORT
FOR HAZARDOUS WASTE FACILITIES

Company Well Number: N-9

Gradient Up [ ] Down [X]

Report for: 19 8 2

Company Name: Kerr-McGee Chemical Corporation Phone: (702) 565-8901

Address: P. O. Box 55 - Henderson, Nevada Zip: 89015

Surface Impoundment

TABLE 1

Parameter Units	Ground Water Elev. Ft. Sample Occurance	pH Standard	Conductivity µmhos mg/l	Total Organic Carbon mg/l	Total Organic Halogen mg/l	Chloride mg/l	Iron mg/l	Manganese mg/l	Phenols mg/l	Sodium mg/l	Sulfate mg/l
First Year (initial) Background mean		**	**	**	**						
/5/82	1745.15	7.0	40,500	11	1200	12,120	0.29	0.27	<0.01	9520	1510

TABLE 2

Parameter Units	Arsenic mg/l	Barium mg/l	Cadmium mg/l	Chromium mg/l	Fluoride mg/l	Lead mg/l	Mercury mg/l	Nitrate mg/l (as N)	Selenium mg/l	Silver mg/l
/5/82	0.03	0.23	0.07	16.3	1.0	<0.01	<0.000	14.7	<0.005	0.06

Parameter Units	Endrin mg/l	Lindane mg/l	Methoxychlor mg/l	Toxaphene mg/l	2,4-D mg/l	2,4,5-TP Silvex mg/l	Radium pCi/l	Gross Alpha pCi/l	Gross Beta pCi/l	Coliform Bacteria #/100 ml
5/82	<0.0002	<0.004	<0.1	<0.005	<0.1	<0.01	<2	<200	1200±300	<2.2

EPA ISD Fac. No. or Gen. No. | N | V | D | 0 | 0 | 5 | 2 | 5 | | |

GROUND WATER MONITORING REPORT
FOR HAZARDOUS WASTE FACILITIES

Company Well Number: M-5

Gradient Up [X] Down [ ]

Report for: 19 [8] [2]

Downgradient of ponds — use M-1 for background instead

pany Name: Kerr-McGee Chemical Corporation Phone: (702) 565-8901

ness Address: P. O. Box 55 Henderson, Nevada Zip: 89015

Landfill

LE 1

Parameter Units	Ground Water Elev. Ft. Sample Occurrence	pH Standard	Conductivity µmhos mg/l	Total Organic Carbon mg/l	Total Organic Halogen mg/l	Chloride mg/l	Iron mg/l	Manganese mg/l	Phenols mg/l	Sodium mg/l	Sulfate mg/l
te											
First Year (initial) Background ymbolic mean		**	**	**	**						
/16/82	1716.49	6.5	10,500	126	35	2750	22.19	8.94	0.17	1010	2350
)/5/82	1716.32	5.8	10,550	25	32	3000	58.5	5.22	0.30	1120	1360

LE 2

Parameter Units	Arsenic mg/l	Barium mg/l	Cadmium mg/l	Chromium mg/l	Fluoride mg/l	Lead mg/l	Mercury mg/l	Nitrate mg/l (as N)	Selenium mg/l	Silver mg/l
/16/82	0.02	0.10	0.02	0.01	3.6	<0.01	<0.001	0.45	<0.005	0.02
)/5/82	<0.01	0.15	0.02	0.02	2.0	<0.01	<0.001	0.10	<0.005	0.02

Parameter Units	Endrin mg/l	Lindane mg/l	Methoxychlor mg/l	Toxaphene mg/l	2,4-D mg/l	2,4,5-TP Silvex mg/l	Radium pCi/l	Gross Alpha pCi/l	Gross Beta pCi/l	Coliform Bacteria #/100 ml
/16/82	<0.0002	<0.004	<0.1	<0.005	<0.1	<0.01	<2	<40	40±30	240
)/5/82	<0.0002	<0.004	<0.1	<0.005	<0.1	<0.01	<2	<30	<40	<2.2

GROUND WATER MONITORING REPORT
FOR HAZARDOUS WASTE FACILITIES

Company Well Number: M-6

Gradient Up: ☐ Down: ☒

Report for: 19 82

pany Name: Kerr-McGee Chemical Corporation Phone: (702) 565-8901

ess Address: P. O. Box 55 - Henderson, NV Zip: 89015

E 1 Landfill

arameter Units	Ground Water Elev. Ft. Sample Occurance	pH Standard	Conductivity µmhos mg/l	Total Organic Carbon mg/l	Total Organic Halogen mg/l	Chloride mg/l	Iron mg/l	Manganese mg/l	Phenols mg/l	Sodium mg/l	Sulfate mg/l
irst Year (initial) Background ometric mean		**	**	**	**						
16/82	1697.82	6.6	9600	47	8	2270	9.73	6.51	0.06	1060	2550
/5/82	1697.57	6.4	9500	80	12	2370	15.9	2.88	<0.01	1150	1170

E 2

rameter Units	Arsenic mg/l	Barium mg/l	Cadmium mg/l	Chromium mg/l	Fluoride mg/l	Lead mg/l	Mercury mg/l	Nitrate mg/l (as N)	Selenium mg/l	Silver mg/l
16/82	<0.01	0.08	0.02	0.01	2.5	0.02	<0.001	0.22	<0.005	0.01
/5/82	<0.01	0.10	0.02	0.02	1.0	<0.01	0.001	0.10	<0.005	0.03

rameter Units	Endrin mg/l	Lindane mg/l	Methoxychlor mg/l	Toxaphene mg/l	2,4-D mg/l	2,4,5-TP Silvex mg/l	Radium pCi/l	Gross Alpha pCi/l	Gross Beta pCi/l	Coliform Bacteria f/100 ml
16/82	<0.0002	<0.004	<0.1	<0.005	<0.1	<0.01	<2	<20	40±20	93
/5/82	<0.0002	<0.004	<0.1	<0.005	<0.1	<0.01	<2	<50	300±100	<2.2

EPA TSD Fac. No. or Gen. No. | N | V | D | 0 | 0 | 8 | 2 | 9 | 0 | 3 | 3 | 0 |

GROUND WATER MONITORING REPORT
FOR HAZARDOUS WASTE FACILITIES

Company Well Number: M-7

Gradient Up [ ] Down [X]

Report for: 19 | 8 | 2 |

Company Name: Kerr-McGee Chemical Corporation Phone: (702) 565-8901

Address: P. O. Box 55 Henderson, Nevada Zip: 89015

E 1 Landfill

Parameter Units	Ground Water Elev. Ft. Sample Occurence	pH Standard	Conductivity µmhos mg/l	Total Organic Carbon mg/l	Total Organic + Halogen mg/l	Chloride mg/l	Iron mg/l	Manganese mg/l	Phenols mg/l	Sodium mg/l	Sulfate mg/l
st Year (Initial) Background static mean		**	**	**	**						
16/82	1701.83	6.8	10,000	50	9	2300	4.87	4.28	0.08	1180	2500
/5/82	1701.60	6.7	10,000	29	12	4870	13.8	2.61	0.01	1190	1280

2

ameter nits	Arsenic mg/l	Barium mg/l	Cadmium mg/l	Chromium mg/l	Fluoride mg/l	Lead mg/l	Mercury mg/l	Nitrate mg/l (as N)	Selenium mg/l	Silver mg/l
6/82	<0.01	0.12	0.02	<0.01	2.5	<0.01	<0.001	0.22	<0.005	0.01
5/82	<0.01	0.18	0.02	<0.01	1.0	<0.01	0.001	0.10	<0.005	0.02

meter nits	Endrin mg/l	Lindane mg/l	Methoxychlor mg/l	Toxaphene mg/l	2,4-D mg/l	2,4,5-TP Silvex mg/l	Radium pCi/l	Gross Alpha pCi/l	Gross Beta pCi/l	Coliform Bacteria f/100 ml
6/82	<0.0002	<0.004	<0.1	<0.005	<0,1	<0.01	<2	<40	60±20	4
5/82	<0.0002	<0.004	<0.1	<0.005	<0.1	<0.01	<2	<20	<40	16

GROUND WATER MONITORING REPORT
FOR HAZARDOUS WASTE FACILITIES

Company Well Number: 11-28

Gradient Up ☐ Down ☒

Report for: 19 8 2

Name: Kerr-McGee Chemical Corporation Phone: (702) 565-8901

Address: P. O. Box 55 Henderson, NV Zip: 89015

Landfill

meter its	Ground Water Elev. Ft. Sample Occurance	pH Standard	Conductivity µmhos mg/l	Total Organic Carbon mg/l	Total Organic Halogen mg/l	Chloride mg/l	Iron mg/l	Manganese mg/l	Phenols mg/l	Sodium mg/l	Sulfate mg/l
Year (Initial) Background		**	**	**	**						
n green											
/82	1699.81	7.0	10,500	3	23	2130	0.21	2.42	<0.01	1680	730
/82	1698.71	7.5	8,800	18	7.9	2140	2.28	2.16	<0.01	1195	2110
5/82	1698.33	7.5	9,000	4	11	2250	0.61	1.77	<0.01	1110	1190

2

meter its	Arsenic mg/l	Barium mg/l	Cadmium mg/l	Chromium mg/l	Fluoride mg/l	Lead mg/l	Mercury mg/l	Nitrate mg/l (as N)	Selenium mg/l	Silver mg/l
									<0.005	0.02
/82	0.47	0.08	0.02	0.03	0.55	<0.01	<0.001	<0.1	<0.005	0.02
/82	0.01	0.09	0.02	0.01	1.0	<0.01	0.012	0.2	<0.005	0.01
5/82	0.02	0.08	0.02	0.02	2.0	<0.01	<0.001	0.53	<0.005	

meter its	Endrin mg/l	Lindane mg/l	Methoxychlor mg/l	Toxaphene mg/l	2,4-D mg/l	2,4,5-TP Silvex mg/l	Radium pCi/l	Gross Alpha pCi/l	Gross Beta pCi/l	Coliform Bacteria 1/100 ml
								81	<40	<2.2
/82	<0.0002	<0.004	<0.1	<0.005	<0.1	<0.01	<2	<40	50+20	<2.2
/82	<0.0002	<0.004	<0.1	<0.005	<0.1	<0.01	<2	<40	60+40	<2.2
5/82	<0.0002	<0.004	<0.1	<0.005	<0.1	<0.01	<2			

4th 9

KERR-McGEE CHEMICAL CORPORATION
POST OFFICE BOX 55 • HENDERSON, NEVADA 89015

May 9, 1983

CERTITIED MAIL P 455 585 456

Mr. Bill Wilson, Chief
Technical Assessment Section
Toxics and Waste Programs Branch
U. S. Environmental Protection Agency
Region IX
215 Fremont Street
San Francisco, CA 94105

Re: Fourth Quarter Groundwater Monitoring Data

Dear Mr. Wilson:

Attached are the completed fourth quarter 1983 RCRA groundwater monitoring data for Kerr-McGee Chemical Corporation's Henderson, NV facility. Wells around the landfill are designated M-5, M-6, M-7, and H-28; and the wells around the surface impoundments are designated M-1, M-2, M-8, and M-9. This data summary is supplied in accordance with 40CFR 265.94(a)(2)(i).

The cadmium concentration in all reported wells exceeds the National Interim Primary Drinking Water Standard (NIPDWS) of 0.01 mg/l. Chromium exceeds the NIPDWS of 0.05 mg/l in wells M-1, M-2, M-8, and M-9. Fluoride exceeds the NIPDWS in wells M-6 and M-9. Nitrate exceeds the NIPDWS of 10 mg/l in wells M-8 and M-9. Silver exceeds the NIPDWS of 0.05 mg/l in well M-9. Coliform bacteria exceeds the NIPDWS of 1/100 ml in well M-8.

If there are any questions regarding the above, please contact Kay Brothers or me at (702) 565-8901.

Sincerely,

R. B. Chase, Jr.
Plant Manager

RBC:jc
Attachment

cc: Verne Rosse, NDEP

TABLE I

Parameter mg/l	M-1	M-2	M-5	M-6	M-7	M-8	M-9	H-28
Arsenic	<0.01	0.03	<0.01	<0.01	<0.01	0.02	<0.01	0.03
Barium	0.39	0.20	0.13	0.22	0.13	0.09	0.31	0.07
Cadmium	0.03	0.04	0.02	0.02	0.02	0.02	0.07	0.02
Chromium	9.9	10.7	0.01	0.02	0.02	6.00	18.54	<0.01
Fluoride	2.0	1.0	1.0	2.5	<1.0	<1.0	2.5	<1.0
Lead	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Mercury	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Nitrate	6.0	8.4	0.1	<0.1	0.1	16.7	19.4	0.1
Selenium	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Silver	<0.03	0.03	0.01	0.02	0.01	0.02	0.07	0.01
Endrin	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Lindane	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004
Methoxychlor	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Toxaphene	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
2, 4-D	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
2, 4, 5-TP (Silvex)	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Coliform Bacteria (MPN/100 ml)	<2.2	<2.2	<2.2	<2.2	<2.2	2.2	<2.2	<2.2
Hexavalent Chromium	9.9	10.7	<0.01	0.02	<0.01	6.00	18.54	<0.01
Radium (PCi/l)	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2
Gross Alpha (PCi/l)	<90	<80	<100	<30	<20	<20	<100	<60
Gross Beta (PCi/L)	100 ±70	300 ±50	60 ±40	80 ±50	70 ±30	90 ±30	300 ±100	130 ±50

3rd

KERR-McGEE CHEMICAL CORPORATION
POST OFFICE BOX 55 • HENDERSON, NEVADA 89015

February 24, 1983

CERTIFIED MAIL NO. P21 7028085

Mr. Bill Wilson, Chief
Technical Assessment Section
Toxics and Waste Programs Branch
U. S. Environmental Protection Agency
Region IX
215 Fremont Street
San Francisco, CA 94105

Re: Third Quarter 1982 RCRA Groundwater Monitoring Data
Henderson, Nevada Facility, Kerr-McGee Chemical Corporation
EPA ID No. NVD 008290330

Dear Mr. Wilson:

Please find attached completed third quarter 1982 RCRA groundwater monitoring data for the Kerr-McGee Chemical Corporation facility at Henderson, Nevada. The data apply to the landfill (wells M-5, M-6, M-7, H-28) and surface impoundments (wells M-1, M-2, M-8, M-9) areas. This data summary is supplied in accordance with 40 CFR 265.92(2)(i).

The cadmium concentration in all reported wells exceeds the NIPDWS limit of 0.01 mg/L. Chromium exceeds the NIPDWS limit of 0.05 mg/L in wells M-1, M-2, M-8, and M-9. Nitrate limits of 10 mg/L as N are exceeded in wells M-1, M-2, M-8, and M-9. The NIPDWS silver limit of 0.05 mg/L is exceeded in well M-9. Coliform NIPDWS limit of 1/100 mL is exceeded in well M-7.

Sincerely,

R. B. Chase, Jr.
Plant Manager

RBC:jc
Attachments

cc: Verne Rosse, NDEP

TABLE I

Parameter mg/L	M-1	M-2	M-5	M-6	M-7	M-8	M-9	H-28
Arsenic	<0.01	0.02	<0.01	<0.01	<0.01	0.01	0.03	0.02
Barium	0.20	0.13	0.15	0.10	0.18	0.23	0.23	0.08
Cadmium	0.03	0.04	0.02	0.02	0.02	0.02	0.07	0.02
Chromium	12.7	9.15	0.02	0.02	<0.01	5.1	16.3	0.02
Fluoride	1	2	2	1	1	2	1	2
Lead	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Mercury	<0.001	<0.001	<0.001	0.001	0.001	<0.001	<0.001	<0.001
Nitrate	18.7	14.7	0.1	0.1	0.1	14.7	14.7	0.53
Selenium	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Silver	0.02	0.03	0.02	0.03	0.02	0.02	0.06	0.01
Endrin	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Lindane	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004
Methoxychlor	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Toxaphene	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
2,4-D	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
2,4,5-TP (Silvex)	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Turbidity, NTU	45	10	100	90	120	25	10	23
Coliform Bacteria, MPN/100 ml	<2.2	<2.2	<2.2	<2.2	16	<2.2	<2.2	<2.2
Hexavalent Chromium	12.7	6.0	0.02	0.02	<0.01	5.0	16.3	0.02

2nd 9

KERR-McGEE CHEMICAL CORPORATION
POST OFFICE BOX 55 • HENDERSON, NEVADA 89015

October 26, 1982

CERTIFIED MAIL NO. P26 0233713

Mr. Bill Wilson, Chief
Technical Assessment Section
Toxics and Waste Programs Branch
U. S. Environmental Protection Agency
Region IX
215 Fremont Street
San Francisco, CA 94105

Re: Second Quarter 1982 RCRA Groundwater Monitoring Data, Henderson, Nevada Facility, Kerr-McGee Chemical Corporation, EPA ID No. NVD 008290330

Dear Mr. Wilson:

Please find attached in Tables I (landfill) and II (surface impoundments) completed second quarter 1982 RCRA groundwater monitoring data for the Kerr-McGee Chemical Corporation facility at Henderson, Nevada. These data supplement the partial data submitted on August 17, 1982. This data summary is supplied in accordance with 40 CFR 265.94(2)(i).

The cadmium concentration in all reported wells exceeds the NIPDWS limit of 0.01 mg/L. The turbidity limit of 1 NTU is also exceeded in all wells. Chromium exceeds the NIPDWS limit of .05 mg/L in the surface impoundment wells M-1, M-2, and M-3. Nitrate limits of 10 mg/L as N are exceeded in wells M-1, M-3, and M-4. The NIPDWS silver limit of 0.05 mg/L is exceeded in wells M-2 and M-3. In the landfill wells, the NIPDWS limit of 1.4-2.4 mg/L for fluoride is exceeded in M-5, M-6, and M-7. Coliform NIPDWS limits of 1/100 mL are exceeded in wells M-5, M-6, and M-7.

Sincerely,

R. B. Chase
Plant Manager

RBC:jc
Attachment

cc: H. L. Rosse-Carson City

TABLE I

SECOND QUARTER 1982 RCRA GROUNDWATER MONITORING DATA
KERR-MCGEE CHEMICAL CORPORATION - HENDERSON FACILITY

LANDFILL

Parameter		Upgradient Well M-5	Downgradient Wells M-6	M-7	H-28
Arsenic	(mg/L)	0.02	<0.01	<0.01	0.01
Barium	"	0.10	0.08	0.12	0.09
Cadmium	"	0.02	0.02	0.02	0.02
Chromium	"	0.01	0.01	<0.01	0.01
Fluoride	"	3.6	2.5	2.5	1.0
Lead	"	<0.01	0.02	<0.01	<0.01
Mercury	"	<0.001	<0.001	<0.001	0.012
Nitrate (as N)	"	0.45	0.22	0.22	0.2
Selenium	"	<0.005	<0.005	<0.005	<0.005
Silver	"	0.02	0.01	0.01	0.02
Endrin	"	<0.0002	<0.0002	<0.0002	<0.0002
Lindane	"	<0.004	<0.004	<0.004	<0.004
Methoxychlor	"	<0.1	<0.1	<0.1	<0.1
Toxaphene	"	<0.005	<0.005	<0.005	<0.005
2,4-D	"	<0.1	<0.1	<0.1	<0.1
2,4,5-TP Silvex	"	<0.01	<0.01	<0.01	<0.01
Gross Alpha	(pCi/L)	<40	<20	<40	<40
Gross Beta	(pCi/L)	40 ±30	40 ±20	60 ±20	50±20
Radium	(pCi/L)	<2	<2	<2	<2
Coliform	(MPN/100 mL)	240	93	4	<2.2
Turbidity	(NTU)	2000	2000	2000	35

Analysis by Truesdail Laboratories, Inc., Los Angeles, CA.

TABLE II

SECOND QUARTER 1982 RCRA GROUNDWATER MONITORING DATA
KERR-MCGEE CHEMICAL CORPORATION - HENDERSON FACILITY

SURFACE IMPOUNDMENTS

Parameter		Upgradient Well	Downgradient Wells		
		M-1	M-2	M-3*	M-4*
Arsenic	(mg/L)	<0.01	0.03	<0.01	<0.01
Barium	"	0.18	0.23	0.27	0.09
Cadmium	"	0.03	0.05	0.06	0.01
Chromium	"	12.9	10.0	44	0.01
Fluoride	"	0.7	1.0	0.7	1.0
Lead	"	<0.01	<0.01	<0.01	<0.01
Mercury	"	<0.001	<0.001	<0.001	<0.001
Nitrate (as N)	"	11.2	8.8	44	11.1
Selenium	"	<0.005	<0.005	<0.005	<0.005
Silver	"	0.04	0.10	0.09	0.03
Endrin	"	<0.0002	<0.0002	<0.0002	<0.0002
Lindane	"	<0.004	<0.004	<0.004	<0.004
Methoxychlor	"	<0.1	<0.1	<0.1	<0.1
Toxaphene	"	<0.005	<0.005	<0.005	<0.005
2,4-D	"	<0.1	<0.1	<0.1	<0.1
2,4,5-TP Silvex	"	<0.01	<0.01	<0.01	<0.01
Gross Alpha	(pCi/L)	<100	<100	<200	<40
Gross Beta	(pCi/L)	80±20	720±40	300±40	30±20
Radium	(pCi/L)	<2	<2	<2	<2
Coliform	(MPN/100 mL)	<2.2	<2.2	<2.2	<2.2
Turbidity	(NTU)	45	57	2.5	85

Analysis by Truesdail Laboratories, Inc., Los Angeles, CA.

* Monitor wells M-3 and M-4 were replaced by wells M-8 and M-9 following second quarter analysis.

Partial 2nd Q

KERR-McGEE CHEMICAL CORPORATION
POST OFFICE BOX 55 • HENDERSON, NEVADA 89015

August 17, 1982

CERTIFIED MAIL P26 0233709

Mr. Bill Wilson, Chief
Technical Assessment Section
Toxics and Waste Programs Branch
U. S. Environmental Protection
Agency, Region IX
215 Fremont Street
San Francisco, CA 94105

Re: Second Quarter 1982 RCRA Groundwater Monitoring Data
Henderson, Nevada Facility, Kerr-McGee Chemical
Corporation, EPA I.D. No. NVD 008290330

Dear Mr. Wilson:

Please find attached in Table I, second quarter 1982 RCRA groundwater monitoring data for the Kerr-McGee Chemical Corporation facility at Henderson, Nevada on wells for which we have received analysis results. This data summary is supplied in accordance with 40 CFR 265.94(2)(i). A map showing the location of these wells is included as Figure 1.

The cadmium concentration in all reported wells exceeds the EPA National Interim Primary Drinking Water Standard (NIPDWS) of 0.01 mg/L. The NIPDWS level of 0.05 mg/L chromium is exceeded in wells M-1 and M-2. Nitrate exceeds the NIPDWS level of 10 mg/L in upgradient well M-1 and silver exceeds the NIPDWS level of 0.05 mg/L in downgradient well M-2; turbidity exceeds the level of 1 TU in all wells.

Sincerely,

C. B. Armstrong
Plant Manager

CBA:jc
Attachments

TABLE I

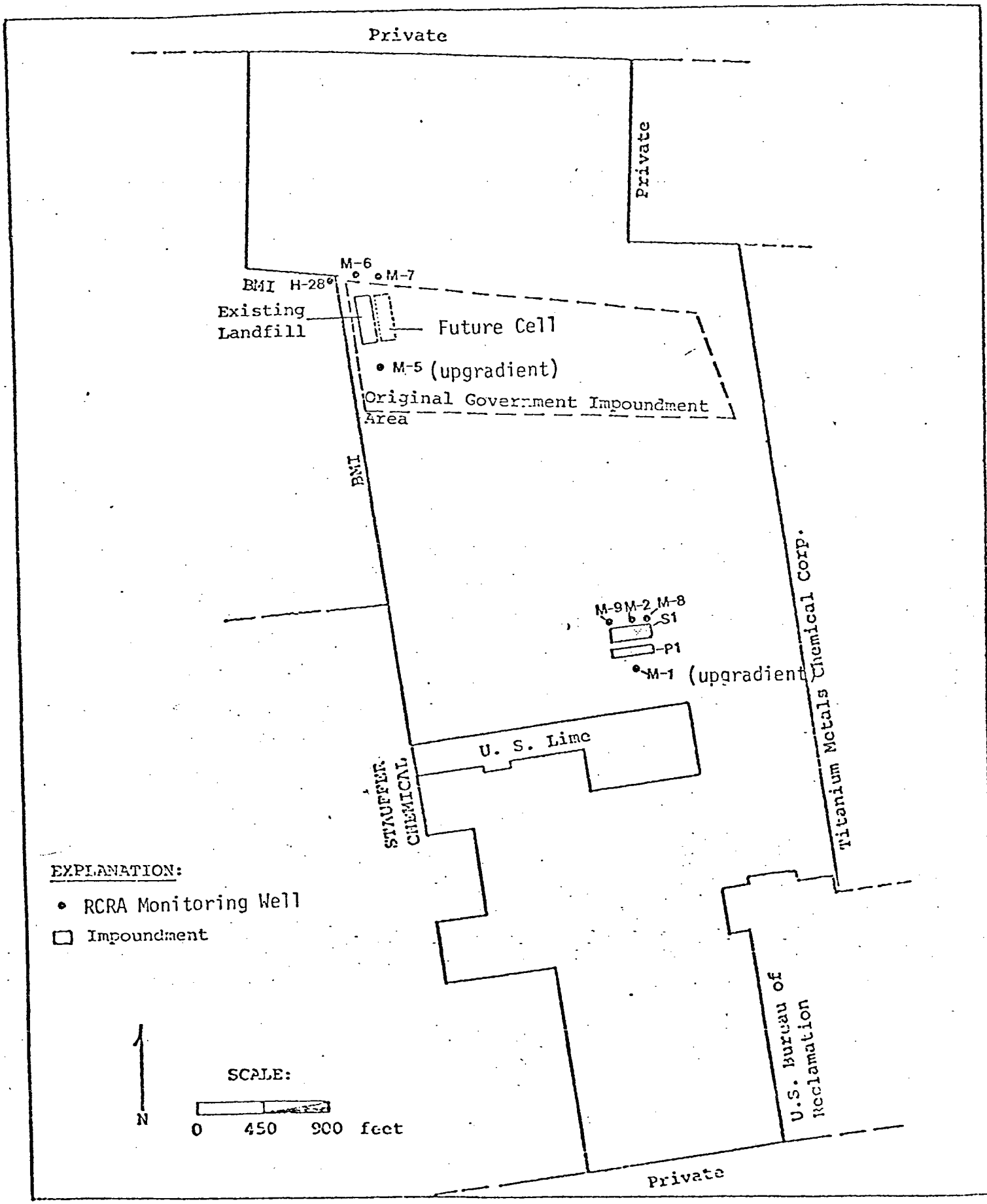
SECOND QUARTER 1982 RCRA GROUNDWATER MONITORING DATA
DRINKING WATER PARAMETERS
KERR-MCGEE CHEMICAL CORPORATION
HENDERSON, NEVADA FACILITY

Parameter		Upgradient Well M-1	Downgradient Wells M-2	M-28
Arsenic	(mg/L)	<0.01	0.03	0.01
Barium	"	0.18	0.23	0.09
Cadmium	"	0.03	0.05	0.02
Chromium	"	12.9	10.0	0.01
Fluoride	"	0.7	1.0	1.0
Lead	"	<0.01	< 0.01	< 0.01
Mercury	"	<0.001	< 0.001	0.012
Nitrate (as N)	"	11.2	8.8	0.2
Selenium	"	<0.005	< 0.005	< 0.005
Silver	"	0.04	0.10	0.02
Endrin	"	<0.0002	< 0.0002	< 0.0002
Lindane	"	<0.004	< 0.004	< 0.004
Methoxychlor	"	<0.1	< 0.1	< 0.1
Toxaphene	"	<0.005	< 0.005	< 0.005
2,4-D	"	<0.1	< 0.1	< 0.1
2,4,5-TP(Silvex)	"	<0.01	< 0.01	< 0.01
Turbidity	(NTU)	45	57	35
Coliform	(MPN/100 ml)	<2.2	<2.2	< 2.2
Gross Alpha	(Picocuries/Liter)	<100	<100	<40
Gross Beta	"	80	720	50
Radium	"	<2	<2	<2

FIGURE 1

LOCATI OF RCRA GROUND-WATER MONITOR LLS

Kerr-McGee Chemical Corporation's Henderson Facility



KERR-McGEE CHEMICAL CORP.
POST OFFICE BOX 55 • HENDERSON, NEVADA 89015

July 15, 1983

CERTIFIED MAIL P 26 0233580

RECEIVED
JUL 20 1983
ENVIRONMENTAL PROTECTION

Mr. Bill Wilson, Chief
Technical Assessment Section
Toxics and Waste Program Branch
U.S. Environmental Protection Agency
Region IX
215 Fremont Street
San Francisco, California 94105

Re: Groundwater Monitoring Data

Dear Mr. Wilson:

Attached are RCRA groundwater monitoring data for Kerr-McGee Chemical Corporation's Henderson, Nevada facility. This completes all baseline data for landfill monitoring wells M-5, M-6, and M-7.

Attached groundwater monitoring data for surface impoundment monitoring wells M-8 and M-9 are results from the third quarter baseline sampling. Baseline data for all other RCRA groundwater monitoring wells (M-1, M-2, and H-28) are complete and have been previously submitted. This data summary is supplied in accordance with 40CFR 265.94(a)(2)(i).

The cadmium concentration in all reported wells exceeds the National Interim Primary Drinking Water Standard (NIPDWS) of 0.01 mg/l. Chromium exceeds the NIPDWS of 0.05 mg/l in wells M-8 and M-9. Nitrate exceeds the NIPDWS of 10 mg/l in well M-9. Silver exceeds the NIPDWS of 0.05 mg/l in well M-9.

If there are any questions regarding the above, please contact Kay Brothers at (702) 565-8901.

Very truly yours,

R. B. Chase, Jr.
Plant Manager

RBC/js

cc: Verne Rosse, NDEP

TABLE I

Parameter mg/l	M-1	M-6	M-7	M-8	M-9
Arsenic	0.05	<0.01	0.01	<0.01	0.01
Barium	0.44	0.44	0.32	0.38	0.44
Cadmium	0.02	0.02	0.02	0.02	0.07
Chromium	<0.01	<0.01	<0.01	0.67	24.5
Fluoride	1.0	1.0	1.0	<1.0	1.0
Lead	<0.01	<0.01	<0.01	<0.01	<0.01
Mercury	<0.001	<0.001	<0.001	<0.001	<0.001
Nitrate	0.11	0.13	0.40	7.6	15.3
Selenium	<0.005	<0.005	<0.005	<0.005	<0.005
Silver	0.03	0.02	0.02	0.02	0.06
Endrin	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Lindane	<0.004	<0.004	<0.004	<0.004	<0.004
Methoxychlor	<0.1	<0.1	<0.1	<0.1	<0.1
Toxaphene	<0.005	<0.005	<0.005	<0.005	<0.005
2, 4-D	<0.1	<0.1	<0.1	<0.1	<0.1
2, 4, 5-TP (Silvex)	<0.01	<0.01	<0.01	<0.01	<0.01
Coliform Bacteria (MPN/100 ml)	<2.2	<2.2	<2.2	<2.2	<2.2
Radium (PCi/l)	<2	<2	<2	<2	<2
Gross Alpha (PCi/l)	<30	<30	<30	<40	<100
Gross Beta (PCi/l)	50 $\pm$ 40	80 $\pm$ 40	50 $\pm$ 30	100 $\pm$ 50	500 $\pm$ 200

RECEIVED
JUL 11 1983
ENVIRONMENTAL PROTECTION

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION IX
215 Fremont Street
San Francisco, Ca. 94105

July 6, 1983

Mr. R.B. Chase, Jr.
Plant Manager
Kerr-McGee Chemical Corporation
Post Office Box 55
Henderson, NV 89015

Re: Henderson Facility (EPA ID# NVD008290330)

Dear Mr. Chase:

In your June 9, 1983 letter you indicated that the Kerr-McGee hazardous waste facilities will be finally closed in lieu of obtaining a RCRA permit.

Due to the fact that you have not actively added any wastes to the facilities in question since January 26, 1983, they are not currently subject to the closure requirements of 264, but remain subject to the 265 closure requirements. Therefore, you will not be required to submit a Part B permit application as requested January 28, 1983.

The Agency will conduct a formal review of the closure plans submitted for the surface impoundment and the landfill. This closure will also be public noticed in accordance with the requirements of Part 270.

If you have any questions regarding this matter please contact Susi Jackson (415) 974-8390.

Sincerely yours,

William D. Wilson
Chief, Technical Assessment Section

cc: LaVern Rosse, NDEP

KERR-McGEE CHEMICAL CORPORATION
POST OFFICE BOX 55 • HENDERSON, NEVADA 89015

June 9, 1983

CERTIFIED MAIL NO. P 455 585 461

RECEIVED
JUN 13 1983
ENVIRONMENTAL PROTECTION

Mr. William D. Wilson, Chief
Technical Assessment Section
U. S. Environmental Protection Agency
Region IX
215 Fremont Street
San Francisco, CA 94105

Re: Henderson Facility - RCRA Compliance

Dear Mr. Wilson:

Attached is the closure plan for Kerr-McGee Chemical Corporation's Henderson Facility hazardous waste storage impoundment P-1. The P-1 impoundment, identified in our amended Part A permit application dated July 14, 1982 (copy attached), was used to store hazardous wastes containing chromium that came from potassium perchlorate production. Kerr-McGee Chemical Corporation discontinued potassium perchlorate production in September of 1982 and has no plans for its future production.

Closure of the P-1 impoundment constitutes final closure of all onsite hazardous waste storage and disposal operations at the Henderson Plant. The P-1 surface impoundment is subject to "interim status" closure requirements since no hazardous waste was disposed there after January 25, 1983.

After closure of all hazardous waste storage and disposal areas at the Henderson Facility, we wish to retain our EPA hazardous waste generator ID number to ship any future hazardous wastes offsite. We hereby notify you that a "Part B" permit is no longer required and will not be submitted by August 1, 1983. We anticipate pond P-1 final closure will be completed approximately three months after plan approval. A request for withdrawal of the facility Part A permit application will be submitted after closure.

If there are any questions regarding the above, please contact me or K. Brothers at (702) 565-8901.

Sincerely,

R. B. Chase, Jr.
Plant Manager

RBC:jc
Attachments

cc: Verne Rosse - NV DEP

HAZARDOUS WASTE STORAGE FACILITY
CLOSURE/POST-CLOSURE PLAN

Surface Impoundment P-1

P-1 is a storage surface impoundment lined with reinforced butyl rubber having an approximate surface area of 26,000 ft.^{2} and volume of 125,000 ft.^{3}. This impoundment received process wastes from the potassium perchlorate process and boron leach circuit. The potassium perchlorate process waste stream is considered hazardous because the total chromium concentration may at times exceed 5 ppm. The waste stream from the boron leach circuit by itself is not a hazardous waste.

The P-1 surface impoundment has not received any hazardous waste since January 25, 1983. The potassium perchlorate process was permanently shut down in September, 1982, and Kerr-McGee Chemical Corporation does not plan to resume potassium perchlorate production.

Closure of P-1

Because the potassium perchlorate process has been terminated, P-1 is no longer needed for hazardous waste storage and will be closed according to the following plan:

1. Analyses indicate that the liquid phase in P-1 has a chromium concentration above 5 ppm. The salt precipitate at the bottom of the pond does not exhibit a chromium concentration above 5 ppm when subjected to an EP Toxicity Test. Analytical results from Desert Research Institute (DRI) are attached for your information. Additional analyses will be conducted to confirm these as specified below in No. 3.

2. The liquid phase of P-1 will be removed by evaporation and recycle back to the process. The chromium in the P-1 liquor will be used to supplement corrosion inhibitors normally added.

3. When the impoundment has evaporated to dryness, the remaining solids will be sampled and tested as specified below:

    a. A composite sample comprised of cored solids from six randomly selected locations in the pond area (see attachment I) will be analyzed.

    b. An EP Toxicity extraction will be conducted on the composite sample and analyzed for the EP Toxicity metal parameters (As, Ba, Cd, Cr, Pb, Hg, Se, Ag). All sampling and analyses will be conducted in accordance with the EPA document, *Test Methods for Evaluating Solid Waste - Physical/Chemical Methods*, Second Edition.

4. If analysis indicates the solids are hazardous, the pond contents, including the liner, will be removed, manifested, and shipped to an approved hazardous waste disposal facility, e.g., the U. S. Ecology site at Beatty, Nevada. This will ensure that all hazardous waste constituents are removed and properly disposed.

5. If analysis indicates the solids are not hazardous, inspection and appropriate maintenance will be performed on the surface impoundment so that it can be put back in service for storage of nonhazardous materials or wastes.

6. Closure will be certified by an independent registered professional engineer.

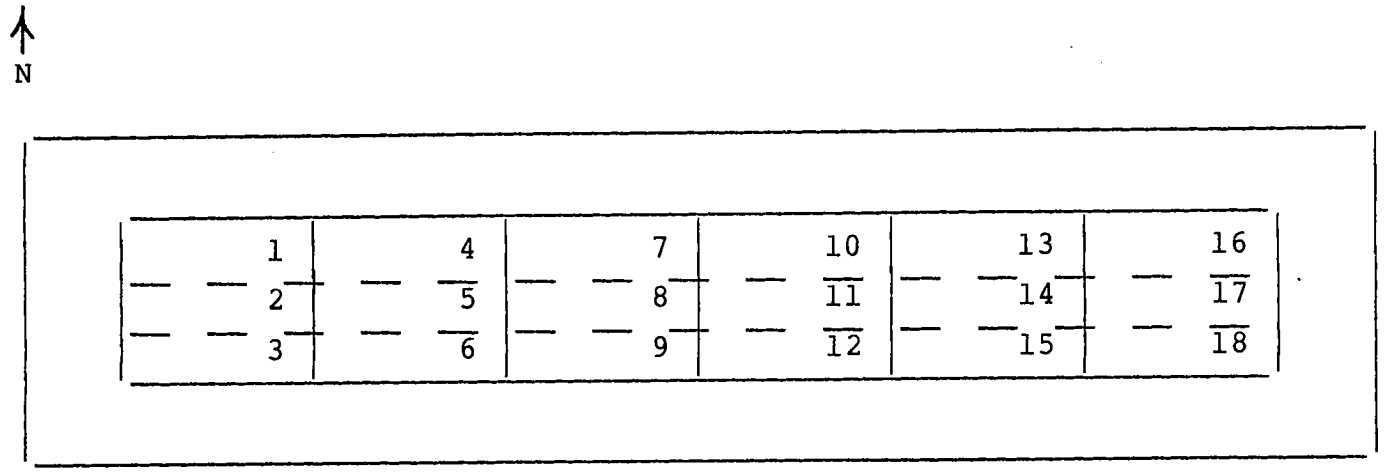
Attachment II lists estimated costs for closure of the P-1 surface impoundment.

Post-Closure

No post-closure care will be required since all hazardous wastes will have been removed and properly disposed of offsite.

ATTACHMENT I

P-1 SURFACE IMPOUNDMENT: SOLIDS SAMPLING PROCEDURE FOR CLOSURE OF HAZARDOUS WASTE STORAGE FACILITIES



Pond - P-1 lining: reinforced butyl rubber

A total of six random samples will be composited from the gridded (18 areas) pond as indicated above. An EP Toxicity extraction will be conducted on the composite sample and analyzed for As, Ba, Cd, Cr, Pb, Hg, Se, and Ag.

All sampling and analyses will be conducted in accordance with "Test Methods of Evaluating Solid Waste - Physical/Chemical Methods", Second Edition.

RECEIVED
MAY 16 1983
ENVIRONMENTAL
PROTECTION

KERR-McGEE CHEMICAL CORPORATION
POST OFFICE BOX 55 • HENDERSON, NEVADA 89015

May 12, 1983

Mr. Harry Van Drielen
Environmental Management Specialist II
Waste Management Section
Division of Environmental Protection
Capitol Complex
201 South Fall Street
Carson City, NV 89710

Re: Anolyte Leak

Dear Mr. Van Drielen:

I have reviewed your latest correspondence, dated May 2, 1983, regarding the anolyte leak which occurred in January. The following is in response to that memorandum:

1. The sidewalls as well as the bottom of the anolyte tank are being lined with fiberglass.
2. The temporary storage tank is dedicated to the storage of anolyte only. It will be used during maintenance of the permanent anolyte tank and is available for use in emergency situations.
3. Our tank inspection and maintenance program will reduce the occurrences of spills or leaks. This program is designed to detect small leaks; however, equipment failure (i.e., broken gaskets, etc.) can result in minor leaks until plant personnel become aware of the situation and take appropriate action.

If there are any further questions, please contact me or Kay Brothers at 565-8901.

Sincerely,

R. B. Chase, Jr.
Plant Manager

RBC:jc

no further questions at this time.

KERR-McGEE CHEMICAL CORPORATION
POST OFFICE BOX 55 • HENDERSON, NEVADA 89015

May 9, 1983

RECEIVED
MAY 13 1983
ENVIRONMENTAL
PROTECTION

CERTITIED MAIL P 455 585 456

Mr. Bill Wilson, Chief
Technical Assessment Section
Toxics and Waste Programs Branch
U. S. Environmental Protection Agency
Region IX
215 Fremont Street
San Francisco, CA 94105

Re: Fourth Quarter Groundwater Monitoring Data

Dear Mr. Wilson:

Attached are the completed fourth quarter 1983 RCRA groundwater monitoring data for Kerr-McGee Chemical Corporation's Henderson, NV facility. Wells around the landfill are designated M-5, M-6, M-7, and H-28; and the wells around the surface impoundments are designated M-1, M-2, M-8, and M-9. This data summary is supplied in accordance with 40CFR 265.94(a)(2)(i).

The cadmium concentration in all reported wells exceeds the National Interim Primary Drinking Water Standard (NIPDWS) of 0.01 mg/l. Chromium exceeds the NIPDWS of 0.05 mg/l in wells M-1, M-2, M-8, and M-9. Fluoride exceeds the NIPDWS in wells M-6 and M-9. Nitrate exceeds the NIPDWS of 10 mg/l in wells M-8 and M-9. Silver exceeds the NIPDWS of 0.05 mg/l in well M-9. Coliform bacteria exceeds the NIPDWS of 1/100 ml in well M-8.

If there are any questions regarding the above, please contact Kay Brothers or me at (702) 565-8901.

Sincerely,

R. B. Chase, Jr.
Plant Manager

RBC:jc
Attachment

cc: Verne Rosse, NDEP

TABLE I

Parameter mg/l	M-1	M-2	M-5	M-6	M-7	M-8	M-9	H-28
Arsenic	<0.01	0.03	<0.01	<0.01	<0.01	0.02	<0.01	0.03
Barium	0.39	0.20	0.13	0.22	0.13	0.09	0.31	0.07
Cadmium	0.03	0.04	0.02	0.02	0.02	0.02	0.07	0.02
Chromium	9.9	10.7	0.01	0.02	0.02	6.00	18.54	<0.01
Fluoride	2.0	1.0	1.0	2.5	<1.0	<1.0	2.5	<1.0
Lead	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Mercury	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Nitrate	6.0	8.4	0.1	<0.1	0.1	16.7	19.4	0.1
Selenium	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Silver	<0.03	0.03	0.01	0.02	0.01	0.02	0.07	0.01
Endrin	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Lindane	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004
Methoxychlor	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Toxaphene	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
2, 4-D	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
2, 4, 5-TP (Silvex)	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Coliform Bacteria (MPN/100 ml)	<2.2	<2.2	<2.2	<2.2	<2.2	2.2	<2.2	<2.2
Hexavalent Chromium	9.9	10.7	<0.01	0.02	<0.01	6.00	18.54	<0.01
Radium (PCi/l)	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2
Gross Alpha (PCi/l)	<90	<80	<100	<30	<20	<20	<100	<60
Gross Beta (PCi/L)	100 ±70	300 ±50	60 ±40	80 ±50	70 ±30	90 ±30	300 ±100	130 ±50

May 2, 1983

R.B. Chase, Jr.
Plant Manager
Kerr-McGee Chemical Corporation
P.O. Box 55
Henderson, Nevada 89015

Re: Anolyte Leak

Greetings:

I have received your letter of 21 April 1983 in which you respond to the questions arising from the reported loss of containment of anolyte and the immediate actions to prevent serious loss to the environment.

It is expected that the program of frequent inspections of the exteriors of all storage tanks will be reasonably successful in detecting serious breaches due to erosion by the tanks' contents.

In paragraph 2B, you state that the bottom of the tank will be lined with fiberglass. What lining will protect the side walls? If different, will the conjoining of dissimilar linings be disposed to leaking at the seams?

It appears that the temporary storage tank is dedicated to function as emergency storage of anolyte (triggered by catastrophic failure) or as temporary storage of anolyte during maintenance of the permanent tank. This implies that at all other times the temporary tank will be empty and ready to receive anolyte. If a different scheme is intended, modification of your plan of implementation will be required.

As you note, the soils beneath the anolyte storage have received the effects of many minor spills and leaks. It is not unreasonable to expect that your program of inspection and maintenance of these anolyte storage facilities will preclude any such future spills or leaks.

Respectfully,

Harry van Drielen
Environmental Management Specialist II
Waste Management Section

de

STATE OF NEVADA
DEPARTMENT OF CONSERVATION AND NATURAL RESOURCES
DIVISION OF ENVIRONMENTAL PROTECTION
CAPITOL COMPLEX
CARSON CITY, NEVADA 89710

TELEPHONE (702) 885-4670

April 27, 1983

MEMORANDUM

TO: Verne Rosse

FROM: Alene Coulson, Environmental Specialist
Tom Fronapfel, Environmental Engineer

SUBJECT: KERR-McGEE GROUND WATER QUALITY ASSESSMENT PROGRAM

I have reviewed the Groundwater Quality Assessment Program for Surface Impoundments, Landfills and Landfarms submitted by Kerr-McGee for our review.

I reviewed the plan using the U.S. EPA checklist and the plan provides for all the required items necessary for approval. I find no deficiencies and recommend approval of the plan as submitted.

Alene Coulson

As per your request, I reviewed Kerr-McGee's Ground Water Quality Assessment Program and found no deficiencies that would warrant our not approving the Program. Therefore, I recommend that the plan be approved as submitted.

Thomas J. Fronapfel

de

RECEIVED
APR 22 1983
ENVIRONMENTAL PROTECTION

KERR-McGEE CHEMICAL CORPORATION
POST OFFICE BOX 55 • HENDERSON, NEVADA 89015

April 21, 1983

Mr. Harry Van Drielen
Environmental Management Specialist
State of Nevada
Division of Environmental Protection
201 South Fall Street
Capitol Complex
Carson City, NV 89710

Re: Anolyte Leak

Dear Mr. Van Drielen:

The following is in response to your January 27, 1983, memorandum requesting information regarding the anolyte leak which occurred in early January:

1. We do have a tank inspection program. However, we are currently amending this inspection program to include weekly visual inspections of the exterior of the anolyte tank and other tanks storing any hazardous chemicals listed in CFR, Part 117. Inspections will be logged and records kept at the facility.

2. It would be extremely difficult and costly to determine the buffering capacity of the soil in the anolyte storage tank area. This has been a process area for approximately 30 years; therefore, it has been subject to minor spills and leaks. To mitigate any future impact from spills or leaks, the following will be implemented:

   A) A 120,000-gallon tank, located near the anolyte storage tank, has been lined with plastic, and now serves as a temporary storage tank. After the permanent tank is put back in service, this tank will be used to provide temporary storage when it is necessary to take the permanent storage tank out of service for maintenance, etc.

   B) The permanent anolyte storage tank is in the process of being revamped. The bottom of the tank will be repaired and lined with fiberglass. This will be completed by June 1, 1983.

3. The in-ground concrete tank was used to temporarily store anolyte during the spill incident. It will no longer be needed for an emergency storage tank since the lined 120,000-gallon tank will be available, as discussed above in 2(A). This in-ground tank is not used in routine operations.

4. The anolyte storage tank is not diked. The tank is located adjacent to a series of pipes and process area, which makes the installation of a dike infeasible. Anolyte can be quickly transferred to the 120,000-gallon temporary storage tank from the permanent storage tank if a leak were to occur, which would minimize any anolyte entering the environment.

We believe the revisions and modifications discussed above will provide sufficient control of any future spills or leaks that may occur from the anolyte storage tank.

If there are any questions, please call me or K. Brothers.

Sincerely,

KERR-McGEE CHEMICAL CORPORATION

R. B. Chase, Jr.
Plant Manager

RBC:jc

2 May 83
see response letter

KERR-McGEE CHEMICAL CORPORATION
POST OFFICE BOX 55 • HENDERSON, NEVADA 89015

March 2, 1983

RECEIVED
MAR -4 1983
ENVIRONMENTAL
PROTECTION

CERTIFIED MAIL NO. P21 7028066

Mr. Bill Wilson, Chief
Technical Assessment Section
Toxics and Waste Programs Branch
U. S. Environmental Protection Agency
Region IX
215 Fremont Street
San Francisco, CA 94105

Re: 1982 RCRA Groundwater Monitoring Summary
Henderson, Nevada Facility
Kerr-McGee Chemical Corporation
EPA ID No. NV D 008290330

Dear Mr. Wilson:

Enclosed is the 1982 RCRA groundwater monitoring data for the landfill (monitor wells 5, 6, 7, and H-28) and surface impoundments (monitor wells 1, 2, 8, and 9) at the referenced facility.

In accordance with our Part A application amendment dated July 14, 1982, we deleted process vessels from the hazardous waste management areas. Wells 8 and 9 were then installed to replace previous wells 3 and 4 to more accurately monitor the area. These well locations were described on the map submitted to you earlier. Monitoring of these wells began with the October sampling.

Evaluation of groundwater elevation data confirms that monitor wells 1 and 5 are upgradient and properly designated.

Sincerely,

R. B. Chase, Jr.
Plant Manager

RBC:jc

cc: Verne Rosse, NV DEP

EPA I.D. No. or Gen. No. | N | V | D | 0 | 0 | 8 | 2 | 9 | 0 | 3 | 3 |

GROUND WATER MONITORING REPORT
FOR HAZARDOUS WASTE FACILITIES

Company Well Number: M-1

Gradient Up [XX] Down [ ]

Report for: 19 [8] [2]

Company Name: Kerr-McGee Chemical Corporation Phone: (702) 565-8901

Owners Address: P. O. Box 55, Henderson, Nevada Zip: 89015

F 1

Surface Impoundment

Parameter Units	Ground Water Elev. Ft. Sample Occurence	pH Standard	Conductivity µmhos mg/l	Total Organic Carbon mg/l	Total Organic Halogen mg/l	Chloride mg/l	Iron mg/l	Manganese mg/l	Phenols mg/l	Sodium mg/l	Sulfate mg/l
First Year (initial) Background Quarterly mean		**	**	**	**						
4/82	1751.63	7.3	11,350	4.3	528	1450	0.27	0.07	0.01	1260	868
/82	1750.51	7.4	12,250	18.3	51.5	1625	0.16	0.04	<0.01	1085	1190
5/82	1750.72	7.3	11,600	21.3	615	2000	0.40	0.09	<0.01	1170	1120

F 2

Parameter Units	Arsenic mg/l	Barium mg/l	Cadmium mg/l	Chromium mg/l	Fluoride mg/l	Lead mg/l	Mercury mg/l	Nitrate mg/l (as N)	Selenium mg/l	Silver mg/l
4/82	0.01	0.21	0.03	12.2	1.0	<0.01	0.001	0.91	<0.005	0.04
1/82	<0.01	0.18	0.03	12.9	0.7	<0.01	<0.001	11.2	<0.005	0.04
5/82	<0.01	0.20	0.03	12.7	1.0	<0.01	<0.001	18.7	<0.005	0.02

Parameter Units	Endrin mg/l	Lindane mg/l	Methoxychlor mg/l	Toxaphene mg/l	2,4-D mg/l	2,4,5-TP Silvex mg/l	Radium pCi/l	Gross Alpha pCi/l	Gross Beta pCi/l	Coliform Bacteria 1/100 ml
4/82	<0.0002	<0.004	<0.1	<0.005	<0.1	<0.01	<2	<15	<20	<2.2
/82	<0.0002	<0.004	<0.1	<0.005	<0.1	<0.01	<2	<100	80±20	<2.2
5/82	<0.0002	<0.004	<0.1	<0.005	<0.1	<0.01	<2	<50	50±30	<2.2

EPA TSD Fac. No. or Gen. No. | N | V | D | 0 | 0 | 8 | 2 | 9 | 0 | 3 | 3 |

GROUND WATER MONITORING REPORT
FOR HAZARDOUS WASTE FACILITIES

Company Well Number: N-2

Gradient Up [ ] Down [ ]

Report for: 19 8

Company Name: Kerr-McGee Chemical Corporation Phone: (702) 565-8901

Owners Address: P. O. Box 55 Henderson, Nevada Zip: 89015

TABLE 1 Surface Impoundment

Parameter Units	Ground Water Elev. Ft. Sample Occurance	pH Standard	Conductivity µmhos mg/l	Total Organic Carbon mg/l	Total Organic Halogen mg/l	Chloride mg/l	Iron mg/l	Manganese mg/l	Phenols mg/l	Sodium mg/l	Sulfate mg/l
First Year (initial) Background Geometric mean		**	**	**	**						
4/82	1746.77	7.3	20,000	5	870	3800	0.03	0.04	<0.01	4430	2900
/82	1744.40	7.2	34,000	9	23	7210	0.27	0.05	<0.01	6350	4180
/5/82	1746.35	7.3	22,000	45	59	4750	0.34	0.07	<0.01	4190	1190

TABLE 2

Parameter Units	Arsenic mg/l	Barium mg/l	Cadmium mg/l	Chromium mg/l	Fluoride mg/l	Lead mg/l	Mercury mg/l	Nitrate mg/l (as N)	Selenium mg/l	Silver mg/l
4/82	0.02	0.18	0.04	9.0	0.95	<0.01	<0.001	0.45	<0.005	0.05
/82	0.03	0.23	0.05	10.0	1.0	<0.01	<0.001	8.8	<0.005	0.10
/5/82	0.02	0.13	0.04	9.15	2.0	<0.01	<0.001	14.7	<0.005	0.03

Parameter Units	Endrin mg/l	Lindane mg/l	Methoxychlor mg/l	Toxaphene mg/l	2,4-D mg/l	2,4,5-TP Silvex mg/l	Radium pCi/l	Gross Alpha pCi/l	Gross Beta pCi/l	Coliform Bacteria f/100 ml
4/82	<0.0002	<0.004	<0.1	<0.005	<0.1	<0.01	<3	<15	<20	<2.2
/82	<0.0002	<0.004	<0.1	<0.005	<0.1	<0.01	<2	<100	720±40	<2.2
/5/82	<0.0002	<0.004	<0.1	<0.005	<0.1	<0.01	<2	<60	300±100	<2.2

or Gen. No. N V D 0 0 0 2 9 0 5 5

GROUND WATER MONITORING REPORT
FOR HAZARDOUS WASTE FACILITIES

Company Well Number N-8

Gradient Up ☐ Down ☐

Report for: 19 8

Company Name: Kerr-McGee Chemical Corporation Phone: (702) 565-8901

Business Address: P. O. Box 55 Henderson, NV Zip: 89015

TABLE 1 Surface Impoundment

Parameter Units	Ground Water Elev. Ft. Sample Occurence	pH Standard	Conductivity µmhos mg/l	Total Organic Carbon mg/l	Total Organic Halogen mg/l	Chloride mg/l	Iron mg/l	Manganese mg/l	Phenols mg/l	Sodium mg/l	Sulfate mg/l
Date											
First Year (initial) Background Concentration mean		**	**	**	**						
12/5/82	1746.62	7.1	11,000	54	435	2000	0.22	0.12	<0.01	1490	1680

TABLE 2

Parameter Units	Arsenic mg/l	Barium mg/l	Cadmium mg/l	Chromium mg/l	Fluoride mg/l	Lead mg/l	Mercury mg/l	Nitrate mg/l (as N)	Selenium mg/l	Silver mg/l
Date										
12/5/82	0.01	0.23	0.02	5.1	2.0	<0.01	<0.001	14.7	<0.005	0.02

Parameter Units	Endrin mg/l	Lindane mg/l	Methoxychlor mg/l	Toxaphene mg/l	2,4-D mg/l	2,4,5-TP Silvex mg/l	Radium pCi/l	Gross Alpha pCi/l	Gross Beta pCi/l	Coliform Bacteria #/100 ml
Date										
12/5/82	<0.0002	<0.004	<0.1	<0.005	<0.1	<0.01	<2	<30	100±60	<2.2

EPA I.D. Number or Gen. No. | N | V | D | 0 | 0 | 8 | 2 | 9 | 0 | 3 | 3 |

GROUND WATER MONITORING REPORT
FOR HAZARDOUS WASTE FACILITIES

Company Well Number: M-9

Gradient Up [ ] Down [ ]

Report for: 19 8

Company Name: Kerr-McGee Chemical Corporation — Phone: (702) 565-8901

Address: P. O. Box 55 - Henderson, Nevada — Zip: 89015

Surface Impoundment

TABLE 1

Parameter Units	Ground Water Elev. Ft. Sample Occurance	pH Standard	Conductivity µmhos mg/l	Total Organic Carbon mg/l	Total Organic Halogen mg/l	Chloride mg/l	Iron mg/l	Manganese mg/l	Phenols mg/l	Sodium mg/l	Sulfate mg/l
Date											
First Year (Initial) Background Mean		**	**	**	**						
3/82	1745.15	7.0	40,500	11	1200	12,120	0.29	0.27	<0.01	9520	1510

TABLE 2

Parameter Units	Arsenic mg/l	Barium mg/l	Cadmium mg/l	Chromium mg/l	Fluoride mg/l	Lead mg/l	Mercury mg/l	Nitrate mg/l (as N)	Selenium mg/l	Silver mg/l
Date										
3/82	0.03	0.23	0.07	16.3	1.0	<0.01	<0.001	14.7	<0.005	0.06

Parameter Units	Endrin mg/l	Lindane mg/l	Methoxychlor mg/l	Toxaphene mg/l	2,4-D mg/l	2,4,5-TP Silvex mg/l	Radium pCi/l	Gross Alpha pCi/l	Gross Beta pCi/l	Coliform Bacteria 1/100 ml
Date										
3/82	<0.0002	<0.004	<0.1	<0.005	<0.1	<0.01	<2	<200	1200±300	<2.2

EPA I.D. Facility or Gen. No. | N | V | D | 0 | 0 | 8 | 2 | 9 | 0 | 5 | 5

GROUND WATER MONITORING REPORT
FOR HAZARDOUS WASTE FACILITIES

Company Well Number: M-5

Gradient Up [X] Down [ ]

Report for: 19 [8]

Company Name: Kerr-McGee Chemical Corporation Phone: (702) 565-8901

Business Address: P. O. Box 55 Henderson, Nevada Zip: 89015

TABLE 1

Landfill

Parameter Units	Ground Water Elev. Ft. Sample Occurence	pH Standard	Conductivity µmhos mg/l	Total Organic Carbon mg/l	Total Organic Halogen mg/l	Chloride mg/l	Iron mg/l	Manganese mg/l	Phenols mg/l	Sodium mg/l	Sulfate mg/l
Date											
** First Year (initial) Background Synoptic mean		**	**	**	**						
5/16/82	1716.49	6.5	10,500	126	35	2750	22.19	8.94	0.17	1010	2350
10/5/82	1716.32	5.8	10,550	25	32	3000	58.5	5.22	0.30	1120	1360

TABLE 2

Parameter Units	Arsenic mg/l	Barium mg/l	Cadmium mg/l	Chromium mg/l	Fluoride mg/l	Lead mg/l	Mercury mg/l	Nitrate mg/l (as N)	Selenium mg/l	Silver mg/l
Date										
5/16/82	0.02	0.10	0.02	0.01	3.6	<0.01	<0.001	0.45	<0.005	0.02
10/5/82	<0.01	0.15	0.02	0.02	2.0	<0.01	<0.001	0.10	<0.005	0.02

Parameter Units	Endrin mg/l	Lindane mg/l	Methoxychlor mg/l	Toxaphene mg/l	2,4-D mg/l	2,4,5-TP Silvex mg/l	Radium pCi/l	Gross Alpha pCi/l	Gross Beta pCi/l	Coliform Bacteria M100 ml
Date										
5/16/82	<0.0002	<0.004	<0.1	<0.005	<0.1	<0.01	<2	<40	40±30	240
10/5/82	<0.0002	<0.004	<0.1	<0.005	<0.1	<0.01	<2	<30	<40	<2.2

or Gen. No.

GROUND WATER MONITORING REPORT
FOR HAZARDOUS WASTE FACILITIES

Company Well Number: M-6

Gradient Up ☐ Down

Report for: 19 8

Company Name: Kerr-McGee Chemical Corporation Phone: (702) 565-8901

Address: P. O. Box 55 - Henderson, NV Zip: 89015

TABLE 1 — Landfill

Parameter Units	Ground Water Elev. Ft. Sample Occurance	pH Standard	Conductivity µmhos mg/l	Total Organic Carbon mg/l	Total Organic Halogen mg/l	Chloride mg/l	Iron mg/l	Manganese mg/l	Phenols mg/l	Sodium mg/l	Sulfate mg/l
Date											
First Year (initial) Background Estimate mean		**	**	**	**						
6/16/82	1697.82	6.6	9600	47	8	2270	9.73	6.51	0.06	1060	2550
9/5/82	1697.57	6.4	9500	80	12	2370	15.9	2.88	<0.01	1150	1170

TABLE 2

Parameter Units	Arsenic mg/l	Barium mg/l	Cadmium mg/l	Chromium mg/l	Fluoride mg/l	Lead mg/l	Mercury mg/l	Nitrate mg/l (as N)	Selenium mg/l	Silver mg/l
Date										
6/16/82	<0.01	0.08	0.02	0.01	2.5	0.02	<0.001	0.22	<0.005	0.01
9/5/82	<0.01	0.10	0.02	0.02	1.0	<0.01	0.001	0.10	<0.005	0.03

Parameter Units	Endrin mg/l	Lindane mg/l	Methoxychlor mg/l	Toxaphene mg/l	2,4-D mg/l	2,4,5-TP Silvex mg/l	Radium pCi/l	Gross Alpha pCi/l	Gross Beta pCi/l	Coliform Bacteria 1/100 ml
Date										
6/16/82	<0.0002	<0.004	<0.1	<0.005	<0.1	<0.01	<2	<20	40±20	93
9/5/82	<0.0002	<0.004	<0.1	<0.005	<0.1	<0.01	<2	<50	300±100	<2.2

EPA TSD Fac. No. or Gen. No. | N | V | D | 0 | 0 | 8 | 2 | 9 | 0 | 3 | 3 |

GROUND WATER MONITORING REPORT
FOR HAZARDOUS WASTE FACILITIES

Company Well Number: M-7

Gradient Up [ ] Down [ ]

Report for: 19 8

Company Name: Kerr-McGee Chemical Corporation Phone: (702) 565-8901

Address: P. O. Box 55 Henderson, Nevada Zip: 89015

TABLE 1 Landfill

Parameter Units	Ground Water Elev. Ft. Sample Occurrence	pH Standard	Conductivity µmhos mg/l	Total Organic Carbon mg/l	Total Organic Halogen mg/l	Chloride mg/l	Iron mg/l	Manganese mg/l	Phenols mg/l	Sodium mg/l	Sulfate mg/l
[illegible]											
First Year (initial) Background [illegible] mean		**	**	**	**						
/16/82	1701.83	6.8	10,000	50	9	2300	4.87	4.28	0.08	1180	2500
0/5/82	1701.60	6.7	10,000	29	12	4870	13.8	2.61	0.01	1190	1280

TABLE 2

Parameter Units	Arsenic mg/l	Barium mg/l	Cadmium mg/l	Chromium mg/l	Fluoride mg/l	Lead mg/l	Mercury mg/l	Nitrate mg/l (as N)	Selenium mg/l	Silver mg/l
[illegible]										
/16/82	<0.01	0.12	0.02	<0.01	2.5	<0.01	<0.001	0.22	<0.005	0.01
0/5/82	<0.01	0.18	0.02	<0.01	1.0	<0.01	0.001	0.10	<0.005	0.02

Parameter Units	Endrin mg/l	Lindane mg/l	Methoxychlor mg/l	Toxaphene mg/l	2,4-D mg/l	2,4,5-TP Silvex mg/l	Radium pCi/l	Gross Alpha pCi/l	Gross Beta pCi/l	Coliform Bacteria f/100 ml
[illegible]										
16/82	<0.0002	<0.004	<0.1	<0.005	<0.1	<0.01	<2	<40	60±20	4
5/82	<0.0002	<0.004	<0.1	<0.005	<0.1	<0.01	<2	<20	<40	16

EPA TSD Fac. No. or Gen. No. | N | V | D | 0 | 0 | 8 | 2 | 9 | 0 | 3 | 3 |

GROUND WATER MONITORING REPORT
FOR HAZARDOUS WASTE FACILITIES

Company Well Number: II-2S

Gradient Up [ ] Down [ ]

Report for: 19 8

Company Name: Kerr-McGee Chemical Corporation Phone: (702) 565-8901

Address: P. O. Box 55 Henderson, NV Zip: 89015

SSF 1 Landfill

Parameter Units	Ground Water Elev. Ft. Sample Occurrence	pH Standard	Conductivity µmhos mg/l	Total Organic Carbon mg/l	Total Organic Halogen mg/l	Chloride mg/l	Iron mg/l	Manganese mg/l	Phenols mg/l	Sodium mg/l	Sulfate mg/l
First Year (Initial) Background Mean		**	**	**	**						
9/82	1699.81	7.0	10,500	3	23	2130	0.21	2.42	<0.01	1680	730
1/82	1698.71	7.5	8,800	18	7.9	2140	2.28	2.16	<0.01	1195	2110
5/82	1698.33	7.5	9,000	4	11	2250	0.61	1.77	<0.01	1110	1190

SSF 2

Parameter Units	Arsenic mg/l	Barium mg/l	Cadmium mg/l	Chromium mg/l	Fluoride mg/l	Lead mg/l	Mercury mg/l	Nitrate mg/l (as N)	Selenium mg/l	Silver mg/l
9/82	0.47	0.08	0.02	0.03	0.55	<0.01	<0.001	<0.1	<0.005	0.02
1/82	0.01	0.09	0.02	0.01	1.0	<0.01	0.012	0.2	<0.005	0.02
5/82	0.02	0.08	0.02	0.02	2.0	<0.01	<0.001	0.53	<0.005	0.01

Parameter Units	Endrin mg/l	Lindane mg/l	Methoxychlor mg/l	Toxaphene mg/l	2,4-D mg/l	2,4,5-TP Silvex mg/l	Radium pCi/l	Gross Alpha pCi/l	Gross Beta pCi/l	Coliform Bacteria 1/100 ml
9/82	<0.0002	<0.004	<0.1	<0.005	<0.1	<0.01	<2	81	<40	<2.2
1/82	<0.0002	<0.004	<0.1	<0.005	<0.1	<0.01	<2	<40	50+20	<2.2
5/82	<0.0002	<0.004	<0.1	<0.005	<0.1	<0.01	<2	<40	60+40	<2.2

KERR-McGEE CHEMICAL CORPORATION
POST OFFICE BOX 55 • HENDERSON, NEVADA 89015

February 24, 1983

RECEIVED
FEB 28 1983
ENVIRONMENTAL
PROTECTION

CERTIFIED MAIL NO. P21 7028085

Mr. Bill Wilson, Chief
Technical Assessment Section
Toxics and Waste Programs Branch
U. S. Environmental Protection Agency
Region IX
215 Fremont Street
San Francisco, CA 94105

Re: Third Quarter 1982 RCRA Groundwater Monitoring Data
Henderson, Nevada Facility, Kerr-McGee Chemical Corporation
EPA ID No. NVD 008290330

Dear Mr. Wilson:

Please find attached completed third quarter 1982 RCRA groundwater monitoring data for the Kerr-McGee Chemical Corporation facility at Henderson, Nevada. The data apply to the landfill (wells M-5, M-6, M-7, H-28) and surface impoundments (wells M-1, M-2, M-8, M-9) areas. This data summary is supplied in accordance with 40 CFR 265.92(2)(i).

The cadmium concentration in all reported wells exceeds the NIPDWS limit of 0.01 mg/L. Chromium exceeds the NIPDWS limit of 0.05 mg/L in wells M-1, M-2, M-8, and M-9. Nitrate limits of 10 mg/L as N are exceeded in wells M-1, M-2, M-8, and M-9. The NIPDWS silver limit of 0.05 mg/L is exceeded in well M-9. Coliform NIPDWS limit of 1/100 mL is exceeded in well M-7.

Sincerely,

R. B. Chase, Jr.
Plant Manager

RBC:jc
Attachments

cc: Verne Rosse, NDEP

Rcvd 2-14-83

TABLE I

Parameter mg/L	M-1	M-2	M-5	M-6	M-7	M-8	M-9	H-28
Arsenic	<0.01	0.02	<0.01	<0.01	<0.01	0.01	0.03	0.02
Barium	0.20	0.13	0.15	0.10	0.18	0.23	0.23	0.08
Cadmium	0.03	0.04	0.02	0.02	0.02	0.02	0.07	0.02
Chromium	12.7	9.15	0.02	0.02	<0.01	5.1	16.3	0.02
Fluoride	1	2	2	1	1	2	1	2
Lead	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Mercury	<0.001	<0.001	<0.001	0.001	0.001	<0.001	<0.001	<0.001
Nitrate	18.7	14.7	0.1	0.1	0.1	14.7	14.7	0.53
Selenium	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Silver	0.02	0.03	0.02	0.03	0.02	0.02	0.06	0.01
Endrin	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Lindane	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004
Methoxychlor	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Toxaphene	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
2,4-D	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
2,4,5-TP (Silvex)	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Turbidity, NTU	45	10	100	90	120	25	10	23
Coliform Bacteria, MPN/100 ml	<2.2	<2.2	<2.2	<2.2	16	<2.2	<2.2	<2.2
Hexavalent Chromium	12.7	6.0	0.02	0.02	<0.01	5.0	16.3	0.02

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION IX
215 Fremont Street
San Francisco, Ca. 94105

10 FEB 1983

C.B. Armstrong, Plant Manager
Kerr-McGee Chemical Corporation
P.O. Box 55
Hendersen, NV 89015

Re: NVD008290330

Dear Mr. Armstrong:

The Environmental Protection Agency is planning to inspect Kerr-McGee Chemical Corporation to assess compliance with federal ground water monitoring regulations found in 40 CFR Part 265, Subpart F. The inspection will be conducted by a qualified hydrogeologist under contract to EPA. An inspector from the State Division of Environmental Protection will accompany the EPA contractor. In preparation for the inspection, I request that you submit, pursuant to Section 3007(a) of the Resource Conservation and Recovery Act, all information documenting compliance with these regulations. This information may include, but is not limited to, the following:

- ground water sampling and analysis plans
- maps showing well locations
- bore hole logs and well construction specifications
- geotechnical consultants reports and certifications
- water level monitoring results
- chemical analyses results
- statistical evaluations of data
- alternate ground water monitoring plans
- ground water monitoring waivers
- ground water quality assessment plans or outlines.

If any of this information has already been submitted to EPA, there is no need to resubmit it. However, please advise us of the date of the original submittal.

Section 3007 of RCRA authorizes the Administrator of EPA to require persons subject to the Act to furnish information as may be necessary for the purpose of administering the Act. Failure to provide information would constitute a violation of the Act, and could subject the violator to enforcement action pursuant to Section 3008 of the Act.

The information requested must be provided notwithstanding its possible characterization as confidential information or trade secrets. If you believe that any portion of the information you submit is confidential, please assert a confidentiality claim in accordance with 40 CFR Section 2.203(b). EPA regulations covering confidentiality of business information are set forth in Part 2, Subpart B of Title 40 of the Code of Federal Regulations. A copy is attached for your guidance.

Please forward copies of the requested documents to this division within 10 days of receipt of this letter. If you have any questions or need any assistance, please call Karen Schwinn at 415-974-8158. Your cooperation is appreciated.

Sincerely yours,

Original Signed by:

Harry Seraydarian
Acting Director
Toxics & Waste Management Division

Attachment

cc: Verne Rosse

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION IX
215 Fremont Street
San Francisco, Ca. 94105

15 FEB 1983

RECEIVED
FEB 17 1983
ENVIRONMENTAL PROTECTION

Mr. R.B. Chase, Jr.
Plant Manager
Kerr-McGee Chemical Corporation
Post Office Box 55
Henderson, NV 89015

Re: Henderson Facility (EPA ID# NVD008290330)

Dear Mr. Chase:

Harry Seraydarian's letter to you of January 28, 1983, indicated that we would shortly be holding a pre-application meeting to discuss Part B of your hazardous waste permit application. We have arranged to hold this meeting on Wednesday, February 23, at 9:00 A.M. We have reserved the second floor conference room at the EPA Las Vegas Laboratory, La Plaza Complex Building "C", 4220 S. Maryland Parkway, Las Vegas.

Our past experience has shown these meetings to be valuable to both the applicant and EPA. We will both save time and effort with common understandings regarding the permit process. We expect the meeting to last all day. Please have your representatives be prompt, since a good deal of information must be covered.

Sincerely,

William D. Wilson
Chief, Technical Assessment Section

cc: Vern Rosse, NDEP

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION IX
215 Fremont Street
San Francisco, Ca. 94105

28 JAN 1983

Mr. R.B. Chase, Jr.
Plant Manager
Kerr-McGee Chemical Corporation
Post Office Box 55
Henderson, NV 89015

Re: Henderson Facility (EPA ID# NVD008290330)

Dear Mr. Chase:

This letter constitutes a formal request for Part B of your application for a hazardous waste facility under the Resource Conservation and Recovery Act (RCRA) for the facility referenced above. This request is made under the authority of 40 CFR 122.22 (a)(4).

Enclosed for your reference is a list of the items which constitute Part B. Under separate cover, we are forwarding other materials to assist you in completing the Part B.

Part B must be filed by August 1, 1983. Two copies should be submitted to EPA (M-5) at the above address. Two copies should be submitted to the Nevada Division of Environmental Protection, Capitol Complex, Carson City, NV 89710.

We plan to hold a pre-application meeting in Las Vegas in the next six weeks to discuss the permitting process and application requirements. Further information will be forwarded to you on this shortly.

Please refer any questions you may have to William D. Wilson at the above address, or phone (415) 974-8391.

Sincerely yours,

Harry Seraydarian
Acting Director
Toxics & Waste Management Division

Enclosure

cc: Verne Rosse, NDEP

January 27, 1983

R.B. Chase, Jr.
Plant Manager
Kerr-McGee Chemical Corporation
P.O. Box 55
Henderson, Nevada 89015

Re: Anolyte Leak

Greetings:

This office has received your letter of 20 January 1983 which summarized the events of acid leakage. Your operating personnel are commended for their prompt action to convert a serious discharge to one of manageable proportions. The Division does not at this time consider taking action on this unauthorized discharge.

Some questions have arisen and you are directed to respond with reasonable detail.

Do you have a program of regular and complete inspections of this and other storage tanks, and are these inspections logged? Do inspections increase in frequency when tank liners are known to be at the end of their serviceability?

It has been indicated that this tank has suffered previous failures of its lining with consequent loss of acid to the soil base beneath it. This suggests that the acid buffering capacity of the alkaline soils is exhausted. You are requested to determine the geometry of this zone of exhausted capacity and propose schemes or devices whereby the buffering capacity is restored; this anticipates future lining failures and is mitigative of those possible discharges.

The in-ground concrete tank to which some of the anolyte was transferred was described during the telephone report as itself being leak prone. Is this buried tank used in routine operations or is it reserved to function as an emergency storage vessel; if so, it is prudent to repair its leaks. Is it practical to exhume this tank? Can it be replaced with a clay-lined storage pond to service future breaches in any tank liners? The soils surrounding this tank are also expected to have exhausted their acid buffering capacity.

A dike was built around the anolyte seepage area to contain the spill. Was there previously no dike or berm around this tank for spill containment? It is suggested that containment berms should be placed around this tank sufficiently sized to contain any leak or spill and lined with a material which minimizes percolation out of the bermed area.

The intent of these questions is to mollify the Division's concern that recurrence of anolyte leakage has moderate to high probability. If this probability cannot be reduced to zero, then control, containment, and mitigation measures are warranted. Please respond to the above questions in that vein, supplementing the information as you feel will best illuminate prevention or mitigation of recurrent incidents of this nature.

Please telephone or visit if you wish to discuss this matter.

Respectfully,

Harry van Drielen

Harry van Drielen
Environmental Management Sepcialist II

de

RECEIVED
JAN 24 1983
ENVIRONMENTAL PROTECTION

KERR-McGEE CHEMICAL CORPORATION
POST OFFICE BOX 55 • HENDERSON, NEVADA 89015

January 20, 1983

CERTIFIED MAIL NO. P26 0233719

Mr. Harry van Drielen
State of Nevada
Division of Environmental Protection
201 South Fall Street
Capitol Complex
Carson City, NV 89710

Dear Mr. van Drielen:

The following is a chronology of the events surrounding the acid leak at our facility which was reported to you by phone:

On Sunday, January 16, shortly after 7 a.m., anolyte was discovered seeping out from under the anolyte storage tank. At the time the leak was discovered, the tank was more than three-quarters full; it contained about 400,000 gallons of solution. The following actions were taken and completed by approximately noon of the same day or shortly thereafter:

1. The manganese dioxide cells were shut down, thus eliminating further input of fresh anolyte to the tank.
2. The operating rate of the leach plant was increased to the maximum possible, thus increasing consumption of anolyte from the tank.
3. A dike was built around the area, where the anolyte was seeping out from under the tank, to contain the spill.
4. A pump and piping were put in place to transfer the contents of the tank to an in-ground process vessel nearby.
5. The National Emergency Response Center was contacted and the requested information given to a Mr. Ambrozewicz.

? operational plan to inspect tank BID
? re establishment of soil buffers

As a result of these actions, the leaking tank was emptied by early morning, Monday, January 17. We then proceeded to begin emptying the in-ground concrete vessel to which some of the volume had been pumped. Less than half of the total volume was pumped to this location. The in-ground tank was essentially empty at 5 a.m. on Tuesday, January 18.

Process volume inventories were taken at the time the leak was discovered and when the transfer operations were completed on January 18. As a result of these inventories, it is estimated that no more than 125,000 gallons were lost to the gound because of this leak and spill. The leaking solution contains 40 gpl sulfuric acid and 50 gpl manganese sulfate. This solution is considered hazardous due to its acid content only. The alkaline nature of the soils in this area will readily neutralize the acid lost.

The operating personnel did an excellent job of promptly responding to the problem and taking every possible action to mitigate the extent and danger of the release.

Sincerely,

KERR-McGEE CHEMICAL CORPORATION

Joe J. B. Chase, Jr.

R. B. Chase, Jr.
Plant Manager

RBC:jc

KERR-McGEE CHEMICAL CORPORATION
POST OFFICE BOX 55 • HENDERSON, NEVADA 89015

January 24, 1983

RECEIVED
JAN 25 1983
ENVIRONMENTAL
PROTECTION

Mr. H. Laverne Rosse
Program Director
Waste Management
State of Nevada
Division of Environmental Protection
201 South Fall Street
Carson City, NV 89710

Dear Mr. Rosse:

The attached Figure 1 was inadvertently left off the *Hazardous Waste Disposal Closure and Post-Closure Plan for Hazardous Waste Landfill* which was mailed to you January 21, 1983.

Sincerely,

R. B. Chase, Jr. /jc

R. B. Chase, Jr.
Plant Manager

RBC:jc
Attachment

cc: Region IX EPA-San Francisco w/att.

KERR-McGEE CHEMICAL CORPORATION
POST OFFICE BOX 55 • HENDERSON, NEVADA 89015

January 21, 1983

565-8901

RECEIVED
JAN 24 1983
ENVIRONMENTAL PROTECTION

CERTIFIED MAIL NO. P26 0233692

Mr. H. Laverne Rosse
Program Director
Waste Management
State of Nevada
Division of Environmental Protection
201 South Fall Street
Carson City, NV 89710

Dear Mr. Rosse:

Attached for your approval is the closure plan for our *hazardous waste landfill* which will be taken out of service as of January 25, 1983.

Sincerely,

R. B. Chase, Jr.
Plant Manager

RBC:jc
Attachment

cc: Region IX EPA-San Francisco w/att.

HAZARDOUS WASTE DISPOSAL
CLOSURE AND POST-CLOSURE PLAN
FOR HAZARDOUS WASTE LANDFILL
Henderson, Nevada Plant

These plans are to be retained as a permanent record and are not to be amended without approval as noted.

DISPOSAL OPERATION

Hazardous wastes disposed of on-site consist of chromium-bearing materials. Final disposal is by means of landfill. Closure of these operations is described below. Closure operations will commence within 90 days of receiving the final volume of waste and will be completed within 180 days.

CLOSURE OF LANDFILL

Solid hazardous wastes comprised of filter cakes and precipitates from the sodium chlorate operation and containing chromium in excess of EP toxicity test criteria are disposed of in a cell trench in an area near the northwest corner of the plant property. The area is shown in the attached drawing, Figure 1.

Cells are constructed below grade with dimensions approximately 20 feet wide x 20 feet deep x 300 feet long. Each cell is filled to within no more than two feet of the surface with 18 feet waste. The wastes are compacted during the filling process to minimize later subsidence. The capacity of one cell is about 100,000 cubic feet or about two years of waste accumulation from process operation. When filling of the cell with waste is complete, the cell is closed by covering the area with a synthetic liner, e.g., PVC of minimum 30-mil thickness, to prevent any water contact, then covered with a minimum of two feet of native soil (sand and gravel). Extra soil is added to the center of the cell and graded to a final top slope after settling and subsidence of 2 to 4 degrees to facilitate runoff in a direction away from adjacent closed or active cells. No vegetative cover or special drainage layer between the soil and synthetic liner will be necessary due to the low rainfall experienced in the area and the natural rate of evapotranspiration. Although rainwater penetration from any anticipated rainfall event in this location will not cause water to penetrate the two feet of soil, the added synthetic cover guarantees no water will contact the material. Therefore, it is not expected that any leaching or transport of contaminants to groundwater will ever occur from the buried waste.

In addition, the cell area has diversion structures and diking to prevent run-on of rainwater, thereby minimizing any potential contact with the waste material.

The landfill will not receive wastes after Tuesday, January 25, 1983, and will be removed from service by closure as described above. Cost of closure will be approximately $16,000 and includes certification by an independent registered professional engineer.

Post-closure care consists of semi-annual groundwater sampling for indicator parameters, i.e., pH, specific conductance, TOC, TOH, and annual sampling for groundwater quality parameters, i.e., Cl, Fe, Mn, SO_4, and chromium. Regular inspection and maintenance of final cover will be performed and log sheets maintained. Groundwater monitoring is anticipated for five years (a period two and a half times the active life of the cell), at which time KMCC will petition for suspension of future monitoring if no statistical groundwater impact is observed.

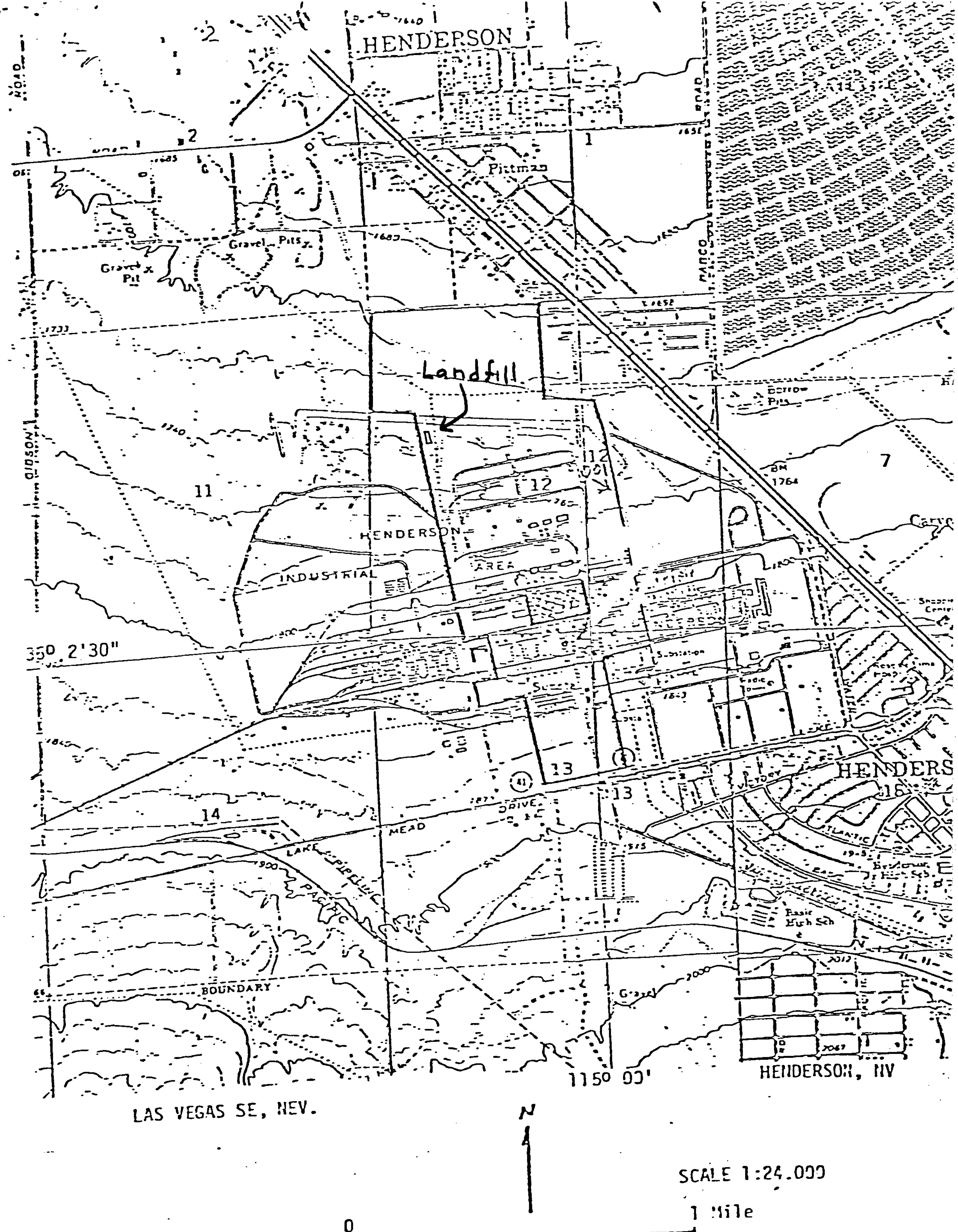

HENDERSON
Pittman
Gravel Pits
Gravel Pit
Landfill
HENDERSON
INDUSTRIAL
AREA
Substation
Borrow Pits
35° 2'30"
LAKE MEAD DRIVE
PACIFIC
PIPELINE
BOUNDARY
Basic High Sch
115° 00'
HENDERSON, NV
LAS VEGAS SE, NEV.
N
SCALE 1:24.000
0
1 Mile

Figure 1

KERR-McGEE CHEMICAL CORPORATION
POST OFFICE BOX 55 • HENDERSON, NEVADA 89015

RECEIVED
JAN 24 1983
ENVIRONMENTAL
PROTECTION

January 21, 1983

CERTIFIED MAIL NO. P21 7028084

Mr. Phil Bobel, Chief
Toxics & Waste Programs Branch
United States
Environmental Protection Agency
Region IX
215 Fremont Street
San Francisco, CA 94105

Re: T-2-1 NVD008290330

Dear Mr. Bobel:

Attached is a copy of a letter sent to the State of Nevada on August 25, 1982, responding to the deficiency observed in their inspection in accordance with the Resource Conservation and Recovery Act of 1976.

We trust this satisfies your request for a status report.

Sincerely,

R. B. Chase, Jr.
Plant Manager

RBC:jc
Attachment
cc: Verne Rosse, NDEP

KERR-McGEE CHEMICAL CORPORATION
POST OFFICE BOX 55 • HENDERSON, NEVADA 89015

August 25, 1982

CERTIFIED MAIL NO. P26 0233691

Mr. H. Laverne Rosse
Program Director - Waste Management
State of Nevada
Division of Environmental Protection
Capitol Complex
Carson City, NV 89710

Dear Mr. Rosse:

We have received your interim status inspection report of July 23, 1982, concerning the Henderson facility. We note in the Overview it is construed we generate 900 tons per year of hexavalent chromium. In actuality, we generate 900 tons of total solid waste in which only a very small fraction (Ca. 0.05 wt.%) is chromium.

In the report under General Inspection Requirements, it was noted that our contingency plan emergency equipment was not itemized. To rectify this, the attached list has been made a part of our record.

We trust that you will amend your records appropriately.

Sincerely,

C. B. Armstrong
Plant Manager

CBA:jc
Attachment

received 14 July 82

ITEMS IN EMERGENCY COMPOUND

Item No.		
1.	FIRE HOSE - 1 1/2"	150 FT.
2.	FIRE HOSE - 3"	150 FT.
3.	COPPUS BLOWER W/HOSE	1 EA.
4.	BRIGGS & STRATTON BLOWER W/HOSE	1 EA.
5.	TRASH PUMP - MODEL PT. 3/7 H.P. - 3"	1 EA.
6.	SUCTION PUMP W/HOSE & STRAINER - 2"	1 EA.
7.	AIR PAK	1 EA.
8.	KNEE BOOTS	
	SIZE 9----------1 EA.	
	SIZE 10----------1 EA.	
	SIZE 11----------1 EA.	
	SIZE 12----------1 EA.	
9.	COMMANDERS LANTERN	2 EA.
10.	CHAIN BINDERS	2 EA.
11.	WELDING HELMET & HAT	1 EA.
12.	315 RESPIRATOR	2 EA.
13.	20' 1/4" CHAIN	1 EA.
14.	LUG-ALL	
	3/4 TON----------1 EA.	
	1 1/2 TON----------1 EA.	
15.	SAFETY BELTS	2 EA.
16.	TRAFFIC CONES	6 EA.
17.	WOODEN STAKES	1 BDL.
18.	BLINKER LIGHTS	6 EA.
19.	ACID SUITS	4 EA.
20.	RAIN SUITS	
	MEDIUM----------2 EA.	
	LARGE----------0	
	X-LARGE----------0	
21.	FIRE HYDRANT WRENCHES	2 EA.
22.	FIRE HOSE ADAPTERS	2 EA.
23.	SIGNS:	
	DANGER HIGH VOLTAGE	2 EA.
	DANGER CHLORINE	2 EA.
	DANGER FLAMMABLE GAS	2 EA.
	DANGER ACID	2 EA.
	STOP	2 EA.
	DETOUR	2 EA.
	RED FLAGS	3 EA.
24.	FIRE EXTINGUISHERS - #15 DRY POWDER	13 EA.
25.	5 GALLON GAS CAN	7 EA.
26.	ROTO ROOTER	1 EA.
27.	E3500 HONDA GENERATOR	1 EA.
28.	FUSION UNIT - 2"	1 EA.

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION IX
215 Fremont Street
San Francisco, Ca. 94105

Certified Mail P364170343
Return Receipt Requested

DEC 23 1982

In Reply T-2-1
Refer To: NVD008290330

Mr. Richard Wohletz
Kerr - McGee Chemical Corporation
P.O. Box 55
Henderson, NV 89015

Dear Mr. Wohletz:

On July 23, 1982 a hazardous waste investigation was conducted at your facility by the Nevada Division of Environmental Protection. This inspection was conducted by the State as our authorized representative. During the course of this investigation, information was gathered by the State representatives in accordance with Section 3007 of the Resource Conservation and Recovery Act of 1976 (RCRA). A copy of the investigation report is enclosed for your information.

The following minor deficiency was observed during the records review and facility inspection:

> 40 CFR 265.52(e) - The Contingency Plan does not include a list of all available emergency equipment, the location and a physical description of each item on the list, and a brief outline of its capabilities.

You are hereby requested to submit a written status report within thirty (30) days of receipt of this letter, certifying that corrective measures have been implemented and compliance achieved. This report should include supporting documentation describing measures taken and copies of any written plans, forms or procedures developed.

If you have any questions concerning this letter, please contact Paul D. Blais, RCRA State Programs Section at (415) 974-8129.

Sincerely yours,

Phil Bobel

Phil Bobel
Chief, Toxics & Waste Programs Branch

Enclosure

cc: Verne Rosse, NDEP

KERR-McGEE CHEMICAL CORPORATION
POST OFFICE BOX 55 • HENDERSON, NEVADA 89015

RECEIVED
OCT 27 1982
ENVIRONMENTAL
PROTECTION

October 26, 1982

CERTIFIED MAIL NO. P26 0233713

Mr. Bill Wilson, Chief
Technical Assessment Section
Toxics and Waste Programs Branch
U. S. Environmental Protection Agency
Region IX
215 Fremont Street
San Francisco, CA 94105

Re: Second Quarter 1982 RCRA Groundwater Monitoring Data, Henderson, Nevada Facility, Kerr-McGee Chemical Corporation, EPA ID No. NVD 008290330

Dear Mr. Wilson:

Please find attached in Tables I (landfill) and II (surface impoundments) completed second quarter 1982 RCRA groundwater monitoring data for the Kerr-McGee Chemical Corporation facility at Henderson, Nevada. These data supplement the partial data submitted on August 17, 1982. This data summary is supplied in accordance with 40 CFR 265.94(2)(i).

The cadmium concentration in all reported wells exceeds the NIPDWS limit of 0.01 mg/L. The turbidity limit of 1 NTU is also exceeded in all wells. Chromium exceeds the NIPDWS limit of .05 mg/L in the surface impoundment wells M-1, M-2, and M-3. Nitrate limits of 10 mg/L as N are exceeded in wells M-1, M-3, and M-4. The NIPDWS silver limit of 0.05 mg/L is exceeded in wells M-2 and M-3. In the landfill wells, the NIPDWS limit of 1.4-2.4 mg/L for fluoride is exceeded in M-5, M-6, and M-7. Coliform NIPDWS limits of 1/100 mL are exceeded in wells M-5, M-6, and M-7.

Sincerely,

R. B. Chase
Plant Manager

RBC:jc
Attachment

cc: H. L. Rosse-Carson City

TABLE I

SECOND QUARTER 1982 RCRA GROUNDWATER MONITORING DATA
KERR-MCGEE CHEMICAL CORPORATION - HENDERSON FACILITY

LANDFILL

Parameter		Upgradient Well	Downgradient Wells		
		M-5	M-6	M-7	H-28
Arsenic	(mg/L)	0.02	<0.01	<0.01	0.01
Barium	"	0.10	0.08	0.12	0.09
Cadmium	"	0.02	0.02	0.02	0.02
Chromium	"	0.01	0.01	<0.01	0.01
Fluoride	"	3.6	2.5	2.5	1.0
Lead	"	<0.01	0.02	<0.01	<0.01
Mercury	"	<0.001	<0.001	<0.001	0.012
Nitrate (as N)	"	0.45	0.22	0.22	0.2
Selenium	"	<0.005	<0.005	<0.005	<0.005
Silver	"	0.02	0.01	0.01	0.02
Endrin	"	<0.0002	<0.0002	<0.0002	<0.0002
Lindane	"	<0.004	<0.004	<0.004	<0.004
Methoxychlor	"	<0.1	<0.1	<0.1	<0.1
Toxaphene	"	<0.005	<0.005	<0.005	<0.005
2,4-D	"	<0.1	<0.1	<0.1	<0.1
2,4,5-TP Silvex	"	<0.01	<0.01	<0.01	<0.01
Gross Alpha	(pCi/L)	<40	<20	<40	<40
Gross Beta	(pCi/L)	40 ±30	40 ±20	60 ±20	50±20
Radium	(pCi/L)	<2	<2	<2	<2
Coliform	(MPN/100 mL)	240	93	4	<2.2
Turbidity	(NTU)	2000	2000	2000	35

Analysis by Truesdail Laboratories, Inc., Los Angeles, CA.

TABLE II

SECOND QUARTER 1982 RCRA GROUNDWATER MONITORING DATA
KERR-MCGEE CHEMICAL CORPORATION - HENDERSON FACILITY

SURFACE IMPOUNDMENTS

Parameter		Upgradient Well	Downgradient Wells		
		M-1	M-2	M-3*	M-4*
Arsenic	(mg/L)	<0.01	0.03	<0.01	<0.01
Barium	"	0.18	0.23	0.27	0.09
Cadmium	"	0.03	0.05	0.06	0.01
Chromium	"	12.9	10.0	44	0.01
Fluoride	"	0.7	1.0	0.7	1.0
Lead	"	<0.01	<0.01	<0.01	<0.01
Mercury	"	<0.001	<0.001	<0.001	<0.001
Nitrate (as N)	"	11.2	8.8	44	11.1
Selenium	"	<0.005	<0.005	<0.005	<0.005
Silver	"	0.04	0.10	0.09	0.03
Endrin	"	<0.0002	<0.0002	<0.0002	<0.0002
Lindane	"	<0.004	<0.004	<0.004	<0.004
Methoxychlor	"	<0.1	<0.1	<0.1	<0.1
Toxaphene	"	<0.005	<0.005	<0.005	<0.005
2,4-D	"	<0.1	<0.1	<0.1	<0.1
2,4,5-TP Silvex	"	<0.01	<0.01	<0.01	<0.01
Gross Alpha	(pCi/L)	<100	<100	<200	<40
Gross Beta	(pCi/L)	80±20	720±40	300±40	30±20
Radium	(pCi/L)	<2	<2	<2	<2
Coliform	(MPN/100 mL)	<2.2	<2.2	<2.2	<2.2
Turbidity	(NTU)	45	57	2.5	85

Analysis by Truesdail Laboratories, Inc., Los Angeles, CA.

* Monitor wells M-3 and M-4 were replaced by wells M-8 and M-9 following second quarter analysis.

EPA TSD Fac. No. or Gen. No. | N | V | D | 0 | 0 | 8 | 2 | 9 | 0 | 3 | 3 | 0 |

GROUND WATER MONITORING REPORT FOR HAZARDOUS WASTE FACILITIES

Company Well Number: M-1

Gradient Up: XX Down:

Report for: 19 8 2

Company Name: Kerr-McGee Chemical Corporation Phone: (702) 565-8901

Address: P. O. Box 55, Henderson, Nevada Zip: 89015

E 1 — Surface Impoundment

Parameter Units	Ground Water Elev. Ft. Sample Occurrence	pH Standard	Conductivity µmhos mg/l	Total Organic Carbon mg/l	Total Organic Halogen mg/l	Chloride mg/l	Iron mg/l	Manganese mg/l	Phenols mg/l	Sodium mg/l	Sulfate mg
st Year (initial) Background static mean		**	**	**	**						
4/82	1751.63	7.3	11,350	4.3	528	1450	0.27	0.07	0.01	1260	868
/82	1750.51	7.4	12,250	18.3	51.5	1625	0.16	0.04	<0.01	1085	1190
/5/82	1750.72	7.3	11,600	21.3	615	2000	0.40	0.09	<0.01	1170	1120

E 2

Parameter Units	Arsenic mg/l	Barium mg/l	Cadmium mg/l	Chromium mg/l	Fluoride mg/l	Lead mg/l	Mercury mg/l	Nitrate mg/l (as N)	Selenium mg/l	Silver mg/l
4/82	0.01	0.21	0.03	12.2	1.0	<0.01	0.001	0.91	<0.005	0.04
/82	<0.01	0.18	0.03	12.9	0.7	<0.01	<0.001	11.2	<0.005	0.04
/5/82	<0.01	0.20	0.03	12.7	1.0	<0.01	<0.001	18.7	<0.005	0.02

Parameter Units	Endrin mg/l	Lindane mg/l	Methoxychlor mg/l	Toxaphene mg/l	2,4-D mg/l	2,4,5-TP Silvex mg/l	Radium pCi/l	Gross Alpha pCi/l	Gross Beta pCi/l	Coliform Bacteria 1/100 ml
4/82	<0.0002	<0.004	<0.1	<0.005	<0.1	<0.01	<2	<15	<20	<2.2
/82	<0.0002	<0.004	<0.1	<0.005	<0.1	<0.01	<2	<100	80±20	<2.2
/5/82	<0.0002	<0.004	<0.1	<0.005	<0.1	<0.01	<2	<50	50±30	<2.2

EPA ISD Fac. No. or Gen. No. | N | V | D | 0 | 0 | 8 | 2 | 9 | 0 | 3 | 3 | 0 |

GROUND WATER MONITORING REPORT
FOR HAZARDOUS WASTE FACILITIES

Company Well Number: M-2

Gradient Up: [ ] Down: [xx]

Report for: 19 | 8 | 2 |

Company Name: Kerr-McGee Chemical Corporation Phone: (702) 565-8901

Address: P. O. Box 55 Henderson, Nevada Zip: 89015

TABLE 1 Surface Impoundment

Parameter Units	Ground Water Elev. Ft. Sample Occurance	pH Standard	Conductivity µmhos mg/l	Total Organic Carbon mg/l	Total Organic Halogen mg/l	Chloride mg/l	Iron mg/l	Manganese mg/l	Phenols mg/l	Sodium mg/l	Sulfate m
First Year (initial) Background static mean		**	**	**	**						
4/82	1746.77	7.3	20,000	5	870	3800	0.03	0.04	<0.01	4430	2900
1/82	1744.40	7.2	34,000	9	23	7210	0.27	0.05	<0.01	6350	4180
/5/82	1746.35	7.3	22,000	45	59	4750	0.34	0.07	<0.01	4190	1190

TABLE 2

Parameter Units	Arsenic mg/l	Barium mg/l	Cadmium mg/l	Chromium mg/l	Fluoride mg/l	Lead mg/l	Mercury mg/l	Nitrate mg/l (as N)	Selenium mg/l	Silver mg/l
4/82	0.02	0.18	0.04	9.0	0.95	<0.01	<0.001	0.45	<0.005	0.05
1/82	0.03	0.23	0.05	10.0	1.0	<0.01	<0.001	8.8	<0.005	0.10
/5/82	0.02	0.13	0.04	9.15	2.0	<0.01	<0.001	14.7	<0.005	0.03

Parameter Units	Endrin mg/l	Lindane mg/l	Methoxychlor mg/l	Toxaphene mg/l	2,4-D mg/l	2,4,5-TP Silvex mg/l	Radium pCi/l	Gross Alpha pCi/l	Gross Beta pCi/l	Coliform Bacteria #/100 ml
4/82	<0.0002	<0.004	<0.1	<0.005	<0.1	<0.01	<3	<15	<20	<2.2
1/82	<0.0002	<0.004	<0.1	<0.005	<0.1	<0.01	<2	<100	720±40	<2.2
/5/82	<0.0002	<0.004	<0.1	<0.005	<0.1	<0.01	<2	<60	300±100	<2.2

or Gen. No. | N | V | D | 0 | 0 | 0 | 2 | 9 | 0 | 3 | 3 | 0 |

GROUND WATER MONITORING REPORT
FOR HAZARDOUS WASTE FACILITIES

Company Well Number: M-8

Gradient Up: [ ] Down: [X]

Report for: 19 | 8 | 2

pany Name: Kerr-McGee Chemical Corporation Phone: (702) 565-8901

ress Address: P. O. Box 55 Henderson, NV Zip: 89015

LE 1

Surface Impoundment

Parameter Units	Ground Water Elev. Ft. Sample Occurance	pH Standard	Conductivity µmhos mg/l	Total Organic Carbon mg/l	Total Organic Halogen mg/l	Chloride mg/l	Iron mg/l	Manganese mg/l	Phenols mg/l	Sodium mg/l	Sulfate mg/l
e											
First Year (initial) Background matic mean		**	**	**	**						
)/5/82	1746.62	7.1	11,000	54	435	2000	0.22	0.12	<0.01	1490	1680

LE 2

Parameter Units	Arsenic mg/l	Barium mg/l	Cadmium mg/l	Chromium mg/l	Fluoride mg/l	Lead mg/l	Mercury mg/l	Nitrate mg/l (as N)	Selenium mg/l	Silver mg/l
/5/82	0.01	0.23	0.02	5.1	2.0	<0.01	<0.001	14.7	<0.005	0.02

Parameter Units	Endrin mg/l	Lindane mg/l	Methoxychlor mg/l	Toxaphene mg/l	2,4-D mg/l	2,4,5-TP Silvex mg/l	Radium pCi/l	Gross Alpha pCi/l	Gross Beta pCi/l	Coliform Bacteria f/100 ml
/5/82	<0.0002	<0.004	<0.1	<0.005	<0.1	<0.01	<2	<30	100±60	<2.2

...or Gen. No. N V D . . . .

GROUND WATER MONITORING REPORT FOR HAZARDOUS WASTE FACILITIES

Company Well Number: M-9

Gradient Up [ ] Down [XX]

Report for: 19 8 2

...any Name: Kerr-McGee Chemical Corporation — Phone: (702) 565-8901

...ess Address: P. O. Box 55 - Henderson, Nevada — Zip: 89015

Surface Impoundment

...LE 1

...arameter Units	Ground Water Elev. Ft. Sample Occurance	pH Standard	Conductivity µmhos mg/l	Total Organic Carbon mg/l	Total Organic Halogen mg/l	Chloride mg/l	Iron mg/l	Manganese mg/l	Phenols mg/l	Sodium mg/l	Sulfate mg/l
...irst Year (initial) Background ...mati c mean		**	**	**	**						
.../5/82	1745.15	7.0	40,500	11	1200	12,120	0.29	0.27	<0.01	9520	1510

...LE 2

...arameter Units	Arsenic mg/l	Barium mg/l	Cadmium mg/l	Chromium mg/l	Fluoride mg/l	Lead mg/l	Mercury mg/l	Nitrate mg/l (as N)	Selenium mg/l	Silver mg/l
.../5/82	0.03	0.23	0.07	16.3	1.0	<0.01	<0.001	14.7	<0.005	0.06

...arameter Units	Endrin mg/l	Lindane mg/l	Methoxychlor mg/l	Toxaphene mg/l	2,4-D mg/l	2,4,5-TP Silvex mg/l	Radium pCi/l	Gross Alpha pCi/l	Gross Beta pCi/l	Coliform Bacteria 1/100 ml
.../5/82	<0.0002	<0.004	<0.1	<0.005	<0.1	<0.01	<2	<200	1200±300	<2.2

EPA I.D. Number or Gen. No. | N | V | D | 0 | 0 | 0 | 2 | ...

Company Well Number: M-5

Gradient: Up [X] Down [ ]

Report for: 19 8 2

GROUND WATER MONITORING REPORT FOR HAZARDOUS WASTE FACILITIES

Company Name: Kerr-McGee Chemical Corporation — Phone: (702) 565-8901

Address: P. O. Box 55 Henderson, Nevada — Zip: 89015

Landfill

TABLE 1

Parameter Units	Ground Water Elev. Ft. Sample Occurrence	pH Standard	Conductivity µmhos mg/l	Total Organic Carbon mg/l	Total Organic Halogen mg/l	Chloride mg/l	Iron mg/l	Manganese mg/l	Phenols mg/l	Sodium mg/l	Sulfate mg/l
Date											
First Year (initial) Background arithmetic mean		**	**	**	**						
/16/82	1716.49	6.5	10,500	126	35	2750	22.19	8.94	0.17	1010	2350
/5/82	1716.32	5.8	10,550	25	32	3000	58.5	5.22	0.30	1120	1360

TABLE 2

Parameter Units	Arsenic mg/l	Barium mg/l	Cadmium mg/l	Chromium mg/l	Fluoride mg/l	Lead mg/l	Mercury mg/l	Nitrate mg/l (as N)	Selenium mg/l	Silver mg/l
Date										
/16/82	0.02	0.10	0.02	0.01	3.6	<0.01	<0.001	0.45	<0.005	0.02
/5/82	<0.01	0.15	0.02	0.02	2.0	<0.01	<0.001	0.10	<0.005	0.02

Parameter Units	Endrin mg/l	Lindane mg/l	Methoxychlor mg/l	Toxaphene mg/l	2,4-D mg/l	2,4,5-TP Silvex mg/l	Radium pCi/l	Gross Alpha pCi/l	Gross Beta pCi/l	Coliform Bacteria 1/100 ml
Date										
/16/82	<0.0002	<0.004	<0.1	<0.005	<0.1	<0.01	<2	<40	40±30	240
/5/82	<0.0002	<0.004	<0.1	<0.005	<0.1	<0.01	<2	<30	<40	<2.2

or Gen. No.

GROUND WATER MONITORING REPORT
FOR HAZARDOUS WASTE FACILITIES

Company Well Number: M-6

Gradient Up [ ] Down [X]

Report for: 19 8 2

Company Name: Kerr-McGee Chemical Corporation Phone: (702) 565-8901

Address: P. O. Box 55 - Henderson, NV Zip: 89015

TABLE 1 — Landfill

Parameter / Units	Ground Water Elev. Ft. Sample Occurence	pH Standard	Conductivity µmhos mg/l	Total Organic Carbon mg/l	Total Organic Halogen mg/l	Chloride mg/l	Iron mg/l	Manganese mg/l	Phenols mg/l	Sodium mg/l	Sulfate mg/l
Date											
First Year (initial) Background Quarterly mean		**	**	**	**						
1/16/82	1697.82	6.6	9600	47	8	2270	9.73	6.51	0.06	1060	2550
4/5/82	1697.57	6.4	9500	80	12	2370	15.9	2.88	<0.01	1150	1170

TABLE 2

Parameter / Units	Arsenic mg/l	Barium mg/l	Cadmium mg/l	Chromium mg/l	Fluoride mg/l	Lead mg/l	Mercury mg/l	Nitrate mg/l (as N)	Selenium mg/l	Silver mg/l
Date										
1/16/82	<0.01	0.08	0.02	0.01	2.5	0.02	<0.001	0.22	<0.005	0.01
4/5/82	<0.01	0.10	0.02	0.02	1.0	<0.01	0.001	0.10	<0.005	0.03

Parameter / Units	Endrin mg/l	Lindane mg/l	Methoxychlor mg/l	Toxaphene mg/l	2,4-D mg/l	2,4,5-TP Silvex mg/l	Radium pCi/l	Gross Alpha pCi/l	Gross Beta pCi/l	Coliform Bacteria #/100 ml
Date										
1/16/82	<0.0002	<0.004	<0.1	<0.005	<0.1	<0.01	<2	<20	40±20	93
4/5/82	<0.0002	<0.004	<0.1	<0.005	<0.1	<0.01	<2	<50	300±100	<2.2

EPA TSD Fac. No. or Gen. No. | N | V | D | 0 | 0 | 8 | 2 | 9 | 0 | 3 | 3 | 0

GROUND WATER MONITORING REPORT
FOR HAZARDOUS WASTE FACILITIES

Company Well Number: M-7

Gradient Up [ ] Down [X]

Report for: 19 8 2

Company Name: Kerr-McGee Chemical Corporation Phone: (702) 565-8901

Address: P. O. Box 55 Henderson, Nevada Zip: 89015

TABLE 1 Landfill

Parameter Units	Ground Water Elev. Ft. Sample Occurance	pH Standard	Conductivity µmhos mg/l	Total Organic Carbon mg/l	Total Organic Halogen mg/l	Chloride mg/l	Iron mg/l	Manganese mg/l	Phenols mg/l	Sodium mg/l	Sulfate mg/l
Type											
First Year (initial) Background (annual mean		**	**	**	**						
7/16/82	1701.83	6.8	10,000	50	9	2300	4.87	4.28	0.08	1180	2500
10/5/82	1701.60	6.7	10,000	29	12	4870	13.8	2.61	0.01	1190	1280

TABLE 2

Parameter Units	Arsenic mg/l	Barium mg/l	Cadmium mg/l	Chromium mg/l	Fluoride mg/l	Lead mg/l	Mercury mg/l	Nitrate mg/l (as N)	Selenium mg/l	Silver mg/l
Type										
7/16/82	<0.01	0.12	0.02	<0.01	2.5	<0.01	<0.001	0.22	<0.005	0.01
10/5/82	<0.01	0.18	0.02	<0.01	1.0	<0.01	0.001	0.10	<0.005	0.02

Parameter Units	Endrin mg/l	Lindane mg/l	Methoxychlor mg/l	Toxaphene mg/l	2,4-D mg/l	2,4,5-TP Silvex mg/l	Radium pCi/l	Gross Alpha pCi/l	Gross Beta pCi/l	Coliform Bacteria f/100 ml
Type										
7/16/82	<0.0002	<0.004	<0.1	<0.005	<0.1	<0.01	<2	<40	60±20	4
10/5/82	<0.0002	<0.004	<0.1	<0.005	<0.1	<0.01	<2	<20	<40	16

EPA I.D. Facility or Gen. No. N V D 0 0 8 2 9 0 3 3 0

GROUND WATER MONITORING REPORT
FOR HAZARDOUS WASTE FACILITIES

Company Well Number H-28

Gradient Up ☐ Down XX

Report for: 19 8 2

Company Name: Kerr-McGee Chemical Corporation Phone: (702) 565-8901

Address: P. O. Box 55 Henderson, NV Zip: 89015

Landfill

TABLE 1

Parameter / Units	Ground Water Elev. Ft. Sample Occurrence	pH Standard	Conductivity µmhos mg/l	Total Organic Carbon mg/l	Total Organic Halogen mg/l	Chloride mg/l	Iron mg/l	Manganese mg/l	Phenols mg/l	Sodium mg/l	Sulfate mg/l
First Year (initial) Background mean or mean		**	**	**	**						
9/82	1699.81	7.0	10,500	3	23	2130	0.21	2.42	<0.01	1680	730
1/82	1698.71	7.5	8,800	18	7.9	2140	2.28	2.16	<0.01	1195	2110
/5/82	1698.33	7.5	9,000	4	11	2250	0.61	1.77	<0.01	1110	1190

TABLE 2

Parameter / Units	Arsenic mg/l	Barium mg/l	Cadmium mg/l	Chromium mg/l	Fluoride mg/l	Lead mg/l	Mercury mg/l	Nitrate mg/l (as N)	Selenium mg/l	Silver mg/l
9/82	0.47	0.08	0.02	0.03	0.55	<0.01	<0.001	<0.1	<0.005	0.02
1/82	0.01	0.09	0.02	0.01	1.0	<0.01	0.012	0.2	<0.005	0.02
/5/82	0.02	0.08	0.02	0.02	2.0	<0.01	<0.001	0.53	<0.005	0.01

Parameter / Units	Endrin mg/l	Lindane mg/l	Methoxychlor mg/l	Toxaphene mg/l	2,4-D mg/l	2,4,5-TP Silvex mg/l	Radium pCi/l	Gross Alpha pCi/l	Gross Beta pCi/l	Coliform Bacteria 1/100 ml
9/82	<0.0002	<0.004	<0.1	<0.005	<0.1	<0.01	<2	81	<40	<2.2
1/82	<0.0002	<0.004	<0.1	<0.005	<0.1	<0.01	<2	<40	50+20	<2.2
/5/82	<0.0002	<0.004	<0.1	<0.005	<0.1	<0.01	<2	<40	60+40	<2.2

EXCELTECH, INC.

RECEIVED
OCT 14 1982
ENVIRONMENTAL
PROTECTION

Frank

October 11, 1982

Mr. H. LaVerne Rosse, P.E.
Department of Conservation and Natural Resources
Division of Environmental Protection
Capitol Complex
Carson City, Nevada 89710

Dear Mr. Rosse:

Per the requirements of the Acurex Waste Technologies, Inc. (AWT) PCB treatment permit issued by EPA Region 9, you must be notified of the activities of this system within your area.

Exceltech, Inc. is the exclusive licensed agent for AWT's PCB treatment system within EPA Region 9.

AWT and Exceltech hereby notify you that we will be treating 10,000 gallons of PCB-contaminated transformer oil at the Kerr-McGee Chemical Corporation site located in Henderson, Nevada. The treatment will take place between November 15 and December 15, 1982.

If you have any questions regarding this matter, please contact me.

Sincerely,

Donald E. Fraser

Donald E. Fraser
President

DEF:wa

6501 CROWN BOULEVARD SUITE 200 SAN JOSE, CA 95120 (408) 997-0908

EXCELTECH, INC.

RECEIVED
OCT 14 1982
ENVIRONMENTAL
PROTECTION

Frank

October 11, 1982

Mr. H. LaVerne Rosse, P.E.
Department of Conservation and Natural Resources
Division of Environmental Protection
Capitol Complex
Carson City, Nevada 89710

Dear Mr. Rosse:

Per the requirements of the Acurex Waste Technologies, Inc. (AWT) PCB treatment permit issued by EPA Region 9, you must be notified of the activities of this system within your area.

Exceltech, Inc. is the exclusive licensed agent for AWT's PCB treatment system within EPA Region 9.

AWT and Exceltech hereby notify you that we will be treating 10,000 gallons of PCB-contaminated transformer oil at the Kerr-McGee Chemical Corporation site located in Henderson, Nevada. The treatment will take place between November 15 and December 15, 1982.

If you have any questions regarding this matter, please contact me.

Sincerely,

Donald E. Fraser

Donald E. Fraser
President

DEF:wa

6501 CROWN BOULEVARD SUITE 200 SAN JOSE, CA 95120 (408) 997-0908

MITTELHAUSER corporation

RCRA CLOSURE/POST CLOSURE INSPECTION REPORT

INSPECTION OF:

KERR-MCGEE CHEMICAL CORPORATION
Lake Mead Drive
Henderson, NV 89015
(702) 565-8901

EPA ID #: NVD 008290330

FACILITY TYPE: STORAGE, TREATMENT AND DISPOSAL

DATE: September 22, 1982

TIME: 1:00 P.M.

PARTICIPANTS:

Chuck Armstrong, Kerr-McGee - Plant Manager
Richard Wohletz, Kerr-McGee - Technical Superintendent
Frank Steinberg, Nevada Dept. of Environmental Protection
Harry Takach, Mittelhauser Corporation

OVERVIEW:

This inspection report covers Kerr-McGee - Chemical Corporation's Henderson, Nevada Plant's:

- Facility Description
- Part A Application
- Closure Plan
- Post-Closure Plan
- Cost Estimates

The Kerr-McGee representatives stated that revised closure plan was being prepared but was not a significant change. The revisions basically brought the plan up to consistency with the revised RCRA Part A application dated 7/12/82 and general procedures and costs revisions or updates.

This staff also proposed that EPA might consider a different sampling strategy when performing these inspections. They suggested a percentage of an EPA region rather than a fixed number per state. That action would minimize the number of Kerr-McGee's inspections since Nevada is not a very representative state (Note - only six RCRA sites are located in Nevada).

More detailed information can be obtained from the attached checklist.

FACILITY DESCRIPTION

The Henderson, Nevada plant manufactures industrial chemicals including sodium chlorate, ammonium perchlorate, potassium perchlorate, manganese dioxide, boron trichloride, boron tribromide and elemental boron. The source of wastes sent to the landfill are filtercake solids produced during the sodium chlorate production step. Liquids sent to the surface impoundments are produced during the production of potassium perchlorate.

Chromate-bearing wastes constitute the key component which makes their wastes fall under RCRA. They are closely following the developments of EPA's proposals to delist trivalent chromium from the hazardous constituent list.

REVIEW OF THE PART A APPLICATION

This plant is handling the type of wastes listed in the facilities noted in their Part A RCRA Application.

CLOSURE PLAN

The closure plan is part of a larger, more encompassing environmental document. Although addressing most of the necessary closure details, it is lacking in others, such as security and cap design and support details. Kerr-McGee staff noted that all these data are covered and found in other sections of this other document.

Information and data to support the adequacy of the cap design is not found in the closure plan. Discussion during the meeting presented adequate general support such that I feel that this data is available and the design is adequate. This type of information should be documented in the plan sufficient to support the design basis.

Due to continuing industrial operations, there is no date projected for final closure. Therefore, some of the RCRA items are not presented such as Maximum Extent of Operation and Maximum Inventory or lacking in detail such as groundwater monitoring and decontamination.

The surface impoundments are evaporated to dryness prior to closing operations. The schedule for closure is not provided but may take longer than 180 days to complete. Understanding and complying to this maximum time schedule should be discussed.

POST-CLOSURE PLAN

The section of the plan does not contain a great deal of narrative or information. Comments at the inspection visit noted that further information were contained in other sections of the existing larger scope environmental document, especially groundwater monitoring and existing security. Site inspection noted the groundwater monitoring wells in place as well as fencing although these items were not mentioned in the plans. Also, they gave me two figures referenced in their closure/post-closure plan but not included in my file from EPA which were extremely helpful in understanding their RCRA facilities and uses.

COST ESTIMATES

At our meeting, Kerr-McGee staff exhibited clear understanding that supporting documentation and past experience would demonstrate the adequacy of the cap design for the landfill and surface impoundment areas. This information should be placed in their plan revision to assist the acceptance of this design. Therefore, the associated cost estimate for filling and capping these areas is probably adequate.

The only mention of groundwater monitoring in this entire plan is in the Financial Requirements section as one of the cost entries. This figure did not have units but was said to represent the total cost projected for analytical work over the 30-year period. They have just drilled the one upgradient and three downgradient wells and have just initiated a baseline sampling program, analyzing for pH, conductance and chromium.

The plans estimate the number of landfill cells and surface impoundments that may be required to be closed over the next 30 years. The closure costs present the respective costs to close either a landfill cell or an impoundment basin. The total cost over the next thirty years can then be estimated in current dollars as $170,000.

KERR-McGEE CHEMICAL CORPORATION
POST OFFICE BOX 55 • HENDERSON, NEVADA 89015

August 25, 1982

RECEIVED
AUG 26 1982
ENVIRONMENTAL
PROTECTION

CERTIFIED MAIL NO. P26 0233691

Mr. H. Laverne Rosse
Program Director - Waste Management
State of Nevada
Division of Environmental Protection
Capitol Complex
Carson City, NV 89710

Dear Mr. Rosse:

We have received your interim status inspection report of July 23, 1982, concerning the Henderson facility. We note in the Overview it is construed we generate 900 tons per year of hexavalent chromium. In actuality, we generate 900 tons of total solid waste in which only a very small fraction (Ca. 0.05 wt.%) is chromium.

In the report under General Inspection Requirements, it was noted that our contingency plan emergency equipment was not itemized. To rectify this, the attached list has been made a part of our record.

We trust that you will amend your records appropriately.

Sincerely,

C. B. Armstrong
Plant Manager

CBA:jc
Attachment

5F

6-30-82

received 14 July 82

ITEMS IN EMERGENCY COMPOUND

Item No.		
1.	FIRE HOSE - 1 1/2"	150 FT.
2.	FIRE HOSE - 3"	150 FT.
3.	COPPUS BLOWER W/HOSE	1 EA.
4.	BRIGGS & STRATTON BLOWER W/HOSE	1 EA.
5.	TRASH PUMP - MODEL PT. 3/7 H.P. - 3"	1 EA.
6.	SUCTION PUMP W/HOSE & STRAINER - 2"	1 EA.
7.	AIR PAK	1 EA.
8.	KNEE BOOTS	
	SIZE 9----------1 EA.	
	SIZE 10----------1 EA.	
	SIZE 11----------1 EA.	
	SIZE 12----------1 EA.	
9.	COMMANDERS LANTERN	2 EA.
10.	CHAIN BINDERS	2 EA.
11.	WELDING HELMET & HAT	1 EA.
12.	315 RESPIRATOR	2 EA.
13.	20' 1/4" CHAIN	1 EA.
14.	LUG-ALL	
	3/4 TON----------1 EA.	
	1 1/2 TON----------1 EA.	
15.	SAFETY BELTS	2 EA.
16.	TRAFFIC CONES	6 EA.
17.	WOODEN STAKES	1 BDL.
18.	BLINKER LIGHTS	6 EA.
19.	ACID SUITS	4 EA.
20.	RAIN SUITS	
	MEDIUM----------2 EA.	
	LARGE----------0	
	X-LARGE----------0	
21.	FIRE HYDRANT WRENCHES	2 EA.
22.	FIRE HOSE ADAPTERS	2 EA.
23.	SIGNS:	
	DANGER HIGH VOLTAGE	2 EA.
	DANGER CHLORINE	2 EA.
	DANGER FLAMMABLE GAS	2 EA.
	DANGER ACID	2 EA.
	STOP	2 EA.
	DETOUR	2 EA.
	RED FLAGS	3 EA.
24.	FIRE EXTINGUISHERS - #15 DRY POWDER	13 EA.
25.	5 GALLON GAS CAN	7 EA.
26.	ROTO ROOTER	1 EA.
27.	E3500 HONDA GENERATOR	1 EA.
28.	FUSION UNIT - 2"	1 EA.

KERR-McGEE CHEMICAL CORPORATION
POST OFFICE BOX 55 • HENDERSON, NEVADA 89015

August 17, 1982

RECEIVED
AUG 18 1982
ENVIRONMENTAL
PROTECTION

CERTIFIED MAIL NO. P26 0233707

Mr. W. Marvin Tebeau, Environmental Scientist
State of Nevada
Department of Conservation and Natural Resources
Division of Environmental Protection
Capitol Complex
Carson City, NV 89710

Dear Mr. Tebeau:

The following information is provided in response to your letter of June 23, 1982, concerning our pond monitoring system. Numbered items correspond to those in your letter.

1. Enclosed is another photo of a typical gauging device.
2. Pond levels are recorded on a large wall chart which is available at the plant for review.
3. Should a pond be suspected of leaking, the following procedure is initiated:
   a) An effort is made to learn whether an activity or event may have taken place which could have punctured the pond lining;
   b) The pond is isolated from service, or volumes added to pond are recorded;
   c) The pond level is carefully tracked and compared with the estimated level change due to evaporation;
   d) The pond is sampled on an accelerated schedule to determine if an inventory change, indicative of a leak, takes place; and
   e) Findings are evaluated. Should the investigation determine that a leak exists, the pond is drained and repaired, if possible, or replaced, if necessary.
4. See Item 3, above.

5. Analytical data and salt inventories are confidential and not for indiscriminate distribution; however the results are available at the plant for review.

6. Through the monitoring system, pond AP-2 was determined in 1979 to have a leak. The procedure outlined in Item 3, above, was followed and the leak point was found and repaired. The liner was subsequently completely replaced.

It is our belief that the monitoring system we have employed permits relatively early recognition of a possible leak in comparison with groundwater monitoring wells. In the case of our AP ponds, groundwater results would tend to be masked by leakage from the beta ditch. Nevertheless, we now have in place several wells in satisfaction of RCRA requirements, and we will in the future sample these wells on a quarterly basis as a check on pond leakage. These wells, i.e., M-1, M-2, M-3, M-4, M-8, and M-9, are shown on the enclosed map. We are amending our plan to include this feature.

We trust that you will find our monitoring programs, as further detailed and explained above, to be satisfactory.

Sincerely,

KERR-McGEE CHEMICAL CORPORATION

C. B. Armstrong
Plant Manager

CBA:jc
Enclosures

KERR-McGEE CHEMICAL CORPORATION

Henderson, Nevada

POND LEAKAGE MONITORING PLAN

BACKGROUND

A major facet of the Henderson Plant's program for control of discharges involves the impoundment of various effluent streams. It is necessary to insure that groundwaters are not significantly contaminated by leakage from the impoundment areas. The basic measure to prevent percolation of these streams into the soil is the utilization of impervious membrane liners for the containment ponds. The liner materials have been carefully selected and installed under the supervision of experts to insure maximum integrity; nevertheless, it is prudent to assume that for one reason or another the membrane may leak at some time in the future, and means of detecting leakage should be available.

LOSS LIMITATION

The engineering and implementation of the plant's effluent control program in 1975 employed two fundamental principles which prevent significant groundwater contamination, even in the event of a catastrophic failure of a pond lining:

1. Rather than all streams discharging into a single, large impoundment area, they have been grouped according to composition, and each group is discharged to its own pond. Thus eight separate ponds are designated for receiving plant wastes. Complete rupture of a pond lining, then, would still limit the loss to a small fraction of that which would otherwise occur if only a single pond had been utilized.

2. Where practicable, impounded liquors are returned to an appropriate process and the contained salts recovered. Thus the contents of these ponds do not increase indefinitely, but in fact are periodically reduced through recovery in plant operations.

MONITORING FOR LEAKS

An important factor relating to leak detection is the restricted size of the ponds (the largest is 1.4 acres) which alone makes leaks more readily apparent by casual observation. Nothwithstanding this fact, a plan to detect small leaks is employed.

The monitoring procedure, termed the *Inventory Method*, involves keeping a running record of the contents in each pond, and takes advantage of the considerable analytical expertise and facilities available and in regular use at this location.

In each pond a gauging device (see photograph) is situated to permit easy determination of the pond level. Such determinations are made twice weekly and plotted on a chart. Any changes in trend lines are made readily apparent by the graphic presentation, triggering a check into possible causes. If the changes are not explained by process or another (evaporation, rainfall) factor, a leak may be present and a thorough investigation into this possibility is initiated. Since the ponds frequently have periods of several days or weeks during which there is no inflow or outflow, even small leaks, if present, would become readily apparent through this inventory procedure.

As a further check, each pond is sampled twice monthly. These samples are analyzed for the major contained salts, e.g., sodium chloride, sodium chlorate, or ammonium perchlorate, and the quantities of these salts held by each pond are calculated. Regular comparisons of these inventories, again in relation to in/out activity, provide confirmation of pond integrity. Additionally, groundwater wells installed in compliance with RCRA are sampled quarterly and analyzed for conductivity, sodium chlorate, and chromate as a complement to the inventory method.

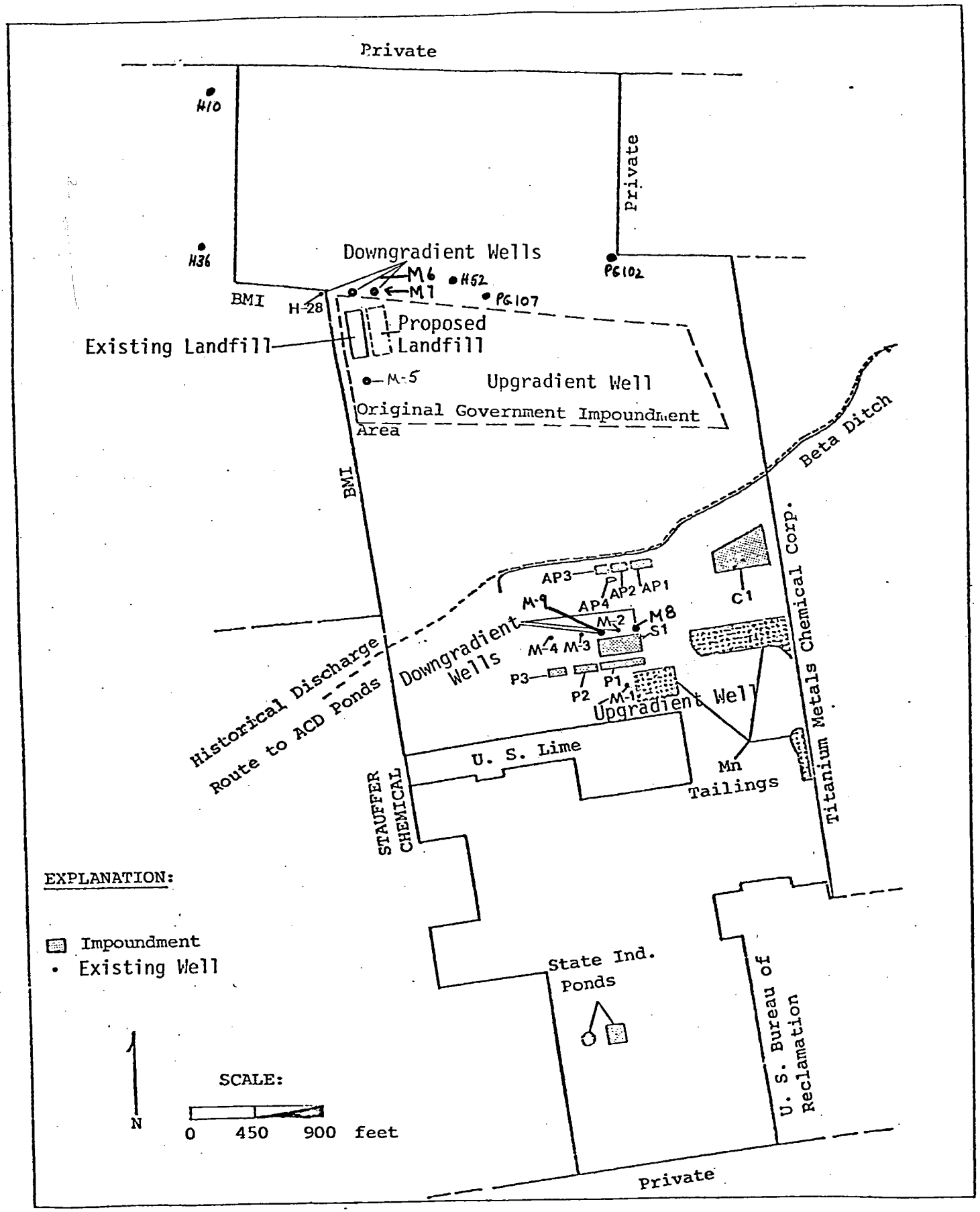
Finally, daily observations of the ponds are made to detect any gross abnormalities or changes.

August 14, 1974 - Original

August 16, 1982 - Revision 2

FIGURE 1. MAP SHOWING LOCATIONS OF PROPOSED GROUNDWATER MONITORING WELLS.

Kerr-McGee Chemical Corporation's Henderson Facility



KERR-McGEE CHEMICAL CORPORATION
POST OFFICE BOX 55 • HENDERSON, NEVADA 89015

August 5, 1982

RECEIVED
AUG 9 - 1982
ENVIRONMENTAL
PROTECTION

Mr. Frank S. Steinberg
Environmental Specialist
Hazardous Waste Management
State of Nevada
Division of Environmental Protection
201 South Fall Street
Capitol Complex
Carson City, NV 89710

Dear Mr. Steinberg:

During your recent visit to our plant concerning hazardous waste matters, I understand that you requested an updated map showing the location of our RCRA groundwater monitoring wells. A copy of such a map is enclosed.

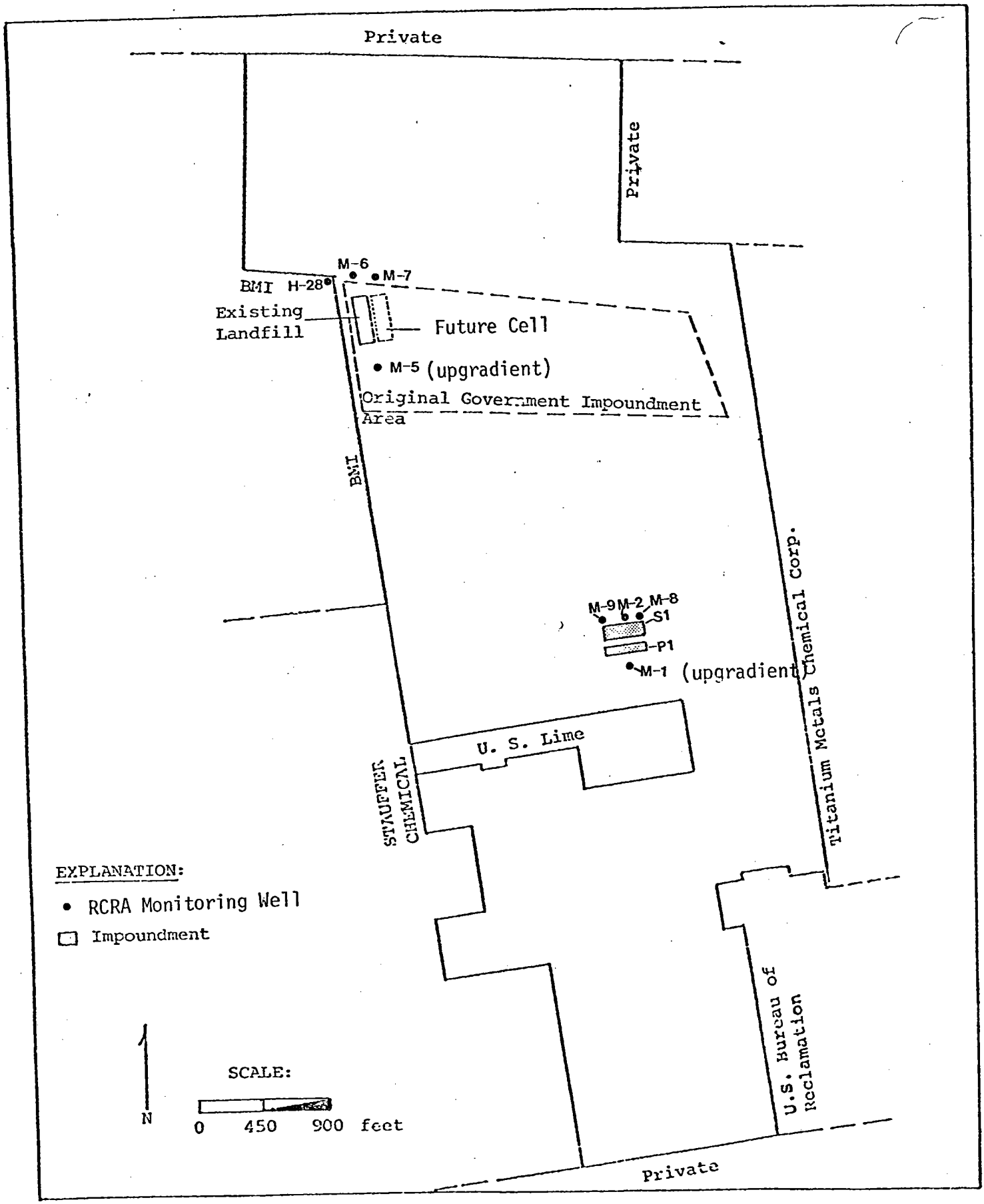
Sincerely,

C. B. Armstrong
Plant Manager

CBA:jc
Enclosure

LOCATI OF RCRA GROUND-WATER MONITOR ' LS

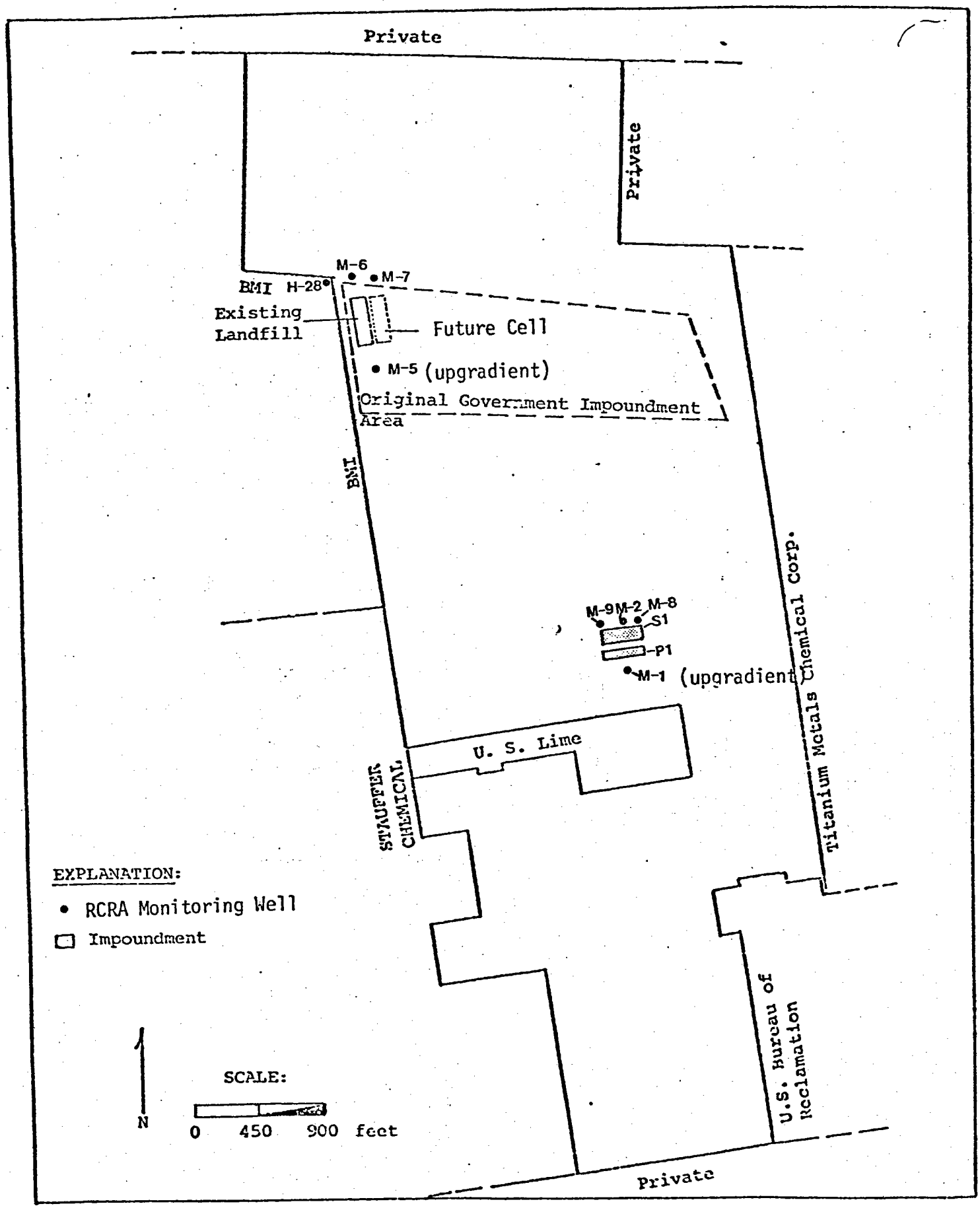
Kerr-McGee Chemical Corporation's Henderson Facility



BARBARA WALSH
8/17/82

LOCATION OF RCRA GROUND-WATER MONITOR WELLS

Kerr-McGee Chemical Corporation's Henderson Facility



KERR-McGEE CHEMICAL CORPORATION
POST OFFICE BOX 55 • HENDERSON, NEVADA 89015

RECEIVED
JUN 7 - 1982
ENVIRONMENTAL
PROTECTION

June 4, 1982

CERTIFIED MAIL NO. P26 0233689

Mr. L. H. Dodgion, Administrator
Division of Environmental Protection
Capitol Complex
Carson City, NV 89710

Dear Mr. Dodgion:

Item 5 of your *Order* of February 25, 1982 requested a determination of the quantity of water lost from our Henderson facility to the aquifer above the Muddy Creek formation. This matter was discussed by Messrs. Tebeau and Rosse at the March 11, 1982, meeting in the Basic Management, Inc., conference room, and it was decided to defer action until a later date. Mr. Rosse's subsequent letter of May 5, 1982, addressed to Basic Management, Inc., requested that a report be submitted on this subject by June 7, 1982.

During the meeting of March 11, 1982, referred to above, it was suggested that a water balance over the plant would identify and indicate the magnitude of the subject losses. The attached sheet presents an estimated water balance for Kerr-McGee Chemical Corporation's facility at Henderson, based upon the quantity of water paid for in the calendar year 1981. We have a number of comments concerning the data.

1. The water input to this plant is determined by differences between several incoming and outgoing water meters on pipelines in this facility. Meter errors can be very significant, particularly in months of low usage.

2. Cooling tower evaporation and windage losses are estimated, based on known data concerning tower operation. No accurate measure of actual makeup is available. Water is added to the recirculated cooling water system at a number of locations within the plant.

3. The remainder of the water consumption data is based on information about plant operations and ranges in reliability from calculations based on known operating parameters to estimates based on good engineering judgment.

The only known losses of water into the ground are seepage from the unlined channel which conveys once-through cooling water to the entrance of the BMI syphon located on TMCA property and that used for landscape irrigation. Much of the latter, of course, is consumed or transpired by the plants. Based upon information provided by the Bureau of Reclamation, Boulder City, we estimate that seepage from the channel would have been about 19 million gallons in 1981, or about 100,000 gallons each day of use.

Because the numbers in the water balance are so large and their accuracy so limited, it is impossible to use them to determine whether unknown water flows into the ground, such as from water main leaks, may or may not exist. We believe, however, that since leaks from storage tanks and process vessels would be detected were they to exist, and since provision is made for the return of process spills to operation, leaks of process materials into the ground are inconsequential.

We trust that this will satisfy your requirements in this matter, but we will be glad to answer any questions you may have.

Sincerely,

KERR-McGEE CHEMICAL CORPORATION

C. B. Armstrong
Facility Manager

CBA:jc
Attachment

ESTIMATED WATER BALANCE FOR

HENDERSON FACILITY, KERR-McGEE CHEMICAL CORPORATION

Basis: Year 1981	Million Gallons Per Year
Water Input	
Water billed by BMI	733
Water contained in raw materials and reagents purchased	1
Total	734
Water Output	
Discharge of once-through cooling water	540
Evaporation and windage at cooling towers	141
Decomposed electrolytically	6
Evaporation from open process vessels	6
Sanitary waste	26
Evaporation from waste and process ponds	8
Evaporation in wet scrubbers	1
Evaporation in material drying operations	1
Evaporation from solid waste during and after disposal	4
Landscape watering	1
Total	734

RFW
June, 1982

KERR-McGEE CHEMICAL CORPORATION
POST OFFICE BOX 55 • HENDERSON, NEVADA 89015

May 21, 1982

RECEIVED
MAY 24 1982
ENVIRONMENTAL
PROTECTION

CERTIFIED MAIL NO. P26 0233626

Mr. H. Laverne Rosse
Program Director - Waste Management
State of Nevada
Division of Environmental Protection
Capitol Complex
Carson City, Nevada 89710

Dear Mr. Rosse:

Your letter of May 5, 1982, to Mr. George Stewart, President, Basic Management, Inc., requested certain information of Kerr-McGee Chemical Corporation relating to our previous response dated March 31, 1982, to the Division's February 25, 1982, order. As we discussed by telephone last week, much of the requested information was included in our initial response. We identify below specific references which relate to the matters of concern.

Item 1.

Of the elements listed, we identified chromium as a minor constituent in the solid waste generated by our sodium chlorate operation (see page 2, "Response to DEP Order", middle paragraph and page 4, middle paragraph). We do not purchase or process any cyanide, arsenic, selenium or antimony chemicals.

Item 2.

We identified chromium as a minor constituent of wastes generated at our Henderson facility. The earlier disposal of these wastes to BMI ponds (liquids) and the BMI dump (solids) are described on pages 1 through 4 of our response. Quantities are indicated in our attachment 10B.

Item 3.

About two tons per day of filter cake containing .05 percent or less of chromium is produced by our sodium chlorate operation, (*Response*, page 2, middle paragraph).

We discussed our manganese ore processing during our telephone conversations and you requested a copy of the test procedure used to determine that our tailings are non-hazardous (attachment 5). We enclose a copy of the referenced Federal Register pages. In addition you requested that the locations of solid waste disposal sites on our property be noted on a map. We enclose copies of the drawings which had been submitted to the EPA (attachment 5), with markings to more clearly identify those locations.

We trust that this additional information adequately clarifies our March 31, 1982, response to the DEP's order.

Very truly yours,

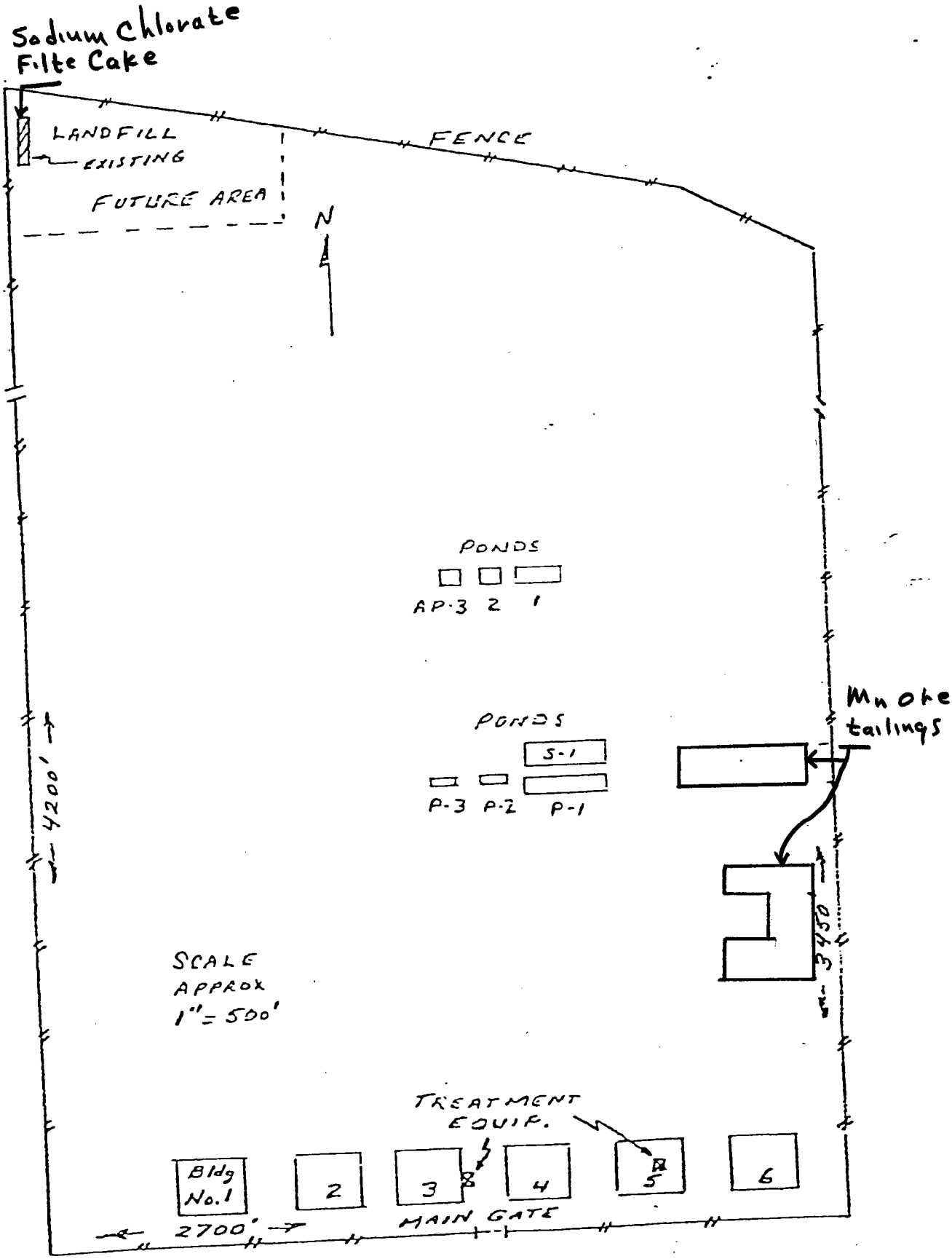
KERR-McGEE CHEMICAL CORPORATION

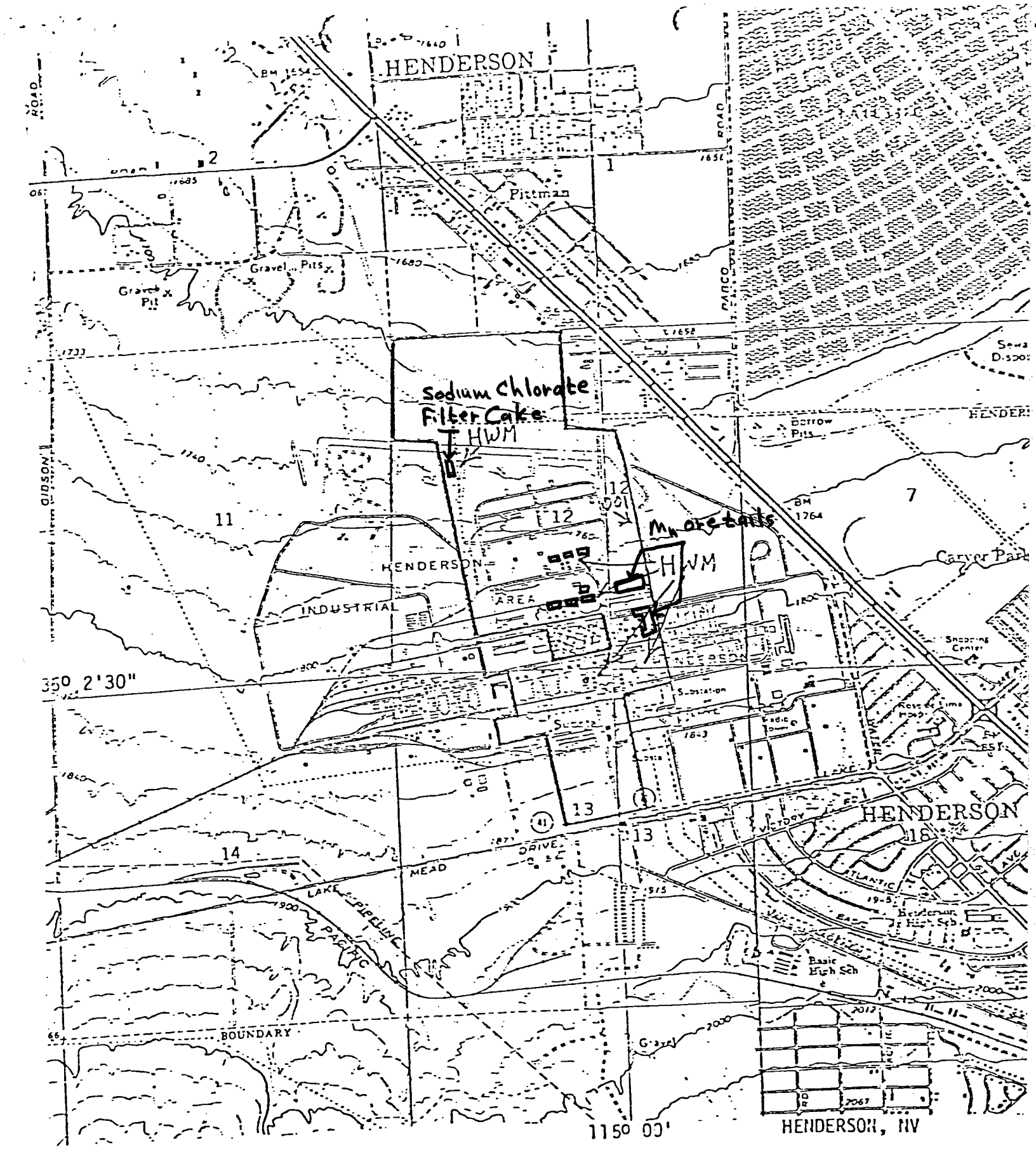
C. B. Armstrong
Plant Manager

CBA:mjd

Attachments

V. FACILITY DRAWING (See Page 4)




HENDERSON
Pittman
Gravel Pits
Gravel Pit
Sodium Chlorate
Filter Cake
HWM
Borrow Pits
Mercaptans
HWM
HENDERSON
INDUSTRIAL
AREA
Carver Park
Shopping Center
Substation
HENDERSON
MEAD
DRIVE
LAKE
PACIFIC
PIPELINE
BOUNDARY
Basic High Sch
Gravel
HENDERSON, NV
LAS VEGAS SE, NEV.
SCALE 1:24.000
1 Mile
0

(ii) Ignitable gases shall be determined by the methods described in 49 CFR 173.300.

(b) *Corrosive waste.* (1) *Definition*—A solid waste is a hazardous waste if a representative sample of the waste:

(i) Is aqueous and has a pH less than or equal to 3 or greater than or equal to 12 as determined by the method cited below or an equivalent method, or

(ii) Corrodes steil (SAE 1020) at a rate greater than 0.250 inch per year at a test temperature of 130°F as determined by the method cited below or an equivalent method.

(2)*Identification method.* (1) pH shall be determined using a pH meter, following the protocol specified in the *"Manual of Methods for Chemical Analysis of Water and Wastes" (EPA-625-16-74 003).*

(ii) Rate of metal corrosion shall be determined using the protocol specified in NACE (National Association of Corrosion Engineers) Standard TM-01-69.

(c) *Reactive waste.* (1) *Definition*—A solid waste is a hazardous waste if a representative sample of the waste:

(i) Is normally unstable and readily undergoes violent chemical change without detonating; reacts violently with water, forms potentially explosive mixtures with water, or generates toxic gases, vapors, or fumes when mixed with water; or is a cyanide or sulfide bearing waste which can generate toxic gases, vapors, or fumes when exposed to mild acidic or basic conditions.

(ii) Is capable of detonation or explosive reaction but requires a strong initiating source or which must be heated under confinement before initiation can take place, or which reacts explosively with water.

(iii) Is readily capable of detonation or of explosive decomposition or reaction at normal temperatures and pressures.

(iv) Is a forbidden explosive as defined in 49 CFR 173.51, a Class A explosive as defined in 49 CFR 173.53, or a Class B explosive as defined in 49 CFR 173.58.

NOTE:—Such waste includes pyrophoric substances, explosives, autopolymerizable material and oxidizing agents. If it is not apparent whether a waste is a hazardous waste using this description, then the methods cited below or equivalent methods can be used to determine if the waste is hazardous waste.

(2) *Identification method.* (1) Thermally unstable waste can be identified using the Explosion Temperature Test cited in Appendix II of this Subpart (waste for which explosion, ignition, or decomposition occurs at 125°C after 5 minutes is classed as hazardous waste).

(ii) Waste unstable to mechanical shock can be identified using the Bureau of Explosives impact apparatus and the tests cited in 49 CFR 173.53(b), (c), (d), or (f), as appropriate.

(d) *Toxic waste.* (1) *Definition*—A solid waste is a hazardous waste if, according to the methods specified in paragraph (2), the extract obtained from applying the Extraction Procedure (EP) cited below to a representative sample of the waste has concentrations of a contaminant that exceeds any of the following values:

Contaminant:	*Extract level, milligrams per liter*
Arsenic	0.50
Barium	10.0
Cadmium	0.10
Chromium	0.50
Lead	0.50
Mercury	0.02
Selenium	0.10
Silver	0.50
Endrin (1,2,3,4,10,10-hexacloro-6, 7-epoxy-1,4,4a,5,6,7,8,8a-octahydro-1, 4-endo, endo-5, 8-di methano naphthalene)	0.002
Lindane (1,2,3,4,5,6-hexachlorocyclo hexane gamma isomer)	0.040
Methoxychlor (1,1,1-Trichloroethane) 2,2-bis (p-methoxyphenyl)	1.0
Toxaphene ($C_{10}H_{10}Cl_8$-technical chlorinated camphene, 67-69 percent chlorine)	0.050
2,4-D, (2,4-Dichlorophenoxyacetic acid)	1.0
2,4,5-TP Silvex (2,4,5-Trichlorophenoxypropionic acid)	0.10

NOTE:—Extract levels specified for the above substances equal ten times the EPA National Interim Primary Drinking Water Standards for these substances. These standards are being revised. Extract levels specified above will be changed to reflect revisions to these standards. Also, EPA is considering use of the Water Quality Criteria under the Clean Water Act as a basis for setting extract levels, in addition to the EPA National Interim Primary Drinking Water Standards.

(2) *Identification method.* (i) *Extraction procedure.* (A) Take a representative sample (minimum size 100 gms) of the waste to be tested and separate it into its component phases using either the filtration method or the centrifugation method described in this section. Reserve the liquid fraction under refrigeration at 1-5°C (34-41°F) for use as described in paragraph (F) of this section.

(*1*) Filtration Method.

Equipment: Millipore YY22 142 30 filter holder (Millipore Corp., Beford, MA 01730) equipped with an XX42 142 08 accessory 1.5 liter reservoir, or Nuclepore Corp., Pleasanton, CA 94566) equipped with a 1.5 liter reservoir, or equivalent filter holder.

Procedure: 1. Using the filter holder place a 0.45 micron filter membrane (Millipore type HAWP142, Nuclepore type 112007, or equivalent) on the support screen. On top of the membrane (upstream) place a prefilter (Millipore AP25124, Nuclepore P040, or equivalent). Secure filter holder as directed in manufacturer's instructions.

2. Fill the reservoir with the sample to be separated, pressurize to no more than 75 psi (7 kg/cm²), and filter until no significant amount of fluid (●5 ml) is released during a 30 minute period.

3. After liquid flow stops, depressurize and open the top of the reservoir, invert the filter unit, replace filter pads as in step 1. above, and resume filtering. Save pads for later use. Repeat this step until no more fluid can be removed from the waste at a pressure of 75 psi (7 kg/cm2).

4. Take the solid material, and any pads used in filtration, and extract as described in paragraph (B). Subtract tare weights of filter pads in calculating the amount of solid material.

(*2*) Centrifugation Method

Equipment: Centrifuge (e.g. Damon-IEC catalog no. 7165, Damon-IEC Corp., Needham Heights, MA, or equivalent) equipped with a rotor for 600 ml to 1 liter containers (Damon-IEC catalog no. 976, or equivalent). For flammable material containing wastes, explosion proof equipment is recommended.

GLASS CENTRIFUGE BOTTLES

Procedure: 1. Centrifuge sample for 30 minutes at 2300 rpm. Hold temperature at 20-40°C (68-104°F).

2. Using a ruler, measure the size of the liquid and solid layers, to the nearest mm (0.40 inch). Calculate the liquid to solid ratio.

3. Repeat 1 and 2 above until the liquid: solid ratio calculated after two consecutive 30 minute centrifugations is within 3%.

4. Decant or siphon off the layers and extract the solid as described in paragaph B.

(B) Take the solid portion obtained in paragraph (i), and prepare it for extraction by either grinding it to pass through a 9.5 mm (⅜") standard sieve or by subjecting it to the following structural integrity procedure.

STRUCTURAL INTEGRITY PROCEDURE

Equipment: Compaction tester having a 1.25 inch diameter hammer weighing 0.73 lbs. and having a free fall of 6 inches (Figure 1) (one suitable device is the Associated Design and Manufacturing Company, Alexandria, Va. 22314, catalog no. 125).

Procedure: 1. Fill the sample holder with the material to be tested. If the waste sample is a monolithic block, then cut out a representive sample from the block having the dimensions of a 1.3" dia. × 2.8" cylinder.

2. Place the sample holder into the Compaction Tester and apply 15 hammer blows to the sample.

3. Remove the now compacted sample from the sample holder and transfer it to the extraction apparatus for extraction.

(C) Take the solid material from paragraph (B), weigh it and place it in an extractor. A suitable extractor will not only prevent stratification of sample and extraction fluid but also insure that all sample surfaces are continuously brought into contact with well mixed extraction fluid. (When operated at greater than or equal to 40 rpm, one suitable device is shown in figure 2 and available as Part No. 3736 produced by the Associated

Design and Mfg. Co., Alexandria, Va. 22314.)

(D) Add to the extractor a weight of deionized water equal to 16 times the weight of solid material added to the extractor. This includes any water used in transferring the solid material to the extractor.

(E) Begin agitation and adjust the pH of the solution to 5.0±0.2 using 0.5N acetic acid. Hold the pH at 5.0±0.2 and continue agitation for 24±0.5 hours. If more than 4 ml of acid for each gm of solid is required to hold the pH at 5, then once 4 ml of acid per gm has been added, complete the 24 hour extraction without adding any additional acid. Maintain the extractant at 20-40° C (68-104° F) during extraction. It is recommended that a device such as the Type 45-A pH Controller manufactured by Chemtrix, Inc., Hillsboro, OR 97123, or equivalent, be used for controlling pH. If such a device is not available then the following manual procedure can be employed.

MANUAL pH ADJUSTMENT

1. Calibrate pH meter in accordance with manufacturer's specifications.
2. Add 0.5N acetic acid and adjust pH of solution to 5.0±0.2. If more than 4 ml of acid for each gm of solid is required to hold the pH at 5, then once 4 ml of acid per gm has been added, complete the 24 hour extraction without adding any additional acid. Maintain the extractant at 20-40° C (68-104° F) during extraction.
3. Manually adjust pH of solution at 15, 30, and 60 minute intervals moving to the next longer interval if the pH did not have to be adjusted more than 0.5 pH units since the previous adjustment.
4. Continue adjustment procedure for a period of not less than 6 hours.
5. Final pH after a 24 hour period must be within the range 4.9-5.2; unless 4 ml of acid per gram of solid has already been added.
6. If the conditions of 5 are not met, continue pH adjustment at approximately one hour intervals for a period of not less than 4 hours.

(F) At the end of the 24 hour extraction period, separate the material in the extractor into solid and liquid phases as in paragraph (A). Adjust the volume of the resulting liquid phase with deionized water so that its volume is 20 times that occupied by a quantity of water at 4° C equal in weight to the initial quantity of solid material charged to the extractor (e.g., for an initial weight of 1 gm, dilute to 20 ml). Combine this solution with the original liquid phase from paragraph (A). This combined liquid, and any precipitate which may later form, is the Extraction Procedure Extract.

(ii) *Analysis*—Analyses conducted to determine conformance with Section 250.13(b)(1) shall be made in accordance with the following or equivalent methods:

(A) *Arsenic*—Atomic Absorption Method, "Methods for Chemical Analysis of Water and Wastes," pp. 95-96, Environmental Protection Agency, Office of Technology Transfer, Washington, D.C. 20460, 1974.

(B) *Barium*—Atomic Absorption Method, "Standard Methods for the Examination of Water and Wastewater," latest edition, or "Methods for Chemical Analysis of Water and Wastes," pp 97-98, Environmental Protection Agency, Office of Technology Transfer, Washington, D.C. 20460, 1974.

(C) *Cadmium*—Atomic Absorption Method, "Standard Methods for the Examination of Water and Wastewater," latest edition, or "Methods for Chemical Analysis of Water and Wastes," pp. 101-103, Environmental Protection Agency, Office of Technology Transfer, Washington, D.C. 20460, 1974.

(D) *Chromium*—Atomic Absorption Method, "Standard Methods for the Examination of Water and Wastewater," latest edition, or "Methods for Chemical Analysis of Water and Wastes," pp. 112-113, Environmental Protection Agency, Office of Technology Transfer, Washington, D.C. 20460, 1974.

(E) *Lead*—Atomic Absorption Method, "Standard Methods for the Examination of Water and Wastewater," latest edition, or "Methods for Chemical Analysis of Water and Wastes," pp. 112-113, Environmental Protection Agency, Office of Technology Transfer, Washington, D.C. 20460, 1974.

(F) *Mercury*—Flameless Atomic Absorption Method, "Methods for Chemical Analysis of Water and Wastes," pp. 118-126, Environmental Protection Agency, Office of Technology Transfer, Washington, D.C. 20460.

(G) *Selenium*—Atomic Absorption Method, "Methods for Chemical analysis of Water and Wastes," p. 145, Environmental Protection Agency, Office of Technology Transfer, Washington, D.C. 20460, 1974.

(H) *Silver*—Atomic Absorption Method, "Standard Method for the Examination of Water and Wastewater," latest edition, or "Methods for Chemical Analysis of Water and Wastes," p. 146, Environmental Protection Agency, Office of Technology Transfer, Washington, D.C. 20460, 1974.

(I) *Endrin, Lindane, Methoxychlor,* or *Toxaphene*—as described in "Method for Organochlorine Pesticides in Industrial Effluents," MDQARL, Environmental Protection Agency, Cincinnati, Ohio, November 28, 1973.

(J) *2, 4-d* and *2, 4,5-TP Silvex*—as described in "Methods for Chlorinated Phenoxy Acid Herbicides in Industrial Effluents," MDQARL, Environmental Protection Agency, Cincinnati, Ohio, November 28, 1973.

§ 250.14 Hazardous waste lists.

A solid waste is a hazardous waste if it is listed in paragraphs (a) or (b) below unless it can be demonstrated, pursuant to the procedures under § 250.15, that the Administrator's basis for listing the waste does not meet the criteria for listing under § 250.12(b). The Administrator's basis for listing a waste in paragraphs (a) and (b) is identified by parenthetical codes that follow each listed waste. These codes reference the following bases for listing:

I—Meets the criterion of § 250.12(b)(1) because the waste meets the ignitable characteristic of § 250.13(a)
C—Meets the criterion of § 250.12(b)(1) because the waste meets the corrosive characteristic of § 250.13(b).
R—Meets the criterion of § 250.12(b)(1) because the waste meets the reactive characteristic of § 250.13(c).
T—Meets the criterion of § 250.12(b)(1) because the waste meets the toxic characteristic § 250.13(d).
N—Meets the criterion of § 250.12(b)(2) because the waste contains infectious agents.
A—Meets the criterion of § 250.12(b)(2) because the waste contains redioactive substances.
M—Meets the criterion of § 250.12(b)(2) because the waste contains mutagenic, carcinogenic, or teratogenic substances.
B—Meets the criterion of § 250.12(b)(2) because the waste contains substances that bioaccumulate.
O—Meets the criterion of § 250.12(b)(2) because the waste contains toxic organic substances.

NOTE.—The process waste streams are listed by Standard Industrial Classification (SIC) codes for ease of reference only. The SIC classification of the industry generating the waste has no effect on the listing of that process waste as hazardous.

(a) *Hazardous waste.*

Waste chlorinated hydrocarbons from degreasing operations (I,T,O)
Waste non-halogenated solvent (such as methanol, acetone, isopropyl alcohol, polyvinyl alcohol, stoddard solvent and methyl ethyl ketone) and solvent sludges from cleaning, compounding milling and other processes (I,O)
Waste lubricating oil (T,O)
Waste Hydraulic or cutting oil (T,O)
Paint wastes (such as used rags, slops, latex sludge, spent solvent) (T,I,O)
Water-based paint wastes (T)
Tank bottoms, leaded (T)
Spent or waste cyanide solutions or sludges (R,T)
Etching acid solution or sludges (T,C)
Waste paint and varnish remover or stripper (I,O)
Solvents and solvent recovery still bottoms (non-halogenated (I,O)
Solvents and solvent recovery still bottoms (halogenated) (O)
Waste or waste off-spec toluene diisocyanate (I,R,O)
Leachate from hazardous waste landfills (T,O,M,B,)

D R A F T

MEMORANDUM

KERR-McGEE

TO: Lew Dodgion

FROM: Waste Management Staff

SUBJECT: Summary of BMI Complex Responses to Order Issued February 25, 1982

The Waste Management Staff has completed an initial review of responses given by BMI and the corporations located within the Complex to the Order issued by the Division on February 25, 1982.

The following tables are a summary of how each corporation and BMI answered the specific items of the Order. Stauffer Chemical Company had to, also, respond to a separate Order concerning their activities.

A. Stauffer Chemical Company Response to Separate Order

Item 1. By April 1, 1982, any organic data on vertical and horizontal (areal) soils contamination that may have been developed shall be submitted. If no soils contamination data is available, a plan of action to develop vertical and horizontal (areal) soil contamination data on Stauffer, Kerr-McGee, and BMI property shall be submitted with scheduling.

Response Summary: Three pilot test holes were sampled for vertical soil migration into Muddy Creek formation in March 1980. The wells were located along the north border of the BMI dump.

Well #	Location	Contamination (ug/g)	Depth
22	Next to 21	10 Benzene	51 ft.
		10 Chloro Benzene	51 ft.
		2.3 Dimethylphosphor-odithiotic acid	45 ft.
27	Next to 28	less than detection level	
44	Next to 18	less than detection level	

Item 2. By April 1, 1982, as built drawing of the closures and permeability data on the geological material used to close the sites with an evaluation of the effectiveness of the closure shall be submitted. The Lindane disposal site, Trithion leach beds, and drum storage area were closed prior to November 19, 1981.

Response Summary: Stauffer has met this requirement by submitting the drawings and a clay analysis showing coefficient of permeability, liquid limit, plasticity index, and plastic limit. They state that the cover should be particularly effective in an arid area such as Henderson. We agree with their evaluation, however, there is no liner below the site to prevent further migration of material from the site due to corrosion from the drums.

All of the monitoring wells in this area are inactive due to the closure of the sites.

Item 3. By April 1, 1982, a complete description of the analytical procedures used to determine total organic carbon (TOC) as well as the methods used to take and preserve TOC samples and other organic samples shall be submitted.

Response Summary: Stauffer has met this requirement by stating that procedures used are as described in EPA publication Procedures Manual for Ground Water Monitoring at Solid Waste Disposal Facilities, SW-611, December 1980. They go on to describe the process used.

Item 4. By April 1, 1982, supplement the Henderson Ground Water Investigation Project document dated January 15, 1982, with the following:

a. Geological data (well logs) on each new H and PG well established or modified.

Response: Information submitted as requested.

b. Complete the geological mapping cross sections A-A' and B-B' and contour mapping of top of Muddy Creek formation, Fig. 2, which were contained in the Geraghty & Miller (G/M) report of October 1980.

Response: Stauffer did not complete Fig. 2 as requested, instead they completed Fig. 3 ground water contours. Cross sections were submitted as requested, however, due to lack of information, Muddy Creek formation levels were unknown in several places.

c. Provide information on the presence/thickness of the organic layer in H-8, 9, LG-033, H-18, 19, 21, 23, 42, and 43, as required. Describe the method used to determine presence/thickness of organics.

Response: Stauffer contends that an organic layer exists in Wells H-8, H-9, and LG-033 only. Methods used to determine organic layer involves coating a tape on one side with chalk and the other side with McCabe Water Level Indicator. Organic layer information was submitted as requested.

d. Stauffer shall identify, in detail, the chemical process which resulted in the production of phthalic acid and the other organics found in wells H-10, 17, 21, 36, 43, and 50, the methods of disposal, location of disposal sites, and dates of usage.

Response: Not available at this date. They expect to respond by May 1, 1982.

e. Provide analytical data on the phthalate compounds identified in the Pilot Studies.

Response: Stauffer reports that the phthalate is reported as phthalic acid in the analytical reports submitted to the Division on January 15, 1982.

Item 5. By April 1, 1982, the design of each trench and any other ditch used but not identified in the photos, dates of their use, quanity and quality of the process waste discharged to each trench shall be provided.

Response Summary: Stauffer, like TIMET, confused the term "trench" with the term "ditch" and submitted information on the ditches calling it trench information. The storm water ditch was used to transport waste to the lower BMI ponds from 1946 to 1970. From 1970 to 1976, waste was transported via the siphon to the upper BMI ponds. These wastes were from both the ICD and from Montrose Chemical. Stauffer states that: "Although we disagree on some items in the list of disposals which was attached to the February 25 Order, the quantities listed are generally our best estimate of quantities involved."

Item 6. By April 1, 1982, identify any process waste discharged which contained arsenic, thallium, nickel, lead, antimony, cyanide, and zinc, identify the quantity and quality of the waste discharged and location of the disposal site.

Response Summary: Stauffer responded that no process waste water contained any of the above named chemicals.

Item 7. By April 15, 1982, a plan of action with scheduling to identify water sources which are entering the shallow aquifer, and impacting the contaminated area, and to determine the quantity of water entering the aquifer shall be provided.

Response Summary: This will be submitted by May 1, 1982.

Item 8. By April 1, 1982, arrangements shall be made with Kerr-McGee and TIMET, Inc., to gain access to their ground water wells for the purpose of static water level determinations and sampling and analysis for the organics identified in Item 9.a. Sampling and analysis shall begin immediately and the results submitted monthly.

Response Summary: Stauffer states that Kerr-McGee is willing to allow sampling and one time analysis of their wells for organics, and that water levels will be taken at both TIMET and Kerr-McGee. Stauffer has submitted an alternative sampling program.

Item 9. Montioring of wells identified in this Order shall begin immediately for the chemical constituents identified in Item 9.a., and all monitoring results reported to the DEP in accordance with the following schedule:

January 1 - March 1 ..... Report due April 15
April 1 - June 1 ..... Report due July 15
July 1 - September 1 ..... Report due October 15
October 1 - December 31 ..... Report due January 15

9.a. Wells H-10, H-17, H-25, H-36, H-48, H-49, H-50, and H-51 shall be monitored and analyzed monthly for TOC, benzene, carbophenathion, phosmet, dimethydisulfide, chlorobenzene, 1-2, 1-3, and 1-4 dichlorobenzene, phthalic acid, DM thioic acid, DE thioic acid, chloroform, methanol, trichlorobenzene, TDS, pH, chloride, sulfate, nickel, lead, antimony, copper, arsenic, cyanide, zinc, and thallium. Static water levels shall be determined prior to each sampling.

9.b. Wells H-18, H-21, LG-033, H-40, H-41, H-38, H-23, H-28, PG 104, 103, 108, 101, 107, and 102 shall be monitored and analyzed quarterly for the chemical constituents identified in Item 9.a., and the static water level determined prior to each sampling.

9.c. Static water levels in all remaining H & PG series wells shall be determined quarterly.

Response Summary: See Item 10.

Item 10. By April 15, 1982, the Down-Gradient Ground Water Investigation program as identified in the January 15, 1982, Henderson Ground Water Investigation Project shall be modified to include scheduling and bracketing of the east-west and northern more boundary of the TDS-organic plume and shall be submitted. These wells shall be monitored monthly for static water level and chemical constituents identified in Item 9.a. of this Order. This program shall be completed by September 1, 1982. The program shall be approved by this office prior to implementation.

Response Summary: Items 9 and 10. Stauffer Chemical Company has proposed an alternative program to that specified in Items 9 and 10. Stauffer states that the complete Items 9 and 10 would involve in excess of 10,000 tests in 1982 compared to the 400 tests in 1981. The Stauffer proposal consists of the following:

1. Monitoring wells indicative of the plume center every other month;
2. Monitor the east-west boundaries of the plume semi-annually;
3. Monitor LG-033 and H-21 semiannually for carbophenithion and phosmet;

4. Static water level before each monitoring and all wells semiannually;
5. Supply all RCRA data to the Division;
6. Determine levels of chloride, sulfate, nickel, lead, antimony, copper, arsenic, zinc, and thallium in wells specified in #1. above;
7. Sample one time TIMET and Kerr-McGee wells for organics;
8. Add new wells for #1. above; and
9. Reports will be submitted 2 months after completion.

Item 11. The following monitoring sites shall be included in the monthly monitoring program for the identified chemical constituents in Item 9.a.: PG 110, PG 111, PG 112, the Pittman leach drain, and the newly established Bureau of Reclamation ground water intercept ditch identified as LW 103 in the Pittman verification program. Flow of the Pittman Leach Lateral and intercept ditch (LW 103) shall be determined with each sampling.

Response Summary: Stauffer contends that organics in these areas did not originate from Stauffer and are not included in their monitoring program.

Item 12. By April 15, 1982, a detailed plan of action shall be provided with scheduling to intercept and treat the dissolved organic plume leaving the northern BMI/Kerr-McGee property line. The plan of action shall include at a minimum a preliminary and final engineering report which identifies the chosen intercept and treatment methods, preliminary and final plans and specifications and construction schedule in order to prevent any additional downgradient pollution and hazard.

Off-site cleanup will be determined as additional data is made available.

Response Summary: This plan shall be submitted by May 1, 1982.

Item 13. By April 1, 1982, information which identifies and describes the route the DDT metabolite wastes followed to the BMI ponds (or disposal trenches) and a monitoring program with scheduling to identify concentrations in the soils of the BMI ponds (or disposal trenches).

Response Summary: This waste followed the same routes as described in Item 5. The area should be defined by August 1, 1982.

Item 14. By April 15, 1982, a plan of action with scheduling which will identify the boundaries of the organic phase on Stauffer and BMI property shall be provided.

Response Summary: The boundaries are already defined.

Item 15. By April 15, 1982, identify the type of electrolytic cells used by Stauffer for the production of chlorine and caustic soda since production began.

Response Summary: From 1946 to 1976, the Hooker S cell was used. 1976 to present, the Diamond Shamrock MDC-29 cells have been used.

B. Other BMI Response Summaries

BMI Complex

Item 1. By April 1, 1982, a copy of the original design and as built drawings of the presently identified BMI Dump and French Drain.

Response Summary: R-508 Blueprint showing French Drain, cross section of Intermediate Diked North Dike, and Caustic Evaporation Ponds. Blueprint N-35 submitted shows cross section of North dike of effluent pond; cross section of Caustic Evaporation Ponds; and cross section of

diversion ditch and dike.

BMI dumping area drawing (solid waste), trenches, and Stauffer Evaporation Ponds submitted.

Item 2. By April 1, 1982, as built drawings of the BMI dump closure, permeability data on geological material used to close the site, and analysis of effectiveness of closure.

Response Summary: As duilt drawings of closure were not provided [a grading plan was substituted for this requirement]. Closure data and cover of 2'-15' waste lime. Lime covered by a minimum of 2' of soil from surrounding area.

Permeability data report done by Geotechnical Engineers & Geologists (1979) was provided. Effectiveness — the opinion of the GEG report is provided.

Item 3.a. By April 1, 1982, design data on each trench, dates of use and process waste and quantity and quality discharged to each trench.

Response: BMI did not design trenches and no design data is available. (Approximately 20'-24' deep). Dates of use are not recorded. Amounts and quality of waste per trench are unknown and not recorded by BMI.

b. By April 1, 1982, information on process waste and quantity and quality discharged via the identified ditch and dates of use...

Response: BMI has no records on identified ditch.

c. By April 1, 1982, specific areas of the closed BMI Dump used by each industry, waste type, quantity and quality disposed of in each location.

Response: General areas and waste types were identified. Quantity and quality unknown to BMI.

d. By April 1, 1982, specific discharge route, BMI ponds used by each industry, process waste, quantity and quality discharged via the route, dates of use.

Response: No route specified, ponds used by each industry were not specified. Process waste, quantity and quality were not recorded by BMI. Dates of use were 1952-1976.

Flintkote Lime

Item 3.a. By April 1, 1982, design data on each trench, dates of their use, and process waste quantity and quality discharged to each trench shall be provided.

Response: No design data or data on trench use was provided. Quality data on lime products appears alright.

Recommendation: Provide data on trench design. Also, identify all trenches (not dump) used, amounts and quality of waste in each trench.

b. By April 1, 1982, information on the process waste and quantity and quality discharged via identified ditch and dates of its use shall be provided.

Response: Flintkote did not even address this subject.

Recommendation: Answer the question. Provide data about use of the identified ditch, and whether Flintkote has used the ditch.

c. By April 1, 1982, the specific areas of the closed BMI Dump used and the waste and quantity and quality disposed of in each location.

Response: The supposed attached diagram of areas used was not attached. An estimated amount of lime waste was provided as actual

amounts were not recorded. Quality data appears alright.

Recommendation: Provide more detail (i.e., map or diagram) of specific area used and approximate amounts per area.

d. By April 1, 1982, the specific discharge route and BMI ponds used, process waste and quantity and quality discharged via the route, and dates of use...

Response: Flintkote did not answer this question. It may be that they did not use the ponds.

Recommendation: Answer the question. Provied data about use of the ponds, if applicable.

State Industries (Began operations in the Fall of 1969.)

Item 3.a. By April 1, 1982, design data on each trench, dates of their use, and the process waste quantity and quality discharged to each trench.

Response: State Industries did not indicate whether they use the dump.

Recommendation: Answer the question. Provide information on use of the dump, if applicable.

b. April 1, 1982, information on the process waste, quantity and quality discharged via the identified ditch and dates us use...

Response: State Industries did not state whether they used the ditch, nor did they provide any of the data requested in this Item.

Recommendation: Answer the question. Provide data on the use of the ditch, if applicable.

c. By April 1, 1982, specific areas of the closed BMI Dump used, and the waste quantity and quality disposed of in each location.

Response: State Industries did not state whether they used the dump, etc.

Recommendation: Answer the question. Provide the information requested regarding the use of the dump.

d. By April 1, 1982, specific discharge route, BMI Ponds used, process waste, quantity and quality discharge via each route, dates of use...

Response: 1970-1972, batch of waste per month via BMI acid drain to Beta ditch. No specific ponds identified. Process waste — 35,000 gallons of 2500 cfo Sulfuric Acid, 300 pounds of Borox, 500 pounds of Soda Ash, and 4,000 pounds of phosphate chemicals (not specified).

1970-1971, Approximately 176 pounds of cyanide (11 pounds per 3,000 gallons of water).

1972-1982, lined ponds for all wastes.

Recommendation: Specify organic or inorganic phosphate waste, and specific phosphate waste. Specify which ponds were used, if possible. And, specify method of disposal of cyanide waste.

Jones Chemical

Item 1. By April 1, 1982, a copy of the original design and as built drawings of the presently identified BMI Dump and French Drain.

Response Summary: No drawings or original designs were provided.

Item 2. By April 1, 1982, as built drawings of the BMI Dump closure, permeability data, and analysis of closure of dump.

Response Summary: No response to this question.

Item 3.a. By April 1, 1982, design data on each trench, dates of use...

Response: Jones Chemical did not place hazardous waste into the trenches.

b. Response: Did not use the identified ditch.

c. Response: Placed only nonhazardous waste into the dump. No area specified, no dates specified.

d. Response: Jones Chemical did not answer this question. Liquid waste is put into evaporation tank on Jones Chemical property.

Kerr-McGee

Item 3.a. Response: Kerr-McGee does not possess design data and dates of use. BMI has this information and will be sending it.

Occasional use of trenches on BMI property to dispose of household wastes*. In February 1980, when BMI Dump was closed, Kerr-McGee constructed a trench on Kerr-McGee property:

400' x 32' x 20' deep

Sodium chloride filter cake (diatemaceous earth, carbon, calcium sulfate, calcium carbonate, and soluble [NaCl, $NaClO_3$, $NaClO_4$, KCl] salts).

* Household wastes (e.g., paper, cartons, bags, drums, plastics) were burned in BMI Dump prior to 1970. From 1970-1980, they were buried in BMI Dump.

Note: There is confusion between BMI Dump and trenches. Apparently, Kerr-McGee only made use of one trench (on their own property) for disposal of sodium chloride filter cake. No quantity was given.

b. Response: From time to time, discharges containing salts and filte cake sluicings were routed to the BMI lower ponds via the "identified" ditch. These were believed to be small and infrequent.

Note: No quantities were given for the discharges through the identified ditch. No specific dates were provided.

c. Response: The area of BMI Dump utilized by Kerr-McGee is identified on a map being submitted by BMI. From 1975-1980, chlorate filter cake and small quantities of carbon powder were deposited.

Note: No quantity or quality given.

d. Response: Liquid process wastes and sluiced filter cake via siphon route to upper BMI ponds:

From 1945-1975, refer to sluicing water which either "evaporated or percolated into the soil leaving the solids behind". Could contain $MgSO_4$, $MuSO_4$, and $CaSO_4$.

Note: Where are these areas? In their conclusion, they state that since the insoluble residues from Manganese ores are nonhazardous (EP toxicity). They are, therefore, not a source of ground water contamination. This is totally incorrect. This Order has nothing to do with the EPA Hazardous Waste Program.

TIMET

Item 3.a. By April 1, 1982, design data on each trench, dates of their use and the process waste, and quantity and quality discharged to each trench shall be provided.

Response: No data provided. Response confuses the terms "trench" and "ditch".

b. By April 1, 1982, the information on the process waste and quantity and quality discharged via the identified ditch, and the dates of its use shall be provided.

Response: Data supplied was not intelligible. TIMET should provide us with a summary.

c. By April 1, 1982, the specific areas of the closed BMI Dump used by each industry and the waste and quantity and quality disposed of in each location shall be identified.

Response: Areas used to be supplied by BMI. (TIMET should have their own data on this.) Quantity indicated lugger box waste and flat rack waste equals 10,294 tons/year for 1978.

d. By April 1, 1982, the specific discharge route and BMI ponds used by each industry, process waste, and quantity and quality discharged via the route, and dates of use shall be identified.

Response: The dates given were 1951-1977. No specific information on which ponds were used an any given time. All ponding was in the South center portion of the upper BMI pond, except for caustic ponding between 1965-1977 for which they used a pond north of the J-5 building.

Note: TIMET did not give any data on process, quantity or quality. Where did caustic go between 1965-1977? After 1977? Which route(s)?

KERR-McGEE CHEMICAL CORPORATION
POST OFFICE BOX 55 • HENDERSON, NEVADA 89015

March 31, 1982

RECEIVED
APR 1 - 1982
ENVIRONMENTAL
PROTECTION

CERTIFIED MAIL NO. P26 0233539

Mr. L. H. Dodgion, Administrator
Division of Environmental Protection
Capitol Complex
Carson City, NV 89710

Dear Mr. Dodgion:

Your *Order* of February 25, 1982, as clarified and modified by Messrs. Tebeau and Rosse March 11, 1982, at a meeting in the Basic Management, Inc., conference room with representatives of companies operating facilities within the BMI Complex, requires coordinated responses from the various entities addressed by the *Order* inasmuch as the total information requested is not in the possession of each of the entities. Accordingly, Kerr-McGee Chemical Corporation has, as requested, assembled and transmits herewith the pertinent information of which it has knowledge and possession, and comments as follows with respect to the *Order* as clarified and modified:

Item 1.

Basic Management, Inc. (BMI) is in possession of an original drawing (print) which shows the design of the french drains which are located at the northern toe of the "Trade Effluent" impoundments dike. A copy of the drawing and pertinent comments are being forwarded as part of BMI's response.

Item 2

Closure of the BMI dump was effected in February, 1980 by Basic Management, Inc., at the request of the four owner companies. The requested information is included in BMI's response.

Item 3(a)

Kerr-McGee Chemical Corporation is not in possession of design data and dates of use of the various trenches within the BMI disposal area. Basic Management, Inc., does have information

relating to this matter which is being included in its response. Information on the one solid waste disposal trench located on KMCC property and solid waste disposal practices carried out in the areas of KMCC property is included in our response. Additionally, we include information concerning KMCC's waste disposal in the BMI trenches.

Item 3(b)

Comments about KMCC's (and predecessor companies') usage of the identified ditch is included in our response.

Item 3(c)

The general area of the closed BMI dump set aside for KMCC's use is identified on a drawing being submitted as part of Basic Management, Inc.'s response. Our best information on quantity and quality of wastes disposed of in that area is included in our response.

Item 3(d)

Detailed information concerning the BMI ponds which received KMCC effluents is not known to us inasmuch as pond usage was managed by Basic Management, Inc. However, we include information concerning quality, quantity, and discharge routes in our response.

In accordance with the clarification and modification of your *Order* by Messrs. Tebeau and Rosse on March 11, 1982, we were not at this time to develop the information described in Items 4 and 5 of the written *Order*. Instead, we were instructed to await your study and evaluation of the data and information submitted herewith, along with the submissions of the other responding companies, and the determination by you as to what further action, if any, is required, specifically as it relates to Kerr McGee Chemical Corporation.

Within 30 days of receipt of written notification by you of the action requested as it specifically relates to Kerr-McGee Chemical Corporation, we shall submit our required response.

Very truly yours,

KERR-McGEE CHEMICAL CORPORATION

C. B. Armstrong
Plant Manager

CBA:jc
Attachments

Response to Department of Environmental Protection Order
of February 28, 1982
(as Modified March 11, 1982 by Messrs. Tebeau and Rosse)

KERR-McGEE CHEMICAL CORPORATION

General Comments

The chemical manufacturing facilities presently owned and operated by Kerr-McGee Chemical Corporation (KMCC) and formerly by its predecessor companies, American Potash & Chemical Corporation and Western Electrochemical Company, produce several inorganic chemical products from natural ores and other inorganic chemical raw materials. These products and their respective raw materials are identified in the attached documents, particularly the May 2, 1980 letter to Mr. Eller, Region IX, EPA. Only small and incidental quantities of organic chemicals, such as paints, cleaning solvents, lubricants, petroleum fuels, flocculating agents, and resins, have been utilized in these operations. There have been no known spills, leakages or releases of significant amounts of any organic substances during the life of the Kerr-McGee and predecessor operations. Accordingly, there has been no reason or opportunity for surface or groundwaters to be adversely impacted by organic chemicals from Kerr-McGee chemical Corporation facilities.

The manufacture of chlorate and perchlorate products has generated aqueous waste streams containing soluble salts, such as sodium chlorate, sodium chloride, potassium chloride, and ammonium perchlorate, along with less soluble salts, such as calcium carbonate and calcium sulfate and insoluble materials, such as carbon and diatomaceous earth filter aid.

From the inception of these operations in 1945 until 1975, waste streams containing salts and filter cake sluicings were discharged via open surface ditches from the plant to the BMI pond system. Until 1975, the main route for this discharge was the east/west drainage ditch located just north of our ammonium perchlorate facility (June, 1971 application for discharge permit to Corps of Engineers), thence to the underground "siphon," and then to the upper BMI ponds located east of the Boulder Highway. We understand that from time to time those discharges were routed to the BMI lower ponds via the surface ditch mentioned in paragraph 3(b) of the *Order*. It is believed, however, that such discharges from the KMCC plant were small and infrequent. The main drainage ditch (through the siphon) also carried aqueous waste streams from neighboring BMI plants, storm drains, cleanup and housekeeping washings, boiler blowdown, cooling tower blowdown, once-through cooling water, etc. All these streams were commingled by the time they reached the siphon.

By 1975, in accordance with the NPDES Permit, and the EPA-KMCC agreement letter dated July 21, 1972, these surface discharges had been completely eliminated. All waste process liquors were thereafter contained in impervious lined ponds on Kerr-McGee property. Subsequently, only once-through, non-contact cooling water was discharged to the ditch under conditions of the NPDES Permit.

For many years prior to 1975, insoluble residues from the processing of manganese ores were sluiced to surface impoundment areas on the plantsite. The sluicing water either evaporated or percolated into the soil leaving the solids behind. This water could have contained some manganese sulfate and magnesium sulfate with minor quantities of calcium sulfate and other relatively insoluble materials.

In February, 1975 as required by the July 21, 1972 KMCC-EPA agreement, the major sodium chlorate and manganese dioxide filtering operations were converted to semi-dry, solid-cake discharges. The ore tailings residues from the manganese dioxide process continued to be accumulated on KMCC property. These were determined to be nonhazardous, according to RCRA EP tests and criteria (Item 5, attached) and therefore do not create a source of groundwater contamination. Filter cake from the sodium chlorate operations, averaging 1-1/2 to 2 tons per operating day, has been placed in the BMI dump or in the KMCC disposal trench since February, 1975. This waste contains minor (∿5%) quantities of soluble chloride and chlorate salts, and approximately 0.05% chromium. Closure and stabilization of the BMI dump area in 1980 assures against leaching and underground percolation of these materials by rainfall. The existing disposal trench on KMCC property is currently being used instead of the BMI dump for this purpose and was reported in RCRA Permit A application form.

Prior to 1970, housekeeping wastes, such as paper, cartons, bags, drums, and plastics, were periodically burned at their disposal site in the BMI dump. Thereafter they were buried by landfill procedures in the BMI dump until it was closed. Since 1980, these wastes have been hauled by commercial waste handlers to a county landfill.

Item 3(a) of Order - Trenches

Occasionally, KMCC utilized trenches on BMI property to dispose of housekeeping wastes as described above, particularly to prevent dispersal by the wind. In February, 1980 when the

BMI dump was closed, KMCC constructed a similar trench on KM property for the disposal of sodium chlorate filter cake. This trench, identified and located on the *Notification of Hazardous Waste Activity* (RCRA) form is approximately 400 feet long, 32 feet wide, and a maximum of 20 feet deep. The filter cake is predominantly diatomaceous earth with small amounts of carbon, calcium sulfate, calcium carbonate, and soluble salts previously described.

Item 3(b) of Order - Liquid Wastes

By letter dated May 2, 1980 to Mr. Eller, Region IX, EPA, KMCC provided detailed information on liquid wastes which originated since 1945. As previously described, those wastes were disposed of in the BMI pond area. Since 1971, none has gone directly to the lower ponds by way of the identified ditch. The data submitted to the Corps of Engineers (Item 1) also describe the quality and quantity of this effluent as of 1970-71.

Item 3(c) of Order - Waste to BMI Dumps

The area of the BMI dump utilized by KMCC is identified on a drawing submitted by Basic Management, Inc., as part of its response. Chlorate filter cake and small quantities of carbon powder from our boron products operations were deposited in that area from 1975 to February, 1980. No other process wastes were sent to that location. KMCC utilized the BMI dump primarily to dispose of housekeeping wastes, such as papers, containers, pallets, etc. Since February, 1980, these wastes have been hauled to a Clark County sanitary landfill by Silver State Disposal Service, Inc. Approximately 15 yards per day of loose trash is handled in this manner.

Item 3(d) of Order - BMI Pond Usage

Until 1975, KMCC discharged liquid process wastes and sluiced filter cake via the siphon route to the BMI upper ponds in the amounts and qualities previously described. These waste streams became commingled in the ditch with streams from other companies within the BMI Complex. We have no knowledge or records concerning the exact locations and time periods of final disposal. Basic Management, Inc., in its response will provide available information on pond usage. We believe that very little KMCC waste went to the lower BMI ponds.

Conclusions

To the best of our knowledge, the KMCC manufacturing facility has never discharged, leaked, or otherwise released any significant quantities of organic chemicals which could have entered underground waters. Until 1975, aqueous waste streams containing soluble inorganic salts, such as chlorides, chlorates, perchlorates, and sulfates, were discharged via surface ditches and ponds. Since 1975, following completion of KMCC's total containment "zero discharge" waste management system, these soluble salts have been contained in impervious lined impoundments for concentration by solar evaporation and recycle to the plant processes. Only once-through cooling water has been discharged to the ditch under the conditions of our NPDES Permit.

Chromium is the only RCRA hazardous waste constituent that was routinely discharged prior to 1975. The various attached documents, particularly the information supplied with our NPDES Permit application, identify chromium as a low level constituent in the waste water. We have attached the analysis of waters from Lake Mead and Las Vegas Wash that show no significant presence of chromium. Since discharges containing chromium ceased in 1975, any remaining effect of chromium should be indiscernible in those waters.

The insoluble residues from manganese ores used to produce manganese dioxide are nonhazardous as determined by RCRA EP toxicity tests (see data in Item 5). Therefore, these wastes are not a source of groundwater contamination by the Kerr-McGee facility.

Prepared by:

C. B. Armstrong, Plant Manager
KERR-McGEE CHEMICAL CORPORATION

A T T A C H M E N T S

1. Discharge Permit Application, Corps of Engineers, NV075-OYQ-2-000254 - Original Application June 11, 1971.

   a. Supplemental Application, October 5, 1971

   b. Supplemental Application, March 6, 1972

   c. Supplemental Application, March 9, 1972

2. Letter, R. L. O'Connell, EPA Region IX, to J. J. Kelley, KMCC, July 21, 1972.

3. Permit to Discharge - No. NV0000078, August 26, 1973.

4. NPDES Application (Renewal), August 2, 1974.

5. IOC, R. E. Harris/A. L. Andersen, Analysis of Eimco (MnO_2) Tails, May 17, 1979.

6. a. Correspondence, Re: Pond Utilization, Nevada DEP (Marvin Tebeau) and KMCC (C. B. Armstrong), March 23, 1979.

   b. Corresponsence, Re: Pond Utilization, KMCC (C. B. Armstrong) and Nevada DEP (Marvin Tebeau), March 22, 1979.

7. Eckhardt Committee Questionnaire, June 6, 1979.

8. Notification of Hazardous Waste Activity (RCRA) August 12, 1980.

9. Application for a Hazardous Waste Permit, Forms 1 and 3, November 14, 1980.

10. a. Correspondence Re: Waste Disposal Practices, EPA, Region IX (Clyde Eller) and KMCC (C. B. Armstrong), March 25, 1980.

    b. Corresponsence Re: Waste Disposal Practices, KMCC (C. B. Armstrong) and EPA, Region IX (Clyde Eller), May 2, 1980

    c. Corresponsence, Re: Waste Disposal Practices, EPA, Region IX (Clyde Eller) and KMCC (C. B. Armstrong), June 17, 1980.

    d. Corresponsence, Re: Waste Disposal Practices, KMCC (C. B. Armstrong) and EPA, Region IX (Clyde Eller), July 18, 1980

11. a. Lake Mead and Las Vegas Wash Water Analysis, Southern Nevada System, 1972-1974.

    b. Lake Mead and Las Vegas Wash Water Analysis, Southern Nevada System, Sample No. 20-9, March 9, 1981.

    c. Lake Mead and Las Vegas Wash Water Analysis, Southern Nevada System, Sample No. 19-34, March 9, 1981.

    d. Lake Mead and Las Vegas Wash Water Analysis, Southern Nevada System, May 11, 1981

Henderson

FORM APPROVED
OMB NO. 49-R 0408

1

DEPARTMENT OF THE ARMY, CORPS OF ENGINEERS

APPLICATION FOR PERMIT TO DISCHARGE OR WORK IN NAVIGABLE WATERS AND THEIR TRIBUTARIES

SECTION I. GENERAL INFORMATION

1. State	Application Number (to be assigned by Corps of Engineers)			
N A	Div.	Dist.	Type	Sequence No.

2. Name of applicant and title of signing official

Kerr-McGee Chemical Corp.
Subsid. of Kerr-McGee Corp. George H. Cobb, Executive Vice-President

3. Mailing address of applicant

133 Robert S. Kerr
Oklahoma City, Oklahoma 73102

4. Name, address, telephone number and title of applicant's authorized agent for permit application coordination and correspondence.

T. L. Hurst
Director of Environmental Studies
Kerr-McGee Corporation
133 Robert S. Kerr
Oklahoma City, Oklahoma 73102
(405) 236-1313, Ext. 6105

NOTE TO APPLICANT: Refer to the pamphlet entitled "Permits for Work and Structures in and for Discharges or Deposits into Navigable Waters" before attempting to complete this form.

Required Information

a. All information contained in this application will, upon request, be made available to the public for inspection and copying. A separate sheet entitled "Confidential Answers" must be used to set out information which is considered by the applicant to constitute trade secrets or commercial or financial information of a confidential nature. The information must clearly indicate the item number to which it applies. Confidential treatment can be considered only for that information for which a specific written request of confidentiality has been made on the attached sheet. However, in no event will identification of the contents and frequency of a discharge be recognized as confidential or privileged information.

b. The applicant shall furnish such supplementary information as is required by the District Engineer in order to evaluate fully an application.

c. If additional space is needed for a complete response to any item on this form, attach a sheet entitled "Additional Information." Indicate on that sheet the item numbers to which answers apply.

d. Drawings required by items 20 and 21 should be attached to this application. Other papers which must be attached to this application include, if applicable, copies of a water quality certification or a written communication which describes water quality impact (see Item 22 and Item 10 of Section II below), the additional information sheet(s) in "c" above, and the confidential information sheet described in "a" above.

Fees

If any discharge or deposit is involved, an application fee of $100 must be submitted with this application. An additional $50 is required for each additional point of discharge or deposit.

Signature

a. If a discharge is involved, an application submitted by a corporation must be signed by the principal executive officer of that corporation or by an official of the rank of corporate vice president or above who reports directly to such principal executive officer and who has been designated by the principal executive officer to make such applications on behalf of the corporation. In the case of a partnership or a sole proprietorship, the application must be signed by a general partner or the proprietor. Other signature requirements are discussed in the pamphlet.

b. If no discharge is involved, an application may be signed by the applicant or his authorized agent.

Application is hereby made for a permit or permits to authorize the activities described herein. I certify that I am familiar with the information contained in this application, and that to the best of my knowledge and belief such information is true, complete, and accurate.

mc 6/24/71

Signature of Applicant

GEORGE H. COBB

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

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

FOR CORPS OF ENGINEERS USE ONLY

Acronym name of applicant

Are discharge structures

Major? ☐ Minor? ☐ N/A? ☐

	day	mo	yr
Date received, form not complete	— —	— — —	— —
Date received, form complete but without certificate	— —	— — —	— —
Date received, form complete Date of Cert./Ltr.	— —	— — —	— —
Date sent to EPA, form not complete	— —	— — —	— —
Date sent to EPA, NOAA, D/I, AEC, FPC in complete form	— —	— — —	— —

5. Date: 6 1 71 (mo / day / yr)

(O[illegible] nly)

6. Check type of application: a. Original [X] b. Revision [ ]

7. Number of original application

8. Name of facility where discharge or construction will occur.

Henderson, Nevada Plant
Kerr-McGee Chemical Corp.

9. Full mailing address of facility named in item 8 above.

P. O. Box 55
Henderson, Nevada 89015

10. Names and mailing addresses of all adjoining property owners whose property also adjoins the waterway.

Unnamed drainage ditch discharging to BMI imponding lagoons
Stauffer Chemical Company - Henderson, Nevada
U. S. Lime - Henderson, Nevada
Titanium Metals Corp. of America - Henderson, Nevada

11. Check to indicate the nature of the proposed activity:
a. Dredging [ ] b. Construction [ ] c. Construction with Discharge [ ] b. Discharge only [X]

12. If activity is temporary in nature, estimate its duration in months.

If application is for a discharge:

13. List intake sources

Source	Estimated Volume in Million Gallons Per day or Fraction Thereof
Municipal or private water supply system	0.8
Surface water body	
Ground water	
Other	

14. Describe water usage within the plant

Type	Estimated Volume in Million Gallons Per day or Fraction Thereof
Cooling water	2.2
Boiler Feed water	0.8
Process water	3.5
Sanitary system*	0.3
Other	1.2

15. List volume of discharges or losses other than into navigable waters.

Type	Estimated Volume in Million Gallons Per day or Fraction Thereof
Municipal waste treatment system	
Surface containment	6.7
Underground disposal	
Waste Acceptance firms	0.3
Evaporation	1.
Consumption	

* Indicate number employees served per day: 135

If structures exist, or dredging, other construction will occur, the precise location of the activity described.

(O only)

a. Name the corporate boundaries within which the structures exist or the activity will occur.

16. State: Nevada 17. County: Clark 18. City or Town: None

b. Name of waterway at the location of the activity

19. Unnamed drainage ditch to BMI imponding lagoons

20. Maps and sketches which show the location and character of each structure or activity, including any and all outfall devices, dispersive devices, and non-structural points of discharge, must be attached to this application.

21. For construction or work in navigable waters for which a separate permit is sought under 33 U.S.C. 403, the character of each structure must be fully shown on detailed plans to be submitted with this application. Note on the drawings those structures for which separate discharge information (Section II of this form) has been submitted.

22. List all approvals or denials granted by Federal, interstate, State or local agencies for any structures, construction, discharges or deposits described in this application.

Type of document	Id. No.	Date	Issuing Agency

23. Check if facility existed or was lawfully under construction prior to April 3, 1970. ☒

24. If dredging or filling will occur:

State the type of materials involved, their volume in cubic yards, and the proposed method of measurement.

Not Applicable

25. Describe the proposed method of instrumentation which will be used to measure the volume of any solids which may be deposited and to determine its effect upon the waterway.

A weir-type continuous sampler and continuous conductivity monitoring on the effluent stream.

26. State rates and periods of deposition described in Item 25.

Not Applicable

SECTION II. PLANT PROCESS AND DISCHARGE DESCRIPTION

1. Discharge described below is a. Present [X] b. Proposed new or changed [ ]	2. Implementation schedule [ ]	(Office use only)

Name of corporate boundaries within which the point of discharge is located.

3. State	4. County	5. City or Town	6. Discharge Serial No.
Nevada	Clark	None	001

State the precise location of the point of discharge.	9. Name of waterway at the point of discharge.
7. Latitude 36 Degrees; 02 Min; 57 Sec. 8. Longitude 114 Degrees; 59 Min; 54 Sec.	Unnamed drainage ditch to BMI imponding lagoons.

10. Has application for water quality certification or description of impact been made? If so, give date:

Date	Check if certificate is attached to form	Name Issuing Agency
mo 6 day 15 yr 71	[ ]	

11. Narrative description of activity (include terms of general 4-digit Standard Industrial Classification, and specific manufacturing process).

Salt water is electrolyzed to sodium chlorate. A portion of this chlorate is further electrolyzed to sodium perchlorate. Sodium perchlorate is reacted with ammonia and muriatic acid to ammonium perchlorate.

Manganese ore (pyrolusite) is roasted and treated to extract the manganese content in a water soluble form. This solution is electrolyzed to form battery active manganese dioxide.

Some sodium chlorate and perchlorate is converted to potassium chlorate and perchlorat

(All processes included under SIC Code 2819)

12. Standard industrial classification number.	13. Principal product.	14. Amount of principal product produced per day.
2819		

15. Principal raw material.	16. Amount of principal raw material consumed per day.	17. Number of batch discharges per day.
Salt	48 Tons	Continuous
Manganese Ore	22 Tons	Continuous
Ammonia	2 Tons	Semi-continuous
Muriatic Acid	11 Tons	Semi-continuous

18. Average gallons per batch discharge.	19. Date discharge began.	20. Date discharge will begin.
	Before 1950 (mo / day / yr)	(mo / day / yr)

21. Describe waste abatement practices.

Wastes are minimized by use of mechanical seals on many pumps (EPUMPS), recycle of wash waters (ECOUNT), recovery of material for reuse in process (RECOVE).

Vacuum filtration with wash water recovery to the process in the manganese area SVACUM, RECOVE, SLAGOO.

Pressure filtration with wash water recovery to process in the chlorate and ammonium perchlorate areas.

Continuous sampling and conductivity monitoring is practiced on the effluent stream.

P. ..AL DESCRIPTION OF INTAKE WATE .. DISCHARGE

Intake | Discharge | (Office use only)

Discharge Serial No.

Parameter and Code	UNTREATED INTAKE WATER (1)	TREATED INTAKE WATER (2)	AVERAGE (DAILY) (3)	MINIMUM (OPERATING YEAR) (4)	MAXIMUM (OPERATING YEAR) (5)	SAMPLE FREQUENCY (6)	CONTINUOUS MONITORING (7)
Flow (Gallons per day) 00056	800,000	None	600,000	500,000	4,000,000	Daily	Mon
pH 00400	8	-	8	6	10	Daily	Mon
Temperature (Winter) (°F) 74028	55	-	65	Ambient	Ambient	Other	ABS
Temperature (Summer) (°F) 74027	65	-	75	Ambient	Ambient	Other	ABS

23. DISCHARGE CONTENTS

PARAMETER	PRESENT	ABSENT	PARAMETER	PRESENT	ABSENT	PARAMETER	PRESENT	ABSENT
Color 00080	X		Aluminum 01105		X	Nickel 01067	X	
Turbidity 00070	X		Antimony 01097	X		Selenium 01147		X
Radioactivity 74050		X	Arsenic 01002	X		Silver 01077		X
Hardness 00900	X		Beryllium 01012		X	Potassium 00937	X	
Solids 00500	X		Barium 01007		X	Sodium 00929	X	
Ammonia 00610	X		Boron 01022		X	Titanium 01152		X
Organic Nitrogen 00605		X	Cadmium 01027		X	Tin 01102		X
Nitrate 00620		X	Calcium 00916	X		Zinc 01092	X	
Nitrite 00615		X	Cobalt 01037	X		Algicides 74051		X
Phosphorus 00665	X		Chromium 01034	X		Oil and Grease 00550		X
Sulfate 00945	X		Copper 01042	X		Phenols 32730		X
Sulfide 00745		X	Iron 01045	X		Surfactants 38260		X
Sulfite 00740		X	Lead 01051	X		Chlorinated Hydrocarbons 74052		X
Bromide 71870		X	Magnesium 00927	X		Pesticides 74053		X
Chloride 00940	X		Manganese 01055	X		Fecal Streptococci Bacteria 74054		X
Cyanide 00720		X	Mercury 71900		X	Coliform Bacteria 74056		X
Fluoride 00951		X	Molybdenum 01062	X				

24a. Have all known hazardous or potentially hazardous substances in your plant been inv...d?

[X] Yes [ ] No

24b. If yes, have steps been taken to insure that there exists no possibility of any such known hazardous or potentially hazardous substance enter... this discharge?

[X] Yes [ ] No

25. Remarks.

The information above completes the basic reporting requirements which are required of all applicants. Those applicants whose discharge results from an activity included within any of the Standard Industrial Classification Code (SIC Code) categories listed below must complete Part A of this form as well.

CRITICAL INDUSTRIAL GROUPS

SIC	098	FISH HATCHERIES, FARMS, AND PRESERVES
SIC	10–14	DIVISION B – MINING
SIC	201	MEAT PRODUCTS
SIC	202	DAIRY PRODUCTS
SIC	203	CANNED PRESERVED FRUITS, VEGETABLES (EXCEPT SEAFOODS, SIC 2031 AND 2036)
SIC	2031, 2036	CANNED AND CURED FISH AND SEAFOODS; FRESH OR FROZEN PACKAGED FISH AND SEAFOODS
SIC	204	GRAIN MILL PRODUCTS
SIC	205	SUGAR
SIC	207	CONFECTIONARY AND RELATED PRODUCTS
SIC	208	BEVERAGES
SIC	209	MISCELLANEOUS FOOD PREPARATIONS AND KINDRED PRODUCTS
SIC	22	TEXTILE MILL PRODUCTS
SIC	23	APPAREL AND OTHER FINISHED PRODUCTS MADE FROM FABRICS AND SIMILAR MATERIALS
SIC	242	SAWMILLS AND PLANING MILLS
SIC	2432	VENEER AND PLYWOOD
SIC	2491	WOOD PRESERVING
SIC	26	PAPER AND ALLIED PRODUCTS
SIC	281	INDUSTRIAL INORGANIC AND ORGANIC CHEMICALS (EXCEPT SIC 2818)
SIC	2818	INDUSTRIAL ORGANIC CHEMICALS
SIC	282	PLASTICS MATERIALS AND SYNTHETIC RESINS, SYNTHETIC RUBBER, SYNTHETIC AND OTHER MAN-MADE FIBERS, EXCEPT GLASS
SIC	283	DRUGS
SIC	284	SOAP, DETERGENTS, AND CLEANING PREPARATIONS, PERFUMES, COSMETICS, AND OTHER TOILET PREPARATIONS
SIC	285	PAINTS, VARNISHES, LACQUERS, ENAMELS, AND ALLIED PRODUCTS
SIC	2871	FERTILIZERS
SIC	2879	AGRICULTURAL PESTICIDES, AND OTHER AGRICULTURAL CHEMICALS, NOT ELSEWHERE CLASSIFIED
SIC	2891	ADHESIVES AND GELATIN
SIC	2892	EXPLOSIVES
SIC	29	PETROLEUM REFINING AND RELATED INDUSTRIES
SIC	3011, 3069	TIRES AND INNER TUBES; FABRICATED RUBBER PRODUCTS, NOT ELSEWHERE CLASSIFIED
SIC	3079	MISCELLANEOUS PLASTICS PRODUCTS
SIC	311	LEATHER TANNING AND FINISHING
SIC	32	STONE, CLAY, GLASS, AND CONCRETE PRODUCTS
SIC	331	BLAST FURNACES, STEEL WORKS, AND ROLLING AND FINISHING MILLS
SIC	332	IRON AND STEEL FOUNDRIES
SIC	333, 334	PRIMARY SMELTING AND REFINING OF NONFERROUS METALS; SECONDARY SMELTING AND REFINING OF NONFERROUS METALS
SIC	336	NONFERROUS FOUNDRIES
SIC	347	COATING, ENGRAVING, AND ALLIED SERVICES
SIC	35	MACHINERY, EXCEPT ELECTRICAL
SIC	36	ELECTRICAL MACHINERY, EQUIPMENT, AND SUPPLIES
SIC	37	TRANSPORTATION EQUIPMENT (EXCEPT SHIP BUILDING AND REPAIRING, SIC 3731)
SIC	3731	SHIP BUILDING AND REPAIRING
SIC	491	ELECTRIC COMPANIES AND SYSTEMS
SIC	493	COMBINATION COMPANIES AND SYSTEMS

PART A

(Note: Submission of Part A is required of all applicants whose processes are listed on page 3 above.)

(Office use only)

Discharge Serial No.

INFORMATION REQUIRED OF SPECIFIED INDUSTRIES

	Intake	Discharge										
PARAMETER AND CODE	(DAILY AVG. CONCENTRATION) UNTREATED INTAKE WATER (1)	(DAILY AVG. CONCENTRATION) TREATED INTAKE WATER (2)	MAXIMUM CONCENTRATION PER PROCESS UNIT (3)	MAXIMUM POUNDS PER DAY (4)	DAILY AVG. CONCENTRATION (5)	AVERAGE POUNDS PER DAY (6)	SAMPLE TYPE (7)	SAMPLE FREQUENCY (8)	METHOD OF ANALYSIS (9)	CONTINUOUS MONITORING (10)	(11)
ALKALINITY (as Ca CO_3) 00410	122	NA	120	NA	4,000	110	550	COMP	OTHER	STD	ABS
B.O.D. 5-DAY 00310	NA	"	NA	"	NA	NA	NA	NA	NA	NA	NA
CHEMICAL OXYGEN DEMAND (C.O.D.) 00340	24	"	36	"	875	22	110	COMP	OTHER	STD	ABS
TOTAL SOLIDS 00500	800	"	6,036	"	52,800	4,036	20,200	COMP	OTHER	STD	ABS
TOTAL DISSOLVED SOLIDS 70300	796	"	5,606	"	50,600	3,822	19,100	COMP	OTHER	STD	ABS
TOTAL SUSPENDED SOLIDS 00530	4	"	430	"	2,200	216	1,080	COMP	OTHER	STD	ABS
TOTAL VOLATILE SOLIDS 00505	176	"	1,380	"	11,900	968	4,840	COMP	OTHER	STD	ABS
AMMONIA (as N) 00610	ND	"	30	"	184	7	35	COMP	OTHER	STD	ABS
KJELDAHL NITROGEN 00625	ND	"	30	"	184	7	35	COMP	OTHER	STD	ABS
NITRATE (as N) 00620	1.0	"	.92	"	31	0.49	2.5	COMP	OTHER	STD	ABS
PHOSPHORUS TOTAL (as P) 00665	0.25	"	.80	"	12	0.4	2	COMP	OTHER	STD	ABS

TABLE A
Guide for Completion of Par

PARAMETER & UNITS	METHOD	REFERENCES			SIGNIFICAN IN REPORTINC DATA
		STANDARD METHODS 13TH ED. 1971	A.S.T.M. STANDARDS Pt. 23 1970	W.Q.O. METHODS 1971	
ALKALINITY AS $CaCO_3$ Mg/liter	ELECTROMETRIC TITRATION TECHNICON METHYL ORANGE METHOD	p. 370	p. 154	p. 6	X.
B.O.D. 5-DAY Mg/liter	MODIFIED WINKLER METHOD OR PROBE METHOD	p. 489	p. 712	p. 15	X.
CHEMICAL OXYGEN DEMAND (C.O.D.) Mg/liter	DICHROMATE REFLUX METHOD	p. 495	–	p. 17	X.
TOTAL SOLIDS Mg/liter	GRAVIMETRIC, 105°C. METHOD	p. 535	–	p. 280	X.
TOTAL DISSOLVED (FILTERABLE) SOLIDS Mg/liter	GLASS FIBER FILTRATION METHOD, 180°C.	p. 539	–	p. 275	X.
TOTAL SUSPENDED (NON-FILTERABLE) SOLIDS Mg/liter	GLASS FIBER FILTRATION METHOD, 103–105°C.	p. 537	–	p. 278	X.
TOTAL VOLATILE SOLIDS Mg/liter	GRAVIMETRIC METHOD 550°C.	p. 536	–	p. 282	X.
AMMONIA (as N) Mg/liter	DISTILLATION-NESSLERIZATION METHOD OR TECHNICON-DIGESTION & PHENOLATE METHOD	p. 453	–	p. 134	.XX
KJELDAHL NITROGEN Mg/liter	DIGESTION-DISTILLATION METHOD OR TECHNICON-DIGESTION & PHENOLATE METHOD	p. 469	–	p. 149	.XX
NITRATE (as N) Mg/liter	BRUCINE SULFATE METHOD OR TECHNICON-HYDRAZINE REDUCTION METHOD	p. 461	–	p. 170	.XX
TOTAL PHOSPHORUS (as P) Mg/liter	PERSULFATE DIGESTION & SINGLE REAGENT METHOD OR TECHNICON-MANUAL DIGESTION & SINGLE REAGENT OR STANNOUS CHLORIDE	p. 526	–	p. 235	.XX

1a

KERR-McGEE CORPORATION
KERR-McGEE BUILDING • OKLAHOMA CITY, OKLAHOMA 73102

Discharge Permit Application No. NV 075-0YQ-2-000254

Discharge Serial No. 001

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

George H. Cobb
Executive Vice President

GHC:jl
Attachment

MC 10/5/71
DEH 10/5/71
wre

PART B DISCHARGE DESCRIPTION

Note: Submission of Part B is required of all applicants who are also required to submit Part A. Only those parameters specifically indicated in the instructions are to be reported by a particular industry.

(Office use only)

NW 075QYQ20000254

Discharge Serial No. 001

B-1. PHYSICAL AND BIOLOGICAL PARAMETERS OF INTAKE WATER AND DISCHARGE (See Table B-1)

Intake		Discharge						
PARAMETER AND CODE	(1) UNTREATED INTAKE WATER	(2) TREATED INTAKE WATER	(3) AVERAGE (DAILY)	(4) MINIMUM (OPERATING YEAR)	(5) MAXIMUM (OPERATING YEAR)	(6) SAMPLE FREQUENCY	(7) CONTINUOUS MONITORING
COLOR 00080	<5.	NA.	<5	X	<5	D	A
SPECIFIC CONDUCTANCE 00095	NA	NA	NA	NA	NA	NA	NA
TURBIDITY 00070	<4	NA	10	X	15	D	A
FECAL STREPTOCOCCI BACTERIA 74054	NA	NA	NA	X	NA	NA	NA
FECAL COLIFORM BACTERIA 74055	NA	NA	NA	X	NA	NA	NA
TOTAL COLIFORM BACTERIA 74056	NA	NA	NA	X	NA	NA	NA

PART B

(Office use only)

NV 075-0YQ-2-000254

Discharge Serial No. 001

B-2. CHEMICAL PARAMETERS OF INTAKE WATER AND DISCHARGE (See Table B-2)

	Intake	Discharge										
PARAMETER AND CODE	UNTREATED INTAKE WATER (1)	TREATED INTAKE WATER (2)	MAXIMUM CONCENTRATION (3)	MAXIMUM POUNDS PER DAY PER PROCESS UNIT (4)	MAXIMUM POUNDS PER DAY (5)	DAILY AVG. CONCENTRATION (6)	AVERAGE POUNDS PER DAY (7)	SAMPLE TYPE (8)	SAMPLE FREQUENCY (9)	METHOD OF ANALYSIS (10)	CONTINUOUS MONITORING (11)
ACIDITY (as $CaCO_3$) 00435	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
TOTAL ORGANIC CARBON (T.O.C.) 00680	A	NA	3	NA	15	2	10	C	D	S	A
TOTAL HARDNESS 00900	360	NA	1,200	NA	11,000	1,100	5,500	C	D	O	A
NITRITE (as N) 00615	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
ORGANIC NITROGEN 00605	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
PHOSPHORUS-ORTHO (as P) 70507	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
SULFATE 00945	315	NA	2,500	NA	13,000	1,700	8,500	C	D	O	A
SULFIDE 00745	0.2	NA	1.0	NA	5 6	0.6	3.0 3.6	C	D	S	A
SULFITE 00740	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
BROMIDE 71870	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

PART B

(Office use only)

NV 075-0YQ-2-000254

Discharge Serial No. 001

B-2. (cont.) CHEMICAL PARAMETERS OF INTAKE WATER AND DISCHARGE (See Table B-2)

	Intake	Discharge									
PARAMETER AND CODE	(1) UNTREATED INTAKE WATER	(2) TREATED INTAKE WATER	(3) MAXIMUM CONCENTRATION	(4) MAXIMUM POUNDS PER PROCESS UNIT	(5) MAXIMUM POUNDS PER DAY	(6) DAILY AVG. CONCENTRATION	(7) AVERAGE POUNDS PER DAY	(8) SAMPLE TYPE	(9) SAMPLE FREQUENCY	(10) METHOD OF ANALYSIS	(11) CONTINUOUS MONITORING
CHLORIDE 00940 X	110	NA	4,000	NA	20,000	1,200	6,000	C	D	O	R
CYANIDE 00720	A	NA	0.01	NA	.05 0.06	A	A	C	D	S	A
FLUORIDE 00951	0.30	NA	0.30	NA	1.5 1.8	0.30	1.5 1.8	C	D	S	A
ALUMINUM-TOTAL 01105	25	NA	100	NA	0.5	60	0.3	C	D	S	A
ANTIMONY-TOTAL 01097	A	NA	A	NA	A	A	A	C	D	S	A
ARSENIC-TOTAL 01002	A	NA	6	NA	0.03	4	0.02	C	D	S	A
BARIUM-TOTAL 01007	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
BERYLLIUM-TOTAL 01012	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
BORON-TOTAL 01022	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
CADMIUM-TOTAL 01027	12	NA	100	NA	0.5	60	0.3	C	D	S	A

PART B

(Office use only)

NV 075-0YQ-2-000254

Discharge Serial No. 001

B-2. (cont.) CHEMICAL PARAMETERS OF INTAKE WATER AND DISCHARGE (See Table B-2)

Intake		Discharge									
PARAMETER AND CODE	(1) UNTREATED INTAKE WATER	(2) TREATED INTAKE WATER	(3) MAXIMUM CONCENTRATION	(4) MAXIMUM POUNDS PER DAY PER PROCESS UNIT	(5) MAXIMUM POUNDS PER DAY	(6) DAILY AVG. CONCENTRATION	(7) AVERAGE POUNDS PER DAY	(8) SAMPLE TYPE	(9) SAMPLE FREQUENCY	(10) METHOD OF ANALYSIS	(11) CONTINUOUS MONITORING
CALCIUM-TOTAL 00916	100.0	NA	500	NA	2,500	400	2,000	C	D	S	A
CHROMIUM-TOTAL 01034	8	NA	6,000	NA	30	60	0.3	C	D	S	A
COBALT-TOTAL 01037	0	NA	500	NA	2.5	300	1.5 1.4	C	D	S	A
COPPER-TOTAL 01042	100	NA	1,000	NA	5.0 8.0	800	4.0	C	D	S	A
IRON-TOTAL 01045	0	NA	480,000	NA	2,400	220,000	1,100	C	D	S	A
LEAD-TOTAL 01051	200	NA	1,000	NA	12.0	800	4.0	C	D	S	A
MAGNESIUM-TOTAL 00927	28	NA	40	NA	1,200	30	150	C	D	S	A
MANGANESE-TOTAL 01055	0	NA	600,000	NA	3,000	360,000	1,800	C	D	S	A
MERCURY-TOTAL 71900	A	NA	A	NA	A	A	A	C	D	S	A
MOLYBDENUM-TOTAL 01062	10	NA	60	NA	.03	45	.02	C	D	S	A

PART B

(Office use only)

NV 075-0YQ-2-000254

Discharge Serial No. 001

B-2. (cont.) CHEMICAL PARAMETERS OF INTAKE WATER AND DISCHARGE (See Table B-2)

Intake		Discharge										
PARAMETER AND CODE	UNTREATED INTAKE WATER (1)	TREATED INTAKE WATER (2)	MAXIMUM CONCENTRATION (3)	MAXIMUM POUNDS PER DAY PER PROCESS UNIT (4)	MAXIMUM POUNDS PER DAY (5)	DAILY AVG. CONCENTRATION (6)	AVERAGE POUNDS PER DAY (7)	SAMPLE TYPE (8)	SAMPLE FREQUENCY (9)	METHOD OF ANALYSIS (10)	CONTINUOUS MONITORING (11)
NICKEL-TOTAL 01067	A	NA	2,000	NA	10.0	1,600	8.0	C	D	O	A
POTASSIUM-TOTAL 00937	5.00	NA	480	NA	2,400	240	1,200	C	D	O	A
SELENIUM-TOTAL 01147	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
SILVER-TOTAL 01077	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
SODIUM-TOTAL 00929	150	NA	3,000	NA	15,000	1,000	5,000	C	D	S	R
THALLIUM-TOTAL 01059	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
TIN-TOTAL 01102	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
TITANIUM-TOTAL 01152	A	NA	A	NA	A	A	A	C	D	O	A
ZINC-TOTAL 01092	12,000	NA	30,000	NA	600	26,000	130	C	D	S	A
OIL AND GREASE 00550	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

PART B

(Office use only)

NV. 075-0YQ-2-000254

Discharge Serial No. 001

B-2. (cont.) CHEMICAL PARAMETERS OF INTAKE WATER AND DISCHARGE (See Table B-2)

	Intake		Discharge									
PARAMETER AND CODE	UNTREATED INTAKE WATER (1)	TREATED INTAKE WATER (2)	MAXIMUM CONCENTRATION (3)	MAXIMUM POUNDS PER DAY PER PROCESS UNIT (4)	MAXIMUM POUNDS PER DAY (5)	DAILY AVG. CONCENTRATION (6)	AVERAGE POUNDS PER DAY (7)	SAMPLE TYPE (8)	SAMPLE FREQUENCY (9)	METHOD OF ANALYSIS (10)	CONTINUOUS MONITORING (11
PHENOLS 32730	A	NA	A	NA	A	A	A	C	D	S	A
SURFACTANTS 38260	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	N
ALGICIDES* 74051	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	N
CHLORINATED HYDRO-CARBONS* (EXCEPT PESTICIDES) 74052	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	N
PESTICIDES* 74053	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	N

*Name specific compound(s) and fill in the required data for each. Use extra blanks at the end of the form and the "Remarks" space as necessary.

PART B

(Office use only)

NA

NV 0750YQ20002454

Discharge Serial No
001

B-3. RADIOACTIVE PARAMETERS OF INTAKE WATER AND DISCHARGE (See Table B-2)

TU

Intake			Discharge					
PARAMETER AND CODE	(1) UNTREATED INTAKE WATER	(2) TREATED INTAKE WATER	(3) AVERAGE (DAILY)	(4) MINIMUM (OPERATING YEAR)	(5) MAXIMUM (OPERATING YEAR)	(6) SAMPLE FREQUENCY	(7) CONTINUOUS MONITORING
ALPHA-TOTAL 01501	NA	NA	NA	X	NA	NA	NA
ALPHA COUNTING ERROR 01502	NA	NA	NA	X	NA	NA	NA
BETA-TOTAL 03501	NA	NA	NA	X	NA	NA	NA
BETA COUNTING ERROR 03502	NA	NA	NA	X	NA	NA	NA
GAMMA-TOTAL 05501	NA	NA	NA	X	NA	NA	NA
GAMMA COUNTING ERROR 05502	NA	NA	NA	X	NA	NA	NA
TRITIUM-TOTAL 07000	NA	NA	NA	X	NA	NA	NA
TRITIUM COUNTING ERROR 07001	NA	NA	NA	X	NA	NA	NA

B-4. REMARKS

1. Total Hardness - Sum of Ca & Mg converted to $CaCO_3$
2. Sulfate - Barium Chloride Gravimetric
3. Chloride - Mohr Method
4. Nickel & Potassium - Atomic Absorption Spectrophotometer
5. Color and turbidity by visual comparison. Did not use turbidimeter.

to

ERG FORM 4345-1
JUN 71

Page 2 of 7

CAE
MAR 10 1972
16.

KERR-McGEE CORPORATION
KERR-McGEE BUILDING • OKLAHOMA CITY, OKLAHOMA 73102

March 6, 1972

Department of the Army
Los Angeles District, Corps of Engineers
P. O. Box 2711
Los Angeles, California 90053

Attention: Mr. R. P. Young
Chief, Construction-Operations Division

Re: 075-0YQ-2-000254

Gentlemen:

Returned herewith is above captioned application that provides additional data you requested on the Kerr-McGee Chemical Corp. facility at Henderson, Nevada.

A yellum or reproducible negative copy of the revised discharge drawing will be sent to you as soon as it is available which we expect to be in the next few days.

Sincerely,

T. L. Hurst
Director of Environmental Services

TLH:jl
Enclosure

bcc: C. B. Armstrong - Henderson w/a
L. E. Craig w/a
M. C. Locke w/a

5. Date	(Office use only)
6 11 71 (mo day yr)	075-0YR-2-000254
6. Check type of application: a. Original [X] b. Revision [ ]	7. Number of original application

8. Name of facility where discharge or construction will occur.

Henderson, Nevada Plant
Kerr-McGee Chemical Corp.

9. Full mailing address of facility named in item 8 above.

P. O. Box 55
Henderson, Nevada 89015

10. Names and mailing addresses of all adjoining property owners whose property also adjoins the waterway.

Unnamed drainage ditch discharging to BMI imponding lagoons
Stauffer Chemical Company - Henderson, Nevada
U. S. Lime - Henderson, Nevada
Titanium Metals Corp. of America - Henderson, Nevada

11. Check to indicate the nature of the proposed activity:

a. Dredging [ ] b. Construction [ ] c. Construction with Discharge [ ] b. Discharge only [X]

12. If activity is temporary in nature, estimate its duration in months.

PERMANENT

If application is for a discharge:

13. List intake sources

Source	Estimated Volume in Million Gallons Per day or Fraction Thereof
Municipal or private water supply system	0.8
Surface water body	
Ground water	
Other	

14. Describe water usage within the plant

Type	Estimated Volume in Million Gallons Per day or Fraction Thereof
Cooling water	2.2
Boiler Feed water	0.8
Process water	3.5
Sanitary system*	0.3
Other **	1.2

Par. 14 Other**

Floor wash down	.03
Direct process cooling	.07
Gland water	.01
Landscaping	.01
	0.12

15. List volume of discharges or losses other than into navigable waters.

Type	Estimated Volume in Million Gallons Per day or Fraction Thereof
Municipal waste treatment system	
Surface containment	6.7
Underground disposal	
Waste Acceptance firms	0.3
Evaporation	1.
Consumption	

* Indicate number employees served per day 135

1c.

KERR-McGEE CORPORATION
KERR-McGEE BUILDING • OKLAHOMA CITY, OKLAHOMA 73102

COPY

March 9, 1972

Department of the Army
Los Angeles District, Corps of Engineers
P. O. Box 2711
Los Angeles, California 90053

Attention: Mr. R. P. Young
Chief, Construction-Operations Division

Re: 075-0YQ-2-000254

Gentlemen:

As mentioned in my letter to you of March 6, 1972, enclosed herewith is an original tracing and four copies of waste water discharge serial 001 from the Kerr-McGee Chemical Corp. facility at Henderson, Nevada.

Very truly yours,

TLH

T. L. Hurst
Director of Environmental Services

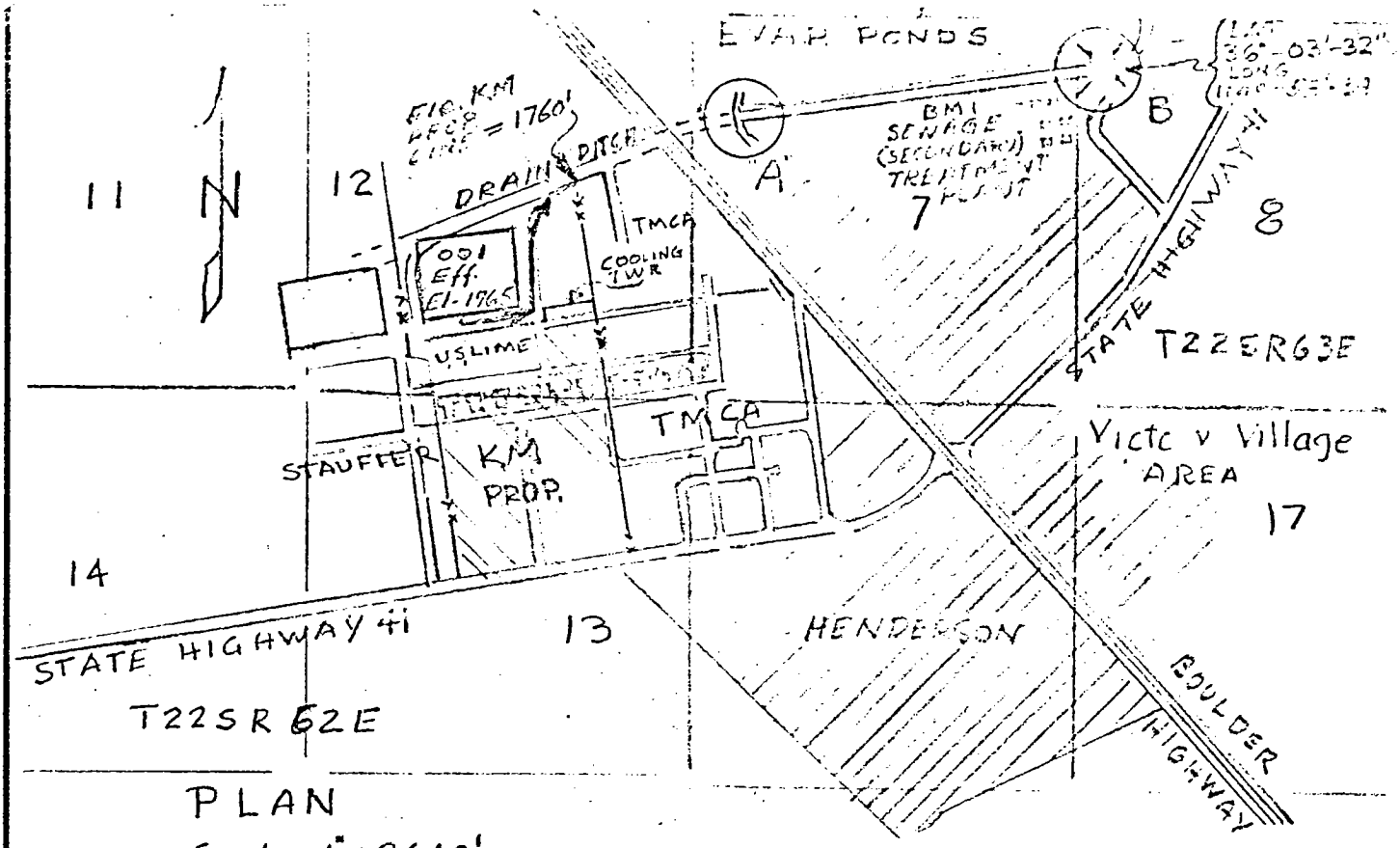
TLH:jl
Enclosures 5

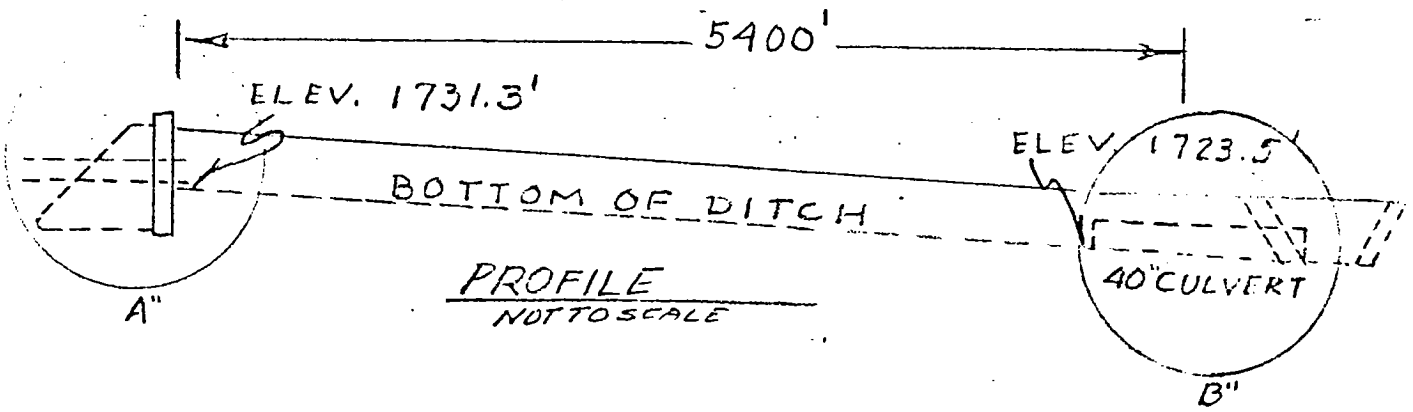
bcc: C. B. Armstrong - Henderson w/a
L. E. Craig w/a
M. C. Locke w/a

BLIND NOTE TO C. B. Armstrong:

Chuck, you will note the changes that we asked Ralph Vreeland to make to show a commingled outfall 001 that conforms with the data in the original application.

TLH
T.L.H.





Kerr McGee Chemical Corp.
Discharge 075-040-2-00254
Ser. 001. Drain Ditch to
BMI Ponds with Elevations

HENDERSON NEVADA	KERR MCGEE CHEM. CORP. PLANT EFFLUENT OUTFALL	D-00-1-31	△
DRAWN	CHECK	APPR.		
DATE 2-1-77	SCALE 1"=5280'			

(2)

JUL 26 1972

UNITED STATES
ENVIRONMENTAL PROTECTION AGENCY
REGION IX
100 CALIFORNIA STREET
SAN FRANCISCO, CALIFORNIA 94111

Mr. James J. Kelley, President
Kerr-McGee Chemical Corporation
Kerr-McGee Building
Oklahoma City OK 73012

Dear Mr. Kelley:

We have received your letter of May 26, 1972 outlining the measures you intend to take to bring wastewater discharges from your facility at Henderson, Nevada into compliance with State-Federal water quality standards established for Lake Mead and the Colorado River.

As we understand your intentions, these measures include:

1. Technical studies, design, and process changes for the chlorate plant, ammonium perchlorate plant, and manganese dioxide plant;

2. Design and construction of completely lined and sealed evaporation ponds for potassium wastewaters;

3. Design and construction of completely lined and sealed evaporation ponds for wastewaters from the chlorate plant;

4. Design and construction of completely lined and sealed evaporation ponds for wastewaters from the ammonium perchlorate plant;

5. Design and construction of completely lined and sealed evaporation ponds for blowdown from cooling towers.

We understand further that these measures will result in a complete cessation of wastewater discharges to groundwaters and surface waters and will be taken in accordance with the following schedule:

Date	Item
7/1/72	Initiate item #1 above
10/1/72	Complete item #2 above

RECEIVED

J. J. K.

9/30/73	Initiate item #4 above
12/31/73	Complete item #1 and initiate item #3 above
3/31/74	Complete item #4 above
6/30/74	Complete item #3 and initiate item #5 above
12/31/74	Complete all work

We find that your proposed schedule of progress report submission to this office is satisfactory and will, accordingly, expect reports by 1/15/73, 7/15/73, 1/15/74, 7/15/74, and 1/15/75. Please furnish copies of these reports to the Nevada Commission of Environmental Protection, as well.

You are to be commended for your forthright response to the environmental problems in Las Vegas Valley and we will look forward to completion of the pollution abatement facilities you will be installing.

Sincerely,

R. L. O'Connell, Director
Enforcement Division

cc: Nevada Commission of Environmental Protection
U.S. Attorney, Las Vegas
Mr. Charles Armstrong

(3)

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION IX
100 CALIFORNIA STREET
SAN FRANCISCO, CALIFORNIA 94111

Mr. George H. Cobb, Executive
Vice President
Kerr McGee Chemical Corporation
133 Robert S. Kerr Drive
Oklahoma City OK 73102

RECEIVED
JUL 30 1979
GEORGE H. COBB
EXEC. VICE PRESIDENT

Dear Mr. Cobb:

In accordance with the provisions of the Federal Water Pollution Control Act (33 USC 1251 et. seq.), the Environmental Protection Agency has reviewed your application (No. 075-OYQ-2-000254) for a National Pollutant Discharge Elimination System permit to discharge waste waters from your Henderson, Nevada facility into Las Vegas Wash. This Agency has published a public notice regarding the application and our proposed action with respect to it, and held a public hearing to receive the views of all interested parties.

After consideration of the expressed views of all interested persons and agencies, pertinent Federal statutes and regulations, and State action regarding certification of this discharge, the enclosed National Pollutant Discharge Elimination System permit has been issued on this date by the Environmental Protection Agency for the discharge referred to above. The permit as issued differs from that proposed at the public hearing in the following significant respect:

1) The requirement for groundwater monitoring has been deleted.

The permit shall take effect thirty days from the date of this notice, unless a valid request for an adjudicatory hearing on this matter is received within twenty days

of the date of this notice. A request for an adjudicatory hearing will be considered to be valid if it complies in all respects with the requirements for such requests as described in pertinent Federal regulations (40 CFR 125.34).

Sincerely,

Paul De Falco, Jr.
Regional Administrator

Enclosure

cc: Nevada Commission
of Environmental Protection
(w/encl.)

Permit No.	NV0000078
Name of permittee	Kerr McGee Chemical Corporation
Effective date	AUG 2 6 1973
Expiration date	January 31, 1975

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM

DISCHARGE PERMIT

In reference to application number: 075-OYQ-2-000254 for a permit authorizing a discharge in compliance with the provisions of the Act of Congress enacted October 18, 1972, (86 Stat. 816) entitled the Federal Water Pollution Control Act Amendments of 1972 (hereinafter referred to as "the Act"), Kerr McGee Chemical Corporation is authorized by the Environmental Protection Agency, Region IX, to discharge

from: Henderson, Nevada plant, Basic Management Incorporated Complex, Henderson, Nevada,

to the waters of the United States at: Las Vegas Wash, approximately five miles from its confluence with Las Vegas Bay,

in accordance with the following general and special conditions:

General Conditions

I. All discharges authorized herein shall be consistent with the terms and conditions of this permit; facility expansions, production increases, or process modifications which result in new or increased discharges of pollutants must be reported by submission of a new NPDES application at least 180 days prior to such changes or modifications or, if such new or increased discharge does not violate the effluent limitations specified in this permit, by notification of the issuing authority of this permit at least 30 days prior to such new or increased discharges of pollutants; the discharge of any pollutant more frequently than or at a level in excess of that identified and authorized by this permit shall constitute a violation of the terms and conditions of this permit.

II. After notice and opportunity for a hearing, this permit may be modified, suspended, or revoked in whole or in part during its term for cause including, but not limited to, the following:

a. Violation of any terms or conditions of this permit;

b. Obtaining this permit by misrepresentation or failure to disclose fully all relevant facts;

c. A change in any condition that requires either a temporary or permanent reduction or elimination of the authorized discharge.

III. Notwithstanding (II) above, if a toxic effluent standard or prohibition (including any schedule of compliance specified in such effluent standard or prohibition) is established under Section 307(a) of the Act, or amendments thereto, for a toxic pollutant which is present in the discharge authorized herein and such standard or prohibition is more stringent than any limitation upon such pollutant in this permit, the issuing authority of this permit shall revise or modify this permit in accordance with the toxic effluent standard or prohibition and so notify the permittee.

IV. The permittee shall allow the Director of the State water pollution control agency, the Regional Administrator, and/or their authorized representatives, upon presentation of credentials:

a. To enter upon the permittee's premises where an effluent source is located or in which any records are required to be kept under the terms and conditions of this permit;

b. To have access to at reasonable times and copy any records required to be kept under the terms and conditions of this permit;

c. To inspect at reasonable times any monitoring equipment or monitoring method required in this permit; or,

d. To sample at reasonable times any discharge of pollutants.

V. The discharge of any radiological, chemical, or biological warfare agent or high-level radioactive waste into waters of the United States is prohibited.

VI. In the event of any change in control or ownership of land or waste discharge facilities presently owned or controlled by the permittee, the permittee shall notify the succeeding owner or controller of the existence of this permit by letter, a copy of which shall be forwarded to the Regional Administrator.

VII. The permittee shall at all times maintain in good working order and operate as efficiently as possible all treatment or control facilities or systems installed or used by the permittee to achieve compliance with the terms and conditions of this permit.

VIII. The issuance of the permit does not convey any property rights in either real or personal property, or any exclusive privileges, nor does it authorize any injury to private property or any invasion of personal rights, nor any infringement of Federal, State or local laws or regulations.

IX. This permit does not authorize or approve the construction of any onshore or offshore physical structures or facilities or the undertaking of any work in any navigable waters.

X. The specific effluent limitations and other pollution controls applicable to the discharge permitted herein are set forth below in the Special Conditions. Also set forth below are self-monitoring and reporting requirements. Unless otherwise specified, the permittee shall submit duplicate original copies of

all reports to the head of the State water pollution control agency and the Regional Administrator. All such reports shall be available for public inspection at the offices of the head of the State water pollution control agency and the Regional Administrator. Knowingly making any false statements on any such report may result in the imposition of criminal penalties as provided for in Section 309 of the Act.

Special Conditions

(Special Conditions are specified on the following pages.)

Special Conditions

Kerr McGee Chemical Corporation

1. Effluent Limits.

a. General

Except as specified in 1b below, the permittee is authorized to discharge to Las Vegas Wash a final effluent which shall not exceed the average daily and maximum daily values as specified on the application dated, June 11, 1971, including any modification thereto, including but not limited to any modifications as recorded in the transcript of the public meeting held on May 17, 1973, at Las Vegas, Nevada, for the permit.

b. Specific

(1) After the effective date of this permit and until December 31, 1974, the permittee is authorized to discharge to Las Vegas Wash, an effluent whose characteristics shall not exceed at any time the following limits:

Discharge Serial Number 001

Constituent	30-Day Average Pollutant Discharge Rate (kg/day)	(lbs/day)	Maximum Daily Pollutant Discharge Rate (kg/day)	(lbs/day)	Maximum Concentration (mg/l)
Total Dissolved Solids	8,600	19,000	23,000	51,000	5,600
Chlorides	2,700	6,000	9,100	20,000	4,000

(2) All discharge of pollutants shall be eliminated by December 31, 1974.

2. Implementation Schedule.

a. The Schedule

page 2 is missing? HW 4/2/82

3. Monitoring and Reporting.

A sampling station shall be established for each point of discharge and shall be located where representative samples of effluent can be obtained prior to discharge and where the effluent can be observed.

The permittee shall monitor and record the quality and quantity of each discharge according to the following schedule and other provisions:

a. Monitoring Schedule

Discharge Serial Number	Constituent	Minimum Frequency of Analysis	Sample Type
001	Flow	Once Every Two Weeks	Discrete
001	Total Dissolved Solids	Once Every Two Weeks	Composite
001	Chlorides	Once Every Two Weeks	Composite

b. Quality Control

The permittee shall calibrate and perform maintenance procedures on all monitoring and analytical instrumentation at sufficiently frequent intervals to ensure accuracy of measurements or shall insure that both activities will be conducted.

Samples shall be representative of the volume and quality of effluent discharged over the sampling and reporting period.

All samples are to be taken during normal operating hours.

c. Recording

The permittee shall record for all samples, the date and time of sampling, the sample method used, the date analyses were performed, the identity of the analysts, and the results of all required analyses and measurements.

(1) All sampling and analysis records mentioned in the preceding paragraph and all original strip-chart recordings from any continuous monitoring instrumentation together with any calibration and maintenance records shall be retained for a minimum of three years. This period will be extended during the course of any unresolved litigation, or when so requested by the Regional Administrator.

(2) The permittee shall identify and record the effluent sampling point used for each discharge outfall.

(3) The permittee shall provide the above records and shall demonstrate the accuracy of the flow measuring devices upon request of the Regional Administrator.

d. Sampling and Analysis

The analytical and sampling methods used, must conform to any one of the following reference methods (latest edition) and to any guidelines establishing test procedures for the analysis of pollutants promulgated by the Administrator of the Environmental Protection Agency pursuant to Section 304(g) of the Act. However, different but equivalent methods are allowable if they receive the prior, written approval of the Regional Administrator.

(1) Standard Methods for the Examination of Water and Wastewaters, 13th Edition, 1971, American Public Health Association, New York, New York 10019

(2) A.S.T.M. Standards, Part 23, Water; Atmospheric Analysis, 1970, American Society for Testing and Materials, Philadelphia, Pennsylvania 19103

(3) Methods for Chemical Analysis of Water and Wastes, April 1971, Environmental Protection Agency Water Quality Office, Analytical Quality Control Laboratory, 1014 Broadway, Cincinnati, Ohio 45202

e. Reporting

The results of the above monitoring requirements shall be reported on the Discharge Monitoring Report Form in the units specified. The permittee shall include in this report any previously approved non-standard methods used. Permanent elimination of a discharge should be brought to the attention of the Regional Administrator within 15 days by a special, written notification. A written report should be submitted if there have been any modifications in the waste collection, treatment, and

disposal facilities not provided for in this permit; changes in operational procedures; or other significant activities which alter the nature and frequency of the discharges or otherwise concern the conditions of this permit.

All reports shall be signed by the principal executive officer or corporate official in a corporation, of at least the level of vice president, or by his duly authorized representative, if such representative is responsible for the overall operation of the facility from which the discharge described in the application originates; or a general partner or the proprietor in the case of a partnership or sole proprietorship, respectively.

f. Other Provisions

(1) Soil Moisture Monitoring

The permittee shall, by December 31, 1973, submit to the Regional Administrator a plan for monitoring soil moisture and water quality of soil moisture beneath each impermeable pond or an alternative plan which would demonstrate the continuing effectiveness of measures taken to prevent the percolation of waste water from each pond into the underlying soil. The plan shall include:

(a) description of equipment and installation of the equipment required for monitoring;

(b) location of sampling sites; and may include

(c) analyses of soil moisture extracts for total dissolved solids and chlorides.

The permittee shall implement the plan upon approval of the Regional Administrator including in such implementation any additions or modifications which the Regional Administrator may make in approving the plan.

4. Oil Discharges.

There shall be no discharge of harmful quantities of oil, as defined pursuant to 40 CFR 110, including (1) any amendments or revisions made subsequent hereto, or (2) any more restrictive limitations which may be imposed otherwise by law or regulation. The authorization of this permit does not preclude the institution of any legal action, nor relieve the permittee

from any liabilities, penalties or responsibilities established by Section 311 of the Act, or amendments thereto, or by any superseding Federal or State legislation.

5. Other Materials.

Other materials ordinarily produced or used in the operation of this facility which have been specifically identified in the application for the permit dated June 11, 1971, including any modification thereto, may be discharged at the average and maximum frequencies and average and maximum levels noted in the application, provided:

a. they are not

(1) designated as hazardous under provisions of Section 311 of the Act, or amendments thereto, or

(2) known to be hazardous or toxic by the permittee; except that such materials may be discharged in certain limited amounts with the written approval of, and under special conditions established by, the Administrator or his designated representative, if the substances will not pose any imminent hazard to public health or safety;

b. the discharge of such materials will not violate applicable water quality standards; and

c. the permittee is not notified by the Regional Administrator to eliminate or reduce the quantity of such materials in the discharge.

6. Solids Disposal.

Collected screenings, sludges, and other solids removed from liquid wastes shall be disposed of by the permittee or his agent in such a manner as to prevent entry of such materials into waters of the United States. A report of plans, methods and procedures for such disposal shall be submitted to the Regional Administrator by September 1, 1973. If there is no solids disposal, the report shall so state.

7. Non-Compliance.

In the event the permittee is unable to comply with any of the conditions of this permit, due, among other reasons, to

a. breakdown of waste treatment equipment,

b. accidents caused by human error or negligence, or

c. other causes such as acts of nature,

the permittee shall notify the Regional Administrator in writing, as soon as he or his agents have knowledge of the incident. The written notification shall include pertinent information explaining reasons for the non-compliance and shall indicate what steps were taken to correct the problem, and the dates thereof, and what steps are being taken to prevent the problem from recurring.

In addition, if the non-compliance is with respect to any of the effluent limits (condition 1) of this permit, the permittee shall promptly initiate a monitoring program to analyse the discharge at least once every day for those constituents for which the effluent limits have been violated. Such daily analyses shall continue until compliance with the effluent limits has been attained, or until such time as the Regional Administrator determines to be appropriate. The results of such monitoring programs shall be included in the Discharge Monitoring Reports required by condition 3e.

8. Emergency Action -- Electric Power Failure.

The permittee shall

a. by December 31, 1974 provide an alternate source of electric power to operate all waste treatment facilities, or

b. indicate in writing, within thirty (30) days after the effective date of this permit, to the Regional Administrator, that production shall be controlled or the discharge shall be handled in such a manner that, in the event the primary source of electric power to the waste treatment facilities fails, any discharge into the receiving waters will comply with condition 1 requirements.

The alternate power supply, as referred to in (a) above, whether from a generating unit located at the plant site or purchased from an independent producer of electricity, must be separate from the existing power source used to operate the waste treatment facilities. If a separate facility located at the plant site is to be used, the permittee shall certify in writing to the Regional Administrator when the facility is completed and prepared to generate power.

9. Bypass of Waste Treatment Facilities.

There shall be no bypass of waste treatment or disposal facilities at any time.

10. Other Conditions.

a. Spill Prevention and Containment Plan

Within 90 days from the effective date of this permit, the permittee shall prepare and submit to the Regional Administrator and State Agency, a Spill Prevention, Containment, and Countermeasure Plan for the facility covered by this permit. Such plan shall contain information and procedures relative to the prevention of spills and unplanned discharges of oil and hazardous substances including:

(1) a description of the reporting system which will be used to alert responsible facility management and appropriate legal authorities;

(2) a description of preventive facilities (including overall facility plot) which prevent, contain or treat spills and unplanned discharges;

(3) a list of all oil and hazardous materials used, processed, or stored at the facility which may be spilled into the waters of the United States;

where is the list? ltd 4/2/82

(4) a brief description of recent spills and the measures taken to prevent recurrence; and

(5) an implementation schedule for additional facilities which might be required for (2) above, but which are not yet operational.

Permittee shall implement and comply with the provisions of such Plan after the Plan has been approved by the Regional Administrator, including in said implementation and compliance any additions or modifications which the Regional Administrator may make in approving the Plan.

b. Holding Pond Conditions

If any waste waters from the permittee's facility are placed in ponds, such ponds shall be located and constructed so as to:

(1) contain with no discharge the once-in-one-hundred years storm at said location;

(2) withstand with no discharge the once-in-one-hundred years flood of said location;

(3) prevent escape of waste water by either seepage or leakage.

11. Reapplication.

If the permittee desires to continue to discharge, he shall reapply not later than 180 days before this permit expires, on the application forms then in use.

12. Definitions.

For purposes of this permit, the following definitions shall apply:

Regional Administrator: Regional Administrator
Environmental Protection Agency
Region IX
100 California Street
San Francisco CA 94111

State Agency: Commission of Environmental Protection
201 South Fall Street
Nye Building
Carson City NV 89701

Maximum Daily Pollutant Discharge Rate:

The maximum daily pollutant discharge rate shall be the value of M that is obtained from either of the following calculations for any calendar day:

$$M(\text{lbs/day}) = \frac{8.34}{N} \sum_{i=1}^{N} Q_i C_i; \quad M(\text{kg/day}) = \frac{86.4}{N} \sum_{i=1}^{N} Q_i C_i$$

in which N is the number of samples analyzed in any calendar day, and Q_i and C_i are the flow rate (million gallons per day or cubic meters per second) and the constituent concentration (milligrams per liter), respectively, which are associated with each of the N samples. For any sample concentration, the associated flow rate is the average rate occurring during the period of sampling.

Thirty Day Average Pollutant Discharge Rate:

The thirty (30) day average pollutant discharge rate shall be the arithmetic average of all of the values of M calculated using the results of analyses of all samples collected during any thirty consecutive calendar day period. If fewer than four (4) samples are collected and analyzed during any thirty consecutive calendar day period, compliance with the thirty day average pollutant discharge rate limitation shall not be determined.

Maximum Concentration:

Maximum concentration limits shall be applied to the concentration values (milligrams per liter, mg/l) associated with any single discrete or composite sample.

Discrete Sample:

An individual sample collected in less than 15 minutes.

Composite Sample:

A combination of no fewer than eight individual samples obtained at equal time intervals over the specified sampling period. The volume of each individual sample shall be proportional to the discharge flow rate at the time of sampling. The sampling period shall equal the discharge period, or 24 hours, whichever is shorter.

The Regional Administrator has notified the applicant and interested agencies and persons of his intent to issue a permit for the discharge described in Application No. 075-OYQ-2-000254 and has provided them an opportunity for a public hearing and an opportunity to submit their written views and recommendations.

This permit shall become effective 30 days following the date of the Regional Administrator's signature, below, and shall expire on January 31, 1975.

By authority of the United States Environmental Protection Agency.

JUL 2 7 1973
Date

Regional Administrator

(4)

FORM APPROVED
OMB No. 158—R0100

FOR AGENCY USE

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM
APPLICATION FOR PERMIT TO DISCHARGE WASTEWATER

STANDARD FORM C — MANUFACTURING AND COMMERCIAL

SECTION I. APPLICANT AND FACILITY DESCRIPTION

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

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

Please Print or Type

1. Legal Name of Applicant (see instructions)	101	KERR-McGEE CHEMICAL CORPORATION
2. Mailing Address of Applicant (see instructions) Number & Street	102a	McGee Tower
City	102b	Oklahoma City
State	102c	Oklahoma
Zip Code	102d	73102
3. Applicant's Authorized Agent (see instructions) Name and Title	103a	C. B. Armstrong, Plant Manager
Number & Street Address	103b	P. O. Box 55
City	103c	Henderson
State	103d	Nevada
Zip Code	103e	89015
Telephone	103f	702 (Area Code) 565-8901 (Number)
4. Previous Application If a previous application for a National or Federal discharge permit has been made, give the date of application. Use numeric designation for date.	104	71 (YR) 10 (MO) 5 (DAY)

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

C. B. Armstrong	102e	Plant Manager
Printed Name of Person Signing		Title
C. B. Armstrong	102f	74 8 2 (YR MO DAY)
Signature of Applicant or Authorized Agent		Date Application Signed

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

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

FOR AGENCY USE

OFFICE ___ EPA Region Number

FOR AGENCY USE

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

Name	105a	Henderson Plant
Ownership (Public, Private or Both Public and Private)	105b	☐ PUB XX PRV ☐ BPP
Check block if Federal Facility and give GSA Inventory Control Number	105c	☐ FED
	105d	NA
Location Street & Number	105e	Lake Mead Drive
City	105f	Henderson
County	105g	Clark
State	105h	Nevada

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

	106a	Chemical Processing
	106b	AGENCY USE

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

		Continuous Year Around	Additional Summer Flow June - September
Municipal or private water system	107a	600 thousand gallons per day	4,000
Surface water	107b	NA thousand gallons per day	NA
Groundwater	107c	NA thousand gallons per day	NA
Other*	107d	NA thousand gallons per day	NA
Total Item 7	107e	600 thousand gallons per day	4,000

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

	107f	NA

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

			June - September
Noncontact cooling water	108a	220 thousand gallons per day	4,000
Boiler feed water	108b	80 thousand gallons per day	NA
Process water (including contact cooling water)	108c	270 thousand gallons per day	NA
Sanitary water	108d	30 thousand gallons per day	NA
Other*	108e	NA thousand gallons per day	NA
Total Item 8	108f	600 thousand gallons per day	4,000

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

	108g	NA

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

	108h	200 people served

FORM APPROVED
OMB No. 158-R0100

FOR AGENCY USE

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

		Number of Discharge Points		Year Around Total Volume Used or Discharged, Thousand Gal/Day	Additional June - September
Surface Water	109a1		109a2	NA	NA
Sanitary wastewater transport system	109b1		109b2	NA	NA
Storm water transport system	109c1		109c2	NA	NA
Combined sanitary and storm water transport system	109d1		109d2	NA	NA
Surface impoundment with no effluent	109e1	1	109e2	10	
Underground percolation	109f1	1	109f2	350	4,000
Well injection	109g1		109g2	NA	NA
Waste acceptance firm	109h1	1	109h2	30	NA
Evaporation	109i1		109i2	210	NA
Consumption	109j1		109j2	NA	NA
Other*	109k1		109k2	NA	NA
Facility discharges and volume Total Item 9.	109l1	3	109l2	600	4,000
*If there are discharges to 'other,' specify.	109m1	NA			

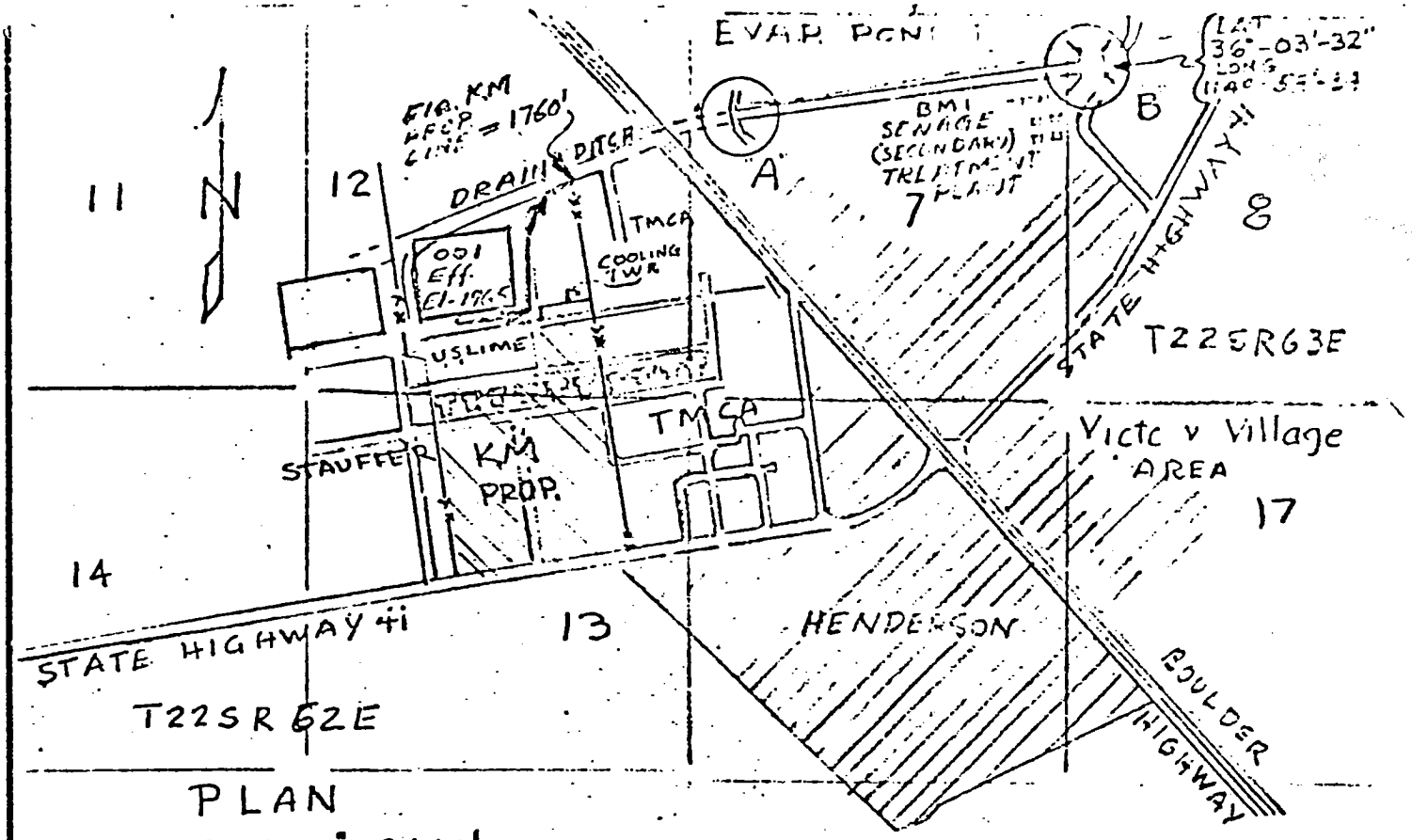
10. Permits, Licenses and Applications
List all existing, pending or denied permits, licenses and applications related to discharges from this facility (see instructions).

10	Issuing Agency (a)	For Agency Use (b)	Type of Permit or License (c)	ID Number (d)	Date Filed YR/MO/DA (e)	Date Issued YR/MO/DA (f)	Date Denied YR/MO/DA (g)	Expiration Date YR/MO/DA (h)
1.	EPA		NPDES	NV0000078	71/10/5	73/8/26	NA	75/1/31
2.								
3.								

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

12. Additional Information

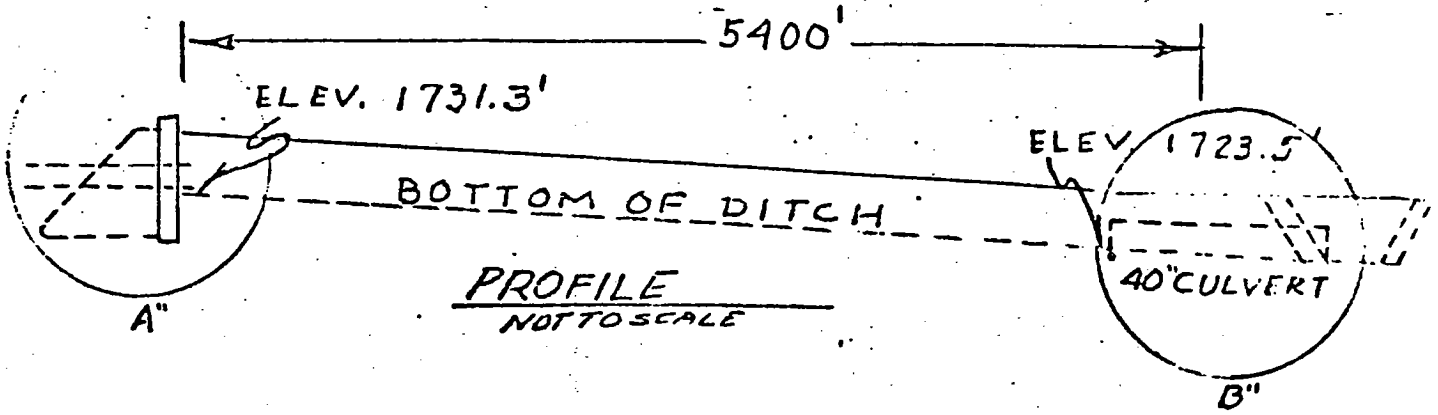
112 Item Number	Information
	NA



PLAN

Scale - 1" = 2640'

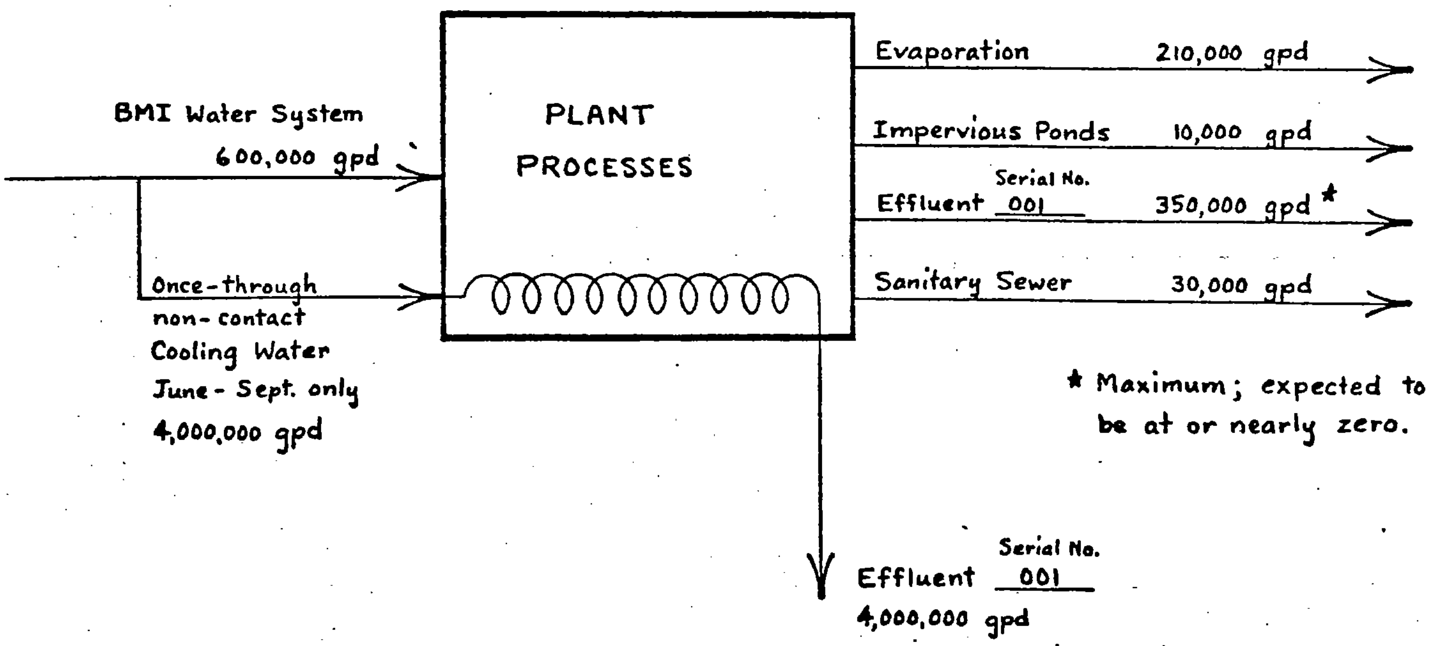
½ 0 1 2



PROFILE
NOT TO SCALE

Kerr McGee Chemical Corp.
Discharge 075-040-2-00254
Ser. 001. Drain Ditch to
BMI Ponds with Elevations

HENDERSON NEVADA	KERR MCGEE CHEM. CORP. PLANT EFFLUENT OUTFALL	D-00-1-31	△
DRAWN [illegible] CHECK [illegible] APPR.			
DATE 2-1-72 SCALE 1" = 2640'			



KERR-McGEE CHEMICAL CORP. HENDERSON, NEVADA

ENGR. K.D. Heine	JOB NO.	WATER FLOW SCHEMATIC	DRWG. NO.
SCALE	A.F.E.		
DATE 8-12-74	APP.		p.1 of 1

FORM APPROVED
OMB No. 158-R0100

FOR AGENCY USE

STANDARD FORM C – MANUFACTURING AND COMMERCIAL

SECTION II. BASIC DISCHARGE DESCRIPTION

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

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

1. Discharge Serial No. and Name

a. **Discharge Serial No.** (see instructions) — 201a: 001

b. **Discharge Name** Give name of discharge, if any. (see instructions) — 201b: Unnamed drainage ditch to BMI ponds

c. **Previous Discharge Serial No.** If previous permit application was made for this discharge (see Item 4, Section I), provide previous discharge serial number. — 201c: NA

2. Discharge Operating Dates

a. **Discharge Began Date** If the discharge described below is in operation, give the date (within best estimate) the discharge began. — 202a: 46 – (YR MO)

b. **Discharge to Begin Date** If the discharge has never occurred but is planned for some future date, give the date (within best estimate) the discharge will begin. — 202b: NA (YR MO)

c. **Discharge to End Date** If discharge is scheduled to be discontinued within the next 5 years, give the date (within best estimate) the discharge will end. — 202c: 77 12 (YR MO) (For once through noncontact cooling water)
75 12 (For process effluent)

3. Engineering Report Available Check if an engineering report is available to reviewing agency upon request. (see instructions) — 203: ☐

4. Discharge Location Name the political boundaries within which the point of discharge is located.

			Agency Use
State	204a: Nevada	204d	
County	204b: Clark	204e	
(If applicable) City or Town	204c: NA	204f	

5. Discharge Point Description Discharge is into (check one): (see instructions) — 205a:

- Stream (includes ditches, arroyos, and other intermittent watercourses) ☒STR
- Lake ☐LKE
- Ocean ☐OCE
- Municipal Sanitary Wastewater Transport System ☐MTS
- Municipal Combined Sanitary and Storm Transport System ☐MCS

DISCHARGE SERIAL NUMBER

001

FOR AGENCY USE

Municipal Storm Water Transport System ☐ STS

Well (Injection) ☐ WEL

Other XX OTH

If 'other' is checked, specify 205b: Combination evaporation and percolation ponds

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

Latitude 206a: 36 DEG 03 MIN 32 SEC

Longitude 206b: 114 DEG 58 MIN 34 SEC

7. Discharge Receiving Water Name Name the waterway at the point of discharge.(see instructions) 207a: BMI ponds near Las Vegas Valley drainage to Lake Mead

If the discharge is through an outfall that extends beyond the shoreline or is below the mean low water line, complete Item 8.

For Agency Use				For Agency Use
Major	Minor	Sub	207c	303e
207b				

8. Offshore Discharge

a. Discharge Distance from Shore 208a: NA feet

b. Discharge Depth Below Water Surface 208b: NA feet

9. Discharge Type and Occurrence

a. Type of Discharge Check whether the discharge is continuous or intermittent. (see instructions) 209a: XX (con) Continuous ☐ (int) Intermittent

b. Discharge Occurrence Days per Week Enter the average number of days per week (during periods of discharge) this discharge occurs. 209b: 7 days per week

c. Discharge Occurrence —Months If this discharge normally operates (either intermittently, or continuously) on less than a year-around basis (excluding shutdowns for routine maintenance), check the months during the year when the discharge is operating. (see instructions) 209c: ☐ JAN ☐ FEB ☐ MAR ☐ APR ☐ MAY ☐ JUN ☐ JUL ☐ AUG ☐ SEP ☐ OCT ☐ NOV ☐ DEC

The summer use of noncontact cooling water will be from June through September at a rate of 4,000,000 gallons per day.

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

10. Intermittent Discharge Quantity State the average volume per discharge occurrence in thousands of gallons. 210: NA thousand gallons per discharge occurrence.

11. Intermittent Discharge Duration and Frequency

a. Intermittent Discharge Duration Per Day State the average number of hours per day the discharge is operating. 211a: NA hours per day

b. Intermittent Discharge Frequency State the average number of discharge occurrences per day during days when discharging. 211b: NA discharge occurrences per day

12. Maximum Flow Period Give the time period in which the maximum flow of this discharge occurs. 212: From June (month) to Sept. (month)

DISCHARGE SERIAL NUMBER

001

FORM APPROVED
OMB No. 158–R0100

FOR AGENCY USE

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

213a

Production of various chlorates and perchlorates by electrolysis and subsequent double decomposition. Electrolytic production of battery active manganese dioxide.

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

a. Raw Materials

214a	SIC Code (1)	Name (2)	Maximum Amount/Day (3)	Unit (See Table I) (4)	Shared Discharges (Serial Number) (5)
	2819	NaCl	52	K-1	NA
	2819	NH_3	9	K-1	NA
	2819	31% HCl	33	K-1	NA
	2819	MnO_2 Ore	55	K-1	NA

b. Products

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

DISCHARGE SERIAL NUMBER

001

FOR AGENCY USE

15. **Waste Abatement**

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

215a

Narrative: The following practices are routinely followed:

1. Washing of filter cakes to remove soluble material.
2. Ponding of effluents for evaporation
3. Use of recirculated cooling water.
4. Use of mechanical seal pumps.
5. Reuse of byproducts as raw materials

215b

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

(1) ESEGRE,	(2) EMERGE,	(3) ECOUNT,
(4) EPUMPS,	(5) DREACT,	(6) DSTUPD,
(7) RECOVE,	(8) RDOWNG,	(9) RUSEOR,
(10) RECYCL,	(11) OMONIT,	(12) ,
(13) ,	(14) ,	(15) ,
(16) ,	(17) ,	(18) ,
(19) ,	(20) ,	(21) ,
(22) ,	(23) ,	(24) ,
(25) .		

DISCHARGE SERIAL NUMBER

001

FORM APPROVED
OMB No. 158–R0100

FOR AGENCY USE

16. Wastewater Characteristics

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

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

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

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

DISCHARGE SERIAL NUMBER

001

FOR AGENCY USE

17. Description of Intake and Discharge

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

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

Parameter and Code 217a	Influent		Effluent					
	Untreated Intake Water (Daily Average) (1)	In-Plant Treated Intake Water (Daily Average) (2)	Daily Average (3)	Minimum Value Observed or Expected During Discharge Activity (4)	Maximum Value Observed or Expected During Discharge Activity (5)	Frequency of Analysis (6)	Number of Analyses (7)	Sample Type (8)
Flow* Gallons per day 00056	600,000	NA	350,000	0	4,350,000	1/1	365	24
pH Units 00400	8	NA	X	6	10	1/1	365	24
Temperature (winter) °F 74028	55	NA	65	60	70	None	NA	NA
Temperature (summer) °F 74027	65	NA	75	70	80	None	NA	NA
Biochemical Oxygen Demand (BOD 5-day) mg/l 00310	A	NA	A	A	A	NA	NA	NA
Chemical Oxygen Demand (COD) mg/l 00340	24	NA	22	15	30	None	NA	NA
Total Suspended (nonfilterable) Solids mg/l 00530	4	NA	150	100	300	None	NA	NA
Specific Conductance micromhos/cm at 25° C 00095	- - - -	- - - -	X	UNDETERMINED		- - -	- -	-
Settleable Matter (residue) ml/l 00545	- - - -	- - - -	X	UNDETERMINED		- - -	- -	-

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

FORM APPROVED
OMB No. 158–R0100

DISCHARGE SERIAL NUMBER
001

FOR AGENCY USE

17. (Cont'd.)

Parameter and Code 217a		Influent		Effluent					
		Untreated Intake Water (Daily Average) (1)	In-Plant Treated Intake Water (Daily Average) (2)	Daily Average (3)	Minimum Value Observed or Expected During Discharge Activity * (4)	Maximum Value Observed or Expected During Discharge Activity ** (5)	Frequency of Analysis (6)	Number of Analyses (7)	Sample Type (8)
Aluminum u g/l	01105	25	NA	60	25	100	None	NA	NA
Cadmium u g/l	01027	12	NA	60	12	100	None	NA	NA
Chromium u g/l	01034	8	NA	60	8	6,000	None	NA	NA
Copper u g/l	01042	100	NA	150	100	200	None	NA	NA
Lead u g/l	01051	200	NA	200	150	250	None	NA	NA
Zinc u g/l	01092	12,000	NA	24,000	12,000	36,000	None	NA	NA

* With cooling water only.
** With process water only.

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

218

Alternate power source for major pumping facility. ☐ APS

Alarm or emergency procedure for power or equipment failure ☐ ALM

NA

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

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

a. Name of Material(s) 219a

NA

b. Name and address of manufacturer 219b

c. Quantity (pounds added per million gallons of water treated). 219c

DISCHARGE SERIAL NUMBER
001

FOR AGENCY USE

d. Chemical composition of these additives (see instructions). 219d — NA

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

20. Thermal Discharge Source Check the appropriate item(s) indicating the source of the discharge. (see instructions) — 220

Boiler Blowdown	☐ BLBD
Boiler Chemical Cleaning	☐ BCCL
Ash Pond Overflow	☐ APOF
Boiler Water Treatment — Evaporator Blowdown	☐ EPBD
Oil or Coal Fired Plants — Effluent from Air Pollution Control Devices	☐ OCFP
Condense Cooling Water	☐ COND
Cooling Tower Blowdown	☐ CTBD
Manufacturing Process	☐ MFPR
Other	☐ OTHR

NA

21. Discharge/Receiving Water Temperature Difference

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

Summer — 221a — _____ °F.

Winter — 221b — NA °F.

22. Discharge Temperature, Rate of Change Per Hour — 222

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

NA °F./hour

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

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

Frequency of occurrence	10%	5%	1%	Maximum
a. Intake Water Temperature (Subject to natural changes) — 223a	°F	°F	°F	°F
b. Discharge Water Temperature — 223b	°F	°F	°F	°F

NA

24. Water Intake Velocity (see instructions) — 224 — _____ feet/sec.

25. Retention Time Give the length of time, in minutes, from start of water temperature rise to discharge of cooling water. (see instructions) — 225 — NA _____ minutes

FORM APPROVED
OMB No. 158R0100

DISCHARGE SERIAL NUMBER

001

FOR AGENCY USE

11111111

26. Additional Information

226 Item	Information
	NA

FORM APPROVED
OMB No. 158–R0100

FOR AGENCY USE

STANDARD FORM C – MANUFACTURING AND COMMERCIAL

SECTION III. WASTE ABATEMENT REQUIREMENTS & IMPLEMENTATION (CONSTRUCTION) SCHEDULE

This section requires information on any uncompleted implementation schedule which may have been imposed for construction of waste abatement facilities. Such requirements and implementation schedules may have been established by local, State, or Federal agencies or by court action. In addition to completing the following items, a copy of an official implementation schedule should be attached to this application. IF YOU ARE SUBJECT TO SEVERAL DIFFERENT IMPLEMENTATION SCHEDULES, EITHER BECAUSE OF DIFFERENT LEVELS OF AUTHORITY IMPOSING DIFFERENT SCHEDULES (Item 1a.) AND/OR STAGED CONSTRUCTION OF SEPARATE OPERATION UNITS (Item 1c), SUBMIT A SEPARATE SECTION III FOR EACH ONE.

FOR AGENCY USE
SCHED. NO. _____

1. **Improvements** — 300

   a. **Discharge Serial Number Affected** List the discharge serial numbers, assigned in Section II, that are covered by this implementation schedule. — 301a: 001 _____ _____ / _____ _____ _____

   b. **Authority Imposing Requirements** Check the appropriate item indicating the authority for implementation schedule. If the identical implementation schedule has been ordered by more than one authority, check the appropriate items. (see instructions) — 301b:

   - Locally developed plan — ☐ LOC
   - Areawide Plan — ☐ ARE
   - Basic Plan — ☐ BAS
   - State approved implementation schedule — ☐ SQS
   - Federal approved water quality standards implementation plan. — ☒ WQS
   - Federal enforcement procedure or action — ☐ ENF
   - State court order — ☐ CRT
   - Federal court order — ☐ FED

   c. **Facility Requirement.** Specify the 3-character code of those listed below that best describes in general terms the requirement of the implementation schedule and the applicable six-character abatement code(s) from Table II of the Instruction booklet. If more than one schedule applies to the facility because of a staged construction schedule, state the stage of construction being described here with the appropriate general action code. Submit a separate Section III for each stage of construction planned.

   3-character (general) — 301c: ELI

   6-character (specific) (see Table II) — 301d: DSTOPD

New Facility	NEW
Modification (no increase in capacity or treatment)	MOD
Increase in Capacity	INC
Increase in Treatment Level	INT
Both Increase in Treatment Level and Capacity	ICT
Process Change	PRO
Elimination of Discharge	ELI

FOR AGENCY USE

2. Implementation Schedule and 3. Actual Completion Dates

Provide dates imposed by schedule and any actual dates of completion for implementation steps listed below. Indicate dates as accurately as possible. (see instructions)

Implementation Steps		2. Schedule (Yr./Mo./Day)		3. Actual Completion (Yr./Mo./Day)
a. Preliminary plan complete	302a	6 / 23 / 72	303a	5 / 26 / 72
b. Final plan submission	302b	6 / 23 / 72	303b	5 / 26 / 72
c. Final plan complete	302c	8 / 15 / 74	303c	9 / 1 / 74
d. Financing complete & contract awarded	302d	NA	303d	NA
e. Site acquired	302e	NA	303e	NA
f. Begin action (e.g., construction)	302f	10 / 1 / 73	303f	10 / 1 / 73
g. End action (e.g., construction)	302g	12 / 31 / 74	303g	12 / 31 / 74
h. Discharge Began	302h	NA	303h	NA
i. Operational level attained	302i	1 / 31 / 75	303i	12 / 31 / 75

GPO 865-742

KERR-McGEE
KERR-McGEE BUILDING • OKLAHOMA CITY, OKLAHOMA 73102

October 5, 1971

District Engineer
Department of the Army
Los Angeles District, Corps of Engineers
P. O. Box 2711
Los Angeles, California 90053

Re: Discharge Permit Application
NV 075-0YQ-2-000254
Discharge Serial No. 001

Dear Sir;

Forwarded herewith is part B of the above captioned water discharge permit application covering the Kerr-McGee Chemical Corp. facility at Henderson, Nevada, together with a certification statement.

Data are not yet complete for some of the required parameters. These will be submitted as soon as they are available.

Please contact me for permit application coordination and any additional information that you may need.

Very truly yours,

TLH

T. L. Hurst
Director of Environmental Services

TLH:jl
Enclosures 2

bcc: C. B. Armstrong w/a - Henderson
M. C. Locke w/a

(5)

KERR-McGEE CORPORATION
INTERNAL CORRESPONDENCE

TO A. L. Anderson

DATE May 17, 1979

FROM R. E. Harris

SUBJECT Analysis of Henderson Plant EIMCO Tails for RCRA Leach Test; Project 1526

This is to confirm the results given to you today by Wil Robertson in a preliminary report. The sample of EIMCO tails submitted with your memo of March 5, 1979 to Dr. Long has been analyzed according to the RCRA extraction procedure given in Fed. Register 43 No. 243, December 18, 1978, pp. 58956 and 58957. The organics were assayed by ARRO Laboratories in Joliet, Illinois.

As can be seen in the attached table of results, all of the values are well below the RCRA Limit except Cd and it is 1/2 the limit. On this basis the sample of material sent to us would not be considered a hazardous waste on the basis of toxic substances as defined in Section 250.13(d) of the proposed regulations.

Roy E. Harris

R. E. Harris

REH/nvb

Attachment

cc: C. H. Long

TABLE I

EXTRACTION PROCEDURE EXTRACT

Section 250.13(f)

Extract: Solid Ratio = 20:1 (wt.)

	Sple 2/24 to 2/28/79	RCRA Limit
As	0.007 mg/l	0.50 mg/l
Ba	0.021	10.0
Cd	0.049	0.10
Cr	0.002	0.50
Pb	0.002	0.50
Hg	<.001	0.02
Se	0.012	0.10
Ag	<.001	0.50
Endrin	<.001	0.002
Lindane	<.001	0.040
Methoxychlor	<.001	1.0
Toxaphene	<.001	0.050
2,4-D	<.001	1.0
2,4,5-TP	<.001	0.1

ARRO
Laboratories, Inc.

P.O. Box 686 Caton Farm Road Joliet, Illinois 60434 Telephone (815) 727-5436 Telex 723421 UAR JOL

Attention of Mr. D.G. Biechler
Company Kerr McGee Corporation
Address P.O. Box 25861
City/State/Zip Oklahoma City, OK 73125

P.O. Number
Date Received March 22, 1979
Date Completed April 11, 1979

ARRO NO.	SAMPLE DESCRIPTION	ARRO PICK-UP	ARRO SAMPLING	DATE
42746E	552-REH-1-147 Leachate			3/22

WASTE WATER ANALYSIS

	42746				
BOD, 5-day					
Cadmium					
COD					
Chlorides					
Chlorine,Total Residual					
Chromium,Hex					
Chromium,Tri					
Chromium,Total					
Copper					
Cyanide,Total					
Iron,Total					
Lead					
Nitrogen,Total as N					
Nitrogen,Ammonia as N					
Nitrogen,Organic as N					
Oils & Grease					
pH					
Phenols					
Phosphate,Total (as PO_4)					
Phosphorus (as P)					
Solids,Total					
Solids,Dissolved					
Solids,Total Suspended					
Solids,Volatile Suspended					
Sulfate (as SO_4)					
Zinc					
Endrin	<0.1 ppB				
Lindane	<0.1 ppB				
Methoxychlor	<0.1 ppB				
Toxaphene	<0.1 ppB				
2,4-D	<0.1 ppB				
2,4,5-TP	<0.1 ppB				
SAMPLE COLLECTION DATA					
Type of Sampling					

FEB 27 1979
x/c RJU/WBH
TLH
RFW
CBA

RFW
Please draft response
CBA

(6a)

STATE OF NEVADA
DEPARTMENT OF CONSERVATION AND NATURAL RESOURCES
DIVISION OF ENVIRONMENTAL PROTECTION
CAPITOL COMPLEX
CARSON CITY, NEVADA 89710

TELEPHONE (702) 885-4670

February 23, 1979

Mr. C. B. Armstrong
Kerr McGee Chemical Company
P.O. Box 55
Henderson, NV 89015

RE: Kerr McGee Chemical Company NPDES Permit No. NV000078

Dear Mr. Armstrong:

The enclosed Order is issued by the Administrator of the Division of Environmental Protection pursuant to Nevada Revised Statutes (NRS) Chapter 445.214 Section 1, 2, 3, 7, and 12 and in accordance with NRS 445.307, NRS 445.317 subsection 1(a) and NRS 445.324.

The Order is requesting that you provide certain information on the lined and unlined impoundments on your property.

Your cooperation with the State in providing this information is appreciated. Should you have any questions, please call at 885-4670.

Sincerely,

W. Marvin Tebeau

W. Marvin Tebeau
Environmental Scientist

gc
cc: Greg Fischer E-5-2
EPA, Region IX

IN THE MATTER OF)
Kerr McGee Chemical Company)
NV000078)

ORDER

The following Order is issued this date pursuant to the powers and duties vested in the Director by Nevada Revised Statutes (NRS) Chapter 445.214 subsection 1, 2, 3, 7 and 12 and in accordance with NRS 445.307 and NRS 445.317, subsection 1(a) and NRS 445.324.

In the recent past the Division of Environmental Protection has sampled discharges of process waste at the BMI siphon prior to entering the upper BMI ponds and in the influent domestic waste at the Henderson treatment plant.

In order for the Division of Environmental Protection to develop and administer a compreshensive plan and program for preventing, reducing or eliminating these discharges and their subsequent impact on the ground water and surface water of the State, your cooperation is needed in providing certain information on the lined and unlined ponds and the process waste they recieve.

On the basis of the findings listed above the Administrator of the Division of Environmental Protection requires Kerr McGee Chemical Company to provide the following information by March 26, 1979.

LINED AND UNLINED IMPOUNDMENT DATA

I. Depict on a USGS map or provide a drawing of:

   a. Impoundments in relation to the plant

   b. Piping schematic of the process waste from the production areas to the impoundment

   c. Any monitoring well on your property

II. Concerning each impoundment provide information on:

a. Type of liner used, if clay give thickness

b. Surface area

c. Volume

d. Name of process waste and daily average volume being stored or disposed of

e. Is the impoundment presently in use, if not last year of operation and age

III. Concerning each monitoring well:

a. Depth to ground water if known

b. Frequency of sampling and copy of any analysis of the ground water

c. Copy of any well logs or test hole logs taken in the immediate area if available.

DATED 7-23-79

E.G. Gregory, Administrator
Division of Environmental Protection

KERR-McGEE CHEMICAL CORPORATION
POST OFFICE BOX 55 • HENDERSON, NEVADA 89015

(6b)

March 22, 1979

Mr. W. Marvin Tebeau, Environmental Scientist
State of Nevada
Department of Conservation and Natural Resources
Division of Environmental Protection
Capitol Complex
Carson City, NV 89710

Reference: NPDES Permit No. NV0000078

Dear Mr. Tebeau:

In accordance with your letter of February 23, 1979, the following are attached:

1. A listing of our ponds with the questions in Item II of the request answered. The answers are designated by the same letter as the sub-questions under Item II.

2. A drawing of the BMI Complex with the ponds and the pipelines to them superimposed in color.

We do not have any monitoring wells.

I believe this completes the requirements of the order. If you require any other information, please contact me.

Sincerely,

C. B. Armstrong
Plant Manager

CBA:jc
Attachments

bcc: WBHayes/RJVreeland-OKC
TLHurst-OKC
RFWohletz

DATA ON LINED PONDS

POND C-1

a. Liner - PVC bottom, reinforced butyl side

b. Surface area - 69,000 ft.^{2}

c. Volume - 415,000 ft.^{3}

d. Process waste and average volume:

Boiler house wastes	-	4,000 gallons/day
Main cooling tower waste) Cooling tower filter wash)	-	15,000 gallons/day
Cleaning liquor waste	-	1,500 gallons/day

e. Impoundment currently in use.

POND AP-1

a. Liner - PVC bottom, CPE side

b. Surface area - 14,000 ft.^{2}

c. Volume - 58,000 ft.^{3}

d. Sodium perchlorate purification and ammonium perchlorate process purification filter wash liquor; total recycle; no addition other than that required to maintain volume.

e. Impoundment currently in use.

POND AP-2

Same as Pond AP-1

POND AP-3

a. Liner - PVC

b. Surface area - 2,000 ft.^{2}

c. Volume - 6,500 ft.^{3}

d. Pump basin for AP-1 and AP-2. No flow.

e. Impoundment currently in use.

POND AP-4

a. Liner - PVC bottom, CPE side

b. Surface area - 20,000 ft.^{2}

c. Volume - 115,000 ft.^{3}

d. Ammonium perchlorate cooling tower waste; emergency only. Salt crystallizer washout - 500 gallons/day.

e. Impoundment currently in use.

POND P-1

a. Liner - PVC bottom, CPE side
b. Surface area - 26,000 ft.^{2}
c. Volume - 125,000 ft.^{3}
d. No process waste at this time.
e. Impoundment abandoned July, 1975.

POND P-2

a. Liner - reinforced butyl rubber
b. Surface area - 12,000 ft.^{2}
c. Volume - 47,000 ft.^{3}
d. Process waste: sodium chlorate solution; this pond for emergency use only, and all solution is recycled. Caustic scrubber solution from ammonium perchlorate plant - 500 gallons/day.
e. Impoundment currently in use.

POND P-3

a. Liner - reinforced butyl rubber
b. Surface area - 12,000 ft.^{2}
c. Volume - 47,000 ft.^{3}
d. Process waste: sodium chlorate solution; this pond for emergency use only, and all solution is recycled. No regular flows to pond.
e. Impoundment currently in use.

POND S-1

a. Liner - PVC bottom, CPE side
b. Surface area - 47,500 ft.^{2}
c. Volume - 270,000 ft.^{3}
d. Process waste: potassium perchlorate process tailings - 5,000 gallons/day; boron leach liquor - 1,000 gallons/day.
e. Impoundment currently in use.

| | | | | | | (1-5)
(DO NOT USE)

FORM A: GENERAL FACILITY INFORMATION

7

Company Name: Kerr-McGee Corporation
Division/Subsidiary
Facility Name: Kerr-McGee Chemical Corporation, Henderson Plant

Address: P. O. Box 55
No. Street

Henderson, NV 89015
City State Zip Code

Name of Person Completing Form: R. B. Chase

Position: Manager, Production

Phone Number: (702) 565-8901

1. Year Facility Opened ..... 19 | | (10-11)

2. Primary SIC Code ..... | | | | (12-15)

3. Estimate the total amounts of process wastes (excluding wastes sold for use) generated by this facility during 1978:
use only one if possible — right justify response

thousand gallons ..... | | | | | | | | (16-24)

hundred tons ..... | | | | | 8 | 4 | (25-32)

thousand cubic yards ..... | | | | | | | | (33-41)

4. Estimate (in whole percents) how these process wastes generated in 1978 were disposed of:

in landfill ..... | 5 | 7 | (42-44)

in pit/pond/lagoon ..... | 1 | 0 | (45-47)

in deep well ..... | | 0 | (48-50)

incinerated ..... | | 0 | (51-53)

reprocessed/recycled ..... | 3 | 3 | (54-56)

evaporated ..... | | 0 | (57-59)

unknown ..... | | 0 | (60-62)

other (Specify_____) ..... | | 0 | (63-65)

5. What is the total number of known sites (including disposal on the property where this facility is located as one site) that have been used for the disposal of process wastes from this facility since 1950? ..... | | 3 | (66-68)

COMPLETE ONE FORM "B" FOR EACH OF THE SITES

6. Have any of the process wastes generated at this facility been hauled (removed) from this facility for disposal? (Yes=1; no=2) ..... | 1 | (69)

IF YES, COMPLETE FORM "C"

7. Do you know the disposal site locations of all of the process waste hauled from your facility since 1950? (Yes=1; no=2) ..... | 1 | (70)

IF NO, COMPLETE ONE FORM "D" FOR EACH FIRM OR CONTRACTOR WHO TOOK WASTE TO AN UNKNOWN LOCATION

8. Specify the earliest year represented by information from company or facility records supplied on this and other forms ..... 19 | 5 | 9 | (71-72)

9. Specify the earliest year represented by information from employee knowledge supplied on this and other forms ..... 19 | 5 | 0 | (73-74)

FORM B: DISPOSAL SITE INFORMATION

[ ][ ][ ][ ][ ][ ] (1-8)
(DO NOT USE)

COMPLETE THIS FORM FOR EVERY SITE (INCLUDING THE LOCATION OF THIS FACILITY AS ONE SITE) USED FOR THE DISPOSAL OF PROCESS WASTES GENERATED BY THIS FACILITY SINCE 1950.

Company Name: Kerr-McGee Corporation
Facility Name: Kerr-McGee Chemical Corporation
Name of Site: BMI Dump
Address of Site: _____
no. street

Henderson, NV 89015
city state zip code

Name of Owner (while used by facility): Basic Management Incorporated (BMI)
Address: _____
no. street

Henderson NV 89015
city state zip code

Current Owner (if different from above): _____
Address: _____
no. street

_____
city state zip code

1. Location (1= the property on which facility is located; 2= off-site)..... [2] (10)
2. Ownership at time of use (1= company ownership; 2=private but not company ownership) 3=public ownership) ?=don't know..... [2] (11)
3. Current status (1= closed; 2= still in use; 9=don't know) ..... [2] (12)
   IF CLOSED, specify year closed ..... 19[ ][ ] (13-14)
4. Year first used for process waste from this facility ..... 19[5][0] (15-16)
5. Year last used for process waste from this facility (enter "79" if still in use) ..... 19[7][9] (17-18)
6. Total amount of process waste from this facility disposed at site:
   use tons only if possible — right justify response.
   thousand gallons ..... [ ][ ][ ][ ][ ][ ][ ] (19-26)
   hundred tons ..... [ ][ ][ ][ ][ ][1][3] (27-33)
   thousand cubic yards ..... [ ][ ][ ][ ][ ][ ][ ] (34-41)
7. Specify type(s) of disposal method(s) used at site and whether method is still in use (1=currently in use; 2=no longer in use; 3=never used; 9=don't know)

landfill, mono industrial waste	[3] (42)
landfill, mixed industrial waste	[1] (43)
landfill, drummed waste	[3] (44)
landfill, municipal refuse co-disposed ...	[3] (45)
pits/ponds/lagoons	[3] (46)
deep well injection	[3] (47)
land farming	[3] (48)
incineration	[2] (49)
treatment (eg. neutralizing).....	[3] (50)
reprocessing/recycling	[3] (51)
other (specify) _____....	[3] (52)

8. Users of this site (1=this facility; 2=this facility and other company facilities only; 3=this company and others; 9=don't know) ..... [3] (53)

LIST NAMES AND ADDRESSES OF OTHER KNOWN USERS BELOW

Timet, Henderson, NV 89015
Stauffer Chemical Company, Henderson, NV 89015
Flintkote Lime Company, Henderson, NV 89015
Montrose Chemical Company, Henderson, NV 89015
Jones Chemical Company, Henderson, NV 89015
Buckles Construction Company, 541 National Street, Henderson, NV 89015
Basic Management Incorporated, Henderson, NV 89015
U. S. Bureau of Reclamation, Boulder City, NV 89005

FORM B CONTINUED ON SECOND PAGE

[1] (80)

(1-8)
(DO NOT USE)

Company Name: Kerr-McGee Corporation

Facility Name: Kerr-McGee Chemical Corporation, Henderson Plant

Site Name: BMI Dump

9. Components (or characteristics) of process waste from this facility disposed at site: (1=present in waste; 2=not present in waste; 9=don't know)

FILL IN EVERY BLOCK SPACE

Acid solutions, with pH<3	2	(10)
pickling liquor	2	(11)
metal plating waste	2	(12)
circuit etchings	2	(13)
inorganic acid manufacture	2	(14)
organic acid manufacture	2	(15)
Base solutions, with pH>12	2	(16)
caustic soda manufacture	2	(17)
nylon and similar polymer generation	2	(18)
scrubber residual	2	(19)
Heavy metals & trace metals (bonded organically & inorganically)	1	(20)
arsenic, selenium, antimony	2	(21)
mercury	2	(22)
iron, manganese, magnesium	1	(23)
zinc, cadmium, copper, chromium (trivalent)	2	(24)
chromium (hexavalent)	1	(25)
lead	2	(26)
Radioactive residues, >50 pico curies/liter	2	(27)
uranium residuals & residuals for UF_6 recycling	2	(28)
lathanide series elements and rare earth salts	2	(29)
phosphate slag	2	(30)
thorium	2	(31)
radium	2	(32)
other alpha, beta & gamma emitters	2	(33)
Organics	2	(34)
insecticides & intermediates	2	(35)
herbicides & intermediates	2	(36)
fungicides & intermediates	2	(37)
rodenticides & intermediates	2	(38)
halogenated aliphatics	2	(39)
halogenated aromatics	2	(40)
acrylates & latex emulsions	2	(41)
PCB/PBB's	2	(42)
amides, amines, imides	2	(43)
plastizers	2	(44)
resins	2	(45)
elastomers	2	(46)
solvents polar (except water)	2	(47)
carbontetrachloride	2	(48)
trichloroethylene	2	(49)
other solvents nonpolar	2	(50)
solvents halogenated aliphatic	2	(51)
solvents halogenated aromatic	2	(52)
oils and oil sludges	2	(53)
esters and ethers	2	(54)
alcohols	2	(55)
ketones & aldehydes	2	(56)
dioxins	2	(57)
Inorganics	1	(58)
salts	1	(59)
mercaptans	2	(60)
Misc.		(61)
pharmaceutical wastes	2	(62)
paints & pigments	2	(63)
catalysts (eg. vanadium, platinum, palladium)	2	(64)
asbestos	2	(65)
shock sensitive wastes (eg. nitrated toluenes)	2	(66)
air water reactive wastes (eg. P_4, aluminum chloride)	2	(67)
wastes with flash point below 100° F	2	(68)

2 (80)

FORM B: DISPOSAL SITE INFORMATION

[| | | | | | |] (1-8)
(DO NOT USE)

COMPLETE THIS FORM FOR EVERY SITE (INCLUDING THE LOCATION OF THIS FACILITY AS ONE SITE) USED FOR THE DISPOSAL OF PROCESS WASTES GENERATED BY THIS FACILITY SINCE 1950.

Company Name: Kerr-McGee Corporation
Facility Name: Kerr-McGee Chemical Corporation, Henderson Plant
Name of Site: BMI Ponds
Address of Site:

no. street

Henderson, NV 89015

city state zip code

Name of Owner (while used by facility): Basic Management Incorporated (BMI)
Address:

no. street

Henderson, NV 89015

city state zip code

Current Owner (if different from above): -
Address:

no. street

city state zip code

1. Location (1= the property on which facility is located; 2= off-site) ..... [2] (10)
2. Ownership at time of use (1= company ownership; 2=private but not company ownership) 3=public ownership) 9=don't know ..... [2] (11)
3. Current status (1= closed; 2= still in use; 9=don't know) ..... [2] (12)
   IF CLOSED, specify year closed ..... 19[ ] (13-14)
4. Year first used for process waste from this facility ..... 19[5][0] (15-16)
5. Year last used for process waste from this facility (enter "79" if still in use) ..... 19[7][6] (17-18)
6. Total amount of process waste from this facility disposed at site:
   use tons only if possible — right justify response.
   thousand gallons ..... [| | | | | | |] (19-26)
   hundred tons ..... [| | | | | 1 | 1 | 7] (27-33)
   thousand cubic yards ..... [| | | | | | |] (34-41)
7. Specify type(s) of disposal method(s) used at site and whether method is still in use (1=currently in use; 2=no longer in use; 3=never used; 9=don't know)

landfill, mono industrial waste	[3]	(42)
landfill, mixed industrial waste	[3]	(43)
landfill, drummed waste	[3]	(44)
landfill, municipal refuse co-disposed	[3]	(45)
pits/ponds/lagoons	[1]	(46)
deep well injection	[3]	(47)
land farming	[3]	(48)
incineration	[3]	(49)
treatment (eg. neutralizing)	[3]	(50)
reprocessing/recycling	[3]	(51)
other (specify) _____	[3]	(52)

8. Users of this site (1=this facility; 2=this facility and other company facilities only; 3=this company and others; 9=don't know) ..... [3] (53)

LIST NAMES AND ADDRESSES OF OTHER KNOWN USERS BELOW

Timet, Henderson, NV 89015
Stauffer Chemical Company, Henderson, NV 89015
Flintkote Lime Company, Henderson, NV 89015
Montrose Chemical Company, Henderson, NV 89015
City of Henderson, 243 Water Street, Henderson, NV 89015

FORM B CONTINUED ON SECOND PAGE

[1] (80)

(DO NOT USE) (1-8)

Company Name: Kerr-McGee Corpor n

Facility Name: Kerr-McGee Chemical Corporation, Henderson Plant

Site Name: BMI Ponds

9. Components (or characteristics) of process waste from this facility disposed at site: (1=present in waste; 2=not present in waste; 9=don't know)

FILL IN EVERY BLOCK SPACE

Acid solutions, with pH<3	2	(10)
pickling liquor	2	(11)
metal plating waste	2	(12)
circuit etchings	2	(13)
inorganic acid manufacture	2	(14)
organic acid manufacture	2	(15)
Base solutions, with pH>12	2	(16)
caustic soda manufacture	2	(17)
nylon and similar polymer generation	2	(18)
scrubber residual	2	(19)
Heavy metals & trace metals (bonded organically & inorganically)	1	(20)
arsenic, selenium, antimony	2	(21)
mercury	2	(22)
iron, manganese, magnesium	1	(23)
zinc, cadmium, copper, chromium (trivalent)	2	(24)
chromium (hexavalent)	1	(25)
lead	2	(26)
Radioactive residues, >50 pico curies/liter	2	(27)
uranium residuals & residuals for UF_6 recycling	2	(28)
lathanide series elements and rare earth salts	2	(29)
phosphate slag	2	(30)
thorium	2	(31)
radium	2	(32)
other alpha, beta & gamma emitters	2	(33)
Organics	2	(34)
insecticides & intermediates	2	(35)
herbicides & intermediates	2	(36)
fungicides & intermediates	2	(37)
rodenticides & intermediates	2	(38)
halogenated aliphatics	2	(39)
halogenated aromatics	2	(40)
acrylates & latex emulsions	2	(41)
PCB/PBB's	2	(42)
amides, amines, imides	2	(43)
plastizers	2	(44)
resins	2	(45)
elastomers	2	(46)
solvents polar (except water)	2	(47)
carbontetrachloride	2	(48)
trichloroethylene	2	(49)
other solvents nonpolar	2	(50)
solvents halogenated aliphatic	2	(51)
solvents halogenated aromatic	2	(52)
oils and oil sludges	2	(53)
esters and ethers	2	(54)
alcohols	2	(55)
ketones & aldehydes	2	(56)
dioxins	2	(57)
Inorganics	1	(58)
salts	1	(59)
mercaptans	2	(60)
Misc.	2	(61)
pharmaceutical wastes	2	(62)
paints & pigments	2	(63)
catalysts (eg. vanadium, platinum, palladium)	2	(64)
asbestos	2	(65)
shock sensitive wastes (eg. nitrated toluenes)	2	(66)
air water reactive wastes (eg. P_4, aluminum chloride)	2	(67)
wastes with flash point below 100° F	2	(68)

2 (80)

FORM B: DISPOSAL SITE INFORMATION

[| | | | | |] (1-8)
(DO NOT USE)

COMPLETE THIS FORM FOR EVERY SITE (INCLUDING THE LOCATION OF THIS FACILITY AS ONE SITE) USED FOR THE DISPOSAL OF PROCESS WASTES GENERATED BY THIS FACILITY SINCE 1950.

Company Name: Kerr-McGee Corporation
Facility Name: Kerr-McGee Chemical Corporation, Henderson Plant
Name of Site: Plant Site
Address of Site: P. O. Box 55 Lake Mead Drive
no. street
Henderson, NV 89015
city state zip code

Name of Owner (while used by facility): As Above
Address:
no. street
city state zip code

Current Owner (if different from above): -
Address:
no. street
city state zip code

1. Location (1= the property on which facility is located; 2= off-site)..... [1] (10)
2. Ownership at time of use (1= company ownership; 2=private but not company ownership) 3=public ownership) 9=don't know..... [1] (11)
3. Current status (1= closed; 2= still in use; 9=don't know) ..... [2] (12)
   IF CLOSED, specify year closed ..... 19[ ] (13-14)
4. Year first used for process waste from this facility ..... 19[50] (15-16)
5. Year last used for process waste from this facility (enter "79" if still in use) ..... 19[79] (17-18)
6. Total amount of process waste from this facility disposed at site:
   use tons only if possible — right justify response.
   thousand gallons ..... [| | | | | | |] (19-26)
   hundred tons ..... [| | | | 490] (27-33)
   thousand cubic yards ..... [| | | | | | |] (34-41)
7. Specify type(s) of disposal method(s) used at site and whether method is still in use (1=currently in use; 2=no longer in use; 3=never used; 9=don't know)

landfill, mono industrial waste	[1]	(42)
landfill, mixed industrial waste	[1]	(43)
landfill, drummed waste	[3]	(44)
landfill, municipal refuse co-disposed	[3]	(45)
pits/ponds/lagoons	[1]	(46)
deep well injection	[3]	(47)
land farming	[3]	(48)
incineration	[3]	(49)
treatment (eg. neutralizing)	[3]	(50)
reprocessing/recycling	[1]	(51)
other (specify)	[3]	(52)

8. Users of this site (1=this facility; 2=this facility and other company facilities only; 3=this company and others; 9=don't know) ..... [1] (53)

LIST NAMES AND ADDRESSES OF OTHER KNOWN USERS BELOW

FORM B CONTINUED ON SECOND PAGE

[1] (80)

(DO NOT USE) (1-8)

Company Name: Kerr-McGee Corpora

Facility Name: Kerr-McGee Chemical (...poration, Henderson Plant

Site Name: Plant Site

9. Components (or characteristics) of process waste from this facility disposed at site: (1=present in waste; 2=not present in waste; 9=don't know)

FILL IN EVERY BLOCK SPACE

Acid solutions, with pH<3	[2]	(10)
pickling liquor	[2]	(11)
metal plating waste	[2]	(12)
circuit etchings	[2]	(13)
inorganic acid manufacture	[2]	(14)
organic acid manufacture	[2]	(15)
Base solutions, with pH>12	[2]	(16)
caustic soda manufacture	[2]	(17)
nylon and similar polymer generation	[2]	(18)
scrubber residual	[2]	(19)
Heavy metals & trace metals (bonded organically & inorganically)	[1]	(20)
arsenic, selenium, antimony	[2]	(21)
mercury	[2]	(22)
iron, manganese, magnesium	[1]	(23)
zinc, cadmium, copper, chromium (trivalent)	[2]	(24)
chromium (hexavalent)	[1]	(25)
lead	[2]	(26)
Radioactive residues, >50 pico curies/liter	[2]	(27)
uranium residuals & residuals for UF_6 recycling	[2]	(28)
lathanide series elements and rare earth salts	[2]	(29)
phosphate slag	[2]	(30)
thorium	[2]	(31)
radium	[2]	(32)
other alpha, beta & gamma emitters	[2]	(33)
Organics	[2]	(34)
insecticides & intermediates	[2]	(35)
herbicides & intermediates	[2]	(36)
fungicides & intermediates	[2]	(37)
rodenticides & intermediates	[2]	(38)
halogenated aliphatics	[2]	(39)
halogenated aromatics	[2]	(40)
acrylates & latex emulsions	[2]	(41)
PCB/PBB's	[2]	(42)
amides, amines, imides	[2]	(43)
plastizers	[2]	(44)
resins	[2]	(45)
elastomers	[2]	(46)
solvents polar (except water)	[2]	(47)
carbontetrachloride	[2]	(48)
trichloroethylene	[2]	(49)
other solvents nonpolar	[2]	(50)
solvents halogenated aliphatic	[2]	(51)
solvents halogenated aromatic	[2]	(52)
oils and oil sludges	[2]	(53)
esters and ethers	[2]	(54)
alcohols	[2]	(55)
ketones & aldehydes	[2]	(56)
dioxins	[2]	(57)
Inorganics	[1]	(58)
salts	[1]	(59)
mercaptans	[2]	(60)
Misc.	[ ]	(61)
pharmaceutical wastes	[2]	(62)
paints & pigments	[2]	(63)
catalysts (eg. vanadium, platinum, palladium)	[2]	(64)
asbestos	[2]	(65)
shock sensitive wastes (eg. nitrated toluenes)	[2]	(66)
air water reactive wastes (eg. P_4, aluminum chloride)	[2]	(67)
wastes with flash point below 100° F	[2]	(68)

[2] (80)

FORM C: HAULER INFORMATION

LJJLLJ (1-5)
(DO NOT USE)

PROVIDE A COMPLETE LIST OF ALL FIRMS AND INDEPENDENT CONTRACTORS, INCLUDING THE COMPANY AND ITS AFFILIATES AND SUBSIDIARIES, USED TO REMOVE PROCESS WASTES FROM THIS FACILITY SINCE 1950.

Company Name: Kerr-McGee Corporation
Division/Subsidiary:
Facility Name: Kerr-McGee Chemical Corporation, Henderson Plant

Name of Firm or Contractor	Address	ICC # (If Known)	Years Used
Kerr-McGee	Henderson, NV		30

KERR-McGEE CHEMICAL CORPORATION
POST OFFICE BOX 55 • HENDERSON, NEVADA 89015

August 6, 1982

RECEIVED
AUG 9 - 1982
ENVIRONMENTAL
PROTECTION

CERTIFIED MAIL NO. P26 0233706

Mr. H. Laverne Rosse
Program Director - Waste Management
State of Nevada
Division of Environmental Protection
Capitol Complex
Carson City, NV 89710

Dear Mr. Rosse:

Enclosed is Kerr-McGee Chemical Corporation's first quarter 1982 RCRA groundwater monitoring data. Through an oversight, this report was not mailed to you when it was issued.

Sincerely,

C. B. Armstrong
Plant Manager

CBA:jc
Enclosure

KERR-McGEE CHEMICAL CORPORATION
POST OFFICE BOX 55 • HENDERSON, NEVADA 89015

May 14, 1982

CERTIFIED MAIL - NO. P26 0233534
RETURN RECEIPT REQUESTED

Mr. Bill Wilson, Chief
Technical Assessment Section
Toxics and Waste Programs Branch
U. S. Environmental Protection Agency
Region IX
215 Fremont Street
San Francisco, CA 94105

Re: First Quarter 1982 RCRA Groundwater Monitoring Data

Dear Mr. Wilson:

Please find attached in Table I, first quarter 1982 RCRA groundwater monitoring data for the Kerr-McGee Chemical Corporation facility in Henderson, Nevada. This data summary is supplied in accordance with 40 CFR 265.94(2)(i).

The arsenic concentration in downgradient well H-28 exceeds the EPA National Interim Primary Drinking Water Standard (NIPDWS) of 0.05 mg/1. The NIPDWS level of 0.01 for cadmium is exceeded in all wells except downgradient well M-4, while the NIPDWS level for chromium of 0.05 mg/1 is exceeded in all wells except downgradient well H-28. The silver concentration in downgradient well M-3 also exceeds the NIPDWS level of 0.05 mg/1.

Additionally, the NIPDWS gross alpha level of 15 PCI/1 is exceeded in well H-28. At this time we are investigating possible causes for these exceedances. No other values exceed NIPDWS levels.

Sincerely,

C. B. Armstrong
Plant Manager

CBA:jc
Attachment

cc: H. L. Rosse - Certified Mail No. P26 0233706
Division of Environmental Protection
Carson City, NV 89710

TABLE I

FIRST QUARTER 1982 RCRA GROUNDWATER MONITORING DATA

DRINKING WATER PARAMETERS

KERR-McGEE CHEMICAL CORPORATION

Henderson, Nevada Facility

Parameter	Upgradient Well M-1	Downgradient Wells M-2	M-3	M-4	H-28
Arsenic (mg/l)	0.01	0.02	0.02	<0.01	0.47
Barium	0.21	0.18	0.37	<0.12	0.08
Cadmium	0.03	0.04	0.06	0.01	0.02
Chromium	12.2	9.0	31.1	0.18	0.03
Fluoride	1.00	0.95	1.00	1.00	0.55
Lead	<0.01	<0.01	<0.01	<0.01	<0.01
Mercury	0.001	<0.001	0.001	0.001	<0.001
Nitrate (as N)	0.91	0.45	<0.10	0.80	<0.10
Selenium	<0.005	<0.005	<0.005	<0.005	<0.005
Silver	0.04	0.05	0.06	0.02	0.02
Endrin	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Lindane	<0.004	<0.004	<0.004	<0.004	<0.004
Methoxychlor	<0.01	<0.1	<0.1	<0.1	<0.1
Toxaphene	<0.005	<0.005	<0.005	<0.005	<0.005
2, 4-D	<0.10	<0.10	<0.10	<0.10	<0.10
2, 4, 5-TP Silvex	<0.01	<0.01	<0.01	<0.01	<0.01
Total Radium (PCI/l)	<2	<3	<2	<2	<2
Gross Alpha (PCI/l)	<15	<15	<15	<15	81
Gross Beta (PCI/l)	<20	<20	<20	<20	<40
Coliform Bacteria (#/100 ml)	<2.2	<2.2	<2.2	<2.2	<2.2
pH	7.3, 7.3 7.3, 7.3	7.3	7.3	7.6	7.0

CBA
5/14/82

HzW Permit application

KERR-McGEE CHEMICAL CORPORATION
POST OFFICE BOX 55 • HENDERSON, NEVADA 89015

July 14, 1982

RECEIVED
JUL 19 1982
ENVIRONMENTAL PROTECTION

CERTIFIED MAIL NO. P26 0233690

Mr. William D. Wilson, Chief
Technical Assessment Section and
Waste Management Division
U. S. Environmental Protection Agency
Region IX
215 Fremont Street
San Francisco, CA 94105

Subject: Revised Part A Permit Application
Kerr-McGee Chemical Corporation
EPA ID No. NVD 008290330

Dear Mr. Wilson:

On November 14, 1982, a Part A, *Application for a Hazardous Waste Permit*, was filed for Kerr-McGee Chemical Corporation's (KMCC) Henderson, Nevada operations. This application was filed, based on our understanding of the RCRA regulations then in force.

In this application to EPA, KMCC identified certain units incorrectly or unnecessarily as being subject to RCRA interim status requirements. Therefore, we are submitting a Part A application revised to incorporate these changes as follows:

Form 1 - pages 1 through 3 with USGS topographical map

Form 3 - pages 1 through 5, including a revised facility drawing

These revisions amend the original Part A application and reflect the latest regulatory changes to RCRA. It is our understanding that interim status will still be in effect for this facility after these revisions.

These changes are listed below:

1. Capacities of existing surface impoundments, P-1 and S-1, as shown on facility diagram are hereby corrected from 960,000 to 2,660,000 gallons.

2. A process tank used solely for neutralization of a corrosive liquid was incorrectly listed and has been deleted in the revised permit application.

3. The chlorate cell vacuum filtration unit from which liquids are recycled back to the facility was incorrectly listed as a hazardous waste processing unit and has been deleted in the revised permit application.

4. Lined ponds P-2 and P-3 receive dilute solutions from the sodium chlorate and perchlorate electrolytic cell buildings and recycle to chlorate process. These are not within the definition of solid waste and have been deleted from the revised permit application.

5. Other storage ponds (AP-1, AP-2, AP-4) were reported because preliminary in-house testing indicated they might contain Cr in excess of the EP toxicity test levels. Sampling and testing by the Desert Research Institute of the liquid and sludge in those ponds determined that all eight metals were well below the EP toxicity test limits (copy, summary attached).

Please contact me if you have any questions on this subject.

Sincerely,

C. B. Armstrong
Plant Manager

CBA:jc
Attachments

xc: H. LaVerne Rosse, PE Director
Waste Management Program
Nevada Dept. of Conservation
and Natural Resources
Carson City, NV 89710

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-R0175

FORM 1 GENERAL

U.S. ENVIRONMENTAL PROTECTION AGENCY

GENERAL INFORMATION

Consolidated Permits Program

(Read the "General Instructions" before starting.)

I. EPA I.D. NUMBER: F N V D 0 0 8 2 9 0 3 3 0 — F/A — C — D

LABEL ITEMS

I. EPA I.D. NUMBER

III. FACILITY NAME

V. FACILITY MAILING ADDRESS

VI. FACILITY LOCATION

PLEASE PLACE LABEL IN THIS SPACE

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.

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	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)		X	
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)		X	
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)	X		
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)		X	
E. Does or will this facility treat, store, or dispose of hazardous wastes? (FORM 3)	X		
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)		X	
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)		X	
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)		X	
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)		X	
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)		X	

III. NAME OF FACILITY

1 SKIP: K E R R - M C G E E C H E M I C A L C O R P O R A T I O N

IV. FACILITY CONTACT

A. NAME & TITLE *(last, first, & title)*	B. PHONE *(area code & no.)*
2 A R M S T R O N G , C . B . , P L A N T M A N A G E R	7 0 2 — 5 6 5 — 8 9 0 1

V. FACILITY MAILING ADDRESS

A. STREET OR P.O. BOX

3 P . O . B O X 5 5

B. CITY OR TOWN	C. STATE	D. ZIP CODE
4 H E N D E R S O N	N V	8 9 0 1 5

VI. FACILITY LOCATION

A. STREET, ROUTE NO. OR OTHER SPECIFIC IDENTIFIER

5 L A K E M E A D D R I V E

B. COUNTY NAME

C L A R K

C. CITY OR TOWN	D. STATE	E. ZIP CODE	F. COUNTY CODE *(if known)*
6 H E N D E R S O N	N V	8 9 0 1 5	

CONTINUE ON REVERSE

CONTINUED FROM THE FRONT

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

A. FIRST	B. SECOND
2819 (specify) SEE ITEM XII BELOW	(specify)
C. THIRD	**D. FOURTH**
(specify)	(specify)

VIII. OPERATOR INFORMATION

A. NAME

KERR-MCGEE CHEMICAL CORPORATION

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

C. STATUS OF OPERATOR (Enter the appropriate letter into the answer box; if "Other", specify.)

F = FEDERAL M = PUBLIC (other than federal or state)
S = STATE O = OTHER (specify)
P = PRIVATE

P (specify)

D. PHONE (area code & no.)

A 702 565 8901

E. STREET OR P.O. BOX

P.O. BOX 55

F. CITY OR TOWN

HENDERSON

G. STATE

NV

H. ZIP CODE

89015

IX. INDIAN LAND

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

X. EXISTING ENVIRONMENTAL PERMITS

A. NPDES (Discharges to Surface Water)

9N NV0000078

D. PSD (Air Emissions from Proposed Sources)

9P

B. UIC (Underground Injection of Fluids)

9U

E. OTHER (specify)

9 AIR LOCAL

(specify) 22 Permits Issued by APCD, Clark County Health Dist.

C. RCRA (Hazardous Wastes)

9R

E. OTHER (specify)

9

(specify)

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)

Manufacutre of industrial chemicals, including sodium chlorate, ammonium perchlorate, potassium perchlorate, manganese dioxide, boron trichloride, boron tribromide, elemental boron.

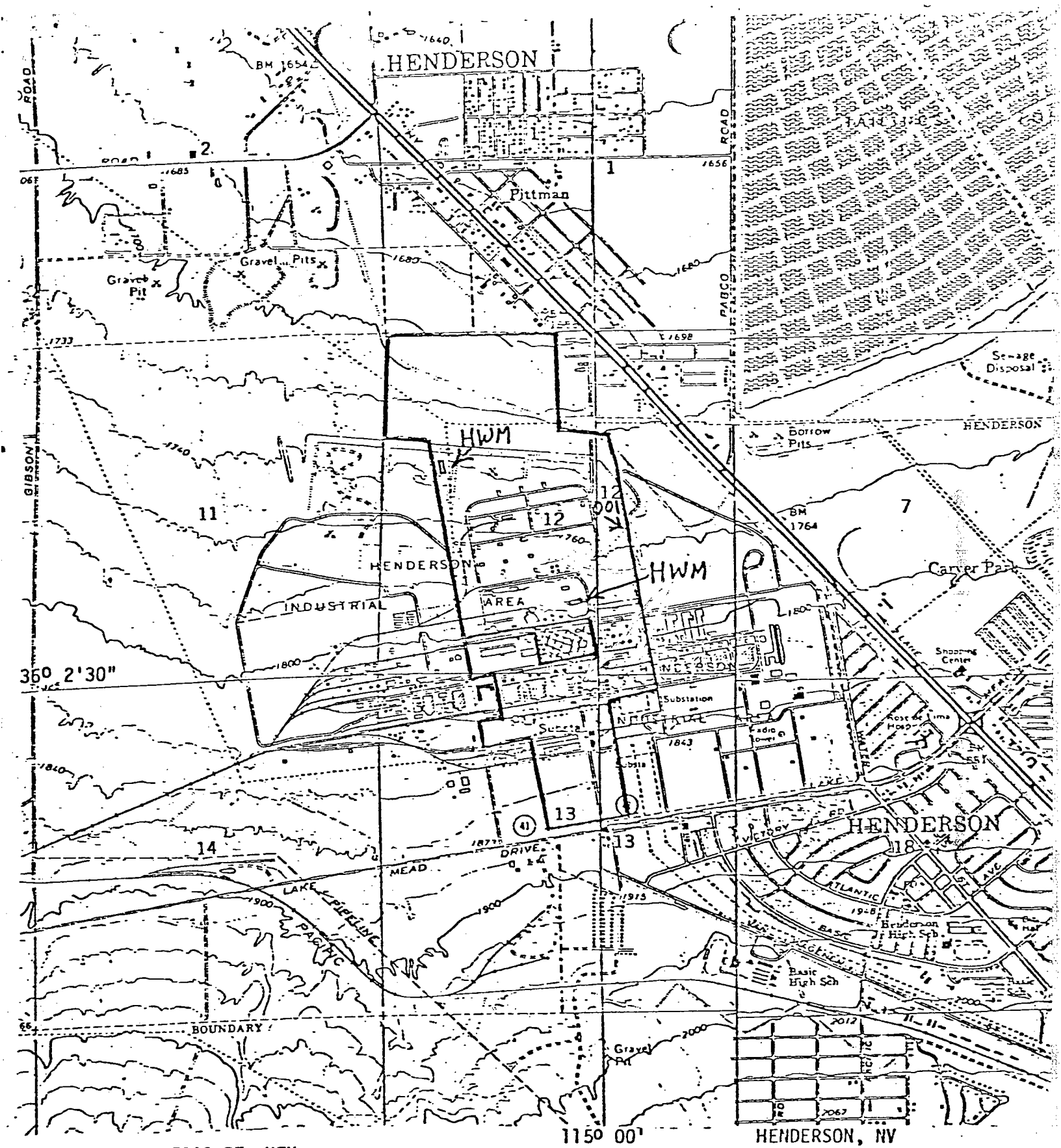
XIII. CERTIFICATION (see instructions)

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
J. R. Kelley, Vice President/ Gen. Mgr. Electrolytic Products	J R Kelley	7-13-87

COMMENTS FOR OFFICIAL USE ONLY

C


HENDERSON
Pittman
Gravel Pits
Gravel Pit
HWM
HWM
INDUSTRIAL AREA
HENDERSON
Borrow Pits
Sewage Disposal
Carver Park
Shopping Center
Substation
Basic High Sch
Gravel Pit
BOUNDARY
LAKE MEAD DRIVE
PABCO ROAD
GIBSON ROAD
36° 2'30"
115° 00'
LAS VEGAS SE, NEV.
HENDERSON, NV
N
SCALE 1:24.000
0
1 Mile

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

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	N	V	0	0	0	8	2	9	0	3	3	0	T/A	C
1	2											13	14	15

FOR OFFICIAL USE ONLY

APPLICATION APPROVED	DATE RECEIVED (yr., mo., & day)	COMMENTS
23	24 - 29	

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.)* (71)

C 8 (15) — FOR EXISTING FACILITIES, PROVIDE THE DATE *(yr., mo., & day)* OPERATION BEGAN OR THE DATE CONSTRUCTION COMMENCED *(use the boxes to the left)*

YR.	MO.	DAY
73 74	75 76	77 78

☐ 2. NEW FACILITY *(Complete item below.)* (71)

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

YR.	MO.	DAY
73 74	75 76	77 78

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

☒ 1. FACILITY HAS INTERIM STATUS (72)

☐ 2. FACILITY HAS A RCRA PERMIT (72)

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

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.

C DUP T/A C 1

LINE NUMBER	A. PROCESS CODE (from list above)	B. PROCESS DESIGN CAPACITY 1. AMOUNT (specify)	B. PROCESS DESIGN CAPACITY 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. PROCESS DESIGN CAPACITY 2. UNIT OF MEASURE (enter code)	FOR OFFICIAL USE ONLY
X-1	S02	600	G		5				
X-2	T03	20	E		6				
1	S01	275	G		7				
2	D80	44	A		8				
3	D83	2,660,000	G		9				
4					10				

III. PROCESSES *(continued)*

C. SPACE FOR ADDITIONAL PROCESS CODES OR 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*

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): W N V D 0 0 8 2 9 0 3 3 0 | T/A: | C: 1

FOR OFFICIAL USE: W | DUP | T/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	F001	25	P	S01	
2	F003	25	P	S01	
3	F005	25	P	S01	
4	D007	900	T	D80	
5	D007	3,000	T	D83	
6					
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					
26					

ontinued from the front.

D. DESCRIPTION OF HAZARDOUS WASTES *(continued)*

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

EPA I.D. NO. *(enter from page 1)*

													T/A	C
F	N	V	D	0	0	8	2	9	0	3	3	0		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)*
36 02 030	115 00 000

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.)*
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.

A. NAME *(print or type)*	B. SIGNATURE	C. DATE SIGNED
J. R. Kelley, Vice President Electrolytic Division	J R Kelley	7-12-82

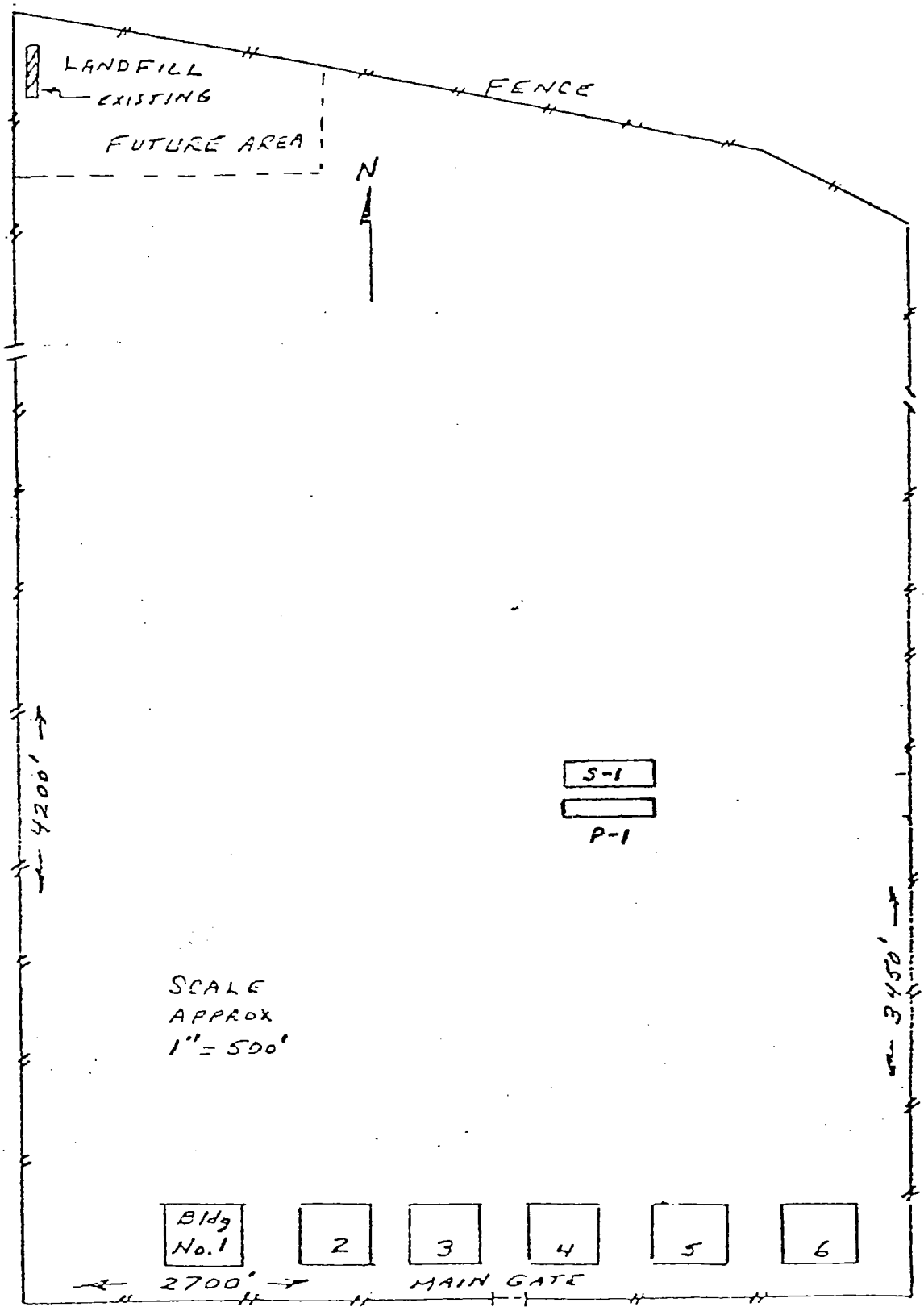
X. OPERATOR CERTIFICATION

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

Continued from page 4.

V. FACILITY DRAWING *(see page 4)*



DESERT RESEARCH INSTITUTE
UNIVERSITY OF NEVADA SYSTEM

Kerr-McGee Pond Sampling Program

By

E. N. Cooper
B. Elliott
R. H. French

May, 1982

WATER RESOURCES CENTER

Table 1: Summary of Laboratory Analyses

Sample Site	Sample Type	As mg/ℓ	Se mg/ℓ	Ba mg/ℓ	Cd mg/ℓ	Total Cr mg/ℓ	Cr^{+6} mg/ℓ	Ag mg/ℓ	Pb mg/ℓ	Hg mg/ℓ
AP1	Liquor	0.05<	0.04	0.8	0.05<	0.30	0.2<	0.32	0.5<	0.005<
	Sludge	0.05<	0.04<	0.5<	0.05<	0.30	0.2<	0.05<	0.5<	0.005<
AP2	Liquor	0.05<	0.06	0.8	0.08	0.48	0.2<	0.63	0.5<	0.005<
	Sludge	0.05<	0.04<	0.5<	0.05<	0.60	0.2<	0.05<	0.5<	0.005<
AP4	Liquor	0.05<	0.04<	0.6	0.05<	0.20	0.2<	0.15	0.5<	0.005<
	Sludge	0.05<	0.04<	0.6	0.05<	0.20	0.2<	0.05<	0.5<	0.005<

areas are spaced for elite type, i.e., 12 characters/inch).

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 N V D 0 0 8 2 9 0 3 3 0 (D)

LABEL ITEMS

I. EPA I.D. NUMBER

III. FACILITY NAME

V. FACILITY MAILING ADDRESS

VI. FACILITY LOCATION

PLEASE PLACE LABEL IN THIS SPACE

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.

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	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)		X	
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)		X	
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)	X		
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)		X	
E. Does or will this facility treat, store, or dispose of hazardous wastes? (FORM 3)	X		
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)		X	
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)		X	
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)		X	
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)		X	
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)		X	

III. NAME OF FACILITY

1 SKIP: K E R R - M C G E E C H E M I C A L C O R P O R A T I O N

IV. FACILITY CONTACT

A. NAME & TITLE *(last, first, & title)*	B. PHONE *(area code & no.)*
2 A R M S T R O N G , , C . B . , P L A N T M A N A G E R	7 0 2 | 5 6 5 | 8 9 0 1

V. FACILITY MAILING ADDRESS

A. STREET OR P.O. BOX

3 P . O . B O X 5 5

B. CITY OR TOWN	C. STATE	D. ZIP CODE
4 H E N D E R S O N	N V	8 9 0 1 5

VI. FACILITY LOCATION

A. STREET, ROUTE NO. OR OTHER SPECIFIC IDENTIFIER

5 L A K E M E A D D R I V E

B. COUNTY NAME

C L A R K

C. CITY OR TOWN	D. STATE	E. ZIP CODE	F. COUNTY CODE *(if known)*
6 H E N D E R S O N	N V	8 9 0 1 5	

ED FROM THE FRONT

CODES (4-digit, in order of priority)

A. FIRST: 2819 (specify) SEE ITEM XII BELOW

B. SECOND: 7 (specify)

C. THIRD: (specify)

D. FOURTH: 7 (specify)

III. OPERATOR INFORMATION

A. NAME: KERR-MCGEE CHEMICAL CORPORATION

B. Is the name listed in Item VIII-A also the owner? XX 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 702 565 8901

E. STREET OR P.O. BOX: P.O. BOX 55

F. CITY OR TOWN: HENDERSON

G. STATE: NV

H. ZIP CODE: 89015

IX. INDIAN LAND

Is the facility located on Indian lands? ☐ YES ☒ NO

X. EXISTING ENVIRONMENTAL PERMITS

A. NPDES (Discharges to Surface Water): 9 N NV0000078

D. PSD (Air Emissions from Proposed Sources): 9 P

B. UIC (Underground Injection of Fluids): 9 U

E. OTHER (specify): 9 AIR LOCAL (specify) 22 Permits Issued by APCD, Clark County Health Dist.

C. RCRA (Hazardous Wastes): 9 R

E. OTHER (specify): 9 (specify)

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)

Manufacutre of industrial chemicals, including sodium chlorate, ammonium perchlorate, potassium perchlorate, manganese dioxide, boron trichloride, boron tribromide, elemental boron.

XIII. CERTIFICATION (see Instructions)

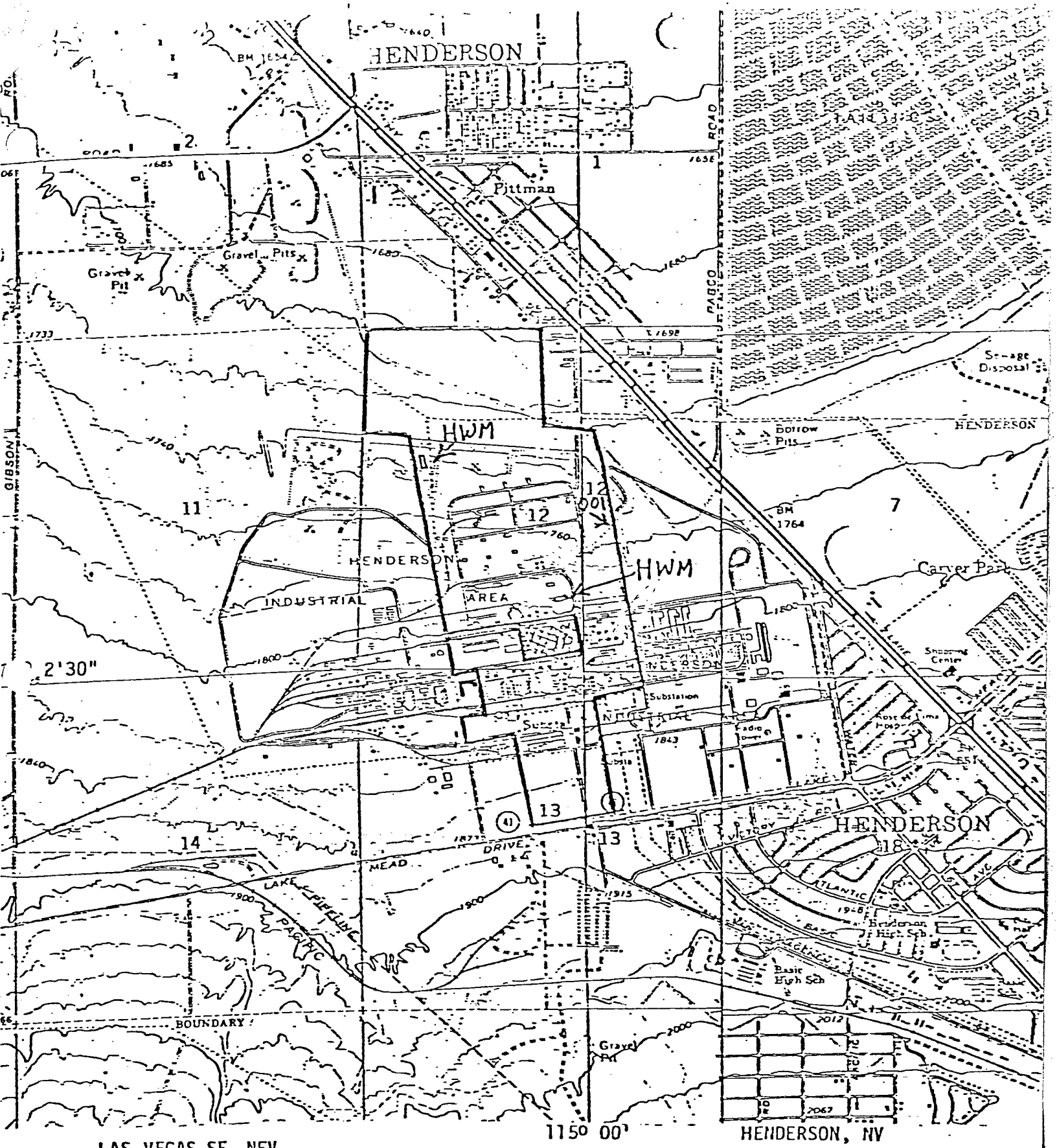
I certify under penalty of law that I have personally examined and am familiar with the information submitted in this application and all attachments and that, based on my inquiry of those persons immediately responsible for obtaining the information contained in the application, I believe that the information 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): J. R. Kelley, Vice President/ Gen. Mgr. Electrolytic Products

B. SIGNATURE: J R Kelley

C. DATE SIGNED: 7-13-81

COMMENTS FOR OFFICIAL USE ONLY



LAS VEGAS SE, NEV.

HENDERSON, NV

N

SCALE 1:24.000

0 1 Mile

(fill-in areas are spaced for elite type, i.e., 12 characters/inch). Form Approved OMB No. 158-S80004

FORM 3 RCRA

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 NV0 0 0 8 2 9 0 3 3 0 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)*

[ ] 1. EXISTING FACILITY *(See instructions for definition of "existing" 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 8 — YR. | MO. | DAY

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

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)*

[X] 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
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.

C DUP T/A C 1

LINE NUMBER	A. PROCESS CODE (from list above)	B. PROCESS DESIGN CAPACITY 1. AMOUNT (specify)	B. PROCESS DESIGN CAPACITY 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. PROCESS DESIGN CAPACITY 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	S 0 1	275	G		7				
2	D 8 0	44	A		8				
3	D 8 3	2,660,000	G		9				
4					10				

V. 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
POUNDS	P
TONS	T

METRIC UNIT OF MEASURE	CODE
KILOGRAMS	K
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

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)

1	2	3	4	5	6	7	8	9	10	11	12	13	T/A 14	C 15
W	N	V	D	0	0	8	2	9	0	3	3	0		1

FOR OFFICIAL USE ONLY

1	2	13	T/A 14	C 15	23 - 26
W	DUP		2		DUP

IV. DESCRIPTION OF HAZARDOUS WASTES (continued)

LINE NO.	A. EPA HAZARD. WASTE NO. (enter code) 23 - 26	B. ESTIMATED ANNUAL QUANTITY OF WASTE 27 - 35	C. UNIT OF MEASURE (enter code) 36	D. PROCESSES 1. PROCESS CODES (enter) 27 - 29 / 27 - 29 / 27 - 29 / 27 - 29	2. PROCESS DESCRIPTION (if a code is not entered in D(1))
1	F001	25	P	S01	
2	F003	25	P	S01	
3	F005	25	P	S01	
4	D007	900	T	D80	
5	D007	3,000	T	D83	
6					
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					
26					

V. DESCRIPTION OF HAZARDOUS WASTES (continued)

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
N	V	D	0	0	8	2	9	0	3	3	0			6

VI. 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)
36 02 30	115 00 00

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.)

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

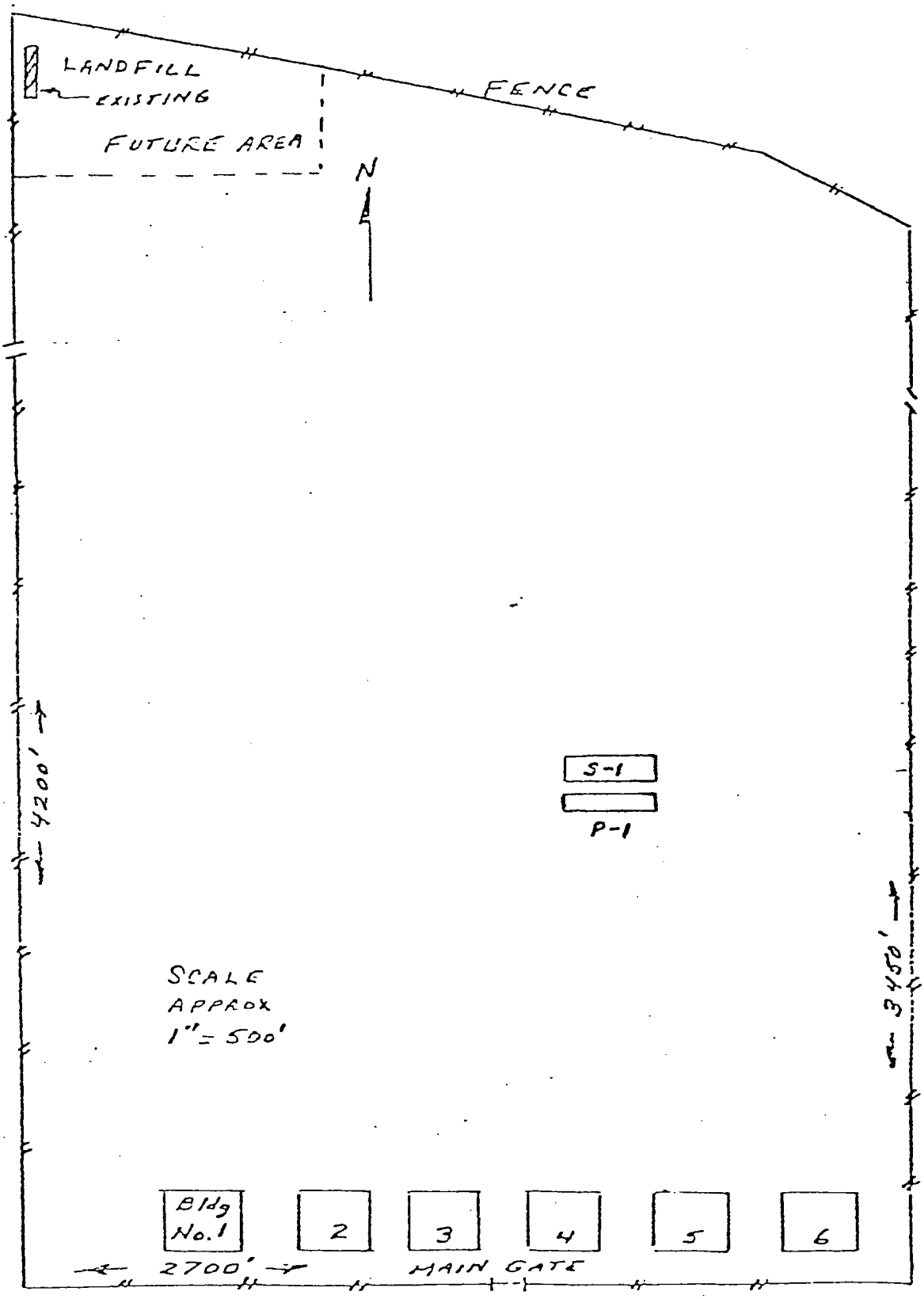
A. NAME (print or type)	B. SIGNATURE	C. DATE SIGNED
J. R. Kelley, Vice President Electrolytic Division	J R Kelley	7-12-82

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

V. FACILITY DRAWING (see page 4)



kmcc

STATE OF NEVADA
DEPARTMENT OF CONSERVATION AND NATURAL RESOURCES
DIVISION OF ENVIRONMENTAL PROTECTION
CAPITOL COMPLEX
CARSON CITY, NEVADA 89710

TELEPHONE (702) 885-4670

May 5, 1982

Mr. George Stewart
President
Basic Management, Inc.
P.O. Box 2065
Henderson, Nevada 89015

Dear Mr. Stewart:

The submittals from the industries located at the BMI Complex required for Items 1, 2, and 3 of the Division's Order dated February 25, 1982, have been received and reviewed. In most cases, the submittals were adequate, but have raised some questions which must be answered in order to fully complete Item 3. The additional information needed is indicated below for the specific industry. This information shall be submitted by May 21, 1982.

Genstar Cement and Lime Company

The Genstar response was complete.

Jones Chemicals, Inc.

Jones reported that an evaporation tank is used for the disposal of wash down water from the cleaning of drums, bottles, and delivery trucks. Jones shall submit an analysis of the chemical constituents of the waste wash water, a description of the tank (construction, buried, above ground, etc.), the leak detection system, and how the waste wash water is transported to the tank.

Kerr-McGee Chemical Corporation

Kerr-McGee responded to the Order assuming the ground water contamination of the area only regarded organic chemicals. Kerr-McGee shall supplement their response to include information on inorganic wastes; particularly those containing heavy metals.

Sampling and analyses conducted by the State have reported cyanide, arsenic, chromium, selenium, and antimony. The levels of these chemicals found in the ground water and surface water significantly exceed the drinking water standards.

Kerr-McGee shall include in their response:

(1) Whether the above named chemicals or other hazardous inorganic chemicals are used in their processes;

(2) Whether their wastes ever contained those chemicals, where the wastes were disposed, and how much has been disposed; and

(3) At what rate those chemicals are being generated presently and where the wastes are being disposed.

Montrose Chemical Corporation of California

The Montrose response is being handled through a separate order to Stauffer.

State Industries, Inc.

State Industries submitted a laboratory analysis of their ponded waste. A check with the laboratory conducting the analysis resulted in a determination that the signing chemist could not verify the analysis. A recognized laboratory should be used to analyze the waste impoundment samples.

State Industries reported using cyanide from June 1970 to October 1971. How much was wasted and where was it disposed?

The BMI acid drain was reportedly used. Describe State Industries' access to the acid drain and show its location on a scaled map.

Was the BMI Dump used for materials other than trash; and what was disposed and how much?

What is the present waste generation rate?

Stauffer Chemical Company

The Stauffer response is being handled through a separate order.

Titanium Metals Corporation of America (TIMET)

The TIMET response was complete.

As was agreed during the March 11, 1982, meeting, Items 4 and 5 of the Order were to be answered within thirty (30) days after the Division notified the industries to respond. The industries are hereby notified to respond to Item 5 only at this time and to submit their reports by June 7, 1982.

Item 4 of the Order is not requested at this time. The Division is proposing to modify this Item, if warranted, by new data from monitoring wells which have been constructed in the area by the Bureau of Reclamation, TIMET, Kerr-McGee, and Stauffer. Until the Division completes its review of this data, Item 4 is hereby not required of the industries.

If you have any questions, please contact me.

Sincerely,

Verne Rosse

H. LaVerne Rosse, P.E.
Program Director
Waste Management

de

cc: L. H. Dodgion, Administrator
Division of Environmental Protection
Genstar Cement and Lime Company
Jones Chemicals, Inc.
Kerr-McGee Chemical Corporation
Montrose Chemical Corporation of California
State Industries, Inc.
Stauffer Chemical Company
Titanium Metals Corporation of America (TIMET)

DESERT RESEARCH INSTITUTE
UNIVERSITY OF NEVADA SYSTEM

Kerr-McGee Pond Sampling Program

By

E. N. Cooper
B. Elliott
R. H. French

May, 1982

WATER RESOURCES CENTER

Table 1: Summary of Laboratory Analyses

Sample Site	Sample Type	As mg/ℓ	Se mg/ℓ	Ba mg/ℓ	Cd mg/ℓ	Total Cr mg/ℓ	Cr^{+6} mg/ℓ	Ag mg/ℓ	Pb mg/ℓ	Hg mg/ℓ
AP1	Liquor	0.05<	0.04	0.8	0.05<	0.30	0.2<	0.32	0.5<	0.005<
	Sludge	0.05<	0.04<	0.5<	0.05<	0.30	0.2<	0.05<	0.5<	0.005<
AP2	Liquor	0.05<	0.06	0.8	0.08	0.48	0.2<	0.63	0.5<	0.005<
	Sludge	0.05<	0.04<	0.5<	0.05<	0.60	0.2<	0.05<	0.5<	0.005<
AP4	Liquor	0.05<	0.04<	0.6	0.05<	0.20	0.2<	0.15	0.5<	0.005<
	Sludge	0.05<	0.04<	0.6	0.05<	0.20	0.2<	0.05<	0.5<	0.005<

WATER ANALYSIS LABORATORY — REPORT DATE: 22-MAR-83
DEPARTMENT OF GEARTH SCIENCES — FILE NAME: 5008K6.TBL

LAB # / DATE	SAMPLE / POINT	CR MG/L	AS MG/L	BA MG/L	CD MG/L	PB MG/L	HG MG/L
5608 8-MAR-83	POND SOLID SAMP. A	2.5	<.04	<.5	.74	<.5	<.002
5609 8-MAR-83	POND SOLID SAMP. B	2.4	<.04	<.5	<.05	<.5	<.002

KERR-McGEE CHEMICAL CORPORATION
POST OFFICE BOX 55 • HENDERSON, NEVADA 89015

March 31, 1982

RECEIVED
APR 1 - 1982
ENVIRONMENTAL
PROTECTION

CERTIFIED MAIL NO. P26 0233539

Mr. L. H. Dodgion, Administrator
Division of Environmental Protection
Capitol Complex
Carson City, NV 89710

Dear Mr. Dodgion:

Your *Order* of February 25, 1982, as clarified and modified by Messrs. Tebeau and Rosse March 11, 1982, at a meeting in the Basic Management, Inc., conference room with representatives of companies operating facilities within the BMI Complex, requires coordinated responses from the various entities addressed by the *Order* inasmuch as the total information requested is not in the possession of each of the entities. Accordingly, Kerr-McGee Chemical Corporation has, as requested, assembled and transmits herewith the pertinent information of which it has knowledge and possession, and comments as follows with respect to the *Order* as clarified and modified:

Item 1.

Basic Management, Inc. (BMI) is in possession of an original drawing (print) which shows the design of the french drains which are located at the northern toe of the "Trade Effluent" impoundments dike. A copy of the drawing and pertinent comments are being forwarded as part of BMI's response.

Item 2

Closure of the BMI dump was effected in February, 1980 by Basic Management, Inc., at the request of the four owner companies. The requested information is included in BMI's response.

Item 3(a)

Kerr-McGee Chemical Corporation is not in possession of design data and dates of use of the various trenches within the BMI disposal area. Basic Management, Inc., does have information

relating to this matter which is being included in its response. Information on the one solid waste disposal trench located on KMCC property and solid waste disposal practices carried out in the areas of KMCC property is included in our response. Additionally, we include information concerning KMCC's waste disposal in the BMI trenches.

Item 3(b)

Comments about KMCC's (and predecessor companies') usage of the identified ditch is included in our response.

Item 3(c)

The general area of the closed BMI dump set aside for KMCC's use is identified on a drawing being submitted as part of Basic Management, Inc.'s response. Our best information on quantity and quality of wastes disposed of in that area is included in our response.

Item 3(d)

Detailed information concerning the BMI ponds which received KMCC effluents is not known to us inasmuch as pond usage was managed by Basic Management, Inc. However, we include information concerning quality, quantity, and discharge routes in our response.

In accordance with the clarification and modification of your *Order* by Messrs. Tebeau and Rosse on March 11, 1982, we were not at this time to develop the information described in Items 4 and 5 of the written *Order*. Instead, we were instructed to await your study and evaluation of the data and information submitted herewith, along with the submissions of the other responding companies, and the determination by you as to what further action, if any, is required, specifically as it relates to Kerr McGee Chemical Corporation.

Within 30 days of receipt of written notification by you of the action requested as it specifically relates to Kerr-McGee Chemical Corporation, we shall submit our required response.

Very truly yours,

KERR-McGEE CHEMICAL CORPORATION

C. B. Armstrong

C. B. Armstrong
Plant Manager

CBA:jc
Attachments

By 1975, in accordance with the NPDES Permit, and the EPA-KMCC agreement letter dated July 21, 1972, these surface discharges had been completely eliminated. All waste process liquors were thereafter contained in impervious lined ponds on Kerr-McGee property. Subsequently, only once-through, non-contact cooling water was discharged to the ditch under conditions of the NPDES Permit.

For many years prior to 1975, insoluble residues from the processing of manganese ores were sluiced to surface impoundment areas on the plantsite. The sluicing water either evaporated or percolated into the soil leaving the solids behind. This water could have contained some manganese sulfate and magnesium sulfate with minor quantities of calcium sulfate and other relatively insoluble materials.

In February, 1975 as required by the July 21, 1972 KMCC-EPA agreement, the major sodium chlorate and manganese dioxide filtering operations were converted to semi-dry, solid-cake discharges. The ore tailings residues from the manganese dioxide process continued to be accumulated on KMCC property. These were determined to be nonhazardous, according to RCRA EP tests and criteria (Item 5, attached) and therefore do not create a source of groundwater contamination. Filter cake from the sodium chlorate operations, averaging 1-1/2 to 2 tons per operating day, has been placed in the BMI dump or in the KMCC disposal trench since February, 1975. This waste contains minor (~5%) quantities of soluble chloride and chlorate salts, and approximately 0.05% chromium. Closure and stabilization of the BMI dump area in 1980 assures against leaching and underground percolation of these materials by rainfall. The existing disposal trench on KMCC property is currently being used instead of the BMI dump for this purpose and was reported in RCRA Permit A application form.

Prior to 1970, housekeeping wastes, such as paper, cartons, bags, drums, and plastics, were periodically burned at their disposal site in the BMI dump. Thereafter they were buried by landfill procedures in the BMI dump until it was closed. Since 1980, these wastes have been hauled by commercial waste handlers to a county landfill.

Item 3(a) of Order - Trenches

Occasionally, KMCC utilized trenches on BMI property to dispose of housekeeping wastes as described above, particularly to prevent dispersal by the wind. In February, 1980 when the

BMI dump was closed, KMCC constructed a similar trench on KM property for the disposal of sodium chlorate filter cake. This trench, identified and located on the *Notification of Hazardous Waste Activity* (RCRA) form is approximately 400 feet long, 32 feet wide, and a maximum of 20 feet deep. The filter cake is predominantly diatomaceous earth with small amounts of carbon, calcium sulfate, calcium carbonate, and soluble salts previously described.

Item 3(b) of Order - Liquid Wastes

By letter dated May 2, 1980 to Mr. Eller, Region IX, EPA, KMCC provided detailed information on liquid wastes which originated since 1945. As previously described, those wastes were disposed of in the BMI pond area. Since 1971, none has gone directly to the lower ponds by way of the identified ditch. The data submitted to the Corps of Engineers (Item 1) also describe the quality and quantity of this effluent as of 1970-71.

Item 3(c) of Order - Waste to BMI Dumps

The area of the BMI dump utilized by KMCC is identified on a drawing submitted by Basic Management, Inc., as part of its response. Chlorate filter cake and small quantities of carbon powder from our boron products operations were deposited in that area from 1975 to February, 1980. No other process wastes were sent to that location. KMCC utilized the BMI dump primarily to dispose of housekeeping wastes, such as papers, containers, pallets, etc. Since February, 1980, these wastes have been hauled to a Clark County sanitary landfill by Silver State Disposal Service, Inc. Approximately 15 yards per day of loose trash is handled in this manner.

Item 3(d) of Order - BMI Pond Usage

Until 1975, KMCC discharged liquid process wastes and sluiced filter cake via the siphon route to the BMI upper ponds in the amounts and qualities previously described. These waste streams became commingled in the ditch with streams from other companies within the BMI Complex. We have no knowledge or records concerning the exact locations and time periods of final disposal. Basic Management, Inc., in its response will provide available information on pond usage. We believe that very little KMCC waste went to the lower BMI ponds.

Conclusions

To the best of our knowledge, the KMCC manufacturing facility has never discharged, leaked, or otherwise released any significant quantities of organic chemicals which could have entered underground waters. Until 1975, aqueous waste streams containing soluble inorganic salts, such as chlorides, chlorates, perchlorates, and sulfates, were discharged via surface ditches and ponds. Since 1975, following completion of KMCC's total containment "zero discharge" waste management system, these soluble salts have been contained in impervious lined impoundments for concentration by solar evaporation and recycle to the plant processes. Only once-through cooling water has been discharged to the ditch under the conditions of our NPDES Permit.

Chromium is the only RCRA hazardous waste constituent that was routinely discharged prior to 1975. The various attached documents, particularly the information supplied with our NPDES Permit application, identify chromium as a low level constituent in the waste water. We have attached the analysis of waters from Lake Mead and Las Vegas Wash that show no significant presence of chromium. Since discharges containing chromium ceased in 1975, any remaining effect of chromium should be indiscernible in those waters.

The insoluble residues from manganese ores used to produce manganese dioxide are nonhazardous as determined by RCRA EP toxicity tests (see data in Item 5). Therefore, these wastes are not a source of groundwater contamination by the Kerr-McGee facility.

Prepared by:

C. B. Armstrong, Plant Manager
KERR-McGEE CHEMICAL CORPORATION

Response to Department of Environmental Protection Order
of February 28, 1982
(as Modified March 11, 1982 by Messrs. Tebeau and Rosse)

KERR-McGEE CHEMICAL CORPORATION

General Comments

The chemical manufacturing facilities presently owned and operated by Kerr-McGee Chemical Corporation (KMCC) and formerly by its predecessor companies, American Potash & Chemical Corporation and Western Electrochemical Company, produce several inorganic chemical products from natural ores and other inorganic chemical raw materials. These products and their respective raw materials are identified in the attached documents, particularly the May 2, 1980 letter to Mr. Eller, Region IX, EPA. Only small and incidental quantities of organic chemicals, such as paints, cleaning solvents, lubricants, petroleum fuels, flocculating agents, and resins, have been utilized in these operations. There have been no known spills, leakages or releases of significant amounts of any organic substances during the life of the Kerr-McGee and predecessor operations. Accordingly, there has been no reason or opportunity for surface or groundwaters to be adversely impacted by organic chemicals from Kerr-McGee chemical Corporation facilities.

The manufacture of chlorate and perchlorate products has generated aqueous waste streams containing soluble salts, such as sodium chlorate, sodium chloride, potassium chloride, and ammonium perchlorate, along with less soluble salts, such as calcium carbonate and calcium sulfate and insoluble materials, such as carbon and diatomaceous earth filter aid.

From the inception of these operations in 1945 until 1975, waste streams containing salts and filter cake sluicings were discharged via open surface ditches from the plant to the BMI pond system. Until 1975, the main route for this discharge was the east/west drainage ditch located just north of our ammonium perchlorate facility (June, 1971 application for discharge permit to Corps of Engineers), thence to the underground "siphon," and then to the upper BMI ponds located east of the Boulder Highway. We understand that from time to time those discharges were routed to the BMI lower ponds via the surface ditch mentioned in paragraph 3(b) of the *Order*. It is believed, however, that such discharges from the KMCC plant were small and infrequent. The main drainage ditch (through the siphon) also carried aqueous waste streams from neighborning BMI plants, storm drains, cleanup and housekeeping washings, boiler blowdown, cooling tower blowdown, once-through cooling water, etc. All these streams were commingled by the time they reached the siphon.

ATTACHMENTS

1. Discharge Permit Application, Corps of Engineers, NV075-OYQ-2-000254 - Original Application June 11, 1971.

   a. Supplemental Application, October 5, 1971

   b. Supplemental Application, March 6, 1972

   c. Supplemental Application, March 9, 1972

2. Letter, R. L. O'Connell, EPA Region IX, to J. J. Kelley, KMCC, July 21, 1972.

3. Permit to Discharge - No. NV0000078, August 26, 1973.

4. NPDES Application (Renewal), August 2, 1974.

5. IOC, R. E. Harris/A. L. Andersen, Analysis of Eimco (MnO_2) Tails, May 17, 1979.

6. a. Correspondence, Re: Pond Utilization, Nevada DEP (Marvin Tebeau) and KMCC (C. B. Armstrong), March 23, 1979.

   b. Corresponsence, Re: Pond Utilization, KMCC (C. B. Armstrong) and Nevada DEP (Marvin Tebeau), March 22, 1979.

7. Eckhardt Committee Questionnaire, June 6, 1979.

8. Notification of Hazardous Waste Activity (RCRA) August 12, 1980.

9. Application for a Hazardous Waste Permit, Forms 1 and 3, November 14, 1980.

10. a. Correspondence Re: Waste Disposal Practices, EPA, Region IX (Clyde Eller) and KMCC (C. B. Armstrong), March 25, 1980.

    b. Corresponsence Re: Waste Disposal Practices, KMCC (C. B. Armstrong) and EPA, Region IX (Clyde Eller), May 2, 1980

    c. Corresponsence, Re: Waste Disposal Practices, EPA, Region IX (Clyde Eller) and KMCC (C. B. Armstrong), June 17, 1980.

    d. Corresponsence, Re: Waste Disposal Practices, KMCC (C. B. Armstrong) and EPA, Region IX (Clyde Eller), July 18, 1980

11. a. Lake Mead and Las Vegas Wash Water Analysis, Southern Nevada System, 1972-1974.

    b. Lake Mead and Las Vegas Wash Water Analysis, Southern Nevada System, Sample No. 20-9, March 9, 1981.

    c. Lake Mead and Las Vegas Wash Water Analysis, Southern Nevada System, Sample No. 19-34, March 9, 1981.

    d. Lake Mead and Las Vegas Wash Water Analysis, Southern Nevada System, May 11, 1981

KERR-McGEE CORPORATION
INTERNAL CORRESPONDENCE

TO Distribution DATE November 18, 1981

FROM T. L. Bentley/S. M. Logan SUBJECT RCRA Groundwater Quality Assessment Outline

A written outline for a groundwater quality assessment program is required by RCRA for hazardous waste surface impoundments, landfills and landfarms by November 19, 1981 (45 FR 33241). This outline would be used if a groundwater quality assessment is ever required.

Attached is an outline to be kept on file at each of your facilities.

T. L. Bentley
Environmental Affairs

S. M. Logan
Engineering Services

TLB/SML/dp

Distribution

B. J. Montgomery/S. Livingston
R. A. Clark
P. C. Gaskin (6)
R. A. Napier
M. W. Merrill/K. J. Cox
J. E. Warn/W. L. Hoelscher
S. Pia

cc: G. E. Adam
C. B. Armstrong/R. F. Wohletz
E. A. Anglada
W. J. Broussard
S. W. Foster/H. A. Perkins
W. B. Hayes
B. Hoffman
T. L. Hurst
J. R. Kelley
D. F. Schiesz
M. Moore
D. R. Oakes
D. G. Bond
J. H. Stallings
K. Brothers
F. W. McCann
L. H. Albright
F. D. Lyons
W. J. Ganus

CORPORATE

GROUNDWATER QUALITY ASSESSMENT PROGRAM OUTLINE

I. Evaluate Actual and Potential Migration of Hazardous Waste (HW) from the Existing HW Management Area.

A. Evaluate physical and chemical characteristics of groundwater from monitoring well data.

B. Identify and characterize alternate sources of HW that may influence the site.

1. Existing and Historical on-site
2. Existing and Historical off-site

C. Evaluate construction details, operating procedures and operating history of the HW facility.

D. Perform a water balance (if possible) around the HW management area.

E. Examine water levels adjacent to the HW facility.

II. Define Hydrogeologic Environment

A. Potentially impacted aquifer(s):

1. Depth
2. Thickness
3. Areal Extent
   a. local recharge and discharge points
   b. determine groundwater usage of aquifer(s)

B. Estimate aquifer parameters:

1. Transmissivity
2. Storage coefficient
3. Hydraulic conductivity
4. Effective porosity

C. Estimate local and regional directions and average velocities of groundwater flow:

1. Develop potentiometric maps of aquifer systems using water levels from current monitoring points.
2. Develop depth-to-water maps.

III. Define an Expanded Monitoring Well System

A. Review historical groundwater data (if any).

B. Establish locations and depths for new monitoring wells to delineate boundaries of impacted areas.

C. Sample and analyze monitoring wells for the HW constituents at the facility.

1. Determine parameters
2. Determine sampling and analysis procedures
3. Determine frequency of sampling

IV. Evaluate Impact from Existing HW Management Area

A. Evaluate physical and chemical characteristics of groundwater and determine concentrations of HW constituents.

B. Estimate rate of HW migration.

C. Estimate extent of HW migration.

D. Interpret analytical results in terms of water quality criteria and other applicable regulations.

E. Assess significance of analytical data in terms of compliance requirements.

V. Prepare Schedule of Implementation

A. Submit assessment plan of EPA or to the State if it has obtained RCRA interim authorization.

B. Install additional monitoring wells.

C. Initiate sampling and analysis.

D. Evaluate analytical and physical data.

E. Install additional wells, if necessary, and monitor.

F. Estimate area impacted from existing HW Management Area.

G. Submit assessment report to EPA or to the State if it has obtained RCRA interim authorization.

GROUNDWATER SAMPLING AND ANALYSIS PLAN

Groundwater System

The groundwater monitoring system consists of eight wells. Four wells each are located around the pond (P-1) and landfill with one well hydraulically upgradient and three wells downgradient of each operational unit. The following sampling and analysis plan is based on the attached corporate outline by T. Bentley, et al, April 1, 1981.

Sample Collection

Groundwater samples shall be collected of all wells on a quarterly basis for one year and analyzed for parameters listed below. After the first year, wells around active and closed waste management units shall be sampled semi-annually and analyzed for groundwater quality or indicator parameters as is appropriate. When possible, samples shall be collected by pumping. At least one case volume shall be removed if samples are collected by bailing. At the time of sampling, water elevations shall be determined.

Sample Preservation and Shipment

Samples for pesticides, herbicides, and phenol shall be collected at the well and preserved in glass bottles. Preservation for pesticides and herbicides is cooling to 4°C and for phenols 1 g $CuSO_4$ and adjusting pH to below 2 with phosphoric acid using methyl red as an indicator and storage at 4°C.

Samples for the remaining parameters listed in 40 CFR 265.92, b-1, -3, shall be taken from a five-gallon sample collected from each well. The following parameter shall be preserved as indicated below:

Parameter	Sample Container	Preservation
Metals, As Radiological	Plastic (P) or Glass (G)	Acidify to pH <2 with HNO_3
F, Cl, SO_4, NO_3(N), Coliform, Specific Conductance	"	Cool to 4°C
Total Organic Carbon, Total Organic Halogen	"	Acidify to pH <2 with H_2SO_4 or HCl

Chain of custody shall be indicated by a form specifically to accompany samples and/or some other equivalent documents which indicate that samples arrived at laboratory undisturbed and in good condition, e.g., shipping documents or statements in laboratory report. Samples shall be packed for shipment in suitable containers (e.g., in chests to preserve temperature) and sent to a commercial laboratory for analysis.

Sample Analysis

The laboratory shall indicate that all analyses were performed using methods in the EPA publication, *Methods for Chemical Analysis of Water and Wastes*, a recognized equivalent, or shall produce such evidence upon request. Analysis of pH and specific conductance shall be done on site using suitable standards to calibrate instruments. For specific conductance, measurement shall be taken at 25°C.

Several parameters listed in 40 CFR 265.92 must be determined in quadruplicate on upgradient well(s). They are specific conductance, pH, total organic carbon, and total organic halogen.

The results of analyses shall be summarized in a report to the Region IX Administrator with a copy sent to the Nevada State Department of Environmental Protection, not later than 15 days after receipt of complete laboratory report.

EXPLANATION OF GEOLOGICAL AND WELL CONSTRUCTION DATA

KERR-McGEE HENDERSON FACILITY

RCRA INTERIM STATUS GROUNDWATER MONITORING PROGRAM

Enclosed are:

1) Map showing RCRA Interim Status Monitor Well location.

2) Well construction diagrams for RCRA Interim Status Groundwater Monitoring Wells M-1, M-2, M-5, M-6, M-7, M-8, and M-9. (Note: No construction diagram is shown for Well H-28; however, well construction details are enclosed.)

3) Tables showing detailed lithological description of Wells M-5, M-6, M-7, M-8, M-9, and H-28. (Note: The detailed lithological descriptions for Wells M-1 and M-2 are shown on the well construction diagrams.)

4) Well construction and completion tables for Wells M-5, M-6, M-7, M-8, and M-9. (Note: The detailed well construction and completion tables for Wells M-1 and M-2 were not made. Details of construction are shown on the well construction diagrams.)

LOCATION OF RCRA GROUND-WATER MONITOR WELLS

Kerr-McGee Chemical Corporation's Henderson Facility

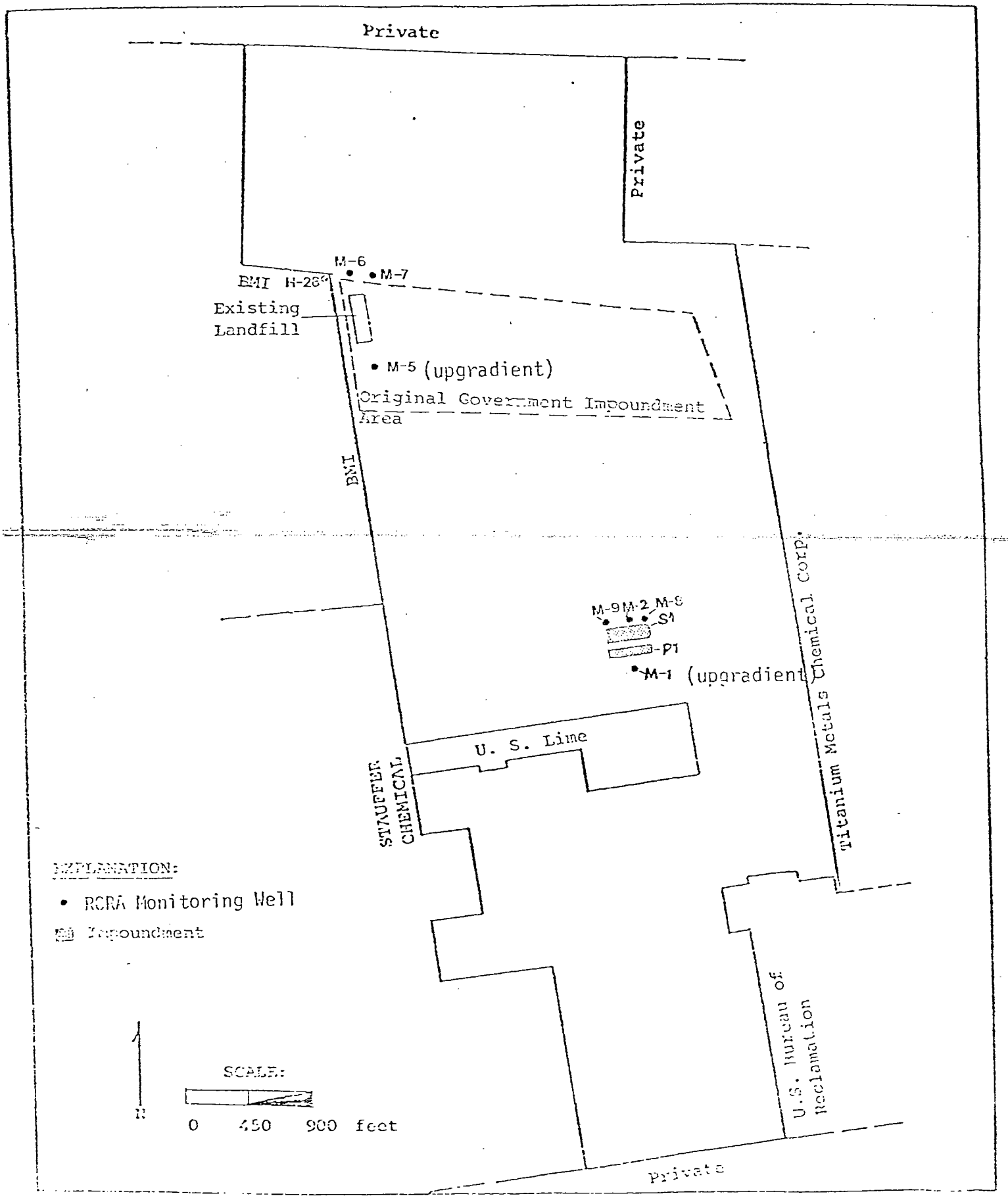
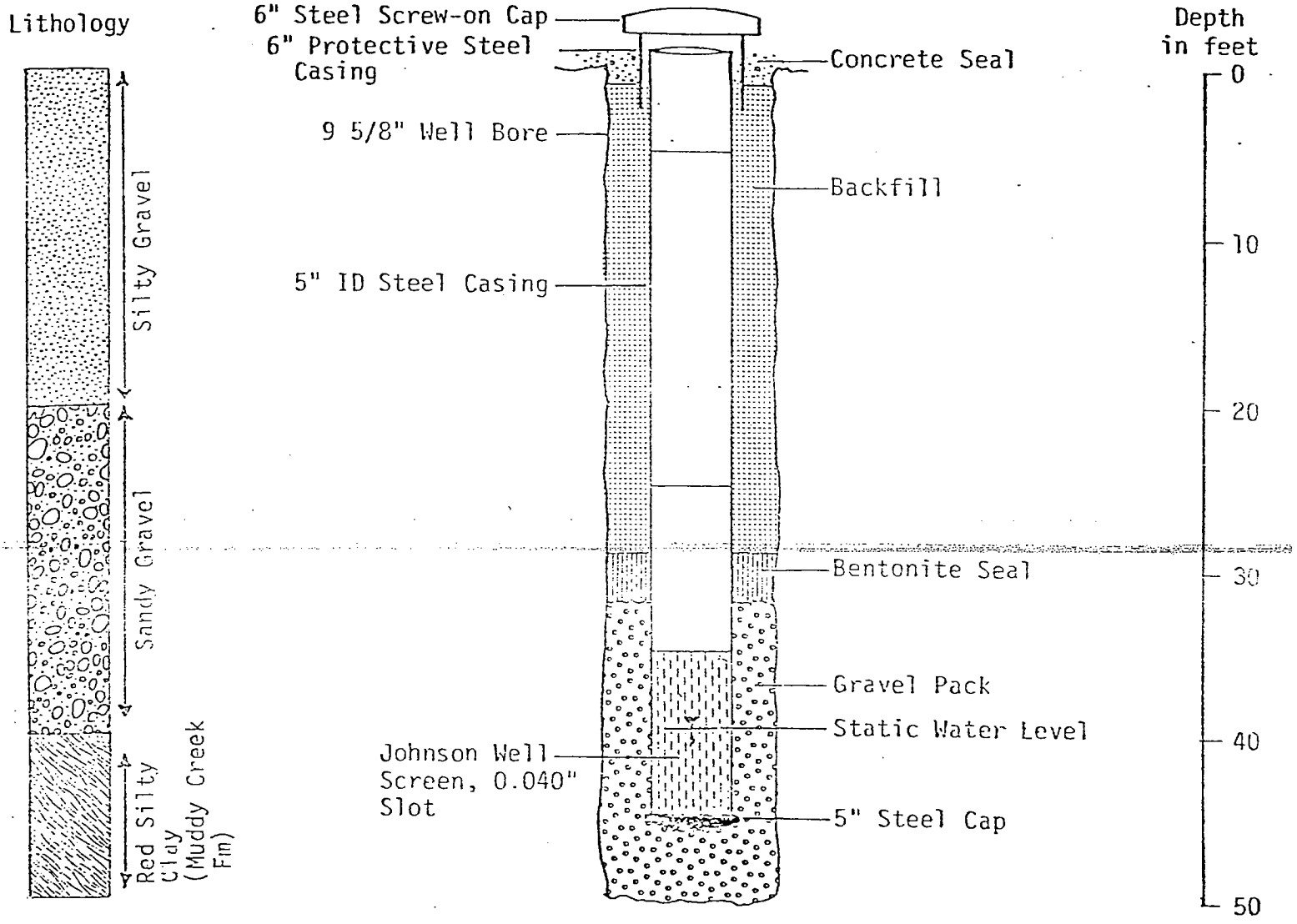


Figure 1.

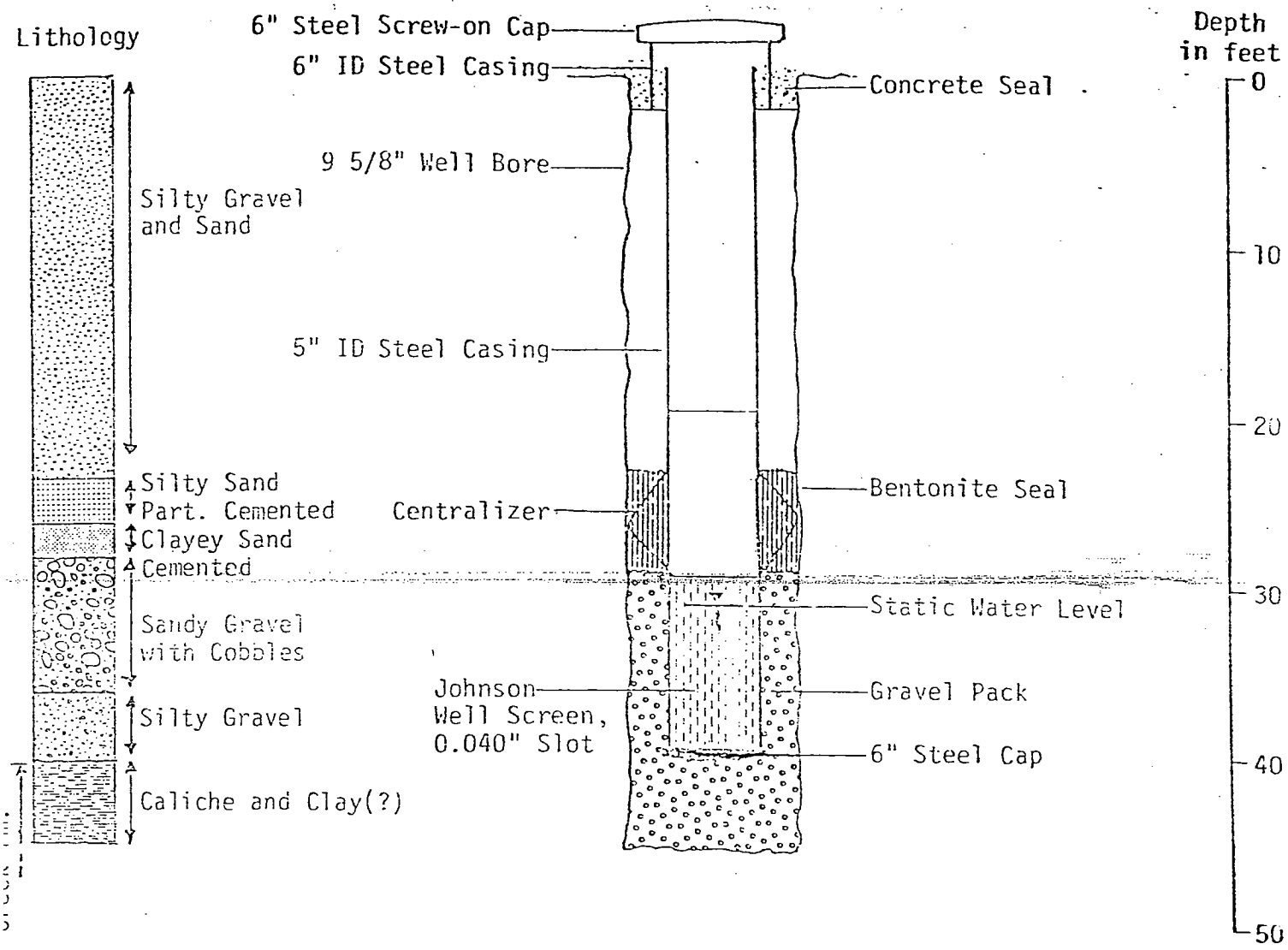
K-M CHEMICAL CORPORATION
Henderson, Nevada Facility
Well No. M-1



Well Yield: Approximately 1/2 gpm
Water Level on 1-14-82: 41.05' (from protector pipe top)
Casing Elevation: 1792.68' above MSL

Geological and Well Construction Data from Converse Consultants 81-3258, 11-13-81.

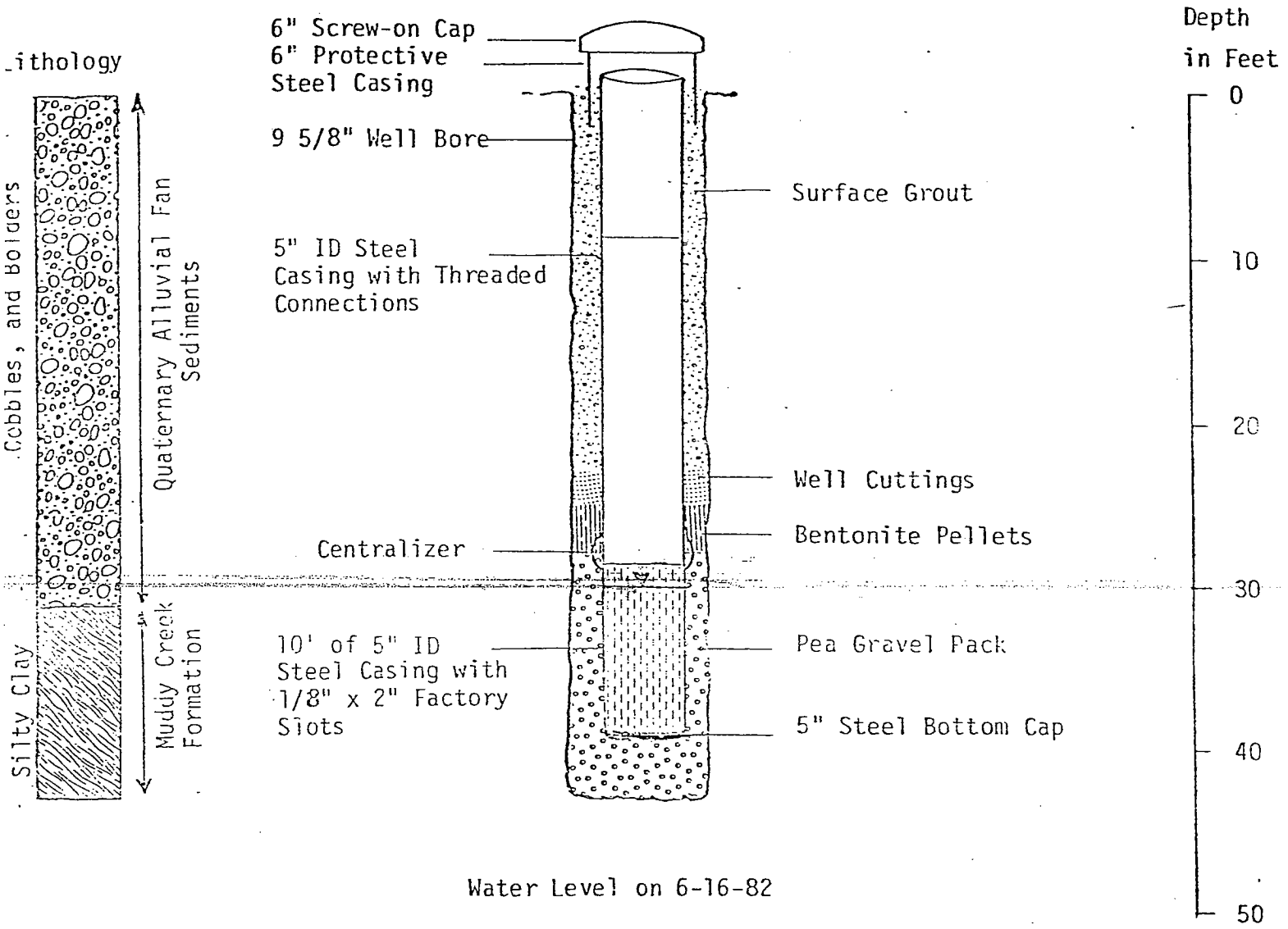
K-M CHEMICAL CORPORATION
Henderson, Nevada Facility
Well No. M-2



Well Yield: Approximately 15 gpm
Water Level on 1-14-82 : 33.25' (from protector pipe top)
Casing Elevation: 1780.02 ft. above MSL

Geological and Well Construction Data from Converse Consultants 81-3258, 11-13-81.

K-M Chemical Corporation
Henderson, Nevada Facility
Well No. M-5

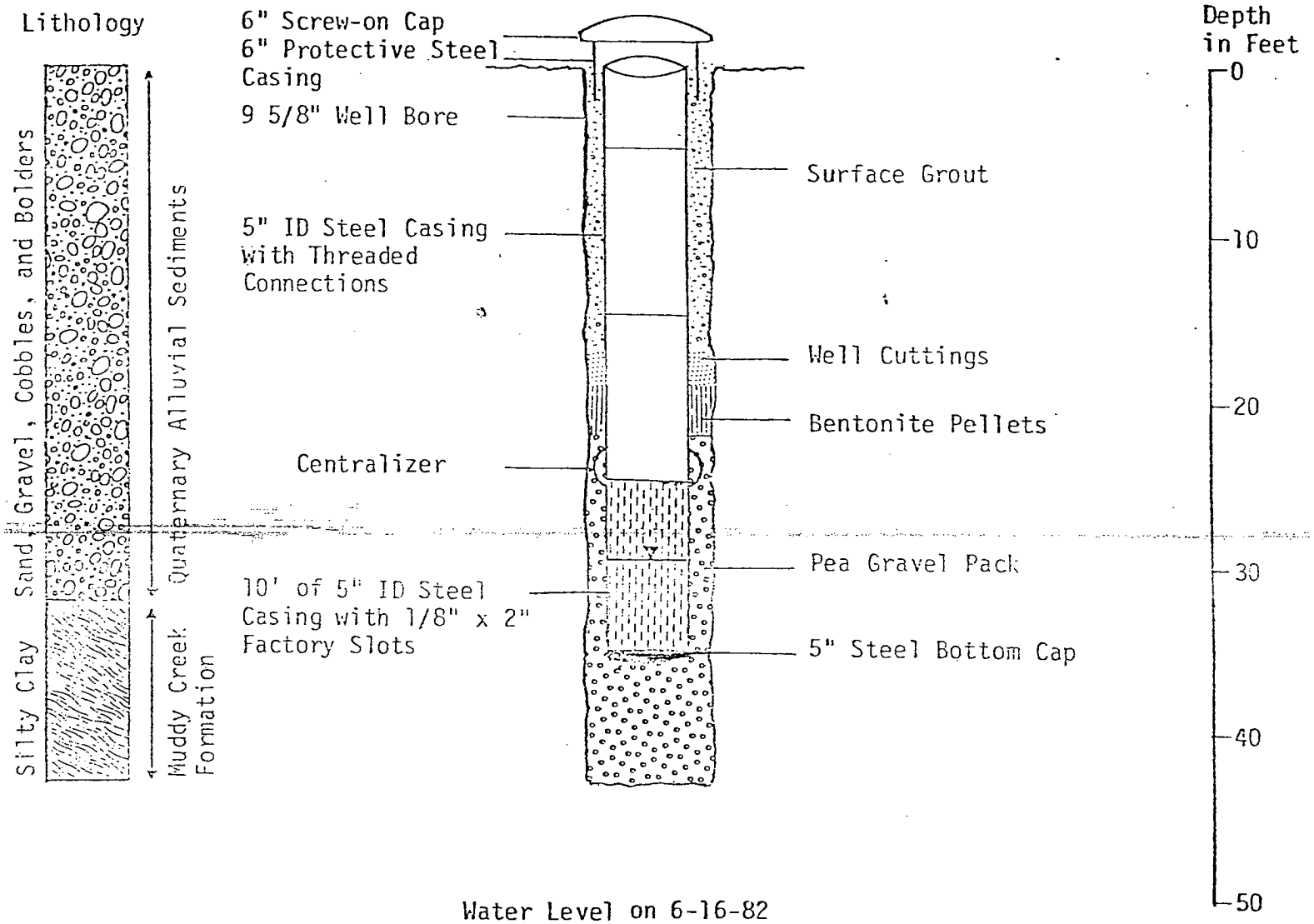


Water Level on 6-16-82

31' 4 3/8"

Measured from Top of Protective Casing

K-M Chemical Corporation
Henderson, Nevada Facility
Well No. M-6

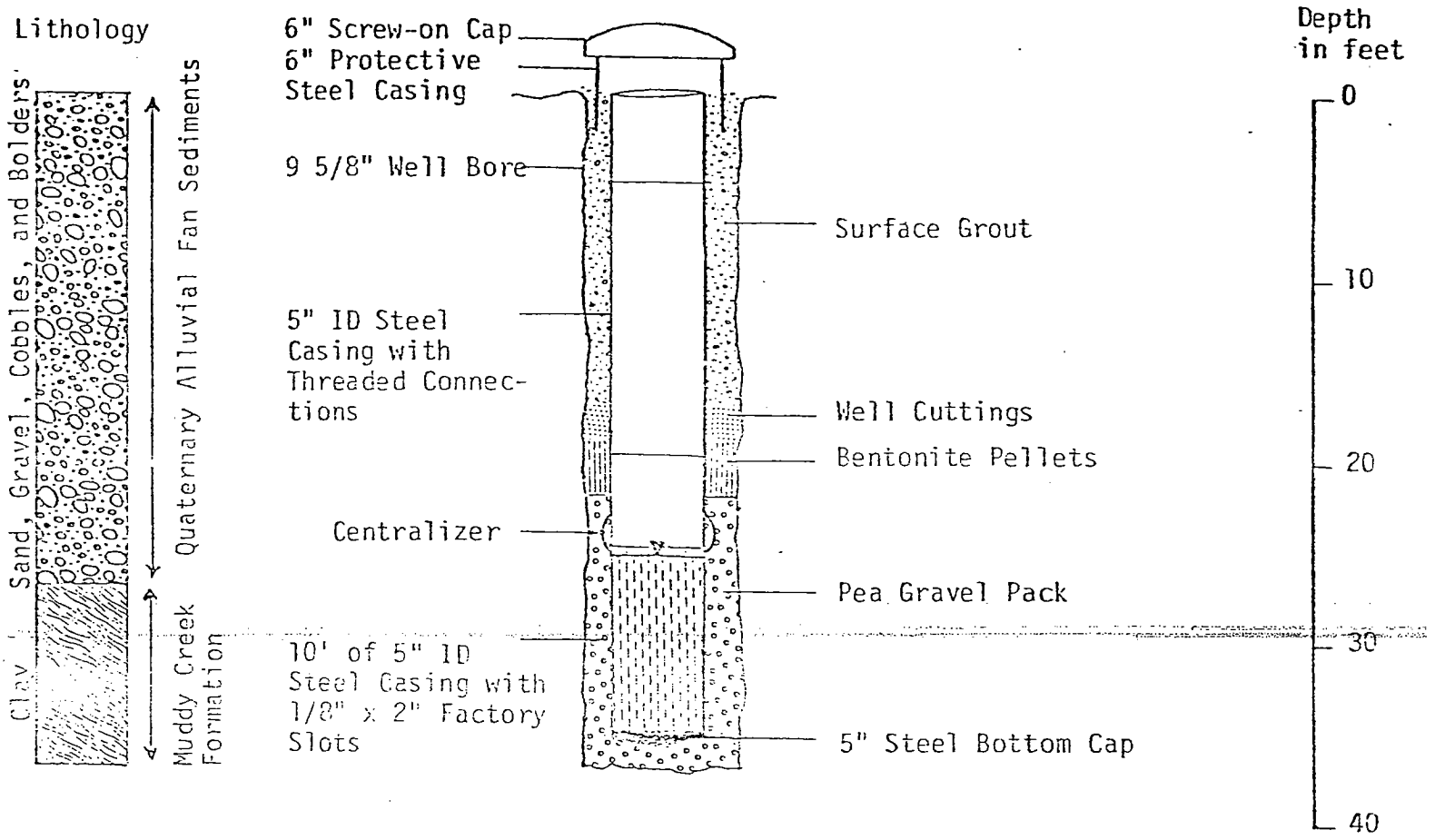


Water Level on 6-16-82

31' 4"

Measured from Top of Protective Casing

K-M Chemical Corporation
enderson, Nevada Facility
Well No. M-7

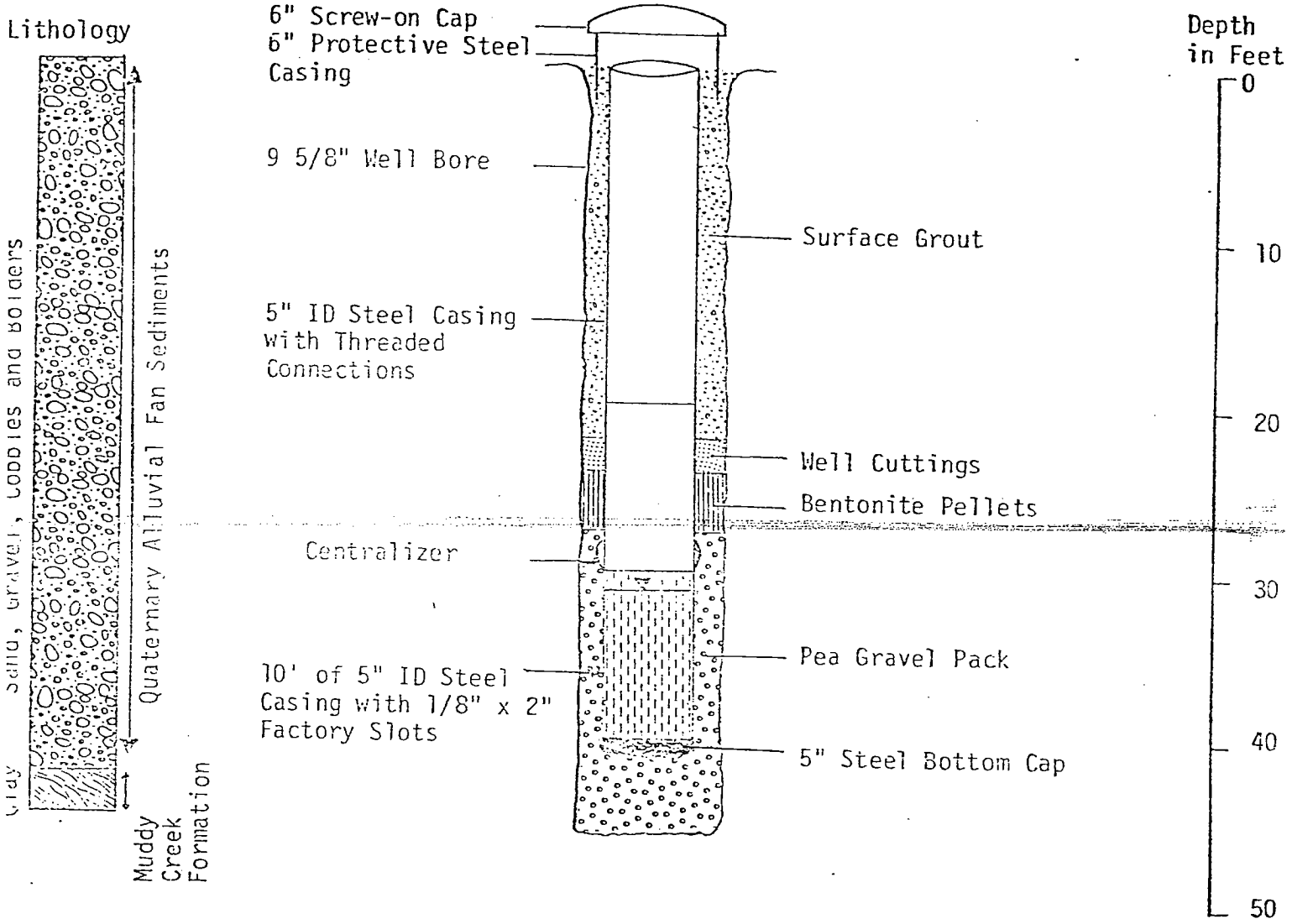


Water Level on 6-16-82

27' 11 3/4"

Measured from Top of Protective Casing

K-M Chemical Corporation
Henderson, Nevada Facility
Well No. M-8

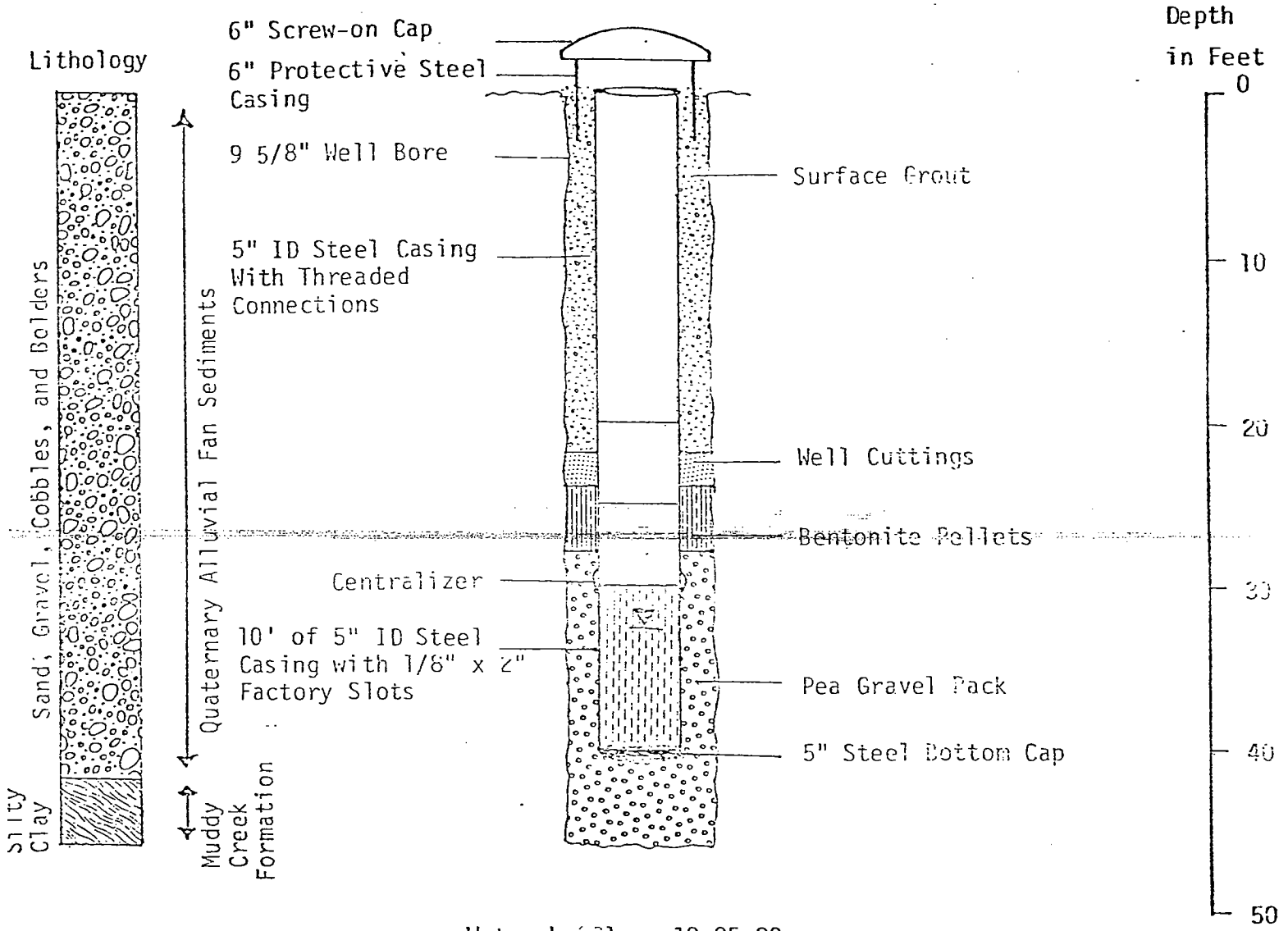


Water Level on 6-16-82

33' 8"

Measured from Top of Protective Casing

K-M Chemical Corporation
Henderson, Nevada Facility
Well No. M-9



Water Level on 10-05-82
33' 9"
Measured from Top of Protective Casing

Lithology Log
for Henderson
Well No. M-5

Depth in Feet	Lithology Description
0-12.0	Silty sandy gravel
12.0-15.0	Partially cemented sand and gravel
15.0-20.0	Cobbles
20.0-23.0	Silty sand and gravel
23.0-24.5	Gravel and sand with cobbles
24.5-25.5	White clay and gravel with gypsum and cobbles
25.5-28.0	Brown clayey silt with about 50% gypsum
28.0-31.0	Brown clayey silt with sand and gravel and white streaks
31.0-43.0	Brown clay with occasional thin caliche lenses

Top of Muddy Creek at 31 feet

Lithology Log
for Henderson
Well No. M-6

Depth in Feet	Lithology Description
0-29.0	Silty gravel and sand; slightly cemented from 12' - 13'
29.0-32.0	Silty sand and gravel with gypsum
32.0-32.5	Brown silty clay
32.5-34.0	Silty sand and gravel
34.0-38.0	Brown silty clay
38.0-43.0	Brown clay with sand and gravel

Top of Muddy Creek at 32 feet

Lithology Log
for Henderson
Well No. M-7

Depth in Feet	Lithology Description
0-15.0	Silty gravel and sand
15.0-18.0	Silty gravel and sand with gypsum
18.0-22.5	Silty gravel and sand with abundant gypsum; approximately 40% gypsum
22.5-28.0	Light brown silty clay with thin beds of caliche. Cemented from 27' - 27.5'
28.0-29.5	Clayey gravel (Not cemented)
29.5-37.0	Brown silty clay.

Top of Muddy Creek at 29.5'

Lithology Log
for Henderson
Well No. M-8

Depth in Feet	Lithology Description
0-25.0	Silty sandy gravel
25.0-25.5	White dry clayey sand
25.5-33.0	Silty sandy gravel with cobbles; gypsum stringer at 27'
33.0-40.5	Caliche-cemented sand and gravel
40.5-42.5	Sandy gravel slightly cemented
42.5-45.0	Silty clay

Top of Muddy Creek at 42.5'

Lithology Log
for Henderson
Well No. M-9

Depth in Feet	Lithology Description
0-19.0	Sand and gravel; unconsolidated
19.0-20.0	Harder sand and gravel with some caliche cementation
20.0-35.0	Sand and gravel; not as hard. Some cementation
35.0-42.0	Gravel, sand, clay, and silt; clay reddish brown; some gypsum at 37'
42.0-45.0	Silty clay and sand

Top of Muddy Creek @ 42.0

LITHOLOGY LOG

FOR HENDERSON

WELL NO. H-28

Description	Depth Below Land Surface (feet)
Sand, silty to clayey, grayish-brown very fine to very coarse (poorly sorted), and gravel, pebbles, cobbles and boulders, rounded to subangular; also with layers of caliche and caliche-cemented sand and gravel	0 - 44½
Clay, silty, to silt, clayey, light brown with traces of sand and gravel in matrix; also, with occasional thin layers of sand, reworked caliche, and caliche (Muddy Creek Formation)	44½ - 51

Data from Geraghty and Miller, Inc., October, 1980.

GROUNDWATER ASSESSMENT OUTLINE

The objective of the following summary is to provide the operator of this facility with guidance should groundwater analysis prescribed by 40 CFR 265.92 - 93 indicate groundwater contamination is occurring or has occurred. This summary is based on the attached corporate outline prepared by T. Bentley November 18, 1981.

After the first year, groundwater monitoring sampling will continue on a semiannual basis for groundwater quality or groundwater contamination parameters, as is appropriate. Each well sampled shall have the indicator parameters, pH, specific conductance, total organic carbon, and total organic halogen, analyzed in quadruplicate and the mean and variance compared with the initial background mean and variance. If there is a statistically significant increase (or decrease in case of pH), the operator shall do the following:

1. Resample and analyze to determine if variation was the result of laboratory error.

2. Should resampling confirm difference

   a. On upgradient wells report the findings in the annual report to the administrator.

   b. On downgradient wells report the results within seven days of receipt of complete laboratory report to administrator that facility may be affecting groundwater.

3. Within 15 days of initial notification, develop and submit to administrator a groundwater assessment program. The details to be included in the assessment plan are spelled out in the corporate outline attached to this summary.

It is understood that suggestions and recommendations of the administrator may change the initial plan outline and implementation schedule but every effort will be made to fulfill the regulatory requirements in a timely manner.

Please print or type in the unshaded areas only (fill—in areas are spaced for elite type, i.e., 1 inch).

Form Approved OMB No. 158-R0175

FORM 1 GENERAL

EPA

ENVIRONMENTAL PROTECTION AGENCY

GENERAL INFORMATION

Consolidated Permits Program

(Read the "General Instructions" before starting.)

I. EPA I.D. NUMBER: F NV D 0 0 8 2 9 0 3 3 0

CASE LITERS

I. EPA I.D. NUMBER

III. FACILITY NAME

V. FACILITY MAILING ADDRESS

VI. FACILITY LOCATION

PLEASE PLACE LABEL IN THIS SPACE

19 NOV 1980

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.

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	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)		X	
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)		X	
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)	X		
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)		X	
E. Does or will this facility treat, store, or dispose of **hazardous wastes**? (FORM 3)	X		X
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)		X	
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)		X	
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)		X	
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)		X	
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)		X	

III. NAME OF FACILITY

1 SKIP: KERR-McGEE CHEMICAL CORPORATION

IV. FACILITY CONTACT

A. NAME & TITLE *(last, first, & title)*	B. PHONE *(area code & no.)*
2 ARMSTRONG, C. B. PLANT MANAGER	702 565 8901

V. FACILITY MAILING ADDRESS

A. STREET OR P.O. BOX

3 P. O. BOX 55

B. CITY OR TOWN	C. STATE	D. ZIP CODE
4 HENDERSON	NV	89015

VI. FACILITY LOCATION

A. STREET, ROUTE NO. OR OTHER SPECIFIC IDENTIFIER

5 LAKE MEAD DRIVE

B. COUNTY NAME

CLARK

C. CITY OR TOWN	D. STATE	E. ZIP CODE	F. COUNTY CODE *(if known)*
6 HENDERSON	NV	89015	003

EPA Form 3510-1 (6-80)

CONTINUED FROM THE FRONT

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

A. FIRST	B. SECOND
2819 (specify) See Item XII below	C 7 (specify)
C. THIRD	**D. FOURTH**
(specify)	C 7 (specify)

VIII. OPERATOR INFORMATION

A. NAME: KERR-McGEE 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 702 565 8901

E. STREET OR P.O. BOX: P. O. BOX 55

F. CITY OR TOWN: HENDERSON

G. STATE: NV

H. ZIP CODE: 89015

IX. INDIAN LAND
Is the facility located on Indian lands? [ ] YES [X] NO

X. EXISTING ENVIRONMENTAL PERMITS

A. NPDES (Discharges to Surface Water): N NV0000078

D. PSD (Air Emissions from Proposed Sources): 9 P

B. UIC (Underground Injection of Fluids): U

E. OTHER (specify): 9 (specify) 22 permits issued by APCD, Clark County Health District

C. RCRA (Hazardous Wastes): R

E. OTHER (specify): 9 (specify)

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)

Manufacture of industrial chemicals, including sodium chlorate, ammonium perchlorate, potassium perchlorate, manganese dioxide, boron trichloride, boron tribromide, elemental boron.

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
J. R. Kelley, Vice President/ General Mgr., Electrolytic Products	J R Kelley	11/18/80

COMMENTS FOR OFFICIAL USE ONLY

EPA Form 3510-1 (2-80) REVERSE

(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: S F NVD 008290330

FOR OFFICIAL USE ONLY

APPLICATION APPROVED	DATE RECEIVED (yr., mo., & day)	COMMENTS
23	24 - 29	

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.)* (71)

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	45		
15	73 74	75 76	77 78

[ ] 2. NEW FACILITY *(Complete item below.)* (71)

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

YR.	MO.	DAY
73 74	75 76	77 78

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

[ ] 1. FACILITY HAS INTERIM STATUS (72)

[ ] 2. FACILITY HAS A RCRA PERMIT (72)

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

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.

		T/A	C
C	DUP		1

LINE NUMBER	A. PROCESS CODE (from list above)	B. PROCESS DESIGN CAPACITY 1. AMOUNT (specify)	B. PROCESS DESIGN CAPACITY 2. UNIT OF MEASURE (enter code)	FOR OFFICIAL USE ONLY
X-1	S02	600	G	
X-2	T03	20	E	
1	S01	250	G	
2	D80	44	A	
3	D83	960,000	G	
4	T01	6,000	U	

LINE NUMBER	A. PROCESS CODE (from list above)	B. PROCESS DESIGN CAPACITY 1. AMOUNT	B. PROCESS DESIGN CAPACITY 2. UNIT OF MEASURE (enter code)	FOR OFFICIAL USE ONLY
5	T04	7,500	U	
6	S04	2,270,000	G	
7				
8				
9				
10				

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.

Line 5. Filtration of sodium chlorate waste solids. Slurry is thickened in 2,500-gallon cone-bottomed settling tank and filtered on a 3' x 4' rotary vacuum filter. Cake is sent to landfill. Filtrate is returned to process.

V. 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.

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

Continued from page 2.
NOTE: Photocopy this page before complet[illegible] more than 26 wastes to list.

Form Approved OMB No. 158-S80004

EPA I.D. NUMBER (enter from page 1)	FOR OFFICIAL USE ONLY
S W N V D 0 0 8 2 9 0 3 3 0 — T/A C 1 1	S W DUP — T/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	~~U129~~		P		~~Delete from list.~~
2	~~U160~~		P		~~Delete from list.~~
3	F001	25	P	S01	
4	F003	25	P	S01	
5	F005	25	P	S01	
6	D007	900	T	T04 D80	
7	D007	3,000	T	T01 D83	
8	D002	2,000,000	P	T01 D83	
9	D007	6,000	T	S04	
10	D007	100,000	P	S04	
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					
26					

EPA Form 3510-3 (6-80)

CONTINUE ON REVERSE

Continued from the front.

V. DESCRIPTION OF HAZARDOUS S *ontinued)*

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

EPA I.D. NO. *(enter from page 1)*

N	V	D	0	0	8	2	9	0	3	3	0	T/A	6
2											13	14	15

. 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).*

I. 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).*

II. FACILITY GEOGRAPHIC LOCATION

LATITUDE *(degrees, minutes, & seconds)*	LONGITUDE *(degrees, minutes, & seconds)*
3 6 0 2 3 0 (65 66 67 68 69 - 71)	1 1 5 0 0 0 0 (72 - 73 74 75 76 77 - 79)

III. 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.)*
16 - 55	56 - 58 59 - 61 62 - 65

3. STREET OR P.O. BOX	4. CITY OR TOWN	5. ST.	6. ZIP CODE
16 - 45	C G 15 16 - 40	41 42	47 - 51

X. OWNER CERTIFICATION

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

A. NAME *(print or type)*	B. SIGNATURE	C. DATE SIGNED
J. R. Kelley, Vice President Gen. Mgr, Electrolytic Products Div.	J R Kelley	11/18/80

. OPERATOR CERTIFICATION

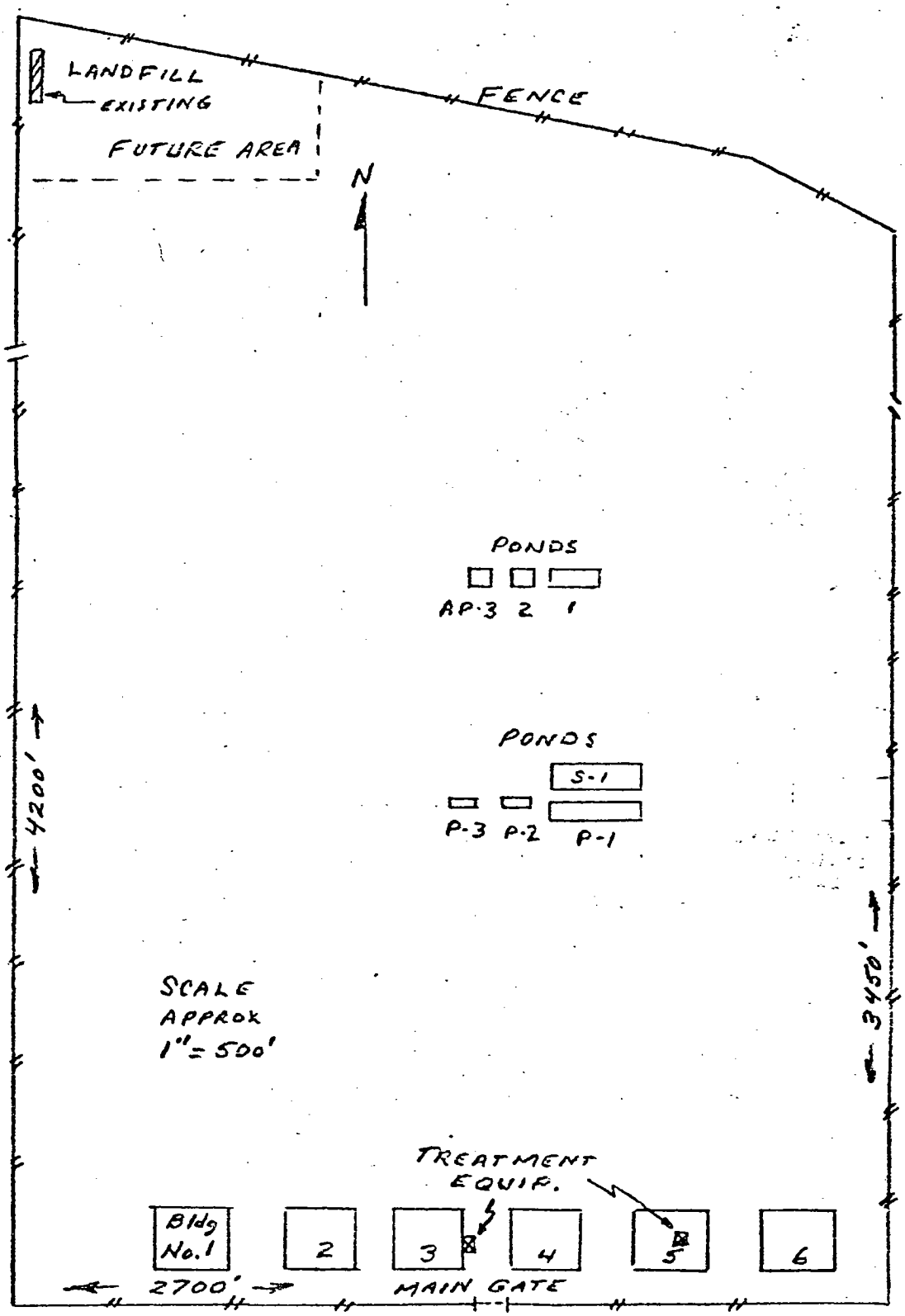
certify under penalty of law that I have personally examined and am familiar with the information submitted in this and all attached ocuments, and that based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the ubmitted information is true, accurate,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

A. NAME *(print or type)*	B. SIGNATURE	C. DATE SIGNED

Form Approved OMB No. 158-S80004

V. FACILITY DRAWING *(see page 4)*

NVD008290330



(Fill—in areas are spaced for elite type, i.e., 12 characters/inch).

Form Approved OMB No. 158-R0175

FORM 1 GENERAL

U.S. ENVIRONMENTAL PROTECTION AGENCY

GENERAL INFORMATION

Consolidated Permits Program

(Read the "General Instructions" before starting.)

I. EPA I.D. NUMBER

F NV D 0 0 8 2 9 0 3 3 0

LABEL ITEMS

I. EPA I.D. NUMBER

III. FACILITY NAME

V. FACILITY MAILING ADDRESS

VI. FACILITY LOCATION

PLEASE PLACE LABEL IN THIS SPACE

19 NOV 1980

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.

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	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)		X	
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)		X	
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)	X		
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)		X	
E. Does or will this facility treat, store, or dispose of **hazardous wastes?** (FORM 3)	X		
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)		X	
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)		X	
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)		X	
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)		X	
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)		X	

III. NAME OF FACILITY

1 SKIP KERR-McGEE CHEMICAL CORPORATION

IV. FACILITY CONTACT

A. NAME & TITLE *(last, first, & title)*	B. PHONE *(area code & no.)*
2 ARMSTRONG, C. B. PLANT MANAGER	702 565 8901

V. FACILITY MAILING ADDRESS

A. STREET OR P.O. BOX

3 P. O. BOX 55

B. CITY OR TOWN	C. STATE	D. ZIP CODE
4 HENDERSON	NV	89015

VI. FACILITY LOCATION

A. STREET, ROUTE NO. OR OTHER SPECIFIC IDENTIFIER

5 LAKE MEAD DRIVE

B. COUNTY NAME

CLARK

C. CITY OR TOWN	D. STATE	E. ZIP CODE	F. COUNTY CODE *(if known)*
6 HENDERSON	NV	89015	

CONTINUE ON REVERSE

CONTINUED FROM THE FRONT

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

A. FIRST	B. SECOND
2819 (specify) See Item XII below	(specify)
C. THIRD	**D. FOURTH**
(specify)	(specify)

VIII. OPERATOR INFORMATION

A. NAME: KERR-McGEE 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 702 565 8901

E. STREET OR P.O. BOX: P. O. BOX 55

F. CITY OR TOWN: HENDERSON

G. STATE: NV

H. ZIP CODE: 89015

IX. INDIAN LAND
Is the facility located on Indian lands? [ ] YES [X] NO

X. EXISTING ENVIRONMENTAL PERMITS

A. NPDES (Discharges to Surface Water): N NV0000078

D. PSD (Air Emissions from Proposed Sources): 9 P

B. UIC (Underground Injection of Fluids): U

E. OTHER (specify): 9 (specify) 22 permits issued by APCD, Clark County Health District

C. RCRA (Hazardous Wastes): R

E. OTHER (specify): 9 (specify)

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)

Manufacture of industrial chemicals, including sodium chlorate, ammonium perchlorate, potassium perchlorate, manganese dioxide, boron trichloride, boron tribromide, elemental boron.

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.

NAME & OFFICIAL TITLE (type or print)	B. SIGNATURE	C. DATE SIGNED
J. R. Kelley, Vice President/ General Mgr., Electrolytic Products	A R Kelley	11/18/80

COMMENTS FOR OFFICIAL USE ONLY

(fill—in areas are spaced for elite type, i.e., 12 characters/inch). Form Approved OMB No. 158-S80004

FORM 3 RCRA

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: S F NVDC082903300

FOR OFFICIAL USE ONLY

APPLICATION APPROVED	DATE RECEIVED (yr., mo., & day)	COMMENTS
23	24 - 29	

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.)* (71)

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

C 8 (15) | YR. 45 (73 74) | MO. (75 76) | DAY (77 78)

[ ] 2. NEW FACILITY *(Complete item below.)* (71)

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

YR. (73 74) | MO. (75 76) | DAY (77 78)

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

[ ] 1. FACILITY HAS INTERIM STATUS (72)

[ ] 2. FACILITY HAS A RCRA PERMIT (72)

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

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 (1 2 - 13 14 15)

LINE NUMBER	A. PROCESS CODE (from list above)	B. PROCESS DESIGN CAPACITY 1. AMOUNT (specify)	B. PROCESS DESIGN CAPACITY 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. PROCESS DESIGN CAPACITY 2. UNIT OF MEASURE (enter code)	FOR OFFICIAL USE ONLY
	(16 - 18)	(19 - 27)	(28)	(29 - 32)		(16 - 18)	(19 - 27)	(28)	(29 - 32)
X-1	S02	600	G		5		7,500	U	
X-2	T03	20	E		6		2,270,000	G	
1	S01	250	G		7				
2	D80	9	B		8				
3	D83	960,000	G		9				
4	T01	6,000	U		10				

III. PROCESSES *(continued)*

C. SPACE FOR ADDITIONAL PROCESS CODES DESCRIBING OTHER PROCESSES *(co* OR EACH PROCESS ENTERED HERE
INCLUDE DESIGN CAPACITY.

Line 5. Filtration of sodium chlorate waste solids. Slurry is thickened in 2,500-gallon cone-bottomed settling tank and filtered on a 3' x 4' rotary vacuum filter. Cake is sent to landfill. Filtrate is returned to process.

V. DESCRIPTION OF HAZARDOUS WASTES

. 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.

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.

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.

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.

)TE: HAZARDOUS WASTES DESCRIBED BY MORE THAN ONE EPA HAZARDOUS WASTE NUMBER – Hazardous wastes that can be described by)re 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.

AMPLE 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 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 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) pounds per year of that waste. Treatment will be in an incinerator and disposal will be in a landfill.

O Z	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	K 0 5 4	900	P	T 0 3 D 8 0	
2	D 0 0 2	400	P	T 0 3 D 8 0	
3	D 0 0 1	100	P	T 0 3 D 8 0	
4	D 0 0 2				included with above

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 N V D 0 0 8 2 9 0 3 3 [illegible] 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	U129		P		Delete from list.
2	U160		P		Delete from list.
3	F001	25	P	S01	
4	F003	25	P	S01	
5	F005	25	P	S01	
6	D007	900	T	T04 D80	
7	D007	3,000	T	T01 D83	
8	D002	1000 Tons 2,000,000	P	T01 D83	
9	D007	6,000	T	S04	
10	D007	100 Tons 100,000	P	S04	
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					
26					

EPA Form 3510-3 (6-80)

CONTINUE ON REVERSE

Continued from the front.

V. DESCRIPTION OF HAZARDOUS WASTES (continued)

E. USE THIS SPACE TO LIST ADDIT... CESS CODES FROM ITEM D(1) O...

EPA I.D. NO. *(enter from page 1)*

N	V	D	0	0	8	2	9	0	3	3	0	T/A	C
													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)*
36 02 30	115 00 00

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.)*

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

A. NAME *(print or type)*	B. SIGNATURE	C. DATE SIGNED
J. R. Kelley, Vice President Gen. Mgr. Electrolytic Products Div.	J R Kelley	11/18/80

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

MAR 27 1981

KERR-McGEE CHEMICAL CORPORATION
POST OFFICE BOX 55 • HENDERSON, NEVADA 89015

November 14, 1980

Mr. Bill Wilson
Permit Contact
EPA Region KX
Attention A-3-2
215 Fremont Street
San Francisco, CA 94105

Dear Mr. Wilson:

Enclosed are Forms 1 and 3 for *Application for a Hazardous Waste Permit* for Kerr-McGee Chemical Corporation's Henderson, Nevada, operations. These forms are consistent with our "Notification of Hazardous Waste Activity" with the following exceptions:

1. We are deleting hazardous waste No. U129, having disposed of all the remaining quantities of this material and not expecting to use it in the future.

2. We are deleting hazardous waste No. U160, having determined that we generate no waste that is defined as hazardous from the use of this material.

3. We are adding hazardous waste No. D002. This was inadvertently omitted in the notification since it is treated onsite and thus rendered nonhazardous.

We trust this meets with your satisfaction.

Sincerely,

J. R. Kelley
Vice President
Electrolytic Division

Enclosures

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-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 NV D 0 0 8 2 9 0 3 3 0

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

PLEASE PLACE LABEL IN THIS SPACE

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	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)		X	
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)	X		
E. Does or will this facility treat, store, or dispose of hazardous wastes? (FORM 3)	X		
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)		X	
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)		X	

SPECIFIC QUESTIONS	MARK 'X' YES	NO	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)		X	
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)		X	
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)		X	
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)		X	
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)		X	

III. NAME OF FACILITY

1 SKIP: KERR-McGEE CHEMICAL CORPORATION

IV. FACILITY CONTACT

A. NAME & TITLE (last, first, & title)	B. PHONE (area code & no.)
2 ARMSTRONG, C. B. PLANT MANAGER	702 565 8901

V. FACILITY MAILING ADDRESS

A. STREET OR P.O. BOX

3 P. O. BOX 55

B. CITY OR TOWN	C. STATE	D. ZIP CODE
4 HENDERSON	NV	89015

VI. FACILITY LOCATION

A. STREET, ROUTE NO. OR OTHER SPECIFIC IDENTIFIER

5 LAKE MEAD DRIVE

B. COUNTY NAME

CLARK

C. CITY OR TOWN	D. STATE	E. ZIP CODE	F. COUNTY CODE (if known)
6 HENDERSON	NV	89015	

CONTINUE ON REVERSE

TINUED FROM THE FRONT

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

A. FIRST: 2819 (specify) See Item XII below

B. SECOND: 7 (specify)

C. THIRD: 7 (specify)

D. FOURTH: (specify)

II. OPERATOR INFORMATION

A. NAME: KERR-McGEE 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 702 565 8901

E. STREET OR P.O. BOX: O. BOX 55

F. CITY OR TOWN: HENDERSON

G. STATE: NV

H. ZIP CODE: 89015

IX. INDIAN LAND
Is the facility located on Indian lands? [ ] YES [X] NO

. EXISTING ENVIRONMENTAL PERMITS

A. NPDES (Discharges to Surface Water): N NV0000078

D. PSD (Air Emissions from Proposed Sources): 9 P

B. UIC (Underground Injection of Fluids): U

E. OTHER (specify): 9

(specify) 22 permits issued by APCD, Clark County Health District

C. RCRA (Hazardous Wastes): R

E. OTHER (specify): 9

(specify)

I. 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)

Manufacture of industrial chemicals, including sodium chlorate, ammonium perchlorate, potassium perchlorate, manganese dioxide, boron trichloride, boron tribromide, elemental boron.

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.

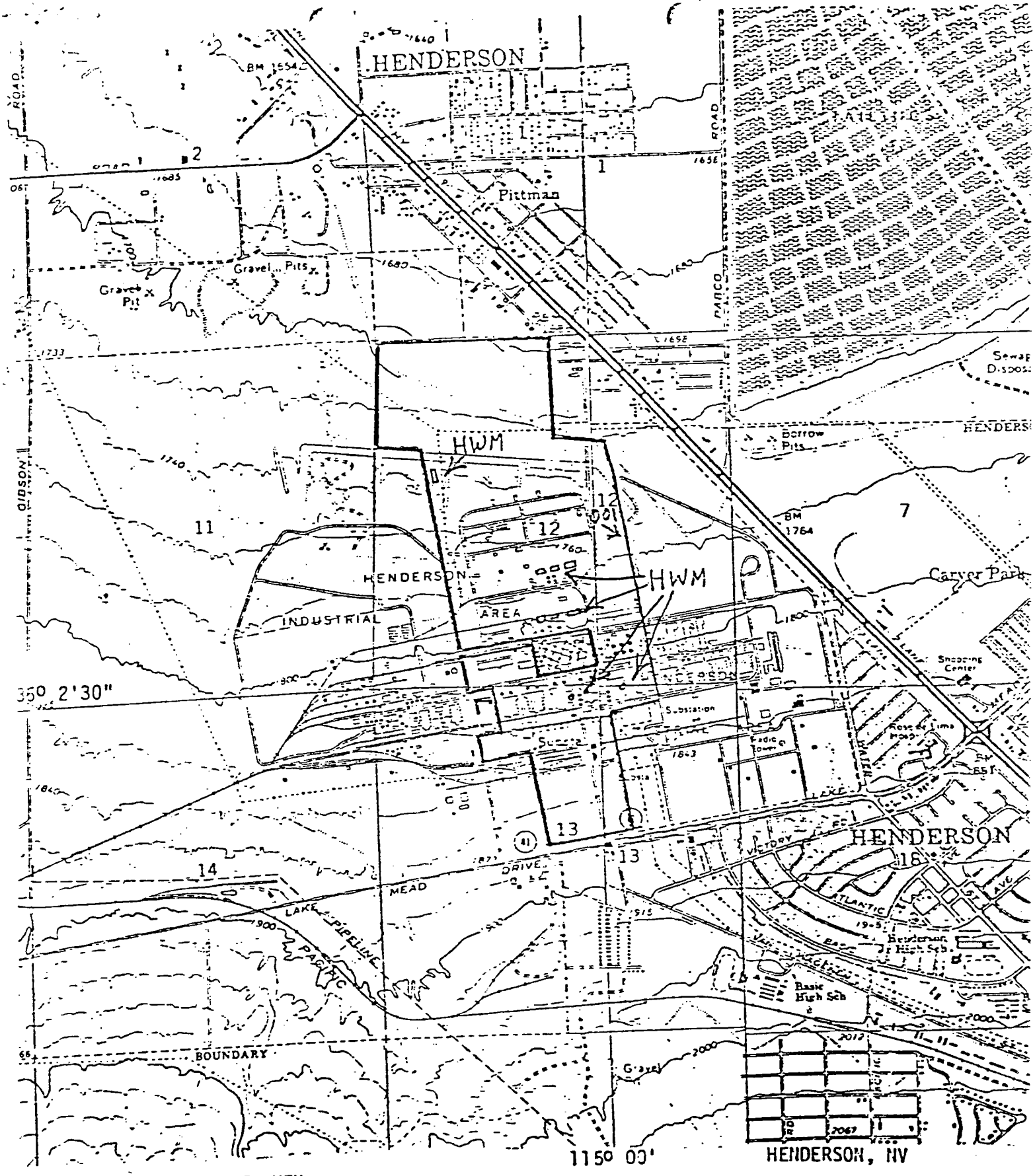
A. NAME & OFFICIAL TITLE (type or print): J. R. Kelley, Vice President/ General Mgr., Electrolytic Products

B. SIGNATURE: A R Kelley

C. DATE SIGNED: 11/18/80

COMMENTS FOR OFFICIAL USE ONLY

C


HENDERSON
Pittman
Gravel Pits
Gravel Pit
HWM
HWM
HENDERSON INDUSTRIAL AREA
Borrow Pits
Carver Park
Shopping Center
Substation
Basic High Sch
Henderson High Sch.
HENDERSON
BOUNDARY
MEAD
LAKE PIPELINE
PACIFIC
VICTORY
ATLANTIC
DRIVE
ROAD
GIBSON
PARCO
BM 1654
BM 1764
1733
1685
1680
1658
1640
1760
1800
1840
1900
2000
2067
11
12
13
14
7
1
2
18
19-5
350 2'30"
115° 00'
LAS VEGAS SE, NEV.
HENDERSON, NV
N
SCALE 1:24,000
0
1 Mile

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 N V D 0 0 8 2 9 0 3 3 0

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.)*

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

YR.	MO.	DAY
4 5		

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

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

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.

C DUP T/A C 1

LINE NUMBER	A. PROCESS CODE (from list above)	B. PROCESS DESIGN CAPACITY 1. AMOUNT (specify)	B. PROCESS DESIGN CAPACITY 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. PROCESS DESIGN CAPACITY 2. UNIT OF MEASURE (enter code)	FOR OFFICIAL USE ONLY
X-1	S 0 2	600	G		5	T 0 4	7,500	U	
X-2	T 0 3	20	E		6	S 0 4	2,270,000	G	
1	S 0 1	250	G		7				
2	D 8 0	44	A		8				
3	D 8 3	960,000	G		9				
4	T 0 1	6,000	U		10				

CONTINUE ON REVERSE

tinued from the front.

PROCESSES *(continued)*

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

Line 5. Filtration of sodium chlorate waste solids. Slurry is thickened in 2,500-gallon cone-bottomed settling tank and filtered on a 3' x 4' rotary vacuum filter. Cake is sent to landfill. Filtrate is returned to process.

. DESCRIPTION OF HAZARDOUS WASTES

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.

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.

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 ...es 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.

. 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 ...ore 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 ...er 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 ...re 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 ...00 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

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): WNVD008290330

FOR OFFICIAL USE: W DUP 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	U129		P		Delete from list.
2	U160		P		Delete from list.
3	F001	25	P	S01	
4	F003	25	P	S01	
5	F005	25	P	S01	
6	D007	900	T	T04D80	
7	D007	3,000	T	T01D83	
8	D002	2,000,000	P	T01D83	
9	D007	6,000	T	S04	
10	D007	100,000	P	S04	
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					
26					

CONTINUE ON REVE

...ntinued from the front.

V. DESCRIPTION OF HAZARDOUS WAS ...ntinued)

E. USE THIS SPACE TO LIST ADDITIONAL F... CESS CODES FROM ITEM D(1) ON P...

EPA I.D. NO. (enter from page 1)

													T/A	C
F	N	V	D	0	0	8	2	9	0	3	3	0		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

...existing facilities must include photographs *(aerial or ground–level)* that clearly delineate all existing structures; existing storage, ...tment 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)					
3	6	0	2	3	0	1	1	5	0	0	0	0

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.)
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.

A. NAME (print or type)	B. SIGNATURE	C. DATE SIGNED
J. R. Kelley, Vice President Gen. Mgr. Electrolytic Products Div.	J R Kelley	11/18/80

X. OPERATOR CERTIFICATION

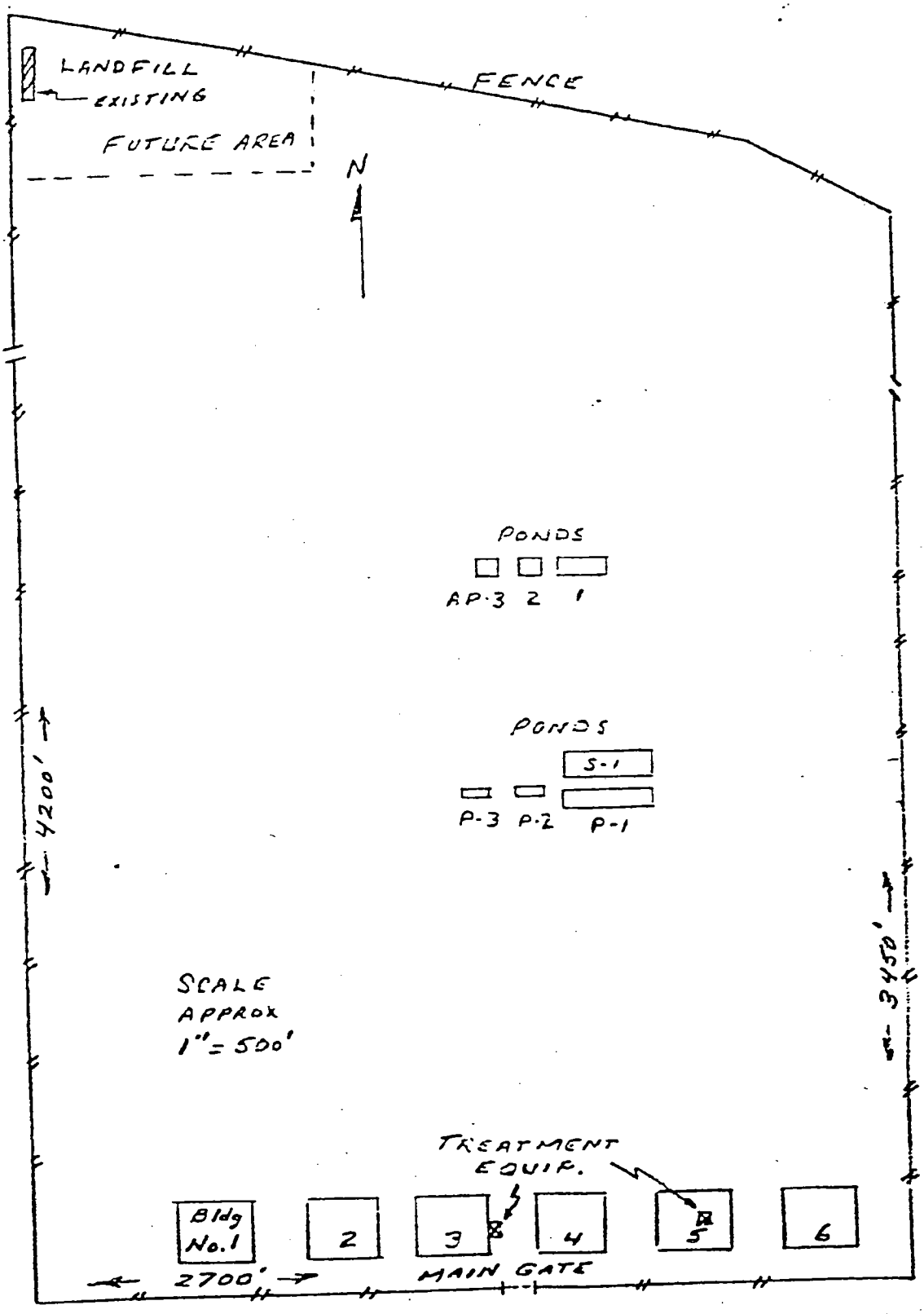
I certify under penalty of law that I have personally examined and am familiar with the information submitted in this and all attached documents, and that based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the submitted information is true, 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

CONTINUE ON PAG...

V. FACILITY DRAWING (See page 4)

Form Approved OMB No. 158-S80004



Please print or type with ELITE type *(12 characters/inch)* in the unshaded areas only.

Form Approved OMB No. 158-S79016
GSA No. 0246-EPA-OT

EPA U VIRONMENTAL PROTECTION AGENCY
NOTIFICATION OF HAZARDOUS WASTE ACTIV.. T

INSTALLATION'S EPA I.D. NO.

I. NAME OF INSTALLATION

II. INSTALLATION MAILING ADDRESS

III. LOCATION OF INSTALLATION

PLEASE PLACE LABEL IN THIS SPACE

INSTRUCTIONS: If you received a preprinted label, affix it in the space at left. If any of the information on the label is incorrect, draw a line through it and supply the correct information in the appropriate section below. If the label is complete and correct, leave Items I, II, and III below blank. If you did not receive a preprinted label, complete all items. "Installation" *means a* single site where hazardous waste is generated, treated, stored and/or disposed of, or a transporter's principal place of business. Please refer to the INSTRUCTIONS FOR FILING NOTIFICATION before completing this form. The information requested herein is required by law *(Section 3010 of the Resource Conservation and Recovery Act).*

DETACH A

FOR OFFICIAL USE ONLY

COMMENTS: C

INSTALLATION'S EPA I.D. NUMBER	APPROVED	DATE RECEIVED (yr., mo., & day)
F NVD 000 290 333 F/A C 1	A	80 08 14

14 AUG 1980

I. NAME OF INSTALLATION

KERR-McGEE CHEMICAL CORPORATION

II. INSTALLATION MAILING ADDRESS

STREET OR P.O. BOX: 3 P.O. BOX 55

CITY OR TOWN	ST.	ZIP CODE
4 HENDERSON	NV	89015

III. LOCATION OF INSTALLATION

STREET OR ROUTE NUMBER: 5 EAST LAKE MEAD DRIVE

CITY OR TOWN	ST.	ZIP CODE
6 HENDERSON	NV	89015

IV. INSTALLATION CONTACT

NAME AND TITLE (last, first, & job title)	PHONE NO. (area code & no.)
2 RUBIN HOWARD SR PROCESS ENG.	702-565-8901

V. OWNERSHIP

A. NAME OF INSTALLATION'S LEGAL OWNER: 8 KERR-McGEE CHEMICAL CORPORATION

DETACH A

B. TYPE OF OWNERSHIP *(enter the appropriate letter into box)*

F = FEDERAL
M = NON-FEDERAL

[ ] 56

VI. TYPE OF HAZARDOUS WASTE ACTIVITY *(enter "X" in the appropriate box(es))*

- [X] 57 A. GENERATION
- [X] 58 B. TRANSPORTATION *(complete item VII)*
- [X] 59 C. TREAT/STORE/DISPOSE
- [ ] 60 D. UNDERGROUND INJECTION

VII. MODE OF TRANSPORTATION *(transporters only – enter "X" in the appropriate box(es))*

- [ ] 61 A. AIR
- [ ] 62 B. RAIL
- [X] 63 C. HIGHWAY
- [ ] 64 D. WATER
- [ ] 65 E. OTHER *(specify):*

VIII. FIRST OR SUBSEQUENT NOTIFICATION

Mark "X" in the appropriate box to indicate whether this is your installation's first notification of hazardous waste activity or a subsequent notification. If this is not your first notification, enter your Installation's EPA I.D. Number in the space provided below.

- [X] A. FIRST NOTIFICATION
- [ ] B. SUBSEQUENT NOTIFICATION *(complete item C)*

C. INSTALLATION'S EPA I.D. NO.

IX. DESCRIPTION OF HAZARDOUS WASTES

Please go to the reverse of this form and provide the requested information.

CONTINUE ON REVERSE

I.D. – FOR OFFICIAL USE ONLY

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
W	N	V	D	0	0	8	2	9	0	3	3	0	2	1

IX. DESCRIPTION OF HAZARDOUS WASTES *(continued from front)*

A. HAZARDOUS WASTES FROM NON–SPECIFIC SOURCES. Enter the four–digit number from 40 CFR Part 261.31 for each listed hazardous waste from non–specific sources your installation handles. Use additional sheets if necessary.

1	2	3	4	5	6
F001	F003	F005			
7	8	9	10	11	12

B. HAZARDOUS WASTES FROM SPECIFIC SOURCES. Enter the four–digit number from 40 CFR Part 261.32 for each listed hazardous waste from specific industrial sources your installation handles. Use additional sheets if necessary.

13	14	15	16	17	18
19	20	21	22	23	24
25	26	27	28	29	30

C. COMMERCIAL CHEMICAL PRODUCT HAZARDOUS WASTES. Enter the four–digit number from 40 CFR Part 261.33 for each chemical substance your installation handles which may be a hazardous waste. Use additional sheets if necessary.

31	32	33	34	35	36
U129	U160				
37	38	39	40	41	42
43	44	45	46	47	48

D. LISTED INFECTIOUS WASTES. Enter the four–digit number from 40 CFR Part 261.34 for each listed hazardous waste from hospitals, veterinary hospitals, medical and research laboratories your installation handles. Use additional sheets if necessary.

49	50	51	52	53	54

E. CHARACTERISTICS OF NON–LISTED HAZARDOUS WASTES. Mark "X" in the boxes corresponding to the characteristics of non–listed hazardous wastes your installation handles. *(See 40 CFR Parts 261.21 – 261.24.)*

☐ 1. IGNITABLE (D001) ☐ 2. CORROSIVE (D002) ☐ 3. REACTIVE (D003) ☑ 4. TOXIC (D000)

X. 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.

SIGNATURE	NAME & OFFICIAL TITLE *(type or print)*	DATE SIGNED
C. B. Armstrong	C. B. Armstrong, Plant Manager	8/12/80

EPA Form 8700-12 (6-80) REVERSE

O.K. [illegible] 8/12/80

NVD008290330

KERR-McGEE CHEMICAL CORPORATION
POST OFFICE BOX 55 • HENDERSON, NEVADA 89015

November 14, 1980

Mr. Bill Wilson
Permit Contact
EPA Region KX
Attention A-3-2
215 Fremont Street
San Francisco, CA 94105

Dear Mr. Wilson:

Enclosed are Forms 1 and 3 for *Application for a Hazardous Waste Permit* for Kerr-McGee Chemical Corporation's Henderson, Nevada, operations. These forms are consistent with our "Notification of Hazardous Waste Activity" with the following exceptions:

1. We are deleting hazardous waste No. U129, having disposed of all the remaining quantities of this material and not expecting to use it in the future.

2. We are deleting hazardous waste No. U160, having determined that we generate no waste that is defined as hazardous from the use of this material.

3. We are adding hazardous waste No. D002. This was inadvertently omitted in the notification since it is treated onsite and thus rendered nonhazardous.

Change noth. form to reflect this

We trust this meets with your satisfaction.

Sincerely,

J. R. Kelley
Vice President
Electrolytic Division

Enclosures

NVD 008290550

KERR-McGEE CHEMICAL CORPORATION
POST OFFICE BOX 55 • HENDERSON, NEVADA 89015

May 14, 1982

CERTIFIED MAIL - NO. P26 0233534
RETURN RECEIPT REQUESTED

Mr. Bill Wilson, Chief
Technical Assessment Section
Toxics and Waste Programs Branch
U. S. Environmental Protection Agency
Region IX
215 Fremont Street
San Francisco, CA 94105

Re: First Quarter 1982 RCRA Groundwater Monitoring Data

Dear Mr. Wilson:

Please find attached in Table I, first quarter 1982 RCRA groundwater monitoring data for the Kerr-McGee Chemical Corporation facility in Henderson, Nevada. This data summary is supplied in accordance with 40 CFR 265.94(2)(i).

The arsenic concentration in downgradient well H-28 exceeds the EPA National Interim Primary Drinking Water Standard (NIPDWS) of 0.05 mg/1. The NIPDWS level of 0.01 for cadmium is exceeded in all wells except downgradient well M-4, while the NIPDWS level for chromium of 0.05 mg/1 is exceeded in all wells except downgradient well H-28. The silver concentration in downgradient well M-3 also exceeds the NIPDWS level of 0.05 mg/1.

Additionally, the NIPDWS gross alpha level of 15 PCI/1 is exceeded in well H-28. At this time we are investigating possible causes for these exceedances. No other values exceed NIPDWS levels.

Sincerely,

C. B. Armstrong
Plant Manager

CBA:jc
Attachment

TABLE I

FIRST QUARTER 1982 RCRA GROUNDWATER MONITORING DATA

DRINKING WATER PARAMETERS

KERR-McGEE CHEMICAL CORPORATION

Henderson, Nevada Facility

Parameter	Upgradient Well M-1	Downgradient Wells M-2	M-3	M-4	H-28
Arsenic (mg/l)	0.01	0.02	0.02	<0.01	0.47
Barium	0.21	0.18	0.37	<0.12	0.08
Cadmium	0.03	0.04	0.06	0.01	0.02
Chromium	12.2	9.0	31.1	0.18	0.03
Fluoride	1.00	0.95	1.00	1.00	0.55
Lead	<0.01	<0.01	<0.01	<0.01	<0.01
Mercury	0.001	<0.001	0.001	0.001	<0.001
Nitrate (as N)	0.91	0.45	<0.10	0.80	<0.10
Selenium	<0.005	<0.005	<0.005	<0.005	<0.005
Silver	0.04	0.05	0.06	0.02	0.02
Endrin	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Lindane	<0.004	<0.004	<0.004	<0.004	<0.004
Methoxychlor	<0.01	<0.1	<0.1	<0.1	<0.1
Toxaphene	<0.005	<0.005	<0.005	<0.005	<0.005
2, 4-D	<0.10	<0.10	<0.10	<0.10	<0.10
2, 4, 5-TP Silvex	<0.01	<0.01	<0.01	<0.01	<0.01
Total Radium (PCI/l)	<2	<3	<2	<2	<2
Gross Alpha (PCI/l)	<15	<15	<15	<15	81
Gross Beta (PCI/l)	<20	<20	<20	<20	<40
Coliform Bacteria (#/100 ml)	<2.2	<2.2	<2.2	<2.2	<2.2
pH	7.3, 7.3 7.3, 7.3	7.3	7.3	7.6	7.0

CBA
5/14/82

EPA

U.S. ENVIRONMENTAL PROTECTION AGENCY

NOTIFICATION OF HAZARDOUS WASTE ACTIVITY

INSTRUCTIONS: If you received a preprinted label, affix it in the space at left. If any of the information on the label is incorrect, draw a line through it and supply the correct information in the appropriate section below. If the label is complete and correct, leave Items I, II, and III below blank. If you did not receive a preprinted label, complete all items. "Installation" means a single site where hazardous waste is generated, treated, stored and/or disposed of, or a transporter's principal place of business. Please refer to the INSTRUCTIONS FOR FILING NOTIFICATION before completing this form. The information requested herein is required by law *(Section 3010 of the Resource Conservation and Recovery Act).*

(8)

INSTALLATION'S EPA I.D. NO.

I. NAME OF INSTALLATION

II. INSTALLATION MAILING ADDRESS

III. LOCATION OF INSTALLATION

PLEASE PLACE LABEL IN THIS SPACE

DETACH

FOR OFFICIAL USE ONLY

COMMENTS: C

INSTALLATION'S EPA I.D. NUMBER: F | T/A: | C: 1 | APPROVED | DATE RECEIVED (yr., mo., & day)

I. NAME OF INSTALLATION

KERR-McGEE CHEMICAL CORPORATION

II. INSTALLATION MAILING ADDRESS

STREET OR P.O. BOX: 3 P.O. BOX 55

CITY OR TOWN: 4 HENDERSON | ST.: NV | ZIP CODE: 89015

III. LOCATION OF INSTALLATION

STREET OR ROUTE NUMBER: 5 EAST LAKE MEAD DRIVE

CITY OR TOWN: 6 HENDERSON | ST.: NV | ZIP CODE: 89015

IV. INSTALLATION CONTACT

NAME AND TITLE *(last, first, & job title)*: 2 RUBIN HOWARD SR PROCESS ENG. | PHONE NO. *(area code & no.)*: 702-565-8901

V. OWNERSHIP

A. NAME OF INSTALLATION'S LEGAL OWNER: 8 KERR-McGEE CHEMICAL CORPORATION

DETACH

B. TYPE OF OWNERSHIP *(enter the appropriate letter into box)*

F = FEDERAL
M = NON-FEDERAL

VI. TYPE OF HAZARDOUS WASTE ACTIVITY *(enter "X" in the appropriate box(es))*

- [X] A. GENERATION
- [X] B. TRANSPORTATION *(complete item VII)*
- [X] C. TREAT/STORE/DISPOSE
- [ ] D. UNDERGROUND INJECTION

VII. MODE OF TRANSPORTATION *(transporters only – enter "X" in the appropriate box(es))*

- [ ] A. AIR
- [ ] B. RAIL
- [X] C. HIGHWAY
- [ ] D. WATER
- [ ] E. OTHER *(specify)*:

VIII. FIRST OR SUBSEQUENT NOTIFICATION

Mark "X" in the appropriate box to indicate whether this is your installation's first notification of hazardous waste activity or a subsequent notification. If this is not your first notification, enter your Installation's EPA I.D. Number in the space provided below.

- [X] A. FIRST NOTIFICATION
- [ ] B. SUBSEQUENT NOTIFICATION *(complete item C)*

C. INSTALLATION'S EPA I.D. NO.

IX. DESCRIPTION OF HAZARDOUS WASTES

Please go to the reverse of this form and provide the requested information.

CONTINUE ON REVERSE

I.D. – FOR OFFICIAL USE ONLY

IX. DESCRIPTION OF HAZARDOUS WASTES *(continued from front)*

A. HAZARDOUS WASTES FROM NON–SPECIFIC SOURCES. Enter the four–digit number from 40 CFR Part 261.31 for each listed hazardous waste from non–specific sources your installation handles. Use additional sheets if necessary.

1	2	3	4	5	6
F001	F003	F005			
7	8	9	10	11	12

B. HAZARDOUS WASTES FROM SPECIFIC SOURCES. Enter the four–digit number from 40 CFR Part 261.32 for each listed hazardous waste from specific industrial sources your installation handles. Use additional sheets if necessary.

13	14	15	16	17	18
19	20	21	22	23	24
25	26	27	28	29	30

C. COMMERCIAL CHEMICAL PRODUCT HAZARDOUS WASTES. Enter the four–digit number from 40 CFR Part 261.33 for each chemical substance your installation handles which may be a hazardous waste. Use additional sheets if necessary.

31	32	33	34	35	36
U129	U160				
37	38	39	40	41	42
43	44	45	46	47	48

D. LISTED INFECTIOUS WASTES. Enter the four–digit number from 40 CFR Part 261.34 for each listed hazardous waste from hospitals, veterinary hospitals, medical and research laboratories your installation handles. Use additional sheets if necessary.

49	50	51	52	53	54

E. CHARACTERISTICS OF NON–LISTED HAZARDOUS WASTES. Mark "X" in the boxes corresponding to the characteristics of non–listed hazardous wastes your installation handles. *(See 40 CFR Parts 261.21 – 261.24.)*

☐ 1. IGNITABLE (D001) ☐ 2. CORROSIVE (D002) ☐ 3. REACTIVE (D003) ☑ 4. TOXIC (D000)

X. 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.

SIGNATURE	NAME & OFFICIAL TITLE *(type or print)*	DATE SIGNED
C. B. Armstrong	C. B. Armstrong, Plant Manager	8/12/80

EPA Form 8700-12 (6-80) REVERSE

OK RHK 8/12/80

MAR 27 1981

KERR-McGEE CHEMICAL CORPORATION
POST OFFICE BOX 55 • HENDERSON, NEVADA 89015

November 14, 1980

Mr. Bill Wilson
Permit Contact
EPA Region KX
Attention A-3-2
215 Fremont Street
San Francisco, CA 94105

Dear Mr. Wilson:

Enclosed are Forms 1 and 3 for *Application for a Hazardous Waste Permit* for Kerr-McGee Chemical Corporation's Henderson, Nevada, operations. These forms are consistent with our "Notification of Hazardous Waste Activity" with the following exceptions:

1. We are deleting hazardous waste No. U129, having disposed of all the remaining quantities of this material and not expecting to use it in the future.

2. We are deleting hazardous waste No. U160, having determined that we generate no waste that is defined as hazardous from the use of this material.

3. We are adding hazardous waste No. D002. This was inadvertently omitted in the notification since it is treated onsite and thus rendered nonhazardous.

We trust this meets with your satisfaction.

Sincerely,

J. R. Kelley
Vice President
Electrolytic Division

Enclosures

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-R0175

FORM 1 GENERAL

U.S. ENVIRONMENTAL PROTECTION AGENCY

GENERAL INFORMATION

Consolidated Permits Program

(Read the "General Instructions" before starting.)

I. EPA I.D. NUMBER: F NV D 0 0 8 2 9 0 3 3 0 (D)

LABEL ITEMS

I. EPA I.D. NUMBER

III. FACILITY NAME

V. FACILITY MAILING ADDRESS

VI. FACILITY LOCATION

PLEASE PLACE LABEL IN THIS SPACE

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.

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	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)		X	
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)		X	
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)	X		
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)		X	
E. Does or will this facility treat, store, or dispose of hazardous wastes? (FORM 3)	X		
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)		X	
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)		X	
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)		X	
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)		X	
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)			X

III. NAME OF FACILITY

1 SKIP: KERR-McGEE CHEMICAL CORPORATION

IV. FACILITY CONTACT

A. NAME & TITLE (last, first, & title)	B. PHONE (area code & no.)
2 ARMSTRONG, C. B. PLANT MANAGER	702 565 8901

V. FACILITY MAILING ADDRESS

A. STREET OR P.O. BOX: 3 P. O. BOX 55

B. CITY OR TOWN	C. STATE	D. ZIP CODE
4 HENDERSON	NV	89015

VI. FACILITY LOCATION

A. STREET, ROUTE NO. OR OTHER SPECIFIC IDENTIFIER: 5 LAKE MEAD DRIVE

B. COUNTY NAME: CLARK

C. CITY OR TOWN	D. STATE	E. ZIP CODE	F. COUNTY CODE (if known)
6 HENDERSON	NV	89015	

CONTINUE ON REVERSE

EPA Form 3510-1 (6-80)

CONTINUED FROM THE FRONT

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

A. FIRST: 2819 (specify) See Item XII below

B. SECOND: 7 (specify)

C. THIRD: 7 (specify)

D. FOURTH: 7 (specify)

VIII. OPERATOR INFORMATION

A. NAME: KERR-McGEE 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 702 565 8901

E. STREET OR P.O. BOX: P. O. BOX 55

F. CITY OR TOWN: HENDERSON

G. STATE: NV

H. ZIP CODE: 89015

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 NV0000078

D. PSD (Air Emissions from Proposed Sources): 9 P

B. UIC (Underground Injection of Fluids): U

E. OTHER (specify): 9 (specify) 22 permits issued by APCD, Clark County Health District

C. RCRA (Hazardous Wastes): R

E. OTHER (specify): 9 (specify)

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)

Manufacture of industrial chemicals, including sodium chlorate, ammonium perchlorate, potassium perchlorate, manganese dioxide, boron trichloride, boron tribromide, elemental boron.

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.

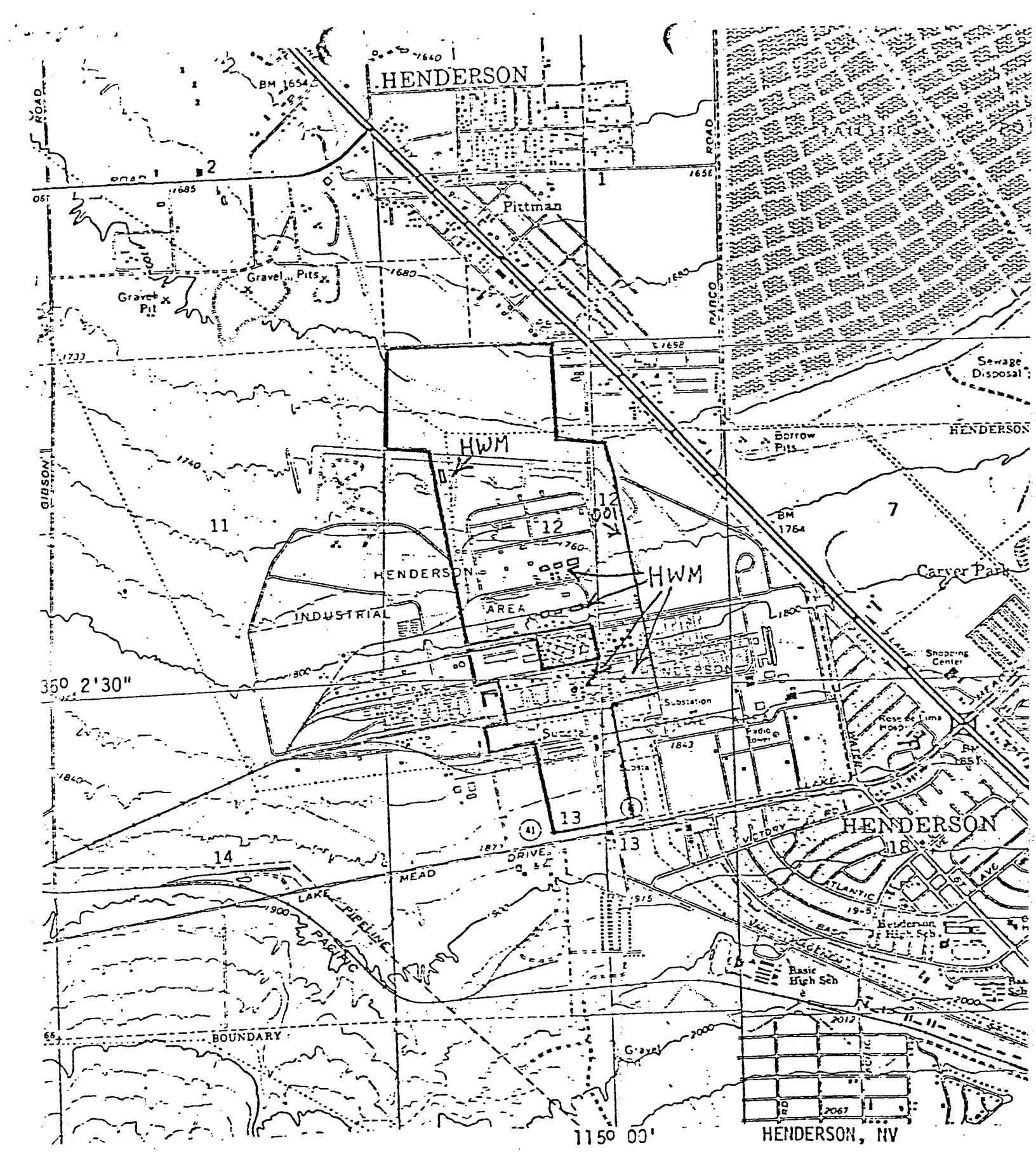
A. NAME & OFFICIAL TITLE (type or print): J. R. Kelley, Vice President/ General Mgr., Electrolytic Products

B. SIGNATURE: J R Kelley

C. DATE SIGNED: 11/18/80

COMMENTS FOR OFFICIAL USE ONLY

C


HENDERSON
Pittman
Gravel Pits
Gravel Pit
Sewage Disposal
Borrow Pits
HENDERSON
HWM
HWM
HENDERSON INDUSTRIAL AREA
Carver Park
Shopping Center
Substation
Radio Tower
Rose de Lima Hosp.
HENDERSON
Basic High Sch
Henderson High Sch
LAKE MEAD DRIVE
LAKE PIPELINE
PACIFIC
BOUNDARY
Gravel
GIBSON ROAD
PABCO ROAD
VICTORY
ATLANTIC
BASCH
11
12
13
14
18
7
1
2
BM 1654
BM 1764
1640
1656
1680
1685
1698
1733
1740
1760
1800
1840
1843
1873
1900
1915
2000
2012
2067
36° 2'30"
115° 00'
LAS VEGAS SE, NEV.
HENDERSON, NV
N
SCALE 1:24,000
0
1 Mile

FORM 3 RCRA

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 N V D 0 8 2 9 0 3 3 0 — 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.)*

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

C 8 — YR. 4 5 — MO. — DAY —

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

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

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.

C DUP — T/A — C 1

LINE NUMBER	A. PROCESS CODE (from list above)	B. PROCESS DESIGN CAPACITY 1. AMOUNT (specify)	B. PROCESS DESIGN CAPACITY 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. PROCESS DESIGN CAPACITY 2. UNIT OF MEASURE (enter code)	FOR OFFICIAL USE ONLY
X-1	S 0 2	600	G		5	T 0 4	7,500	U	
X-2	T 0 3	20	E		6	S 0 4	2,270,000	G	
1	S 0 1	250	G		7				
2	D 8 0	44	A		8				
3	D 8 3	960,000	G		9				
4	T 0 1	6,000	U		10				

CONTINUE ON REVERSE

ontinued from the front.

II. PROCESSES *(continued)*

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

Line 5. Filtration of sodium chlorate waste solids. Slurry is thickened in 2,500-gallon cone-bottomed settling tank and filtered on a 3' x 4' rotary vacuum filter. Cake is sent to landfill. Filtrate is returned to process.

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.

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.

C. 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

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)	T/A	C	FOR OFFICIAL USE ONLY		C	
W N V D 0 0 8 2 9 0 3 3 0		1	W	DUP	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	U129		P					Delete from list.
2	U160		P					Delete from list.
3	F001	25	P	S01				
4	F003	25	P	S01				
5	F005	25	P	S01				
6	D007	900	T	T04	D80			
7	D007	3,000	T	T01	D83			
8	D002	2,000,000	P	T01	D83			
9	D007	6,000	T	S04				
10	D007	100,000	P	S04				
11								
12								
13								
14								
15								
16								
17								
18								
19								
20								
21								
22								
23								
24								
25								
26								

Continued from the front.

IV. DESCRIPTION OF HAZARDOUS WASTE (continued)

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

EPA I.D. NO. (enter from page 1)

													T/A	C
F	N	V	D	0	0	8	2	9	0	3	3	0		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

existing facilities must include photographs *(aerial or ground–level)* that clearly delineate all existing structures; existing storage, ...tment 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)					
3	6	0	2		3	0	1	1	5	0	0			0	0

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.)
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.

A. NAME (print or type)	B. SIGNATURE	C. DATE SIGNED
J. R. Kelley, Vice President & Gen. Mgr. Electrolytic Products Div.	J R Kelley	11/18/80

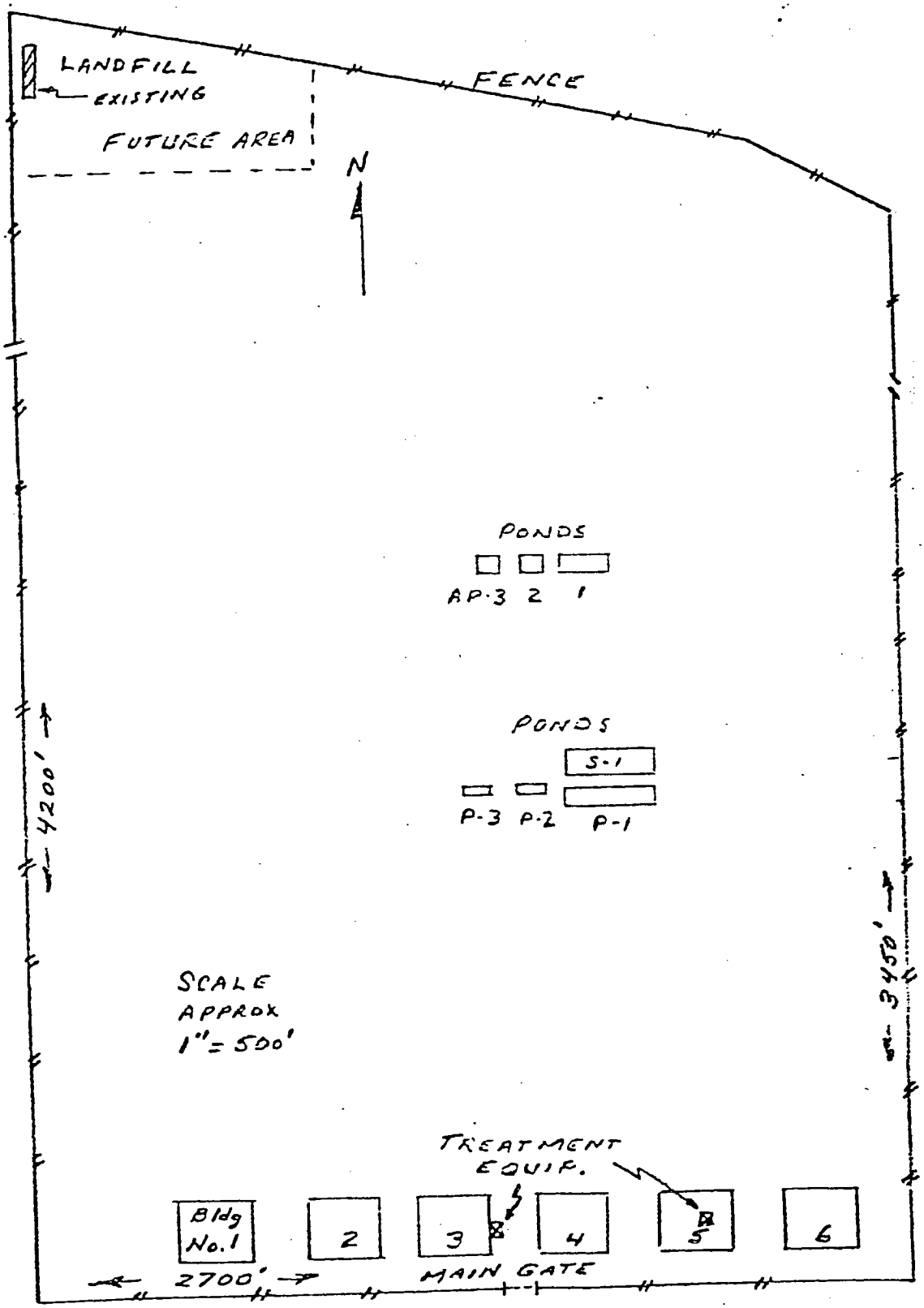
X. OPERATOR CERTIFICATION

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

Form Approved OMB No. 158-S80004

V. FACILITY DRAWING *(see page 4)*



(10a)

X/C WBH/ILD
TLH
RFW
RBC
TLH 3/30/82

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION IX
215 Fremont Street
San Francisco, Ca. 94105

CERTIFIED MAIL NO. P125847816
RETURN RECEIPT REQUESTED

In Reply E-5-2
Refer to: SOW-HAZ-6-6-2-6

25 MAR 1980

Mr. Charles B. Armstrong
Plant Manager
Kerr-McGee Chemical Corp.
P.O. Box 55
Henderson, NV 89015

Dear Mr. Armstrong:

The United States Environmental Protection Agency (EPA) is currently seeking to identify sites where hazardous wastes have been disposed or are being stored for disposal. Under Section 308 of the Clean Water Act (CWA), 33 U.S.C. 1318, Section 114 of the Clean Air Act (CAA), 42 U.S.C. 7414, and Section 3007 of the Resource Conservation and Recovery Act (RCRA), 42 U.S.C. 6927, EPA is authorized to require records and other information as necessary to administer the CWA, CAA, and RCRA.

In order to determine whether hazardous wastes have been or are being disposed, stored or transported on or off your property you are hereby required to report the following information within 30 days of receipt of this letter.

GENERAL

1. When did your company begin manufacturing operations at your present location?

2. What products have been manufactured since operations began? Give trade names/common names and describe any changes with time.

3. Identify the raw materials used in the manufacturing operations described in 2 above (specific chemical compounds and common names).

SOLID WASTE

4. Identify the solid wastes produced by the manufacturing operations described in 1 through 3 above (specific chemical compounds and common names).

5. For those solid wastes that have been disposed of off-site (i.e., off your property and off BMI property) supply the following information:

    *identity of wastes (specific chemical compound and common names)

    *volume of wastes

    *name and location of dump sites

6. For those solid wastes that have been disposed of on-site (i.e., on your property or on BMI property) supply the following information:

    *identity of waste (specific chemical compounds and common names)

    *volume of wastes

    *disposal method (i.e., drums, burial, burning, etc.)

    *dates when this disposal method began and ended for each identified waste product

7. Show by a simple map, drawn to scale, the locations of the active and inactive solid waste disposal sites described in 6 above.

8. Have any outside parties used your property for the disposal of their solid waste? If so

    *identify the party

    *identify the waste (specific chemical compounds and common names)

    *specify the volume of the waste, the time period during which the waste was deposited on your property and show the location of the disposal site on the map described in 7 above.

9. If you consider solid wastes located on-site (i.e., on your property or on BMI property) to be stored rather than disposed

   *identify the waste and its volume (specific chemical compounds and common names)

   *identify the storage method (drums, burial, etc.)

   *show the location of storage site(s) on the map described in 7 above.

10. If you have conducted any groundwater monitoring in the vicinity of your solid waste disposal or storage sites describe the location of the monitoring wells, their depths and the results of any groundwater analyses.

LIQUID WASTE

11. Identify the liquid wastes produced by the manufacturing operations described in 1 through 3 above (specific chemical compounds and common names). Identify and estimate the volume of liquid process wastes which enter the BMI storm and domestic waste (sewage) systems; the remainder of your liquid process waste stream is covered by the following questions.

12. For those liquid wastes that have been disposed of off-site (i.e., off your property and off BMI property) supply the following information:

   *identity of wastes (specific chemical compounds and common names)

   *volume of wastes

   *name and location of dump sites

13. For those liquid wastes that have been disposed of on-site (i.e., on your property or on BMI property) supply the following information:

   *identity of waste disposed of in leachbeds or directly on the earth's surface (specific chemical compounds and common names)

*identity and volume of wastes disposed of in unlined ponds (specific chemical compounds and common names)

*identity and volume of wastes disposed of in lined ponds (specific chemical compounds and common names)

*dates when these disposal methods began and ended for each identified waste product

14. Show by a simple map, drawn to scale, the locations of the active and inactive liquid waste disposal sites described in 13 above.

15. If lined ponds have ever been used for the disposal of liquid wastes (see 13 above) describe the monitoring system used to detect leaks, estimate past and present leakage rates, identify those ponds which are leaking, and describe any plans to upgrade the pond linings.

16. Where are sludges and residues removed from the ponds disposed of?

17. If you consider liquid wastes located on-site (i.e., on your property or on BMI property) to be <u>stored</u> rather than <u>disposed</u>

*identify the waste and its volume (specific chemical compounds and common names)

*identify the storage method (drums, tanks, etc.)

*summarize significant leaks and spills

*show the location of storage site(s) on the map described in 14 above.

18. Have any outside parties used your property for the disposal of their liquid waste? If so

*identify the party

*identify the waste (specific chemical compounds and common names)

*specify the volume of the waste, the time period during which the waste was deposited on your

property and show the location of the disposal site on the map described in 14 above.

19. If you have conducted any groundwater monitoring in the vicinity of your liquid waste disposal or storage sites describe the location of the monitoring wells, their depths and the results of any groundwater analyses.

Section 309 of the CWA, 33 U.S.C. 1319, Section 113 of the CAA, 42 U.S.C. 7413, and Section 3008 of RCRA, 42 U.S.C. 6928, provide for civil or criminal penalties for failure to submit information and criminal penalties for knowingly making a false statement.

Your cooperation is appreciated.

Sincerely yours,

Kathleen G. Shimmin for

Clyde B. Eller
Director
Enforcement Division

cc: Marvin Tebeau, Nevada DEP

106

1

KERR-McGEE CHEMICAL CORPORATION
POST OFFICE BOX 55 • HENDERSON, NEVADA 89015

X|C TLH 3/30/8?

May 2, 1980

Mr. Clyde B. Eller, Director
Enforcement Division
United States Environmental
Protection Agency
Region IX
215 Fremont Street
San Francisco, CA 94105

Reference: E-5-2
SOW-HAZ-6-6-2-6

Dear Mr. Eller:

The following information is provided in response to your request of March 25, 1980. The numbered statements are in the same order as the questions of your letter.

GENERAL

1. Operations

U. S. Government	- 194- - 1945 ?
Western Electrochemical Company	- 1945 - 1955
American Potash & Chemical Corporation	- 1955 - 1967
Kerr-McGee Chemical Corporation	- 1967 - Present

2. Products

A. U. S. Government

Magnesium Metal

B. Western Electrochemical Company

Sodium Chlorate	- 1945 - 1955
Potassium Chlorate	- 19-- - 1955
Potassium Perchlorate	- 1945 - 1955
Ammonium Perchlorate	- 1951 - 1955
Manganese Dioxide	- 1951 - 1955

C. American Potash & Chemical Corporation

Same as B above	- 1955 - 1967

D. Kerr-McGee Chemical Corporation

Sodium Chlorate	- 1967 - 1980
Sodium Perchlorate	- 1968 - 1980
Potassium Chlorate	- 1967 - 1974
Potassium Perchlorate	- 1967 - 1980
Ammonium Perchlorate	- 1967 - 1980
Manganese Dioxide	- 1967 - 1980
Magnesium Perchlorate	- 1969 - 1974
Boron Trichloride	- 1973 - 1980
Boron Tribromide	- 1973 - 1980
Elemental Boron	- 1972 - 1980
Tumbleaf Defoliant	- 1975 - 1979

Other inorganic chemicals were produced at various times on an experimental basis or for a limited time period.

3. Raw Materials

Sodium Chlorate	- sodium chloride + water
Sodium Perchlorate	- sodium chlorate + water
Potassium Chlorate	- sodium chlorate + potassium chloride
Potassium Perchlorate	- sodium perchlorate + potassium chloride
Ammonium Perchlorate	- sodium perchlorate + ammonia + hydrochloric acid
Magnesium Perchlorate	- magnesium carbonate + ammonium perchlorate
Manganese Dioxide	- manganese ore (pyrolusite) + sulfuric acid
Boron Trichloride	- boron carbide + chlorine
Boron Tribromide	- boron carbide + bromine
Elemental Boron	- boric oxide + magnesium
Tumbleaf	- sodium chlorate, borax, sodium carbonate, and surfactant

SOLID WASTE

4. Identity

A. Chlorate Operations - graphite
calcium carbonate
calcium sulfate
diatomaceous earth (silica)

B. Perchlorate Operations - calcium carbonate
chromium hydroxide
diatomaceous earth

C. Manganese Dioxide - manganese ore (acid insoluble)
heavy metal sulfides
diatomaceous earth
paraffin wax
calcium sulfate

5. Off-Site Disposal

Barium Sulfide (drums), 709 cubic feet, to Nuclear Engineering Company, Beatty, Nevada

PCB Contaminated Solids (drums), 144 cubic feet, to Nuclear Engineering Company, Beatty, Nevada

6. On-Site Disposal

A. Chlorate Wastes - graphite, calcium carbonate, calcium sulfate

Company	Years	Estimated Volume-Cu.Ft.	Disposal Site
WECCO	1945-1950	52,000	BMI Ponds
WECCO	1951-1955	52,000	BMI Ponds
AP&CC	1956-1967	162,000	BMI Ponds
KMCC	1968-1974	125,000	BMI Ponds
KMCC	1975-1980	90,000	BMI Dump

B. Manganese Wastes - manganese ore, heavy metal sulfides, diatomaceous earth, paraffin wax

Company	Years	Estimated Volume-Cu.Ft.	Disposal Site
WECCO	1951-1955	95,000	Company Ponds
AP&CC	1956-1967	426,000	Company Ponds
KMCC	1968-1973	375,000	Company Ponds
KMCC	1974-1980	585,000	KMCC Site

13b leach beds

C. Perchlorate solids are not measurable.

1951-1974 - Disposed to BMI ponds
1975-1980 - Disposed to company ponds

7. Location

(See attachment.)

8. Outside Parties

None

9. Storage

We do not consider on-site wastes to be stored, although some rearrangement may ultimately take place.

10. Ground Water Monitoring

None conducted.

LIQUID WASTE

11. Identity

Liquid effluents generated by the various processes described in 1-3 above are retained in several impervious ponds on KMCC property. Most are recycled back to the specific process after concentration through solar evaporation. In the summer months, once-through cooling water, up to 4 MM gallons/day, is discharged under the terms of an NPDES permit via the BMI storm drain to the Alpha Ditch.

12. Off-Site Disposal

None

13. On-Site Disposal

A. Combined Effluents (except Manganese Dioxide wastes)

Up to 1976, disposal was to BMI ponds. Average volume, based on 1970 NPDES report, 600,000 gallons per day. Average content:

Total Dissolved Solids	- 19,100	pounds/day
Total Solids	- 20,200	"
Suspended Solids	- 1,080	"
C.O.D.	- 110	"
NH_3	- 35	"
Calcium	- 2,000	"
Iron	- 1,100	"
Potassium	- 1,200	"
Sodium	- 5,000	"
Magnesium	- 150	"
Zinc	- 130	"
Manganese	- 1,800	"
Nickel	- 8	"
Lead	- 4	"
Copper	- 4	"
Cobalt	- 1.5	"
Chromium	- 0.3	"
Phosphorous	- 0.4	"

B. Manganese Dioxide

Tailings described in 4C were slurried in water and disposed of on site (leach beds). LOCATION

Daily volume - 86,000 gallons/day (estimate)

Total volume - 330 million gallons

C. Lined Ponds

Use of lined ponds started in 1974 and continues to the present. The ponds and the aqueous chemical solutions stored in them are listed below. Contained volume and composition are reported as of February 12, 1980.

Pond No.	Volume, Gallons	Source	Contents
C-1	1,730,000	Boiler, Cooling Tower Blowdown	63,400 lbs. NaCl
			22,450 ppm TDS
P-2	284,200	Ammonium Perchlorate & Sodium Chlorate Operations	251,000 lbs. NaCl
			1,094,000 lbs. $NaClO_3$
P-3	283,000	Sodium Chlorate Operations	193,400 lbs. NaCl
			440,000 lbs. $NaClO_3$
S-1	660,000	Potassium & Boron Operations	345,000 lbs. NaCl
			100,200 lbs. $NaClO_3$
			139,200 lbs. $NaClO_4$
AP-1	353,000	Ammonium Perchlorate Operations	103,000 lbs. NaCl
			123,600 lbs. $NaClO_3$
			135,300 lbs. $NaClO_4$
AP-2	MT	Ammonium Perchlorate Operations	
AP-4	412,000	Ammonium Perchlorate Operations	120,000 lbs. NaCl
			34,300 lbs. $NaClO_4$
			92,700 lbs. NH_4ClO_4

* Note: Contents of all ponds, except C-1 and S-1 are recycled to an appropriate process.

14. Location

(See attachment)

15. Pond Monitoring

The level of each pond is gauged each week. The ponds are sampled and analyzed every two to three weeks. The gauging, together with knowledge of activity in the use of the pond, has been considered adequate in detecting leaks. On this basis, pond P-1 was abandoned (and is now being rebuilt), and pond AP-2 is being rebuilt. Actual leakage rates have not been measured. Through experience, better liner materials and construction methods have been employed in the more recent ponds.

16. Residues

Dried residues from ponds P-1 and AP-2 have been removed to the BMI dump.

17. Storage

As indicated previously, contents of most lined ponds are recycled to a process. In that sense we do not consider the contents to be "waste," but rather process materials.

18. Outside Parties

Apparently the government used a dyked area at the northern part of KMCC's property for disposal of liquid wastes, presumed to be caustic solutions, i.e., sodium hydroxide. The quantity and time period are unknown. State Industries, a lessee, impounds pickling wastes in lined ponds. These are believed to be essentially spent sulfuric acid and ferrous sulfate (in water).

19. Ground Water Monitoring

None has been conducted.

Obviously it is difficult to briefly address 35 years of history for which there are few records and which involve several operations and four management entities with a high degree of completeness and accuracy. Accordingly, we will continue to assess the above data and will revise or modify them as may prove appropriate.

Sincerely

KERR-McGEE CHEMICAL CORPORATION

C. B. Armstrong
Plant Manager

CBA:jc
Attachments

cc: Marvin Tebeau

CERTIFIED MAIL NO. 882483

bcc: WBHayes/ILDenny-OKC
TLHurst-OKC
RFWohletz

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION IX
215 Fremont Street
San Francisco, Ca. 94105

(10c) JUN 20 1980

CERTIFIED MAIL NO. P12 5828643
RETURN RECEIPT REQUESTED

In Reply E-5-2
Refer to: SOW-HAZ-6-6-2-6

Mr. C. B. Armstrong
Plant Manager
Kerr-McGee Chemical Corporation
P.O. Box 55
Henderson, NV 89015

17 JUN 1980

Dear Mr. Armstrong:

On May 2, 1980 you responded to our letter of March 25, 1980 in which we requested information relating to your manufacturing operations and the solid and liquid wastes produced by these operations. We appreciate the time and effort that you expended in compiling this information. The activities you described in your letter have given us valuable insights into the waste disposal situation in Henderson.

In order to clear up the remaining questions we have concerning your waste-related operations you are required to report the following information within 10 days of receipt of this letter.

1. What is the relationship of Western Electrochemical Company, American Potash and Chemical Corporation and Kerr-McGee Chemical Corporation (your answer 1)? Has KMCC assumed the rights and obligations of WECCO and AP&CC?

2. Identify (specific chemical compounds and common names) the solid and liquid wastes produced by the boron operations. Estimate the total volume of solid and liquid wastes produced, describe the disposal method(s) and locate the disposal site(s) on a map drawn to scale. In answering these questions separate estimates should be given for the solid and liquid portions.

3. Explain the terms "company ponds" and "KMCC site" (your answer 6). Are these lined or unlined ponds? During what years were they used? Locate these ponds on a map drawn to scale.

4. With regard to your answer 13, estimate the total volume of liquid waste which has flowed into each lined disposal pond. What percent of this volume has been recycled into your operations?

5. On a map drawn to scale show the location of the leach beds which received slurried manganese dioxide waste (your answer 13).

6. When did the discharge of aqueous combined effluent (except manganese dioxide waste) to BMI ponds begin?

7. What is the total volume of liquid waste that has been disposed at pond AP-2? At pond P-1? For each pond list the operation from which the wastes originated and the total volume of waste that has been contributed from each operation.

8. What is the chemical composition of the dried residue in pond AP-2 and pond P-1? Estimate the volume of residue in each of these ponds that has been disposed of in the BMI dump.

9. Are the sludge residues in any of the lined ponds recycled? If so, give the pond number, the chemical composition of the sludge, the total volume of the sludge and the percentage recycled.

10. Where have the liquid wastes from the potassium perchlorate, sodium perchlorate and magnesium perchlorate operations been disposed? If these wastes have been disposed of in <u>lined</u> ponds, identify the waste producing operation, the pond number and the total volume of waste produced by each operation. If these wastes have been disposed of in <u>unlined</u> ponds give the above information and show the location of the disposal sites on a map drawn to scale.

11. Do liquid wastes that entered pond S-1 from the "potassium operations" include wastes from the potassium chlorate and potassium perchlorate operations? If not, identify the wastes, estimate the total volume of waste

disposed and show the location of the disposal site(s) on a map drawn to scale.

Under Section 308 of the Clean Water Act (CWA), 33 U.S.C. 1318, Section 114 of the Clean Air Act (CAA), 42 U.S.C. 7414, and Section 3007 of the Resource Conservation and Recovery Act (RCRA), 42 U.S.C. 6927, EPA is authorized to require records and other information as necessary to administer the CWA, CAA, and RCRA. Section 309 of the CWA, 33 U.S.C. 1319, Section 113 of the CAA, 42 U.S.C. 7413, and Section 3008 of RCRA, 42 U.S.C. 6928 provide for civil or criminal penalties for failure to submit information and criminal penalties for knowingly making a false statement.

If you need assistance in understanding these questions please contact Jon Merkle at (415)556-7841.

Your cooperation is appreciated.

Sincerely yours,

Clyde B. Eller

Clyde B. Eller
Director
Enforcement Division

cc: Marvin Tebeau, Nevada DEP

X/C TLH 8/3/80

(102)

KERR-McGEE CHEMICAL CORPORATION
POST OFFICE BOX 55 • HENDERSON, NEVADA 89015

July 18, 1980

Mr. Clyde B. Eller, Director
Enforcement Division
United States Environmental
Protection Agency
Region IX
215 Fremont Street
San Francisco, CA 94105

Reference: E-5-2
SOW-HAZ-6-6-2-6

Dear Mr. Eller:

The following information is provided in response to your request of June 17, 1980. The numbered statements are in the same order as the questions of your letter. Some of the answers are not directly responsive to the questions but are given after a telephone discussion between our Mr. R. Wohletz and your Mr. Jon Merkle concerning those particular questions. Based upon this discussion, we believe we are providing the desired information.

1. Western Electrochemical Company merged into American Potash & Chemical Corporation and the latter subsequently merged into Kerr-McGee Chemical Corporation. In each instance, the surviving company succeeded to the rights and liabilities as provided by state law.

2. The liquid waste from the boron operations is an aqueous solution containing magnesium, sodium, sulfate, and borate ions. From 1972 until approximately 1976, this solution went to the BMI ponds. The volume of waste would have been about one million gallons. From 1976 to the present, this waste went first to pond P-1 and then to pond S-1. These lined ponds are located on the enclosed map which is the same as the one transmitted with our May 2, 1980 letter. Total volume of these wastes would have been about one and a quarter million gallons. The only solid waste from these operations is elemental carbon powder. Up through 1979, this carbon was disposed of at the BMI dump and totaled approximately 100,000 pounds. Currently it is being hauled to the sanitary land fill operated by Silver State Disposal here in Clark County.

3. In clarification of our previous letter, manganese wastes have been handled in two ways in the history of this plant. As a dewatered filter cake, they have been hauled in a semi-dry form to a tailings pile, or they have been slurried and pumped to unlined ponds where the solids have been deposited on the surface and the water allowed to percolate into the ground. The two areas marked *Mn tailings* on the attached map are areas where the dewatered filter cake has been hauled. The area marked *Mn tailings solid and slurried* was first used as a ponding area for the percolation beds and subsequently used as a repository for semi-dry tailings on top of the old percolation ponds.

4. A response to this question will consist of a description of each membrane-lined pond and its service in the plant. The areas of the individual ponds are noted on the map and the volume contents as of February, 1980 were listed in our May 2, 1980 letter. We do not have a measure of the volumes to and from the ponds.

   Pond C-1 is a waste pond which collects blowdown from our cooling tower and our steam plant and minor volumes of cleaning solutions used in the plant. This solution contains some sodium hexametaphosphate and small amounts of sulfamic acid.

   Ponds AP-1 and AP-2 are used as part of the ammonium perchlorate process. Clear solution from either one of these ponds is used to sluice a filter cake, containing about 90-95 percent diatomaceous earth with perchlorates, some chromic hydroxide, and smaller quantities of calcium carbonate and magnesium hydroxide, to the pond basin. This solution is reused until such time that enough process material accumulates to return clear liquor to the process. The solution is not discharged. In effect, one pond is a spare for the other, and only one is in active service at a given time.

   Pond AP-4 serves the ammonium perchlorate plant. Its primary function is to provide an emergency basin to catch unusual flows from the ammonium perchlorate plant cooling tower. It also collects a few minor flows from the process area. Liquor from this pond is used to make up for evaporation in AP-1 and AP-2 and thereby returned to the process.

   Ponds P-1 and S-1 at various times have collected waste liquors from the potassium chlorate, potassium perchlorate, sodium perchlorate, and boron operations. The ponds contain sodium, potassium, magnesium, chloride, chlorate, perchlorate, borate and sulfate ions. There is no recycling from them.

Ponds P-2 and P-3 are emergency ponds for the sodium chlorate plant to contain excess volumes that may accumulate due to process fluctuations or excessive rainfall. In addition, a caustic scrubbing solution from the ammonium perchlorate plant enters these ponds. Liquors from these ponds are recycled to the process.

5. This question has been answered in Item 3 above.

6. Please refer to the original answers given on May 2, Items 1 through 6. Flows have been going to the BMI ponds since the days when the government operated the plant.

7. The pond usage described in Item 4 is believed to have supplied the desired information.

8. See Item 4 above. We do not have an accurate measure of the solids disposed of in the BMI dump from AP-2 and P-1, but estimate them to be in the order of 50 tons each.

9. No.

10. Prior to approximately 1976, these wastes were disposed of to the BMI ponds as part of the combined effluent. After 1976, these wastes were disposed of to P-1 and then to S-1. The volume of these wastes cannot be accurately determined.

11. Yes.

We trust that the information in this letter and our response of May 2, 1980 allows you to appreciate the impossibility of providing more specific data, but we hope you have gained an adequate understanding of waste disposal practices at this facility. If you feel that still additional information is required, perhaps a field visit would be in order.

Sincerely,

KERR-McGEE CHEMICAL CORPORATION

C. B. Armstrong
Plant Manager

CBA:jc
Attachment

cc: Marvin Tebeau

CERTIFIED MAIL NO. 0233497

bcc: WBHayes/ILDenny-OKC
TLHurst-OKC
RFWohletz

SOUTHERN NEVADA WATER SYSTEM (11a) TW-02-03

INFLUENT WATER CHARACTERISTICS*- LAKE MEAD ELEVATION 1050 ft.

SAMPLE NO.		1-72	2-72	5-72	8-72	3-73	6-73	8-73	11-73	4-74	6-74	9-74	Σ / n
Alkalinity as $CaCO_3$	OH	0	0	0	0	0	0	—	—	—	—	—	0
	CO_3	12	4	0	0	8	0	—	—	—	—	—	4
	HCO_3	112	126	132	129	122	130	135	130	144	134	122	129
Aluminum	Al	—	—	—	0	0	0	0.325	0.00	—	0.08	—	0.068
Arsenic	As	—	—	—	—	—	—	—	—	—	—	—	—
Barium	Ba	—	—	—	—	—	—	—	—	—	—	—	—
Bismuth	Bi	—	—	—	—	—	—	—	—	—	—	—	—
Boron	B	—	—	—	—	—	—	—	—	—	—	—	—
Cadmium	Cd	—	—	—	—	—	—	0.001	—	—	—	—	0.001
Calcium	Ca	89.6	98	83	86	86	90	94	88	83.2	88.4	88.2	88.6
Carbon Dioxide	CO_2	8.5	1.5	3	4	2	1.9	—	5.3	1.6	—	—	3.5
Chloride	Cl	92	94	90	88	86	90	95	96	—	84	86.4	90
Chlorine Residual		0	0	0	0	0	0	0	0	—	0	0	0
Chromium (Hex)	Cr	—	.06	Tr	0	0	0	0.002	—	—	—	—	0.03
Color	Value	<5	0	<5	Tr	5	5	—	<5	—	—	—	<5
Copper	Cu	—	—	—	—	—	—	0.007	0.00	—	—	—	.0035
Corrosion Index		0.3	0.4	0.5	0.1	0.4	0.4	—	—	—	—	—	0.35
Cyanide	CN	—	—	—	—	—	—	—	—	—	—	—	—
Fluoride	F	0.5	—	0.5	0.6	0.33	0.37	0.62	0.68	0.58	0.61	0.48	0.53
Hardness	$CaCO_3$	340	332	336	332	328	332	365	316	312	296	310	327
Iron	Fe	0.06	0.2	—	0.02	0.022	—	0.047	—	<0.01	<0.01	<0.01	0.025
Lead	Pb	—	—	—	—	—	—	0.015	—	—	—	—	0.015
Lithium	Li	—	—	—	—	—	—	—	—	—	—	—	—
Magnesium	Mg	28.1	22	28	29	27	26	31.5	23.3	24.6	24.3	28.6	26.6
Manganese	Mn	0	0	0	—	0	0	0.009	—	<0.01	0.0	<0.01	0.003
Molybdenum	Mo	—	—	—	—	—	—	0.008	—	—	—	—	0.008
Nickel	Ni	—	—	—	—	—	—	—	—	—	—	—	—
Nitrogen Ammonia	N	0.1	0.1	0.1	0.06	0.12	—	Tr	Tr	—	—	Tr	0.076
Nitrate	N	—	—	0.43	2.4	2.12	1.7	0.15	0.50	0.32	—	0.26	0.99
Nitrite	N	.01	.18	Tr	0.6	0.12	0	—	0.0	—	—	—	0.15
Nitrogen Organic	N	—	—	—	—	—	—	—	—	—	—	—	—
Odor	TON	3	2	2	4	2	4	2	2	2	2	2	2.5
Oxygen Dissolved	O_2	8.4	8.3	7.5	3.5	9.1	8.3	6.4	4.1	9.2	7.6	5.0	7.0
pH	Value	8.1	8.2	8.1	7.7	8.2	8.2	7.7	7.7	8.2	8.0	8.0	8.0
Phenols		—	—	—	—	—	—	—	—	—	—	—	—
Phosphate	P	.05	.13	—	0	.43	.07	0.45	0.14	0.18	0.02	0.01	0.148
Potassium	K	—	—	—	—	—	—	4.96	—	—	—	—	4.96
Residue	(TDS)	767	845	761	766	735	741	731	722	746	705	746	751
Silica	SiO_2	9	9	10	9	8	8	—	10	7.5	8	8	8.7
Sodium	Na	—	—	—	—	102	105	106.6	121.6	—	100	105	106.7
Spec. Cond.	μ-mhos	1155	1145	1144	1238	1101	1073	1065	1024	1072	1086	1148	1114
Strontium	Sr	—	—	—	—	—	—	0.135	—	—	—	—	0.135
Sulfate	SO_4	290	—	320	320	320	290	345	325	286	305	315	312
Temperature	°C	14	14	20.5	15	10	11.5	—	15	11.5	21.0	15	15
Turbidity	TU	0.45	0.47	0.14	0.14	0.18	0.18	—	0.35	0.50	0.32	0.20	0.29
Zinc	Zn	—	—	—	—	—	—	0.063	—	—	—	—	0.063
Organic Carbon	TOC	—	—	—	—	—	—	13.0	—	—	—	19	16
Coliform Bact. /100ml		—	—	8	6	6	2	5	24	15	7	12	9.4
Micro-organisms Plankton/100ml		—	—	—	—	—	—	—	—	160	466	346	324

12/18/74

*In mg/l unless otherwise indicated

SOUTHERN NEVADA WATER SYSTEM

116

MAY 13 1981

COMPLETE PHYSICAL & CHEMICAL ANALYSIS

Date Collected 3-9-81 Sample No. 20-9 Date Reported

Time Collected 1135 Sample Wash Date Analyzed

Collected By R. Weigel Date Received 3-9-81 Time Received 1230

Characteristic		Found		Date, Time, Analyst	Characteristic		Found		Date, Time, Analyst
Alkalinity as $CaCO_3$	OH		mg/L		Manganese	Mn	0.12	mg/L	4/22,0930JLF
	CO_3		mg/L		MBAS		<0.01	mg/L	3/9,1200JLF
	HCO_3	232	mg/L	3/9,1245LRL	Mercury	Hg	<0.001	mg/L	3/11,0815JLF
AI		12.5		4/7,1500JWF	Molybdenum	Mo	0.064	mg/L	3/4,1400JWF
Aluminum	Al	.46	mg/L	4/23,0900LRL	Nickel	Ni	0.08	mg/L	4/15,1400JLF
Arsenic	As	.019	mg/L	4/16,1200LRL	Nitrogen Ammonia	N	3.8	mg/L	3/9,1430JWF
Barium	Ba	<0.1	mg/L	4/22,1230JLF	Nitrogen Nitrate	N	<0.1	mg/L	3/9,1230JWF
Beryllium	Be	<.0025	mg/L	5/5,0930LRL	Nitrogen Nitrite	N	0.059	mg/L	3/9,1400LRL
Boron	B	1.13	mg/L	3/11,1100JWF	Odor			TON	
Cadmium	Cd	<0.002	mg/L	4/22,0800JLF	Oxygen Dissolved	O_2		mg/L	
Calcium	Ca	208	mg/L	3/11,1145JLF	pH		7.4	value	3/9,1145RW
Carbon Dioxide	CO_2	15.0	mg/L	4/7,1500JWF	Phosphate, Total	P	<2.0	mg/L	2/10,1000DKB
Chloride	Cl	354	mg/L	3/10,1245JLF	Potassium	K	26.2	mg/L	3/16,1030JLF
Chlorine Residual		0	mg/L	3/9,1145RW	Residue, filtrable		2203	mg/L	3/10,1120JLF
Chromium	Cr	<0.1	mg/L	4/22,1400JLF	Selenium	Se	0.008	mg/L	4/21,0830JWF
Cobalt	Co	<0.01	mg/L	3/18,1000DKB	Silica	SiO_2	25.6	mg/L	3/11,0815JWF
Color		20	units	3/9,1430JLF	Silver	Ag	<0.01	mg/L	4/15,0900JLF
Conductivity		3010	µS/cm	3/12,1000JWF	Sodium	Na	289	mg/L	3/16,1130JLF
Copper	Cu	<0.02	mg/L	4/13,1130JLF	Strontium	Sr	2.6	mg/L	3/16,1000JLF
Fluoride	F	0.93	mg/L	3/10,1130JWF	Sulfate	SO_4	876	mg/L	3/9,1530JLF
Hardness	$CaCO_3$	876	mg/L	3/11,1045JLF	Temperature		15	°C	3/9,1145RW
Iron	Fe	0.42	mg/L	4/21,1530JWF	Thallium		<0.01	mg/L	4/9,1030JLF
LI		0.4		4/7,1500JWF	Turbidity			NTU	
Lead	Pb	0.08	mg/L	4/13,0900JLF	Vanadium	V	<0.05	mg/L	3/9,1000LRL
Magnesium	Mg	86	mg/L	3/11,1245,JLF	Zinc	Zn	<0.25	mg/L	3/16,0810JLF

DEVIATIONS FROM ELECTRONEUTRALITY

Cation (Me/L)			Anion (Me/L)		
Calcium	4.10		Bicarbonate	3.8	
Magnesium	7.1		Chloride	10.0	
Sodium	12.6		Sulfate	18.0	
Potassium	0.7		Silica	0.67	
TOTAL	31.0		TOTAL	34.0	
D.F.E.	-.05				

$$D.F.E. = \frac{\text{Total Cation} - \text{Total Anions}}{\text{Total Cation} + \text{Total Anions}}$$

Remarks

Laboratory Supt. [signature] Date 5/8/81

FORM 106N - S.N.W.S.

SOUTHERN NEVADA WATER SYSTEM

11c

COMPLETE PHYSICAL & CHEMICAL ANALYSIS

Date Collected 3-9-81 Sample No. 19-34 Date Reported

Time Collected 1050 Sample Raw, PP#1 Date Analyzed

Collected By L. Nagy Date Received 3-9-81 Time Received 1100

Characteristic	Found	Date, Time, Analyst	Characteristic	Found	Date, Time, Analyst
Alkalinity as $CaCO_3$ OH	mg/L		Manganese Mn	<0.002 mg/L	4/22,0930JLF
CO_3	mg/L		MBAS	<0.01 mg/L	3/9,1200JLF
HCO_3	130 mg/L	3/9,1245LRL	Mercury Hg	<0.001 mg/L	3/11,0815JLF
AI	12.4	4/7,1500JWF	Molybdenum Mo	0.024 mg/L	5/4,1400JWF
Aluminum Al	<.025 mg/L	4/23,0900LRL	Nickel Ni	<0.01 mg/L	4/15,1400JLF
Arsenic As	<.01 mg/L	4/16,1200LRL	Nitrogen Ammonia N	<0.05 mg/L	3/19,1432JWF
Barium Ba	<0.1 mg/L	4/22,1230JLF	Nitrogen Nitrate N	0.4 mg/L	3/10,1230JWF
Beryllium Be	<.0025 mg/L	5/5,0930LRL	Nitrogen Nitrite N	<0.005 mg/L	3/9,1400LRL
Boron B	0.27 mg/L	3/11,1100JWF	Odor	TON	
Cadmium Cd	<0.002 mg/L	4/22,0800JLF	Oxygen Dissolved O_2	mg/L	
Calcium Ca	86 mg/L	3/11,1145JLF	pH	8.0 value	3/9,operators
Carbon Dioxide CO_2	2.1 mg/L	4/7,1500JWF	Phosphate, Total P	<0.02 mg/L	3/10,1000DKB
Chloride Cl	86 mg/L	3/10,1245JLF	Potassium K	5.7 mg/L	3/16,1030JLF
Chlorine Residual	mg/L		Residue, filtrable	751 mg/L	3/10,1120JLF
Chromium Cr	<0.1 mg/L	4/22,1400JLF	Selenium Se	0.003 mg/L	4/20,0845JWF
Cobalt Co	<0.01 mg/L	3/18,1000DKB	Silica SiO_2	6.0 mg/L	3/11,0815JWF
Color	<2.5 units	3/9,1430JLF	Silver Ag	<0.01 mg/L	4/15,0900JLF
Conductivity	1069 µS/cm	3/12,1000JWF	Sodium Na	118 mg/L	3/16,1130JLF
Copper Cu	< 0.02 mg/L	4/15,1130JLF	Strontium Sr	1.0 mg/L	3/16,1000JLF
Fluoride F	0.32 mg/L	3/10,1130JWF	Sulfate SO_4	294 mg/L	3/9,1530JLF
Hardness $CaCO_3$	332 mg/L	3/11,1045JLF	Temperature	14 °C	
Iron Fe	0.010 mg/L	4/21,1030JWF	Thallium	<0.01 mg/L	4/9,1030JLF
LI	0.30	4/7,1500JWF	Turbidity	NTU	
Lead Pb	<0.005 mg/L	4/13,0900JLF	Vanadium V	<0.05 mg/L	3/9,1000LRL
Magnesium Mg	28 mg/L	3/11,1245JLF	Zinc Zn	<0.25 mg/L	3/16,0810JLF

DEVIATIONS FROM ELECTRONEUTRALITY

Cation (Me/L)			Anion (Me/L)		
Calcium	4.3		Bicarbonate	2.1	
Magnesium	2.3		Chloride	2.4	
Sodium	5.1		Sulfate	6.1	
Potassium	0.2		Silica	0.3	
TOTAL	12		TOTAL	11	
D.F.E.	.05				

$$D.F.E. = \frac{\text{Total Cation} - \text{Total Anions}}{\text{Total Cation} + \text{Total Anions}}$$

Remarks

Laboratory Supt. [signature] Date 5/8/81

FORM 106N - S.N.W.S.

SOUTHERN NEVADA WATER SYSTEM

MAR 17 1982

112

Lab I.D. #5

COMPLETE PHYSICAL & CHEMICAL ANALYSIS

S.N.W.S.

Date Collected 5/11/81 Sample No. 46-22 Date Reported

Time Collected 1050 Sample Raw Date Analyzed

Collected By R. Gregorio Date Received 5/11/81 Time Received 1115

Characteristic		Found		Date, Time, Analyst
Alkalinity as $CaCO_3$	OH		mg/L	
	CO_3		mg/L	
	HCO_3	132	mg/L	5/11,1530,DB
AI		12.1		2/22,1500,JF
Aluminum	Al	0.01	mg/L	DB
Arsenic	As	<0.025	mg/L	6/8,0800,JF
Barium	Ba	0.1	mg/L	6/15,0800,JF
Beryllium	Be	<0.005	mg/L	5/18,0800,JF
Boron	B	<0.25	mg/L	5/13,0820,JF
Cadmium	Cd	<0.0001	mg/L	9/25,1000,JF
Calcium	Ca	86.4	mg/L	5/13,0950,LRL
Carbon Dioxide	CO_2	5.3	mg/L	2/22,1500,JF
Chloride	Cl	87	mg/L	5/13,1330,JF
Chlorine Residual			mg/L	
Chromium	Cr	<0.01	mg/L	7/13,1030,JF
Cobalt	Co	<0.01	mg/L	10/14,0800,JF
Color		<2.5	units	5/11,1430,JF
Conductivity		1089	µS/cm	5/12,1400,JF
Copper	Cu	<0.001	mg/L	6/12,0800,JF
Fluoride	F	0.28	mg/L	5/12,1400,JLF
Hardness	$CaCO_3$	364	mg/L	5/13,0810,LRL
Iron	Fe	0.54	mg/L	10/16,0800,JF
LI		-0.1		2/22,1500,JF
Lead	Pb	<0.005	mg/L	10/13,0800,KG
Magnesium	Mg	35.9	mg/L	5/13,1120,LRL

Characteristic		Found		Date, Time, Analyst
Manganese	Mn	0.002	mg/L	6/15,1000,JF
MBAS		<0.1	mg/L	5/11,1230,JF
Mercury	Hg	<0.0005	mg/L	5/18,0800,JF
Molybdenum	Mo	<0.005	mg/L	10/18,0830,KG
Nickel	Ni	<0.01	mg/L	6/4,0800,JF
Nitrogen Ammonia	N	<0.5	mg/L	5/11,1415,LRL
Nitrogen Nitrate	N	0.55	mg/L	5/12,0700,DB
Nitrogen Nitrite	N	<.005	mg/L	5/11,1500,LRL
Odor			TON	
Oxygen Dissolved	O_2		mg/L	
pH		7.6	value	5/11,1115,JF
Phosphate, Total	P	0.02	mg/L	5/11,1230,JF
Potassium	K	4.85	mg/L	5/20,1530,JF
Residue, filtrable		734	mg/L	5/12,1115,JF
SPC				
Selenium	Se	0.008	mg/L	10/28,0800,KG
Silica	SiO_2	7.8	mg/L	5/13,1300,JF
Silver	Ag	<0.01	mg/L	6/9,0800,JF
Sodium	Na		mg/L	
Strontium	Sr	1.20	mg/L	5/21,1330,JF
Sulfate	SO_4	282	mg/L	5/14,0900,JF
Temperature		13	°C	
Thallium		0.02	mg/L	10/21,0800,JF
Turbidity		0.26	NTU	5/11,1540,JF
Vanadium	V	<0.1	mg/L	6/8,1200,JLF
Zinc	Zn	<0.1	mg/L	5/21,0930,JF

DEVIATIONS FROM ELECTRONEUTRALITY

Cation (Me/L)			Anion (Me/L)		
Calcium	4.3		Bicarbonate	2.2	
Magnesium	3.0		Chloride	2.5	
Sodium	7.0		Sulfate	5.9	
Potassium	0.1		Silica	0.7	
TOTAL	14		TOTAL	11	
D.F.E.	0.15				

$$D.F.E. = \frac{\text{Total Cation} - \text{Total Anions}}{\text{Total Cation} + \text{Total Anions}}$$

Remarks

Laboratory Supt. [signature] Date 3/12/82

FORM 1060 - S.N.W.S.

KERR-McGEE CHEMICAL CORPORATION
POST OFFICE BOX 55 • HENDERSON, NEVADA 89015

#11

July 18, 1980

Mr. Clyde B. Eller, Director
Enforcement Division
United States Environmental
Protection Agency
Region IX
215 Fremont Street
San Francisco, CA 94105

RECEIVED
JUL 21 1980
Environmental Protection

Reference: E-5-2
SOW-HAZ-6-6-2-6

Dear Mr. Eller:

The following information is provided in response to your request of June 17, 1980. The numbered statements are in the same order as the questions of your letter. Some of the answers are not directly responsive to the questions but are given after a telephone discussion between our Mr. R. Wohletz and your Mr. Jon Merkle concerning those particular questions. Based upon this discussion, we believe we are providing the desired information.

1. Western Electrochemical Company merged into American Potash & Chemical Corporation and the latter subsequently merged into Kerr-McGee Chemical Corporation. In each instance surviving company succeeded to the rights and liabiliti provided by state law.

2. The liquid waste from the boron operations is an aqueou solution containing magnesium, sodium, sulfate, and bor ions. From 1972 until approximately 1976, this solutio went to the BMI ponds. The volume of waste would have about one million gallons. From 1976 to the present, t waste went first to pond P-1 and then to pond S-1. The lined ponds are located on the enclosed map which is th same as the one transmitted with our May 2, 1980 letter. Total volume of these wastes would have been about one and a quarter million gallons. The only solid waste from these operations is elemental carbon powder. Up through 1979, this carbon was disposed of at the BMI dump and totaled approximately 100,000 pounds. Currently it is being hauled to the sanitary land fill operated by Silver State Disposal here in Clark County.

3. In clarification of our previous letter, manganese wastes have been handled in two ways in the history of this plant. As a dewatered filter cake, they have been hauled in a semi-dry form to a tailings pile, or they have been slurried and pumped to unlined ponds where the solids have been deposited on the surface and the water allowed to percolate into the ground. The two areas marked *Mn tailings* on the attached map are areas where the dewatered filter cake has been hauled. The area marked *Mn tailings solid and slurried* was first used as a ponding area for the percolation beds and subsequently used as a repository for semi-dry tailings on top of the old percolation ponds.

4. A response to this question will consist of a description of each membrane-lined pond and its service in the plant. The areas of the individual ponds are noted on the map and the volume contents as of February, 1980 were listed in our May 2, 1980 letter. We do not have a measure of the volumes to and from the ponds.

   Pond C-1 is a waste pond which collects blowdown from our cooling tower and our steam plant and minor volumes of cleaning solutions used in the plant. This solution contains some sodium hexametaphosphate and small amounts of sulfamic acid.

   Ponds AP-1 and AP-2 are used as part of the ammonium perchlorate process. Clear solution from either one of these ponds is used to sluice a filter cake, containing about 90-95 percent diatomaceous earth with perchlorates, some chromic hydroxide, and smaller quantities of calcium carbonate and magnesium hydroxide, to the pond basin. This solution is reused until such time that enough process material accumulates to return clear liquor to the process. The solution is not discharged. In effect, one pond is a spare for the other, and only one is in active service at a given time.

   Pond AP-4 serves the ammonium perchlorate plant. Its primary function is to provide an emergency basin to catch unusual flows from the ammonium perchlorate plant cooling tower. It also collects a few minor flows from the process area. Liquor from this pond is used to make up for evaporation in AP-1 and AP-2 and thereby returned to the process.

   Ponds P-1 and S-1 at various times have collected waste liquors from the potassium chlorate, potassium perchlorate, sodium perchlorate, and boron operations. The ponds contain sodium, potassium, magnesium, chloride, chlorate, perchlorate, borate and sulfate ions. There is no recycling from them.

Ponds P-2 and P-3 are emergency ponds for the sodium chlorate plant to contain excess volumes that may accumulate due to process fluctuations or excessive rainfall. In addition, a caustic scrubbing solution from the ammonium perchlorate plant enters these ponds. Liquors from these ponds are recycled to the process.

5. This question has been answered in Item 3 above.

6. Please refer to the original answers given on May 2, Items 1 through 6. Flows have been going to the BMI ponds since the days when the government operated the plant.

7. The pond usage described in Item 4 is believed to have supplied the desired information.

8. See Item 4 above. We do not have an accurate measure of the solids disposed of in the BMI dump from AP-2 and P-1, but estimate them to be in the order of 50 tons each.

9. No.

10. Prior to approximately 1976, these wastes were disposed of to the BMI ponds as part of the combined effluent. After 1976, these wastes were disposed of to P-1 and then to S-1. The volume of these wastes cannot be accurately determined.

11. Yes.

We trust that the information in this letter and our response of May 2, 1980 allows you to appreciate the impossibility of providing more specific data, but we hope you have gained an adequate understanding of waste disposal practices at this facility. If you feel that still additional information is required, perhaps a field visit would be in order.

Sincerely,

KERR-McGEE CHEMICAL CORPORATION

C. B. Armstrong
Plant Manager

CBA:jc
Attachment

cc: Marvin Tebeau

CERTIFIED MAIL NO. 0233497

ENVIRONMENTAL PROTECTION AGENCY

REGION IX

SURVEILLANCE & ANALYSIS DIVISION

NPDES Compliance Monitoring Report

Permittee: Kerr-McGee Chemical Corporation
Oklahoma City, Oklahoma

Facility: Kerr-McGee Chemical Corporation
Henderson NV

Permit No.: NV0000078

Date of Inspection: June 19, 1980

Inspection Participants:

EPA: Kenneth D. Greenberg
Environmental Engineer

Facility: Charles B. Armstrong
Plant Manager

Richard F. Wohletz
Superintendent, Plant Technical Services

Report Prepared by: Kenneth D. Greenberg

FINDINGS

Introduction

The Kerr-McGee Chemical Corporation operates an inorganic chemical production plant at the Basic Management, Inc. (BMI) industrial complex in Henderson, Nevada. The Kerr-McGee facility is subject to NPDES Permit No. NV0000078 which became effective on February 24, 1977 and expires on September 30, 1981. Under the permit, Kerr-McGee is authorized to discharge a daily maximum of 4.0 mgd of non-contact cooling water during the period of June 1 through September 30. The non-contact cooling water is discharged through an open ditch to Las Vegas Wash. Other process streams are either recycled or discharged to lined evaporation ponds located at the plant site. Pond parameters are summarized in Table-1 and their locations are shown in Figure 1.

The BMI industrial complex was originally owned by the U.S. Government which produced magnesium metal at the facility. In 1945, the portion of the industrial complex which is currently owned by Kerr-McGee was taken over by the Western Electrochemical Company. Western Electrochemical merged into American Potash and Chemical Corp. which took over operations at the facility in 1955. Finally, American Potash and Chemical Corp. merged into Kerr-McGee which gained control of the plant operations in 1967. Except for expansion to the production of boron compounds in the early 70's, the list of inorganic products at the facility (see details below) is basically unchanged since 1945.

Prior to 1976, liquid waste streams and slurried solid wastes from the facility were discharged to the unlined BMI ponds located across Boulder Highway to the northeast of the production area. In the mid-70's lined ponds were constructed on the Kerr-McGee plant property to accomodate liquid waste and recycle streams. Solid wastes have been and continue to be disposed on the Kerr-McGee plant property. Solid wastes were also disposed at the BMI dump, located northwest of the facility, until the dump closed in early 1980.

Production Processes and Wastewater Streams

Production at the Kerr-McGee facility is divided into four major processes: 1) Sodium chlorate, 2) perchlorates, 3) manganese dioxide, and 4) boron chemicals.

In the first process, sodium chlorate ($NaClO_3$) is produced in an electrolytic process from raw materials of sodium chloride and water. Sodium chlorate is sold for use in paper pulp bleaches and is also used as an intermediate in the production of perchlorates at the Henderson facility. Waste from the production of sodium chlorate consists of a filter cake containing impurities from the raw materials and filter aid.

In the past, the filter cake (containing calcium sulfate, calcium carbonate, graphite, and diatomaceous earth) has been slurried to the BMI ponds or disposed at the BMI dump. The filter cake, which contains 50% moisture, is currently dumped on the ground surface in the northwest corner of the plant property (see Figure 1).

Spills, cooling tower leaks, and excess storm runoff from the sodium chlorate process are discharged to the lined ponds, P-2, and P-3. Water from these ponds is recycled back to the process.

During the summer, non-contact cooling water, used in the sodium chlorate process is discharged to Las Vegas Wash via the BMI storm ditch and the Alpha ditch. Additional details on this discharge are provided in the subsection below on plant effluent.

The second major process at Kerr-McGee involves the production of ammonium perchlorate (NH_4ClO_4) and potassium perchlorate ($KClO_4$) which are used in the manufacture of rocket fuels. In this process, a solution of sodium chlorate is first electrolytically converted to sodium perchlorate ($NaClO_4$). The sodium perchlorate is then combined with salts of either ammonia or potassium to form the respective perchlorates.

Wastes from the ammonium perchlorate process include a filter cake and chromic hydroxide which is derived from the use of chromium as a filter aid. In the past, the filter cake, containing calcium sulfate and calcium carbonate, was slurried to the BMI ponds. Now the filter cake and chromic hydroxide are discharged in slurry form to the lined ponds AP-1 or AP-2. At the time of the inspection pond AP-2 was not in use and was empty. Liquid from these ponds is recycled back to the process through the pump basin AP-3. Emergency overflows from the ammonium perchlorate cooling tower are discharged to the lined pond AP-4. A minor stream from a caustic scrubber in the ammonium perchlorate process is discharged to pond P-2 along with wastes from the sodium chlorate process (described above). A waste stream from the potassium perchlorate process containing NaCl, KCl, and $KClO_4$ is discharged to the lined pond S-1.

The third major process at Kerr-McGee is the production of manganese dioxide which is sold for use in high performance dry cells. Low grade manganese ore is crushed, roasted, and then combined with sulfuric acid. The resulting manganous sulfate is then converted to manganese dioxide (MnO_2) by electrolysis. Wastes from this process include a solid waste containing silica, alumina, iron, and heavy metals which is filtered from the roasted ore after it has been combined with sulfuric acid. This waste, which amounts to 50% by weight of the raw ore, is currently disposed in piles at the Kerr-McGee plant site (see Figure 1).

A minor waste stream of sodium phosphate solution is discharged to pond C-1. The solution, which is used for cleaning the electrolytic cell electrodes, is discharged in batches of approximately 5,000 gallons once or twice per week. All other water used in the production of manganese dioxide is recycled.

The fourth major process at Kerr-McGee is the production of elemental boron (B), boron trichloride (BCl_3), and boron tribromide (BBr_3). Boron trichloride is used in the manufacture of boron filament for aircraft structures. Boron tribromide is used in semiconductor doping. Elemental boron is used in pyrotechnics. Waste streams from the production of boron chemicals include a leachate stream containing magnesium sulfate (500 gal./day) and a wet scrubber stream (7000 gal./day). These wastes were being discharged to pond S-1 at the time of the inspection.

Pond C-1 receives a waste stream from the plant's main boiler and cooling tower blowdown. The company reported that the discharge to pond C-1 contains 22,450 ppm total dissolved solids. Liquid in pond C-1 is not recycled back to the plant.

Ponds and Pond Leakage Monitoring

The Kerr-McGee discharge permit requires that:

"1. If any waste waters... are placed in ponds, such ponds shall be located and constructed so as to:

   a. contain with no discharge the once-in-one-hundred years storm at said location;

   b. Withstand with no discharge the once-in-one-hundred years flood of said location; and

   c. prevent escape of waste water by leakage.

2. The permittee shall submit to the Director and the Regional Administrator a summary of the results obtained from monitoring for seepage and leakage at the frequency specified in Part 1.C.2."

Plant personnel conduct a program of monitoring for pond leakage which involves 1) checking the level of liquid in each pond once or twice per week and 2) analyzing the concentration of certain salts in each pond every two or three weeks. With this data, large leaks can be detected by looking for unusual changes in the level of a pond or the load of dissolved salts

in a pond. The levels of liquid in adjacent ponds is also compared as a means for detecting losses of liquid in excess of the evaporation rate. A spot check of recorded data from this monitoring program revealed no unusual drops in pond level. Kerr-McGee officials stated that the monitoring program had revealed leaks in the liners of ponds P-1 and AP-2 which have now been repaired.

However, the current leakage monitoring program is not capable of detecting small leaks. The following techniques would make leak detection more exact but would still be subject to inaccuracies due to inherent errors in measurements. A continuous level recorder at each pond would provide a more complete picture of liner integrity and make comparison of levels in different ponds easier. However, it would still be difficult to separate liquid losses due to evaporation and small leaks. Continuous level recorders would also provide estimates of the volume of inflow to ponds which currently is not measured. TIMET, one of the other companies at the BMI complex, uses a lithium tracer for detection of leaks in their lined ponds. A known quantity of lithium carbonate is placed in each pond. Periodically the lithium concentration and the pond volume is determined. From this data the load of lithium in each pond can be calculated. A drop in the amount of lithium in a given pond would be due to loss through leakage since the lithium load is not affected by evaporation. It is not necessary to measure pond inflow with the lithium tracer technique.

As noted above, Kerr-McGee has been recording data from their leakage monitoring program. However, they have not been reporting this data to the Nevada DEP or EPA as required by the permit. The plant superintendent said that he was not aware of the requirement to report this data.

Originally all of the lined ponds at the Kerr-McGee facility were lined with a single layer of polyvinyl chloride (PVC) on the bottom joined to chlorinated polyethylene (CPE) on the side walls. CPE was used on the side walls of the pond because of its greater resistence to solar radiation. Kerr-McGee officials explained that the PVC/CPE pond liners have been deteriorating over the years because the two membrane materials are incompatable when in contact with each other. In four of the Kerr-McGee ponds, the original PVC/CPE liner developed leaks and have been replaced with a liner made of nylon reinforced rubber. During the inspection the plant superintendent stated that the company planned to take pond S-1 out of service in the near future in order to replace its PVC/CPE lining. The potassium perchlorate waste stream would be rerouted to pond P-1 which has a nylon reinforced rubber

liner but was not in use at the time of the inspection. Ponds AP-1 and AP-4 still have the original PVC/CPE liners which the superintendent claimed were in satisfactory condition. In future inspections, the condition of the AP-1 and AP-4 pond linings should be checked. The new nylon reinforced hypolon liners appear to be holding without excessive deterioration.

Plant Effluent and Monitoring Requirements

During the summer months, an average of 3.2 mgd of non-contact cooling water is used in the sodium chlorate process. As authorized by the NPDES permit, this non-contact cooling water is discharged to an unlined, open ditch. The discharge flows approximately 200 ft. to the north at which point it flows into the BMI storm ditch (another unlined open ditch) and continues to the east (see Figure 1). In accordance with their permit, the Kerr-McGee discharge passes under Boulder Highway in the BMI siphon, and through the crossover pipe to the Alpha ditch and on to Las Vegas Wash (see Figure 2).

The BMI storm ditch is also used by Stauffer Chemical Company for their permitted stormwater discharges. Stauffer is located immediately west of Kerr-McGee in the BMI complex. However, under Stauffer's permit, their stormwater discharges are required to flow through the BMI siphon and down the acid ditch which discharges to the upper BMI ponds. If Stauffer discharged stormwater during the summer months it would combine with the Kerr-McGee discharge of non-contact cooling water in the BMI storm ditch. Under their discharge permit, Stauffer would be required to close the crossover pipe in order to route their stormwater discharge to the upper BMI ponds. However, closing the crossover pipe would also cause the Kerr-McGee effluent to flow to the upper BMI ponds. Kerr-McGee is not authorized to discharge to the upper BMI ponds. On the other hand, if the crossover pipe were left open, then the Kerr-McGee effluent and the Stauffer stormwater would flow into the Alpha ditch. The flow of Stauffer stormwater to the Alpha ditch is not allowed under the Stauffer discharge permit. The conflict described above can be resolved either by 1) a permit modification or, 2) a rearrangement of the discharge ditches so the Kerr-McGee and Stauffer discharges do not use a common discharge route.

Under their discharge permit Kerr-McGee is required to monitor their effluent for flow, temperature, pH and oil and grease. The company is also required to measure the change in total dissolved solids and suspended solids of the non-contact cooling water which occurs in the process. Temperature is measured and recorded on a continuous basis while composites for TDS, suspended solids, and oil and grease are collectd manually at the head of the open discharge ditch which carries the non-contact cooling water (see Figure 1). Composites are made once a week by filling 8 glass jars on an hourly

basis from discharge water grabbed in a plastic bucket. The plant superintendent explained that the composites are not flow proportioned because the effluent flow is constant. A spot check of effluent flow charts revealed that this is generally true. However, the flow does fluctuate significantly on some days. Therefore, composite samples should be flow proportioned.

An orifice meter located in the plant production area is used to measure the flow which is reported in the discharge monitoring reports . This meter is only capable of measuring the discharge of non-contact cooling water. Other Kerr-McGee discharges which may occur would not be measured by the orifice meter. Other potential discharges to the BMI storm ditch by Kerr-McGee are storm water entering the unbermed ditch, pond overflows, or process spills. Many of the floor drains in the production area have been plugged to prevent such possibilities. However, during an earlier plant visit in August 1979, water leaking from a supply line in the plant was observed to be discharging through the open ditch which joins the BMI storm ditch near pond C-1. Due to the slope of the land and the lack of berms along the open ditches, storm runoff from Kerr-McGee plant property could easily enter the ditches and flow off plant property. Under their NPDES permit, Kerr-McGee is allowed to discharge noncontact cooling water. The discharge of any other liquids is not permitted.

Kerr-McGee has installed a weir and flow meter on the BMI storm ditch at the point it passes to TIMET property (see Figure 1). This meter would be capable of measuring all Kerr-McGee discharges in the BMI storm ditch. However, this meter would also measure any flow which may be discharged in the BMI storm ditch by Stauffer Chemical Company. Furthermore, the weir is not properly installed since it is not perpendicular to the axis of flow in the ditch. It is also possible for Kerr-McGee to discharge through an open ditch which enters TIMET property at a point south of the BMI storm ditch (see Figure 1). There is no flow measuring device on this ditch. In summary, with the flow measuring devices in place at the time of the inspection, it is not possible to measure all potential discharges from the Kerr-McGee plant.

A review of the plant's discharge monitoring reports for the summer months of 1979 revealed that the discharge was within the permitted limits with the exception of some exceedances of the pH limit. In 1979, the maximum limit on pH of 8.5 was exceeded in July (8.9), August (8.8), and October (8.6). The plant water supply (used for cooling water) has an average pH of 8.0 which contributes to the high pH of the discharge. The State of Nevada Division of Environmental Protection granted Kerr-McGee permission to continue their discharge of non-contact cooling water in October 1979. Due to unusually warm weather, the company found it necessary to continue the discharge until October 25, 1979.

SELF-MONITORING DEFICIENCIES

All self-monitoring procedures were in accordance with EPA requirements, EPA recommendations, and NPDES permit specifications with the exception of the following:

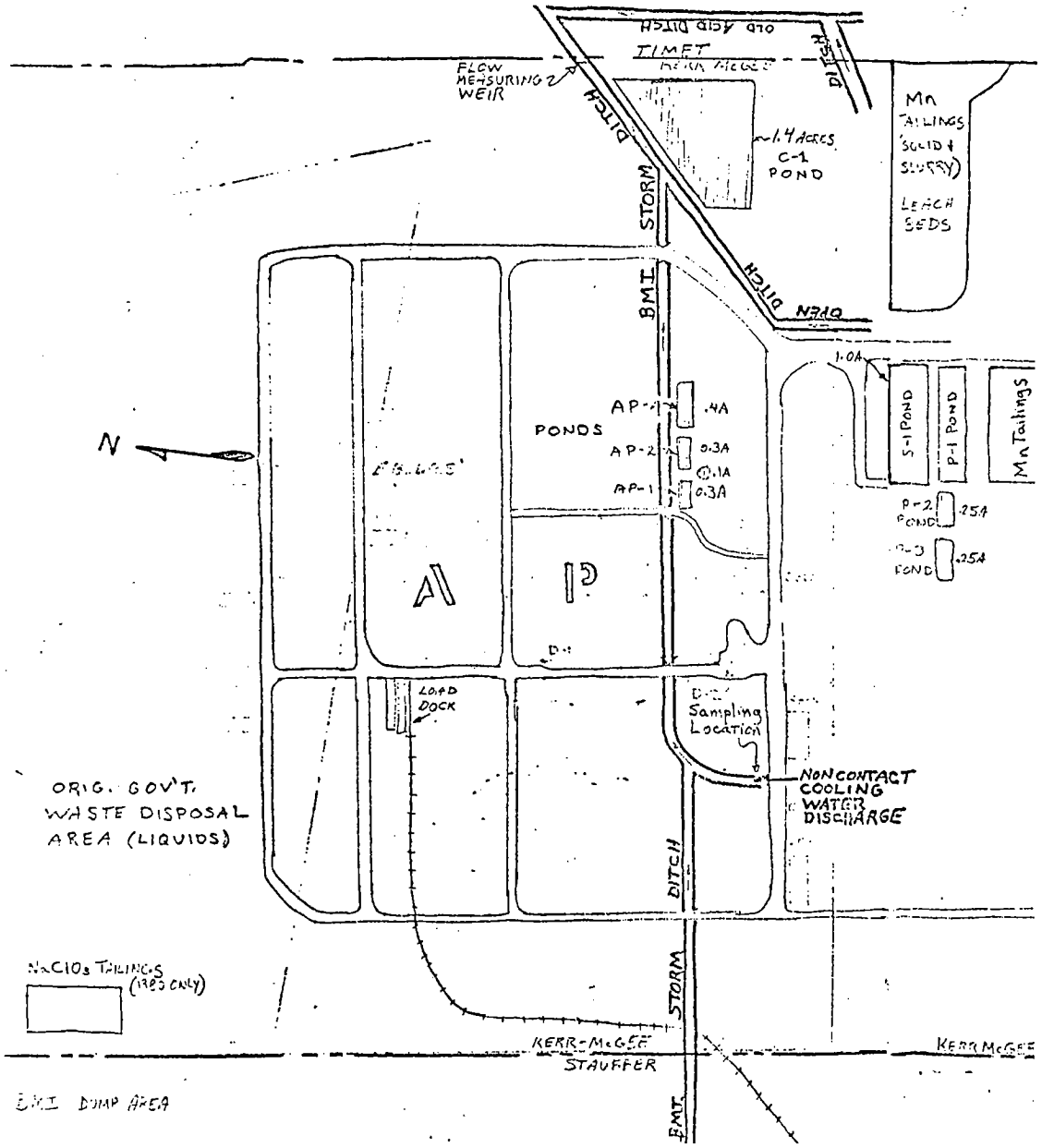
1. The permittee has failed to report the results of monitoring for leakage from holding ponds as required by the permit. (see detail in Findings Section above).

2. Composite samples of the plant effluent are not flow proportioned during collection as required by the permit. Plant personnel claim that, due to the uniform nature of the effluent, analysis results would not change significantly if the sample were flow proportioned. Kerr-McGee should show that this is true by comparing results obtained under both compositing techniques.

TABLE 1: KERR-McGEE CHEMICAL CORPORATION PONDS

POND	Process Waste	Evaporation or Recycle	Liner*	Surface Area (acres)	Capacity (gallons)
C-1	Steam Plant (Boiler), Cooling Tower	Evaporation	PVC w/reinforced rubber walls	1.4	2,750,000
P-1**	$KClO_4$ (future plans)	Evaporation	Reinforced rubber	0.7	>900,000
P-2	$NaClO_3$ spills and NH_4ClO_3 scrubber	Recycle	Reinforced rubber	0.25	350,000
P-3	$NaClO_3$ spills	Recycle	Reinforced rubber	0.25	350,000
AP-1	NH_4ClO_4	Recycle	PVC w/CPE walls	0.3	425,000
AP-2**	NH_4ClO_4	Recycle	Reinforced rubber	0.3	425,000
AP-3	Pump basin for AP-1 and AP-2	Recycle	unknown	0.1	50,000
AP-4	NH_4ClO_4 Cooling Tower	Evaporation	PVC w/CPE walls	0.4	650,000
S-1	$KClO_4$ and Boron Compounds	Evaporation	PVC w/CPE walls	1.0	2,000,000

* All ponds have single layer linings.
** Ponds which were not in use at time of inspection (June, 1980).


OLD ACID DITCH
IMFT
FLOW MEASURING WEIR
DITCH
STORM
1.4 ACRES C-1 POND
Mn TAILINGS (SOLID & SLURRY)
LEACH BEDS
OPEN DITCH
BMI
1.0A
AP-1 .4A
PONDS
AP-2 0.3A
0.1A
AP-1 0.3A
S-1 POND
P-1 POND
Mn Tailings
P-2 POND .25A
P-3 POND .25A
N
A
B
LOAD DOCK
Sampling Location
NON CONTACT COOLING WATER DISCHARGE
ORIG. GOV'T. WASTE DISPOSAL AREA (LIQUIDS)
DITCH
STORM
NaClO3 TAILINGS (1985 ONLY)
KERR-McGEE
STAUFFER
KERR McGEE
BMI
BMI DUMP AREA

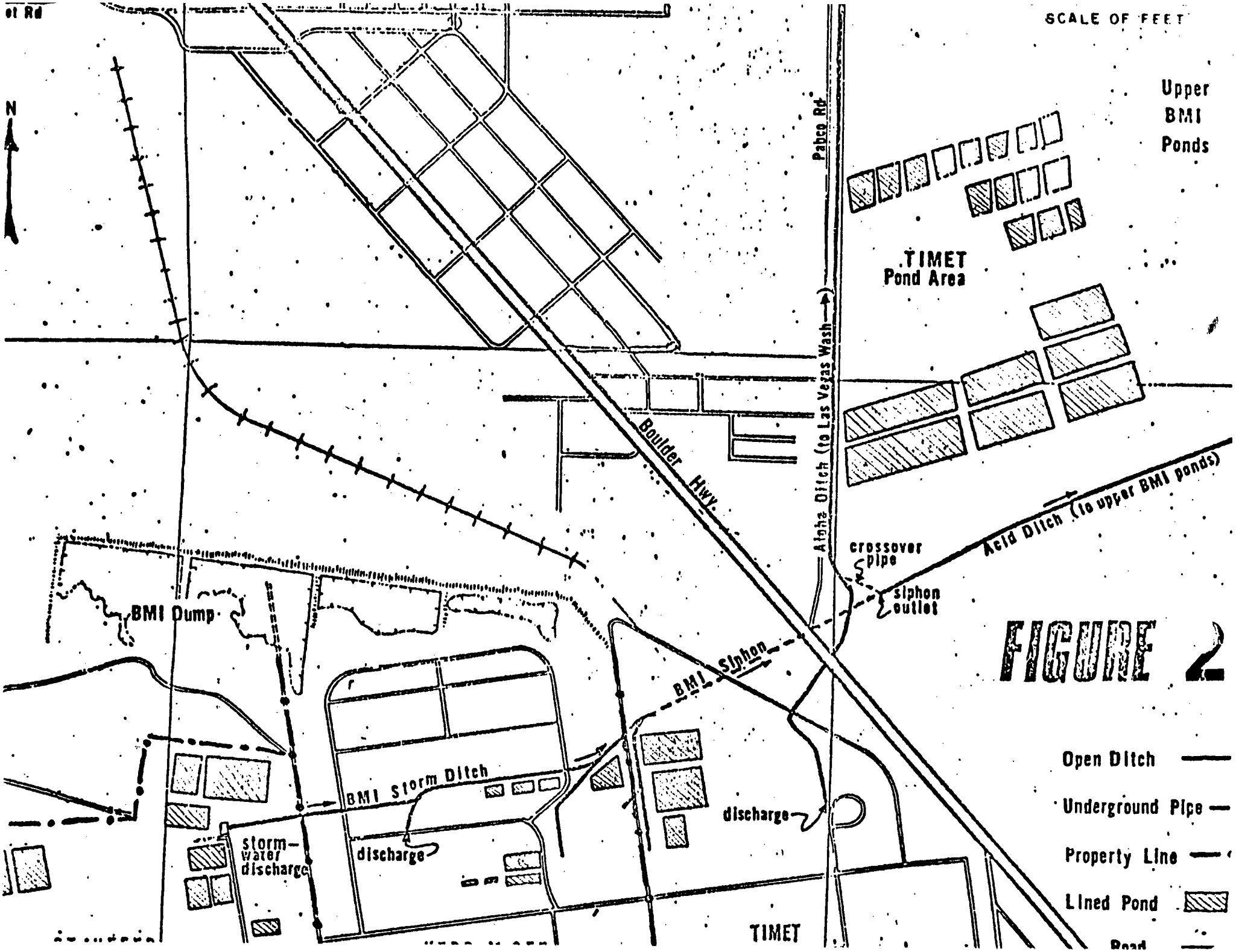

SCALE OF FEET
N
Upper
BMI
Ponds
TIMET
Pond Area
Pabco Rd
Aloha Ditch (to Las Vegas Wash)
Boulder Hwy.
Acid Ditch (to upper BMI ponds)
crossover pipe
siphon outlet
BMI Dump
BMI Siphon
BMI Storm Ditch
discharge
storm-water discharge
discharge
TIMET
Open Ditch
Underground Pipe
Property Line
Lined Pond
Road

FIGURE 2

Form Approved
OMB No. 158-[illegible]

NPDES COM[illegible]ANCE INSPECTION REPORT (Coding Inst[illegible]ons on back of last page)

TRANSACTION CODE		NPDES	YR MO DA	TYPE	INSPECTOR	FAC TYPE	TIME
N	5	NV0000078	800619	C	R	2	a.m. / p.m.
1	2	3 – 11	12 – 17	18	19	20	

REMARKS (21 – 64)

ADDITIONAL (65 – 70)

SECTION A - Permit Summary

NAME AND ADDRESS OF FACILITY (Include County, State and ZIP code)		EXPIRATION DATE / ISSUANCE DATE
Kerr-McGee Chemical Corporation P.O. Box 55 Henderson NV 89015 (Clark County, NV)		EXPIRATION DATE: Sept. 30, 1981 ISSUANCE DATE: Feb. 24, 1977
RESPONSIBLE OFFICIAL: Charles B. Armstrong	TITLE: Plant Manager	PHONE: (702) 565-8901
FACILITY REPRESENTATIVE: Richard F. Wohletz	TITLE: Superintendent, Plant Technical Services	PHONE: (702) 565-8901

SECTION B - Effluent Characteristics (Additional sheets attached ______) Data from DMR for September 1979

PARAMETER/ OUTFALL		MINIMUM	AVERAGE Daily	MAXIMUM Daily	ADDITIONAL
Flow/ 001	SAMPLE MEASUREMENT		3.8 mgd	4.0 mgd	
	PERMIT REQUIREMENT			4.0 mgd	
Total Dissolved Solids/ 001	SAMPLE MEASUREMENT				0 mg/l net change
	PERMIT REQUIREMENT				Net change from water supply to effluent not to exceed 75 mg/l monthly avg.
Temp./ 001	SAMPLE MEASUREMENT		20°C	22°C	
	PERMIT REQUIREMENT		27°C	31°C	
Oil and Grease/ 001	SAMPLE MEASUREMENT		1.7 mg/l	2.6 mg/l	
	PERMIT REQUIREMENT		10 mg/l	15 mg/l	
pH/ 001	SAMPLE MEASUREMENT	8.1		8.3	
	PERMIT REQUIREMENT	6.5		8.5	

SECTION C - Facility Evaluation (S = Satisfactory, U = Unsatisfactory, N/A = Not applicable)

S	EFFLUENT WITHIN PERMIT REQUIREMENTS	NA	OPERATION AND MAINTENANCE	U	SAMPLING PROCEDURES
U	RECORDS AND REPORTS	NA	COMPLIANCE SCHEDULE	S	LABORATORY PRACTICES
S	PERMIT VERIFICATION	U	FLOW MEASUREMENTS		OTHER:

SECTION D - Comments

SECTION E - Inspection/Review

SIGNATURES	AGENCY	DATE	ENFORCEMENT DIVISION USE ONLY
INSPECTED BY Kenneth D. Greenberg	EPA IX	Feb. 19, 1981	COMPLIANCE STATUS
INSPECTED BY			☐ COMPLIANCE ☐ NONCOMPLIANCE
REVIEWED BY			

Form Approved
OMB No. 158-R80

Sections F thru L: Complete on all ...spections, as appropriate. N/A = Not Applicable

PERMIT NO. NV0000078

SECTION F - Facility and Permit Background

ADDRESS OF PERMITTEE IF DIFFERENT FROM FACILITY (Including City, County and ZIP code)	DATE OF LAST PREVIOUS INVESTIGATION BY EPA/STATE
Kerr-McGee Chemical Corporation McGee Tower Oklahoma City, Oklahoma	EPA - Feb. 15, 1979 FINDINGS

SECTION G - Records and Reports

RECORDS AND REPORTS MAINTAINED AS REQUIRED BY PERMIT. ☐ YES ☒ NO ☐ N/A (Further explanation attached X)

DETAILS: Leakage monitoring data not reported

(a) ADEQUATE RECORDS MAINTAINED OF:				
(i)	SAMPLING DATE, TIME, EXACT LOCATION	☒ YES	☐ NO	☐ N/A
(ii)	ANALYSES DATES, TIMES	☒ YES	☐ NO	☐ N/A
(iii)	INDIVIDUAL PERFORMING ANALYSIS	☒ YES	☐ NO	☐ N/A
(iv)	ANALYTICAL METHODS/TECHNIQUES USED	☒ YES	☐ NO	☐ N/A
(v)	ANALYTICAL RESULTS (e.g., consistent with self-monitoring report data)	☒ YES	☐ NO	☐ N/A
(b) MONITORING RECORDS (e.g., flow, pH, D.O., etc.) MAINTAINED FOR A MINIMUM OF THREE YEARS INCLUDING ALL ORIGINAL STRIP CHART RECORDINGS (e.g. continuous monitoring instrumentation, calibration and maintenance records).		☒ YES	☐ NO	☐ N/A
(c) LAB EQUIPMENT CALIBRATION AND MAINTENANCE RECORDS KEPT.		☒ YES	☐ NO	☐ N/A
(d) FACILITY OPERATING RECORDS KEPT INCLUDING OPERATING LOGS FOR EACH TREATMENT UNIT.		☐ YES	☐ NO	☒ N/A
(e) QUALITY ASSURANCE RECORDS KEPT.		☒ YES	☐ NO	☐ N/A
(f) RECORDS MAINTAINED OF MAJOR CONTRIBUTING INDUSTRIES (and their compliance status) USING PUBLICLY OWNED TREATMENT WORKS.		☐ YES	☐ NO	☒ N/A

SECTION H - Permit Verification

INSPECTION OBSERVATIONS VERIFY THE PERMIT. ☒ YES ☐ NO ☐ N/A (Further explanation attached _____)

DETAILS:

(a) CORRECT NAME AND MAILING ADDRESS OF PERMITTEE.	☒ YES	☐ NO	☐ N/A
(b) FACILITY IS AS DESCRIBED IN PERMIT.	☒ YES	☐ NO	☐ N/A
(c) PRINCIPAL PRODUCT(S) AND PRODUCTION RATES CONFORM WITH THOSE SET FORTH IN PERMIT APPLICATION.	☒ YES	☐ NO	☐ N/A
(d) TREATMENT PROCESSES ARE AS DESCRIBED IN PERMIT APPLICATION.	☐ YES	☐ NO	☒ N/A
(e) NOTIFICATION GIVEN TO EPA/STATE OF NEW, DIFFERENT OR INCREASED DISCHARGES.	☐ YES	☐ NO	☒ N/A
(f) ACCURATE RECORDS OF RAW WATER VOLUME MAINTAINED.	☐ YES	☐ NO	☒ N/A
(g) NUMBER AND LOCATION OF DISCHARGE POINTS ARE AS DESCRIBED IN PERMIT.	☒ YES	☐ NO	☐ N/A
(h) CORRECT NAME AND LOCATION OF RECEIVING WATERS.	☒ YES	☐ NO	☐ N/A
(i) ALL DISCHARGES ARE PERMITTED.	☒ YES	☐ NO	☐ N/A

SECTION I - Operation and Maintenance

TREATMENT FACILITY PROPERLY OPERATED AND MAINTAINED. ☐ YES ☐ NO ☒ N/A (Further explanation attached _____)

DETAILS:

(a) STANDBY POWER OR OTHER EQUIVALENT PROVISIONS PROVIDED.	☐ YES	☐ NO	☒ N/A
(b) ADEQUATE ALARM SYSTEM FOR POWER OR EQUIPMENT FAILURES AVAILABLE.	☐ YES	☐ NO	☒ N/A
(c) REPORTS ON ALTERNATE SOURCE OF POWER SENT TO EPA/STATE AS REQUIRED BY PERMIT.	☐ YES	☐ NO	☒ N/A
(d) SLUDGES AND SOLIDS ADEQUATELY DISPOSED.	☐ YES	☐ NO	☒ N/A
(e) ALL TREATMENT UNITS IN SERVICE.	☐ YES	☐ NO	☒ N/A
(f) CONSULTING ENGINEER RETAINED OR AVAILABLE FOR CONSULTATION ON OPERATION AND MAINTENANCE PROBLEMS.	☐ YES	☐ NO	☒ N/A
(g) QUALIFIED OPERATING STAFF PROVIDED.	☐ YES	☐ NO	☒ N/A
(h) ESTABLISHED PROCEDURES AVAILABLE FOR TRAINING NEW OPERATORS.	☐ YES	☐ NO	☒ N/A
(i) FILES MAINTAINED ON SPARE PARTS INVENTORY, MAJOR EQUIPMENT SPECIFICATIONS, AND PARTS AND EQUIPMENT SUPPLIERS.	☐ YES	☐ NO	☒ N/A
(j) INSTRUCTIONS FILES KEPT FOR OPERATION AND MAINTENANCE OF EACH ITEM OF MAJOR EQUIPMENT.	☐ YES	☐ NO	☒ N/A
(k) OPERATION AND MAINTENANCE MANUAL MAINTAINED.	☐ YES	☐ NO	☒ N/A
(l) SPCC PLAN AVAILABLE.	☐ YES	☐ NO	☒ N/A
(m) REGULATORY AGENCY NOTIFIED OF BY PASSING. (Dates _____ _____)	☐ YES	☐ NO	☒ N/A
(n) ANY BY-PASSING SINCE LAST INSPECTION.	☐ YES	☐ NO	☒ N/A
(o) ANY HYDRAULIC AND OR ORGANIC OVERLOADS EXPERIENCED.	☐ YES	☐ NO	☒ N/A

Form Approved
OMB No. 158-R

PERMIT NO. NV0000078

SECTION J - Compliance Schedules

PERMITTEE IS MEETING COMPLIANCE SCHEDULE. ☐ YES ☐ NO ☒ N/A *(Further explanation attached ____)*

CHECK APPROPRIATE PHASE(S):

- ☐ (a) THE PERMITTEE HAS OBTAINED THE NECESSARY APPROVALS FROM THE APPROPRIATE AUTHORITIES TO BEGIN CONSTRUCTION.
- ☐ (b) PROPER ARRANGEMENT HAS BEEN MADE FOR FINANCING *(mortgage commitments, grants, etc.)*.
- ☐ (c) CONTRACTS FOR ENGINEERING SERVICES HAVE BEEN EXECUTED.
- ☐ (d) DESIGN PLANS AND SPECIFICATIONS HAVE BEEN COMPLETED.
- ☐ (e) CONSTRUCTION HAS COMMENCED.
- ☐ (f) CONSTRUCTION AND/OR EQUIPMENT ACQUISITION IS ON SCHEDULE.
- ☐ (g) CONSTRUCTION HAS BEEN COMPLETED.
- ☐ (h) START-UP HAS COMMENCED.
- ☐ (i) THE PERMITTEE HAS REQUESTED AN EXTENSION OF TIME.

SECTION K - Self-Monitoring Program

Part 1 – Flow measurement *(Further explanation attached ____)*

PERMITTEE FLOW MEASUREMENT MEETS THE REQUIREMENTS AND INTENT OF THE PERMIT. DETAILS:	☒ YES	☐ NO	☐ N/A
(a) PRIMARY MEASURING DEVICE PROPERLY INSTALLED.	☒ YES	☐ NO	☐ N/A
TYPE OF DEVICE: ☐ WEIR ☐ PARSHALL FLUME ☐ MAGMETER ☐ VENTURI METER ☒ OTHER *(Specify Orifice)*			
(b) CALIBRATION FREQUENCY ADEQUATE. *(Date of last calibration ____)*	☒ YES	☐ NO	☐ N/A
(c) PRIMARY FLOW MEASURING DEVICE PROPERLY OPERATED AND MAINTAINED.	☒ YES	☐ NO	☐ N/A
(d) SECONDARY INSTRUMENTS *(totalizers, recorders, etc.)* PROPERLY OPERATED AND MAINTAINED.	☒ YES	☐ NO	☐ N/A
(e) FLOW MEASUREMENT EQUIPMENT ADEQUATE TO HANDLE EXPECTED RANGES OF FLOW RATES.	☒ YES	☐ NO	☐ N/A

Part 2 – Sampling *(Further explanation attached X)*

PERMITTEE SAMPLING MEETS THE REQUIREMENTS AND INTENT OF THE PERMIT. DETAILS:	☐ YES	☒ NO	☐ N/A
(a) LOCATIONS ADEQUATE FOR REPRESENTATIVE SAMPLES.	☒ YES	☐ NO	☐ N/A
(b) PARAMETERS AND SAMPLING FREQUENCY AGREE WITH PERMIT.	☒ YES	☐ NO	☐ N/A
(c) PERMITTEE IS USING METHOD OF SAMPLE COLLECTION REQUIRED BY PERMIT. IF NO, ☐ GRAB ☐ MANUAL COMPOSITE ☐ AUTOMATIC COMPOSITE FREQUENCY ____	☒ YES	☐ NO	☐ N/A
(d) SAMPLE COLLECTION PROCEDURES ARE ADEQUATE.	☐ YES	☒ NO	☐ N/A
(i) SAMPLES REFRIGERATED DURING COMPOSITING	☐ YES	☒ NO	☐ N/A
(ii) PROPER PRESERVATION TECHNIQUES USED	☒ YES	☐ NO	☐ N/A
(iii) FLOW PROPORTIONED SAMPLES OBTAINED WHERE REQUIRED BY PERMIT	☐ YES	☒ NO	☐ N/A
(iv) SAMPLE HOLDING TIMES PRIOR TO ANALYSES IN CONFORMANCE WITH 40 CFR 136.3	☒ YES	☐ NO	☐ N/A
(e) MONITORING AND ANALYSES BEING PERFORMED MORE FREQUENTLY THAN REQUIRED BY PERMIT.	☐ YES	☒ NO	☐ N/A
(f) IF (e) IS YES, RESULTS ARE REPORTED IN PERMITTEE'S SELF-MONITORING REPORT.	☐ YES	☐ NO	☒ N/A

Part 3 – Laboratory *(Further explanation attached ____)*

PERMITTEE LABORATORY PROCEDURES MEET THE REQUIREMENTS AND INTENT OF THE PERMIT. DETAILS:	☒ YES	☐ NO	☐ N/A
(a) EPA APPROVED ANALYTICAL TESTING PROCEDURES USED. *(40 CFR 136.3)*	☒ YES	☐ NO	☐ N/A
(b) IF ALTERNATE ANALYTICAL PROCEDURES ARE USED, PROPER APPROVAL HAS BEEN OBTAINED.	☐ YES	☐ NO	☒ N/A
(c) PARAMETERS OTHER THAN THOSE REQUIRED BY THE PERMIT ARE ANALYZED.	☐ YES	☒ NO	☐ N/A
(d) SATISFACTORY CALIBRATION AND MAINTENANCE OF INSTRUMENTS AND EQUIPMENT.	☒ YES	☐ NO	☐ N/A
(e) QUALITY CONTROL PROCEDURES USED.	☒ YES	☐ NO	☐ N/A
(f) DUPLICATE SAMPLES ARE ANALYZED. ____ ...% OF TIME.	☒ YES	☐ NO	☐ N/A
(g) SPIKED SAMPLES ARE USED. ____ ...% OF TIME.	☒ YES	☐ NO	☐ N/A
(h) COMMERCIAL LABORATORY USED.	☐ YES	☒ NO	☐ N/A
(i) COMMERCIAL LABORATORY STATE CERTIFIED.	☐ YES	☐ NO	☒ N/A

LAB NAME ____

LAB ADDRESS ____

Form Approved
OMB No. 155-[illegible]

PERMIT NO. NV0000078

SECTION L - Effluent/Receiving Water Observations *(Further explanation attached _____)*

OUTFALL NO.	OIL SHEEN	GREASE	TURBIDITY	VISIBLE FOAM	VISIBLE FLOAT SOL	COLOR	OTHER
001	None	None	None	None	None	None	

(Sections M and N: Complete as appropriate for sampling inspections)

SECTION M - Sampling Inspection Procedures and Observations *(Further explanation attached _____)*

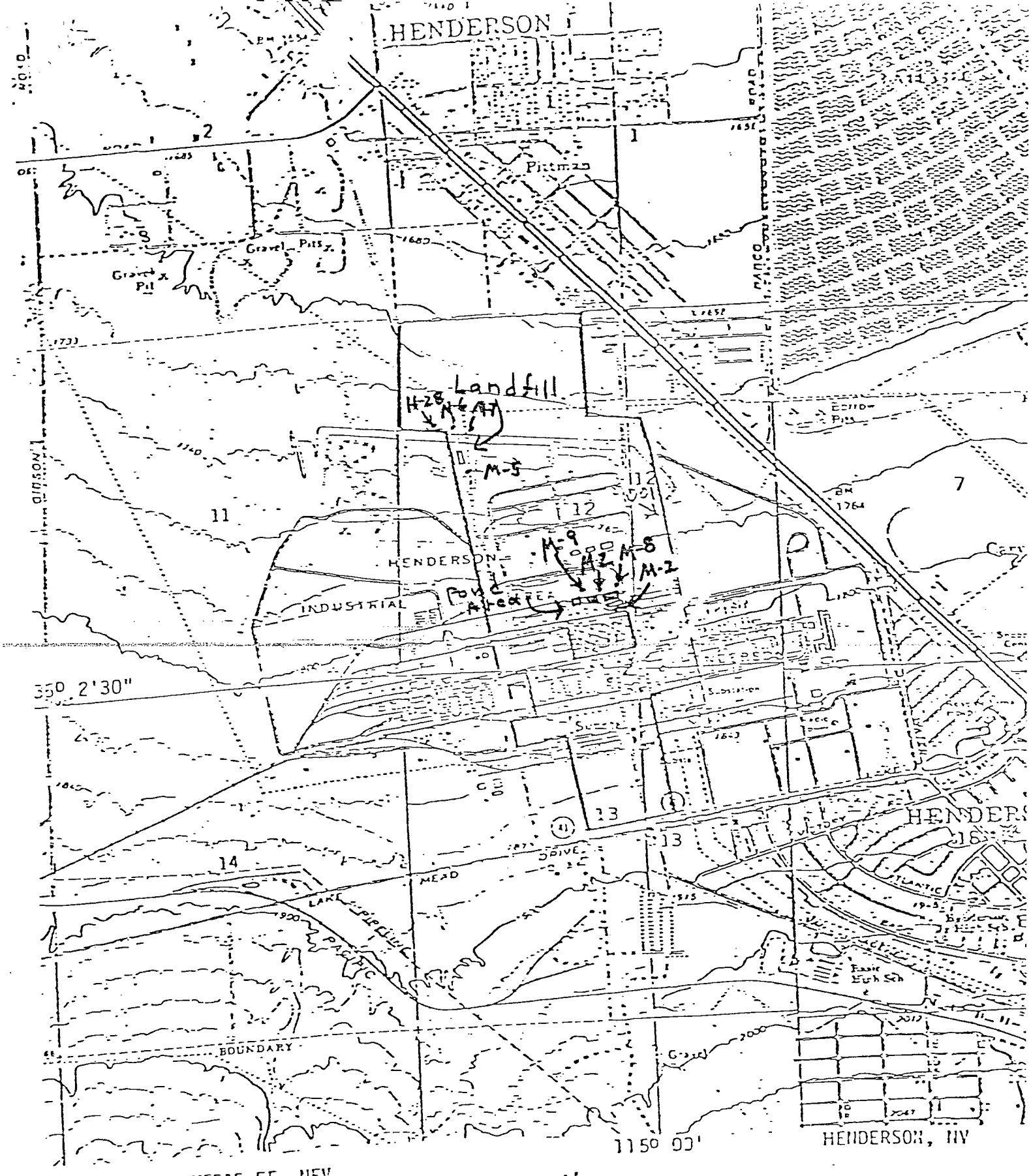
- ☐ GRAB SAMPLES OBTAINED
- ☐ COMPOSITE OBTAINED
- ☐ FLOW PROPORTIONED SAMPLE
- ☐ AUTOMATIC SAMPLER USED
- ☐ SAMPLE SPLIT WITH PERMITTEE
- ☐ CHAIN OF CUSTODY EMPLOYED
- ☐ SAMPLE OBTAINED FROM FACILITY SAMPLING DEVICE

COMPOSITING FREQUENCY _____ PRESERVATION _____

SAMPLE REFRIGERATED DURING COMPOSITING: ☐ YES ☐ NO

SAMPLE REPRESENTATIVE OF VOLUME AND NATURE OF DISCHARGE _____

SECTION N - Analytical Results *(Attach report if necessary)*



M-1, M-5 up gradient wells

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION IX
215 Fremont Street
San Francisco, Ca. 94105

RECEIVED
JUN 20 1980
Environmental Protection

CERTIFIED MAIL NO. P12 5828643
RETURN RECEIPT REQUESTED

In Reply Refer to: E-5-2
SOW-HAZ-6-6-2-6

Mr. C. B. Armstrong
Plant Manager
Kerr-McGee Chemical Corporation
P.O. Box 55
Henderson, NV 89015

17 JUN 1980

Dear Mr. Armstrong:

On May 2, 1980 you responded to our letter of March 25, 1980 in which we requested information relating to your manufacturing operations and the solid and liquid wastes produced by these operations. We appreciate the time and effort that you expended in compiling this information. The activities you described in your letter have given us valuable insights into the waste disposal situation in Henderson.

In order to clear up the remaining questions we have concerning your waste-related operations you are required to report the following information within 10 days of receipt of this letter.

1. What is the relationship of Western Electrochemical Company, American Potash and Chemical Corporation and Kerr-McGee Chemical Corporation (your answer 1)? Has KMCC assumed the rights and obligations of WECCO and AP&CC?

2. Identify (specific chemical compounds and common names) the solid and liquid wastes produced by the boron operations. Estimate the total volume of solid and liquid wastes produced, describe the disposal method(s) and locate the disposal site(s) on a map drawn to scale. In answering these questions separate estimates should be given for the solid and liquid portions.

3. Explain the terms "company ponds" and "KMCC site" (your answer 6). Are these lined or unlined ponds? During what years were they used? Locate these ponds on a map drawn to scale.

4. With regard to your answer 13, estimate the total volume of liquid waste which has flowed into each lined disposal pond. What percent of this volume has been recycled into your operations?

5. On a map drawn to scale show the location of the leach beds which received slurried manganese dioxide waste (your answer 13).

6. When did the discharge of aqueous combined effluent (except manganese dioxide waste) to BMI ponds begin?

7. What is the total volume of liquid waste that has been disposed at pond AP-2? At pond P-1? For each pond list the operation from which the wastes originated and the total volume of waste that has been contributed from each operation.

8. What is the chemical composition of the dried residue in pond AP-2 and pond P-1? Estimate the volume of residue in each of these ponds that has been disposed of in the BMI dump.

9. Are the sludge residues in any of the lined ponds recycled? If so, give the pond number, the chemical composition of the sludge, the total volume of the sludge and the percentage recycled.

10. Where have the liquid wastes from the potassium perchlorate, sodium perchlorate and magnesium perchlorate operations been disposed? If these wastes have been disposed of in lined ponds, identify the waste producing operation, the pond number and the total volume of waste produced by each operation. If these wastes have been disposed of in unlined ponds give the above information and show the location of the disposal sites on a map drawn to scale.

11. Do liquid wastes that entered pond S-1 from the "potassium operations" include wastes from the potassium chlorate and potassium perchlorate operations? If not, identify the wastes, estimate the total volume of waste

disposed and show the location of the disposal site(s) on a map drawn to scale.

Under Section 308 of the Clean Water Act (CWA), 33 U.S.C. 1318, Section 114 of the Clean Air Act (CAA), 42 U.S.C. 7414, and Section 3007 of the Resource Conservation and Recovery Act (RCRA), 42 U.S.C. 6927, EPA is authorized to require records and other information as necessary to administer the CWA, CAA, and RCRA. Section 309 of the CWA, 33 U.S.C. 1319, Section 113 of the CAA, 42 U.S.C. 7413, and Section 3008 of RCRA, 42 U.S.C. 6928 provide for civil or criminal penalties for failure to submit information and criminal penalties for knowingly making a false statement.

If you need assistance in understanding these questions please contact Jon Merkle at (415)556-7841.

Your cooperation is appreciated.

Sincerely yours,

ORIGINAL SIGNED BY:
CLYDE ELLER

Clyde B. Eller
Director
Enforcement Division

cc: ✓Marvin Tebeau, Nevada DEP

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION IX
215 Fremont Street
San Francisco, Ca. 94105

RECEIVED
MAR 28 1980
Environmental Protection

CERTIFIED MAIL NO. P125847816
RETURN RECEIPT REQUESTED

In Reply Refer to: E-5-2
SOW-HAZ-6-6-2-6

25 MAR 1980

Mr. Charles B. Armstrong
Plant Manager
Kerr-McGee Chemical Corp.
P.O. Box 55
Henderson, NV 89015

Dear Mr. Armstrong:

The United States Environmental Protection Agency (EPA) is currently seeking to identify sites where hazardous wastes have been disposed or are being stored for disposal. Under Section 308 of the Clean Water Act (CWA), 33 U.S.C. 1318, Section 114 of the Clean Air Act (CAA), 42 U.S.C. 7414, and Section 3007 of the Resource Conservation and Recovery Act (RCRA), 42 U.S.C. 6927, EPA is authorized to require records and other information as necessary to administer the CWA, CAA, and RCRA.

In order to determine whether hazardous wastes have been or are being disposed, stored or transported on or off your property you are hereby required to report the following information within 30 days of receipt of this letter.

GENERAL

1. When did your company begin manufacturing operations at your present location?

2. What products have been manufactured since operations began? Give trade names/common names and describe any changes with time.

3. Identify the raw materials used in the manufacturing operations described in 2 above (specific chemical compounds and common names).

SOLID WASTE

4. Identify the solid wastes produced by the manufacturing operations described in 1 through 3 above (specific chemical compounds and common names).

5. For those solid wastes that have been disposed of off-site (i.e., off your property and off BMI property) supply the following information:

   *identity of wastes (specific chemical compound and common names)

   *volume of wastes

   *name and location of dump sites

6. For those solid wastes that have been disposed of on-site (i.e., on your property or on BMI property) supply the following information:

   *identity of waste (specific chemical compounds and common names)

   *volume of wastes

   *disposal method (i.e., drums, burial, burning, etc.)

   *dates when this disposal method began and ended for each identified waste product

7. Show by a simple map, drawn to scale, the locations of the active and inactive solid waste disposal sites described in 6 above.

8. Have any outside parties used your property for the disposal of their solid waste? If so

   *identify the party

   *identify the waste (specific chemical compounds and common names)

   *specify the volume of the waste, the time period during which the waste was deposited on your property and show the location of the disposal site on the map described in 7 above.

9. If you consider solid wastes located on-site (i.e., on your property or on BMI property) to be stored rather than disposed

   *identify the waste and its volume (specific chemical compounds and common names)

   *identify the storage method (drums, burial, etc.)

   *show the location of storage site(s) on the map described in 7 above.

10. If you have conducted any groundwater monitoring in the vicinity of your solid waste disposal or storage sites describe the location of the monitoring wells, their depths and the results of any groundwater analyses.

LIQUID WASTE

11. Identify the liquid wastes produced by the manufacturing operations described in 1 through 3 above (specific chemical compounds and common names). Identify and estimate the volume of liquid process wastes which enter the BMI storm and domestic waste (sewage) systems; the remainder of your liquid process waste stream is covered by the following questions.

12. For those liquid wastes that have been disposed of off-site (i.e., off your property and off BMI property) supply the following information:

   *identity of wastes (specific chemical compounds and common names)

   *volume of wastes

   *name and location of dump sites

13. For those liquid wastes that have been disposed of on-site (i.e., on your property or on BMI property) supply the following information:

   *identity of waste disposed of in leachbeds or directly on the earth's surface (specific chemical compounds and common names)

*identity and volume of wastes disposed of in unlined ponds (specific chemical compounds and common names)

*identity and volume of wastes disposed of in lined ponds (specific chemical compounds and common names)

*dates when these disposal methods began and ended for each identified waste product

14. Show by a simple map, drawn to scale, the locations of the active and inactive liquid waste disposal sites described in 13 above.

15. If lined ponds have ever been used for the disposal of liquid wastes (see 13 above) describe the monitoring system used to detect leaks, estimate past and present leakage rates, identify those ponds which are leaking, and describe any plans to upgrade the pond linings.

16. Where are sludges and residues removed from the ponds disposed of?

17. If you consider liquid wastes located on-site (i.e., on your property or on DMI property) to be stored rather than disposed

*identify the waste and its volume (specific chemical compounds and common names)

*identify the storage method (drums, tanks, etc.)

*summarize significant leaks and spills

*show the location of storage site(s) on the map described in 14 above.

18. Have any outside parties used your property for the disposal of their liquid waste? If so

*identify the party

*identify the waste (specific chemical compounds and common names)

*specify the volume of the waste, the time period during which the waste was deposited on your

property and show the location of the disposal site on the map described in 14 above.

19. If you have conducted any groundwater monitoring in the vicinity of your liquid waste disposal or storage sites describe the location of the monitoring wells, their depths and the results of any groundwater analyses.

Section 309 of the CWA, 33 U.S.C. 1319, Section 113 of the CAA, 42 U.S.C. 7413, and Section 3008 of RCRA, 42 U.S.C. 6928, provide for civil or criminal penalties for failure to submit information and criminal penalties for knowingly making a false statement.

Your cooperation is appreciated.

Sincerely yours,

Original signed by
KATHLEEN SHANAHAN

Clyde B. Eller
Director
Enforcement Division

cc: Marvin Tebeau, Nevada DEP

KERR Mc-GEE

STATE OF NEVADA
DEPARTMENT OF CONSERVATION AND NATURAL RESOURCES
DIVISION OF ENVIRONMENTAL PROTECTION
CAPITOL COMPLEX
CARSON CITY, NEVADA 89710

TELEPHONE (702) 885-4670

May 5, 1982

Mr. George Stewart
President
Basic Management, Inc.
P.O. Box 2065
Henderson, Nevada 89015

Dear Mr. Stewart:

The submittals from the industries located at the BMI Complex required for Items 1, 2, and 3 of the Division's Order dated February 25, 1982, have been received and reviewed. In most cases, the submittals were adequate, but have raised some questions which must be answered in order to fully complete Item 3. The additional information needed is indicated below for the specific industry. This information shall be submitted by May 21, 1982.

Genstar Cement and Lime Company

The Genstar response was complete.

Jones Chemicals, Inc.

Jones reported that an evaporation tank is used for the disposal of wash down water from the cleaning of drums, bottles, and delivery trucks. Jones shall submit an analysis of the chemical constituents of the waste wash water, a description of the tank (construction, buried, above ground, etc.), the leak detection system, and how the waste wash water is transported to the tank.

Kerr-McGee Chemical Corporation

Kerr-McGee responded to the Order assuming the ground water contamination of the area only regarded organic chemicals. Kerr-McGee shall supplement their response to include information on inorganic wastes; particularly those containing heavy metals.

Sampling and analyses conducted by the State have reported cyanide, arsenic, chromium, selenium, and antimony. The levels of these chemicals found in the ground water and surface water significantly exceed the drinking water standards.

Kerr-McGee shall include in their response:

(1) Whether the above named chemicals or other hazardous inorganic chemicals are used in their processes;

(2) Whether their wastes ever contained those chemicals, where the wastes were disposed, and how much has been disposed; and

(3) At what rate those chemicals are being generated presently and where the wastes are being disposed.

Montrose Chemical Corporation of California

The Montrose response is being handled through a separate order to Stauffer.

State Industries, Inc.

State Industries submitted a laboratory analysis of their ponded waste. A check with the laboratory conducting the analysis resulted in a determination that the signing chemist could not verify the analysis. A recognized laboratory should be used to analyze the waste impoundment samples.

State Industries reported using cyanide from June 1970 to October 1971. How much was wasted and where was it disposed?

The BMI acid drain was reportedly used. Describe State Industries' access to the acid drain and show its location on a scaled map.

Was the BMI Dump used for materials other than trash; and what was disposed and how much?

What is the present waste generation rate?

Stauffer Chemical Company

The Stauffer response is being handled through a separate order.

Titanium Metals Corporation of America (TIMET)

The TIMET response was complete.

As was agreed during the March 11, 1982, meeting, Items 4 and 5 of the Order were to be answered within thirty (30) days after the Division notified the industries to respond. The industries are hereby notified to respond to Item 5 only at this time and to submit their reports by June 7, 1982.

Item 4 of the Order is not requested at this time. The Division is proposing to modify this Item, if warranted, by new data from monitoring wells which have been constructed in the area by the Bureau of Reclamation, TIMET, Kerr-McGee, and Stauffer. Until the Division completes its review of this data, Item 4 is hereby not required of the industries.

If you have any questions, please contact me.

Sincerely,

Verne Rosse

H. LaVerne Rosse, P.E.
Program Director
Waste Management

de

cc: L. H. Dodgion, Administrator
Division of Environmental Protection
Genstar Cement and Lime Company
Jones Chemicals, Inc.
Kerr-McGee Chemical Corporation
Montrose Chemical Corporation of California
State Industries, Inc.
Stauffer Chemical Company
Titanium Metals Corporation of America (TIMET)

STATE OF NEVADA
DEPARTMENT OF CONSERVATION AND NATURAL RESOURCES
DIVISION OF ENVIRONMENTAL PROTECTION
CAPITOL COMPLEX
CARSON CITY, NEVADA 89710

TELEPHONE (702) 885-4670

February 25, 1982

Mr. George Stewart, President
BMI Complex
P.O. Box 2065
Henderson, Nevada 89015

Dear Mr. Stewart:

The enclosed Order issued by the Administrator of the Division of Environmental Protection pursuant to Nevada Revised Statute (NRS) 445.307, NRS 445.317, NRS 445.324, and Chapter 457, 1981 Statutes of Nevada requires compliance by BMI and the various industries of the complex with items specific in the Order.

Any violations of the Order could subject BMI to an action of appropriate relief pursuant to NRS 445.327, 445.331, 445.334 and Chapter 457, 1981 Statutes of Nevada.

This Order is final and not subject to review unless within thirty (30) days after the date such order is received a request by written petition for a hearing is received by the State Environmental Commission, 201 South Fall Street, Capitol Complex, Carson City, Nevada 89710.

If you have any questions please contact Verne Rosse or myself at 885-4670.

Sincerely,

W. Marvin Tebeau
Environmental Scientist

cc: Jim Hannah
Roland Westergard
George Postrozny
Jon Merkle - W-4-2

Enclosures

WMT:rb

In the Matter of)
BMI Complex)
Henderson, Nevada)

ORDER

The following Order is issued this date pursuant to the powers and duties vested in the Director by Nevada Revised Statutes (NRS) Chapter 445.214 subsection 1, 2, 3, 7 and 12 and in accordance with NRS 445.307, NRS 445.317 subsection 1(a), NRS 445.324 and Chapter 457, 1981 Statutes of Nevada.

In the past the BMI Complex and the various industries of the BMI Complex have been issued orders requesting information on the various process waste(s) discharged to lined or unlined ponds, piping schematics to impoundments, monitoring well locations and chemical analyses of the ground water. This information was provided and supplemented with data developed by the various industries for the US EPA, monitoring of the soils and ground water in the BMI Complex and Pittman area by the US EPA Stauffer Chemical, ground water salinity data developed by the Bureau of Reclamation in the Pittman area and ground water data developed by the US Homes Corporation on their property.

The Division concluded the following from the available data.

1. From the late 1940's until 1980 the various industries of BMI made use of the BMI dump, upper and lower BMI ponds and other solid waste sites for disposal of organic and inorganic waste.

2. These wastes included sodium hyprochlorite solution, organic phosphoric acid sludge, thiophenol aqueous waste, imidan and trithion aqueous waste, brine sludge, isomers of benzene hexachloride, asbestos sludge, PCB sludge, carbon tetrachloride waste, isomers of DDT, chlorate waste, ammonium perchlorate waste, magnesium cell smut, titanium fines, hydrated lime, sodium chloride, leach liquor, acid waste with mix metals, sodium hypochlorate, caustic waste, boiler blowdown, pickling liquor waste and numerous other process waste not listed.

3. A TDS-organic plume has been identified leaving the northern Kerr-McGee/BMI property line and passing under residential and commercial property in the Geraghty-Miller Report (G-M).

4. The Bureau of Reclamation reports made available are titled the Pittman Verification Program, February, 1981 and the Specifications Pittman Lateral Southern Nevada Water Project Second Stage No. DC07332, 1978. These reports indicate that a TDS plume of increasing concentration with organic contaminants bracket well PG-111. The existing static water level map and conclusions of the G-M report indicates that this plume may be contiguous with the identified TDS-organic plume.

   It is concluded that this plume may extend several miles beyond the identified Kerr-McGee/BMI property line in the direction of identified surfacing ground water near the Las Vegas Wash.

5. A review of the available data indicate that a second TDS-organic plume exists east of the Alpha ditch in the area around wells PG 103, PG 108 and the US Homes wells W-3 and W-5.

6. Photographs taken in the 1950's and 1960's depict leach trenches on the edge of the BMI dump and a discharge ditch emanating from the BMI siphon and traveling down-gradient of the french drains toward the Stauffer H-10 well.

In order for the Division of Environmental Protection to fully access the impact of the past disposal practices on the ground and surface waters of the State, the BMI Complex (Stauffer Chemical Co., Montrose Chemical Corp. of California, Kerr-McGee Chemical Corp., Timet, Inc., Flintkote Lime Co., State Industries and Jones Chemicals, Inc.) are Ordered to develop the following by the specified dates:

IT IS HEREBY ORDERED

1. By April 1, 1982, a copy of the original design and as-built drawings of the presently identified BMI dump and french drains shall be provided.

2. By April 1, 1982, as-built drawings of the BMI dump closure, permeability data on the geological material used to close the site and an analysis of the effectiveness of the closure shall be provided.

3. Based on photographs described above:

   a. By April 1, 1982, design data on each trench, dates of their use and the process waste and quantity and quality discharged to each trench shall be provided.

b. By April 1, 1982, information on the process waste and quantity and quality discharged via the identified ditch and the dates of its use shall be provided.

c. By April 1, 1982, the specific areas of the closed BMI dump used by each industry and the waste and quantity and quality disposed of in each location shall be identified.

d. By April 1, 1982, the specific discharge route and BMI ponds used by each industry, process waste and quantity and quality discharged via the route, and dates of use shall be identified.

4. By April 15, 1982, a plan of action with scheduling shall be provided to determine the static water levels and depth to the Muddy Creek formation, direction of ground water movement, and extent of areal organic and inorganic contaminants of specific chemical constitutents in the ground water on BMI property and surfacing ground water near the Las Vegas Wash.

5. By April 15, 1982, determine the quantity of water each industry loses to the aquifer above the Muddy Creek formation.

Dated: 2/25/82

L. H. Dodgion
Administrator

RECEIVED
REGION IX

KERR-McGEE CHEMICAL CORPORATION
POST OFFICE BOX 55 • HENDERSON, NEVADA 89015

May 2, 1980

Mr. Clyde B. Eller, Director
Enforcement Division
United States Environmental
Protection Agency
Region IX
215 Fremont Street
San Francisco, CA 94105

Reference: E-5-2
SOW-HAZ-6-6-2-6

Dear Mr. Eller:

The following information is provided in response to your request of March 25, 1980. The numbered statements are in the same order as the questions of your letter.

GENERAL

1. Operations

U. S. Government	- 194- - 1945 ?
Western Electrochemical Company	- 1945 - 1955
American Potash & Chemical Corporation	- 1955 - 1967
Kerr-McGee Chemical Corporation	- 1967 - Present

2. Products

A. U. S. Government

Magnesium Metal

B. Western Electrochemical Company

Sodium Chlorate	- 1945 - 1955
Potassium Chlorate	- 19-- - 1955
Potassium Perchlorate	- 1945 - 1955
Ammonium Perchlorate	- 1951 - 1955
Manganese Dioxide	- 1951 - 1955

C. American Potash & Chemical Corporation

Same as B above - 1955 - 1967

D. Kerr-McGee Chemical Corporation

Sodium Chlorate	- 1967 - 1980
Sodium Perchlorate	- 1968 - 1980
Potassium Chlorate	- 1967 - 1974
Potassium Perchlorate	- 1967 - 1980
Ammonium Perchlorate	- 1967 - 1980
Manganese Dioxide	- 1967 - 1980
Magnesium Perchlorate	- 1969 - 1974
Boron Trichloride	- 1973 - 1980
Boron Tribromide	- 1973 - 1980
Elemental Boron	- 1972 - 1980
Tumbleaf Defoliant	- 1975 - 1979

Other inorganic chemicals were produced at various times on an experimental basis or for a limited time period.

3. Raw Materials

Sodium Chlorate	- sodium chloride + water
Sodium Perchlorate	- sodium chlorate + water
Potassium Chlorate	- sodium chlorate + potassium chloride
Potassium Perchlorate	- sodium perchlorate + potassium chloride
Ammonium Perchlorate	- sodium perchlorate + ammonia + hydrochloric acid
Magnesium Perchlorate	- magnesium carbonate + ammonium perchlorate
Manganese Dioxide	- manganese ore (pyrolusite) + sulfuric acid
Boron Trichloride	- boron carbide + chlorine
Boron Tribromide	- boron carbide + bromine
Elemental Boron	- boric oxide + magnesium
Tumbleaf	- sodium chlorate, borax, sodium carbonate, and surfactant

SOLID WASTE

4. Identity

A. Chlorate Operations - graphite
calcium carbonate
calcium sulfate
diatomaceous earth (silica)

B. Perchlorate Operations - calcium carbonate
chromium hydroxide
diatomaceous earth

C. Manganese Dioxide - manganese ore (acid insoluble)
heavy metal sulfides
diatomaceous earth
paraffin wax
calcium sulfate

5. Off-Site Disposal

Barium Sulfide (drums), 709 cubic feet, to Nuclear Engineering Company, Beatty, Nevada

PCB Contaminated Solids (drums), 144 cubic feet, to Nuclear Engineering Company, Beatty, Nevada

6. On-Site Disposal

A. Chlorate Wastes - graphite, calcium carbonate, calcium sulfate

Company	Years	Estimated Volume-Cu.Ft.	Disposal Site
WECCO	1945-1950	52,000	BMI Ponds
WECCO	1951-1955	52,000	BMI Ponds
AP&CC	1956-1967	162,000	BMI Ponds
KMCC	1968-1974	125,000	BMI Ponds
KMCC	1975-1980	90,000	BMI Dump

B. Manganese Wastes - manganese ore, heavy metal sulfides, diatomaceous earth, paraffin wax

Company	Years	Estimated Volume-Cu.Ft.	Disposal Site
WECCO	1951-1955	95,000	Company Ponds
AP&CC	1956-1967	426,000	Company Ponds
KMCC	1968-1973	375,000	Company Ponds
KMCC	1974-1980	585,000	KMCC Site

C. Perchlorate solids are not measurable.

1951-1974 - Disposed to BMI ponds
1975-1980 - Disposed to company ponds

7. Location

(See attachment.)

8. Outside Parties

None

9. Storage

We do not consider on-site wastes to be stored, although some rearrangement may ultimately take place.

10. Ground Water Monitoring

None conducted.

LIQUID WASTE

11. Identity -

Liquid effluents generated by the various processes described in 1-3 above are retained in several impervious ponds on KMCC property. Most are recycled back to the specific process after concentration through solar evaporation. In the summer months, once-through cooling water, up to 4 MM gallons/day, is discharged under the terms of an NPDES permit via the BMI storm drain to the Alpha Ditch.

12. Off-Site Disposal

None

13. On-Site Disposal

A. Combined Effluents (except Manganese Dioxide wastes)

Up to 1976, disposal was to BMI ponds. Average volume, based on 1970 NPDES report, 600,000 gallons per day. Average content:

Total Dissolved Solids	- 19,100	pounds/day
Total Solids	- 20,200	"
Suspended Solids	- 1,080	"
C.O.D.	- 110	"
NH_3	- 35	"
Calcium	- 2,000	"
Iron	- 1,100	"
Potassium	- 1,200	"
Sodium	- 5,000	"
Magnesium	- 150	"
Zinc	- 130	"
Manganese	- 1,800	"
Nickel	- 8	"
Lead	- 4	"
Copper	- 4	"
Cobalt	- 1.5	"
Chromium	- 0.3	"
Phosphorous	- 0.4	"

B. Manganese Dioxide

Tailings described in 4C were slurried in water and disposed of on site (leach beds).

Daily volume - 86,000 gallons/day (estimate)

Total volume - 330 million gallons

C. Lined Ponds

Use of lined ponds started in 1974 and continues to the present. The ponds and the aqueous chemical solutions stored in them are listed below. Contained volume and composition are reported as of February 12, 1980.

Pond No.	Volume, Gallons	Source	Contents
C-1	1,730,000	Boiler, Cooling Tower Blowdown	63,400 lbs. NaCl 22,450 ppm TDS
P-2	284,200	Ammonium Perchlorate & Sodium Chlorate Operations	251,000 lbs. NaCl 1,094,000 lbs. $NaClO_3$
P-3	283,000	Sodium Chlorate Operations	193,400 lbs. NaCl 440,000 lbs. $NaClO_3$
S-1	660,000	Potassium & Boron Operations	345,000 lbs. NaCl 100,200 lbs. $NaClO_3$ 139,200 lbs. $NaClO_4$
AP-1	353,000	Ammonium Perchlorate Operations	103,000 lbs. NaCl 123,600 lbs. $NaClO_3$ 135,300 lbs. $NaClO_4$
AP-2	MT	Ammonium Perchlorate Operations	
AP-4	412,000	Ammonium Perchlorate Operations	120,000 lbs. NaCl 34,300 lbs. $NaClO_4$ 92,700 lbs. NH_4ClO_4

Note: Contents of all ponds, except C-1 and S-1 are recycled to an appropriate process.

14. Location

(See attachment)

15. Pond Monitoring

The level of each pond is gauged each week. The ponds are sampled and analyzed every two to three weeks. The gauging, together with knowledge of activity in the use of the pond, has been considered adequate in detecting leaks. On this basis, pond P-1 was abandoned (and is now being rebuilt), and pond AP-2 is being rebuilt. Actual leakage rates have not been measured. Through experience, better liner materials and construction methods have been employed in the more recent ponds.

16. Residues

Dried residues from ponds P-1 and AP-2 have been removed to the BMI dump.

17. Storage

As indicated previously, contents of most lined ponds are recycled to a process. In that sense we do not consider the contents to be "waste," but rather process materials.

18. Outside Parties

Apparently the government used a dyked area at the northern part of KMCC's property for disposal of liquid wastes, presumed to be caustic solutions, i.e., sodium hydroxide. The quantity and time period are unknown. State Industries, a lessee, impounds pickling wastes in lined ponds. These are believed to be essentially spent sulfuric acid and ferrous sulfate (in water).

19. Ground Water Monitoring

None has been conducted.

Obviously it is difficult to briefly address 35 years of history for which there are few records and which involve several operations and four management entities with a high degree of completeness and accuracy. Accordingly, we will continue to assess the above data and will revise or modify them as may prove appropriate.

Sincerely

KERR-McGEE CHEMICAL CORPORATION

C. B. Armstrong
Plant Manager

CBA:jc
Attachments

cc: Marvin Tebeau

CERTIFIED MAIL NO. 882483

RECEIVED
REGION IX
APR 31 PM '80

State Industries, Inc./ Henderson, Nevada 89015 AC 702/564-2561

April 23, 1980

Mr. Clyde B. Eller
Director, Enforcement Division
EPA Region IX
215 Fremont Street
San Francisco, California 94105

Dear Mr. Eller:

Enclosed please find the copy of the completed questionnaire which you sent to us last month. Also attached is the information of the industrial waste survey we have filed to the City of Henderson earlier this month, and a drawing of the evaporation ponds we have in the plant.

If I can be of further assistance, please feel free to contact me at (702)-564-2561 Ext. 132. Thank you.

Sincerely Yours,

Adolf Han
Manager, Industrial Engineering
Western Division

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION IX
215 Fremont Street
San Francisco, Ca. 94105

CERTIFIED MAIL NO. P125847818
RETURN RECEIPT REQUESTED

In Reply E-5-2
Refer to: SOW-HAZ-6-6-2-6

25 MAR 1980

Mr. Curtis Tidwell
Plant Manager
State Industries, Inc.
P.O. Box 844
Henderson, NV 89015

Dear Mr. Tidwell:

The United States Environmental Protection Agency (EPA) is currently seeking to identify sites where hazardous wastes have been disposed or are being stored for disposal. Under Section 308 of the Clean Water Act (CWA), 33 U.S.C. 1318, Section 114 of the Clean Air Act (CAA), 42 U.S.C. 7414, and Section 3007 of the Resource Conservation and Recovery Act (RCRA), 42 U.S.C. 6927, EPA is authorized to require records and other information as necessary to administer the CWA, CAA, and RCRA.

In order to determine whether hazardous wastes have been or are being disposed, stored or transported on or off your property you are hereby required to report the following information within 30 days of receipt of this letter.

GENERAL

1. When did your company begin manufacturing operations at your present location? 1969

2. What products have been manufactured since operations began? Give trade names/common names and describe any changes with time. DOMESTIC WATER HEATERS

3. Identify the raw materials used in the manufacturing operations described in 2 above (specific chemical compounds and common names).

HOT ROLL STEEL
COLD ROLL STEEL
BORAX
SODA ASH
INSULATION (FIBER & FOAM)
Sulphuric ~~SULFAMIC~~ ACID
Turco HTC SOAP - pickling liquid
Dubois RUST PREVENT oil based agent
Du Bois LUBRICANT (gear)
Du Bois DETERGENT (heavy duty

SOLID WASTE

4. Identify the solid wastes produced by the manufacturing operations described in 1 through 3 above (specific chemical compounds and common names).
SCRAP STEEL, DRIED PAINT, ENAMEL MIX, CARD BOARD, INSULATION

5. For those solid wastes that have been disposed of off-site (i.e., off your property and off BMI property) supply the following information:

*identity of wastes (specific chemical compound and common names)
SCRAP STEEL ENAMEL MIX. DRIED PAINT, CARD BOARD, INSULATION
*volume of wastes
2 TRUCK LOAD / DAY
*name and location of dump sites
NEVADA RECYCLING, L.V. DUMP SITE, Black mountain dump

6. For those solid wastes that have been disposed of on-site (i.e., on your property or on BMI property) supply the following information: Silver state dump.

*identity of waste (specific chemical compounds and common names)
NONE
*volume of wastes

*disposal method (i.e., drums, burial, burning, etc.)

*dates when this disposal method began and ended for each identified waste product

7. Show by a simple map, drawn to scale, the locations of the active and inactive solid waste disposal sites described in 6 above. NONE

8. Have any outside parties used your property for the disposal of their solid waste? If so

*identify the party
ND.
*identify the waste (specific chemical compounds and common names)

*specify the volume of the waste, the time period during which the waste was deposited on your property and show the location of the disposal site on the map described in 7 above.

9. If you consider solid wastes located on-site (i.e., on your property or on BMI property) to be stored rather than disposed Scrap steel is temporarily stored and hauled away for recycling by contractor
   *identify the waste and its volume (specific chemical compounds and common names)

   *identify the storage method (drums, burial, etc.)

   *show the location of storage site(s) on the map described in 7 above.

10. If you have conducted any groundwater monitoring in the vicinity of your solid waste disposal or storage sites describe the location of the monitoring wells, their depths and the results of any groundwater analyses.

LIQUID WASTE

11. Identify the liquid wastes produced by the manufacturing operations described in 1 through 3 above (specific chemical compounds and common names). Identify and estimate the volume of liquid process wastes which enter the BMI storm and domestic waste (sewage) systems; the remainder of your liquid process waste stream is covered by the following questions. See Question 13.

12. For those liquid wastes that have been disposed of off-site (i.e., off your property and off BMI property) supply the following information: ND

    *identity of wastes (specific chemical compounds and common names)

    *volume of wastes

    *name and location of dump sites

13. For those liquid wastes that have been disposed of on-site (i.e., on your property or on BMI property) supply the following information:
    SOLAR EVAPORATION POND – lined pond
    *identity of waste disposed of in leachbeds or directly on the earth's surface (specific chemical compounds and common names)

S. ACID. sulphuric acid BORAX & SODA ASH, (neutralizer) PHOSPHATES CHEMICAL

in gal/month
16c — ACID
16,000 — PHOS.
4000 — Soap Turco
4000 — NENT. borax & soda ash combo

*identity and volume of wastes disposed of in ~~un~~-lined ponds (specific chemical compounds and common names) 40,000 Gal/month = 480,000 gal/year

*identity and volume of wastes disposed of in lined ponds (specific chemical compounds and common names) pond has 1.1 Million Gal capacity/year

*dates when these disposal methods began and ended for each identified waste product 1975 – PRESENT

14. Show by a simple map, drawn to scale, the locations of the active and inactive liquid waste disposal sites described in 13 above.

15. If lined ponds have ever been used for the disposal of liquid wastes (see 13 above) describe the monitoring system used to detect leaks, estimate past and present leakage rates, identify those ponds which are leaking, and describe any plans to upgrade the pond linings. GRADUATE STAND PIPE METHOD By measuring the depth of the pond

16. Where are sludges and residues removed from the ponds disposed of? HAVENT DONE ANYTHING YET

17. If you consider liquid wastes located on-site (i.e., on your property or on BMI property) to be <u>stored</u> rather than <u>disposed</u>

*identify the waste and its volume (specific chemical compounds and common names)

*identify the storage method (drums, tanks, etc.)

*summarize significant leaks and spills

*show the location of storage site(s) on the map described in 14 above.

18. Have any outside parties used your property for the disposal of their liquid waste? If so NO

*identify the party

*identify the waste (specific chemical compounds and common names)

*specify the volume of the waste, the time period during which the waste was deposited on your

property and show the location of the disposal site on the map described in 14 above.

19. If you have conducted any groundwater monitoring in the vicinity of your liquid waste disposal or storage sites describe the location of the monitoring wells, their depths and the results of any groundwater analyses. WE HAVEN'T

Section 309 of the CWA, 33 U.S.C. 1319, Section 113 of the CAA, 42 U.S.C. 7413, and Section 3008 of RCRA, 42 U.S.C. 6928, provide for civil or criminal penalties for failure to submit information and criminal penalties for knowingly making a false statement.

Your cooperation is appreciated.

Sincerely yours,

Kathleen G. Shimmin for

Clyde B. Eller
Director
Enforcement Division

cc: Marvin Tebeau, Nevada DEP

PACIFIC ENGINEERING & P. uction Co. of Nevada
8201 GIBSON ROAD • P.O. BOX 797 • HENDERSON, NEVADA 89015
TELEPHONE: AREA CODE 702 565-8741

April 16, 1980

Mr. Clyde B. Eller, Director
Enforcement Division
Environment Protection Agency
Region IX
215 Fremont Street
San Francisco, California 94105

Re: E-5-2
SOW-HAZ-6-6-2-6

Dear Mr. Eller:

The following answers have been prepared in response to your questions of 25 March 1980.

Question #1

Pacific Engineering began manufacturing operations at this present location on December 29, 1958.

Question #2

Since operations began Pacific Engineering has manufactured ammonium perchlorate, electrolytic anodes, sodium perchlorate, sodium chlorate, potassium chlorate and pollution control equipment including on-site electrolytic hypochlorite generating systems and gaseous odor control systems.

Question #3

The raw materials used with the items listed above are as follows:

Ammonium perchlorate - hydrochloric acid (HCl) and ammonia (NH_3).

Sodium perchlorate - sodium chlorate ($NaClO_3$), sodium hydroxide (NaOH), sodium fluoride (NaF) and barium chloride ($BaCl_2$).

Chlorates - sodium and potassium chlorides (NaCl & KCl), calcium chloride ($CaCl_2$) and hydrochloric acid (HCl).

Electrolytic electrodes - nitric acid (HNO_3), graphite, sodium fluoride (NaF) and lead oxide (PbO).

Equipment - all components such as FRP shapes, rectifiers, towers, bus bar, pumps, etc. are purchased. Electrodes are manufactured by Pacific Engineering.

Question #4

The solid wastes generated by the above listed products are as follows:

Ammonium perchlorate - none

Electrodes - used and fabrication process graphite scrap.

Sodium perchlorate - barium sulfate ($BaSO_4$), calcium carbonate ($CaCO_3$)

Chlorates - barium sulfate ($BaSO_4$), calcium carbonate ($CaCO_3$).

Equipment - packaging material

Question #5

The only solid wastes disposed of off the Company property are paper and other trash associated with the office and plant operations. This material is delivered weekly to the Henderson transfer station of the local disposal company.

The volume of office trash is probably less than 30 cubic feet per week.

Question #6

Other than the barium sulfate and calcium carbonate precipitates, the solid wastes that have been disposed of on-site are limited to used and fabrication process graphite scrap. These scraps are divided. Those salvageable are stored in drums; those not salvaged are buried.

New graphite scrap material accumulates at about 10 cu.ft. per week. There are now about 300 - 50 gallon drums in storage. We estimate that there is about 2,000 cu.ft. buried and waiting to be buried.

The calcium carbonate and barium sulfate precipitates, estimated to be less than 20 cu.ft. per year, are buried.

The practice began in about January 1959 and continues.

Question #7

The requested map showing disposal sites is enclosed.

Question #8

No outside parties used our property for disposal of their solid waste.

Question #9

The graphite scrap in drums is considered to be stored. As noted above we currently estimate there to be about 300 - 50 gallon drums of this material.

There is a market for graphite scrap.

Question #10

We have not conducted any ground water monitoring in the vicinity of our solid waste disposal.

Question #11

The liquid wastes produced by the manufacturing operations described in question 2 above are as follows:

Ammonium perchlorate - cooling tower blowdown and plant wash down.

Sodium perchlorate - cooling tower blowdown and plant wash down.

Chlorates - cooling tower blowdown and plant wash down.

Electrolytic electrodes - plant wash down.

Equipment - none

Question #12

We have not disposed of any liquid wastes off-site.

Question #13

The liquid wastes disposed of on-site as noted in our February 7 letter include waste water from cooling tower blowdown and plant wash down containing trace amounts of chlorides, chlorates, and perchlorates which have been used for gravel washing, road maintenance, dust control on land and fire prevention. The volume has varied depending on weather conditions, plant operations, etc. but may average 12,000 gallons per day.

There are not now and never have been lined ponds.

The practice began in 1959 and continues.

Question #14

The map referenced in 7 is enclosed.

Question #15

No lined ponds have been used.

Question #16

No sludges or residues have been removed from the pond.

Question #17

We do not store any liquid wastes.

Question #18

No outside parties have used our property for disposal.

Question #19

We have not conducted any ground water monitoring.

We trust that the above satisfactorily answers your questions.

Very truly yours,

Fred D. Gibson, Jr.
President

FDG:lr
Enclosure

water, it will no longer float. How valid is this analysis then?

Page 39

Paragraph 1 If as you say $P_c^{WO} = P_c^{OA}$ then $H/h = \frac{\rho O - \rho A}{\rho W - \rho O}$ what happens when $\rho O > \rho W$? Is this equation still valid?

Paragraph 2 You haven't proved that the entry point is a buried tank! What is your estimate of total benzene lost by adsorption? Are the retention mechanisms for oil in sand the same as for benzene in sand? What about the influence of water discharges from Stauffer? Wouldn't this decrease the retention capacity?

Page 40

Paragraph 1 This model does not account for organic phases travelling as heavier than water phases! What happens to compounds other than benzene? Are heavier and dissolved phases subject to higher velocity downgradient motion?

INSTRUCTIONS

WASTE DISPOSAL SITE SURVEY

PURPOSE

WHO IS INCLUDED IN THE SURVEY

TIME PERIOD TO BE COVERED

FORMS:
- A: GENERAL FACILITY INFORMATION
- B: DISPOSAL SITE INFORMATION
- C: HAULER INFORMATION
- D: SUPPLEMENTAL HAULER INFORMATION

COMPLETING THE FORM

WHO TO CALL WITH QUESTIONS

WHO TO RETURN FORMS TO

WHEN TO RETURN FORMS

Conducted by:

Subcommittee on Oversight and Investigations

Committee on Interstate and Foreign Commerce

U. S. House of Representatives

Hon. Bob Eckhardt, Chairman

April 1979

PURPOSE

This Waste Disposal Site Survey is being conducted by the Subcommittee on Oversight and Investigations of the Committee on Interstate and Foreign Commerce, U. S. House of Representatives. The purpose of the survey is to begin to identify the location of sites in the United States used for the disposal of chemical plant process waste materials since 1950. The fifty largest chemical companies and their subsidiaries or affiliates are included in this first national survey. Information gathered will assist the Congress in addressing the problems posed by active as well as inactive or abandoned waste disposal sites. The information will also be useful to the U. S. Environmental Protection Agency in effectively implementing the Resource Conservation and Recovery Act of 1976.

WHO IS INCLUDED IN THE SURVEY

The survey is based on the experiences of the 50 largest chemical companies in the United States. A complete set of instruments is to be filled out for every facility or plant in the United States owned, operated or leased by one of these companies or any of their subsidiary or affiliated companies.

It is recommended that the corporate headquarters, to whom the survey instruments are sent, send a complete set of instruments and the instruction manual to the plant manager or supervisor of each of the company's plants or facilities. The plant manager or supervisor should then complete the forms using whatever records or employee knowledge he or she may have at his or her disposal. It is further requested that completed forms from each facility be returned to the corporate headquarters for final collation before returning them to the Subcommittee.

TIME PERIOD TO BE COVERED

It is the Subcommittee's intention to collect information on waste disposal sites used since 1950 (or since the time a particular facility began operation if after 1950). Some facilities may not have formal records on waste disposal dating back to 1950. The Subcommittee requests that every effort is made to reconstruct waste disposal practices for which written records do not exist. Most important is the identification (by name and location) of all sites used for the disposal of process wastes from a facility since 1950. It is very likely that employees with some tenure at a facility will know where wastes were disposed of; thus the knowledge employees may have of waste disposal practices by the facility should be explored along with record searches.

FORMS

The instrument package consists of 4 separate forms as described below:

FORM A: GENERAL FACILITY INFORMATION: This form elicits information on the total amount of process waste generated by a facility in 1978 and the methods used other than sale for use for the disposal of these wastes. This information will provide a general picture of the facility's current operations. The form also requests information on the number of sites used since 1950 for the disposal of process wastes and the hauling of process wastes from the facility. The answers to these questions will indicate whether or not (and in what numbers) Forms B, C and D need to be completed.

FORM B: DISPOSAL SITE INFORMATION: This form is to be completed for every disposal site used by the facility since 1950 for the disposal of the facility's process wastes. The property on which the facility is located may also have been used for waste disposal; if so, one Form

"B" should be used for this "on site" disposal. The form elicits information on the name, location and ownership of the site, the dates the site was used by the facility, the amount and content of the process waste disposed at the site from the facility, the current status of the site as well as the types of disposal methods used at the site. In all instances a facility should seek the answers to each of the questions. (NOTE: Form "B" consists of 2 pages.)

FORM C: HAULER INFORMATION: This form asks a facility to list the names and addresses of all firms or independent contractors (including the company and its affiliates and subsidiaries) who since 1950 removed process waste materials from the facility. Information on the years used is also requested.

FORM D: SUPPLEMENTAL HAULER INFORMATION: Some process wastes may have been hauled from a facility and taken to a location unknown to the facility. For every firm or contractor who has taken waste in this manner from a facility, Form D elicits information on the content and amount of wastes hauled and the dates the hauler was used.

COMPLETING THE FORMS

The information requested on the forms is largely numerical in nature. Block spaces have been provided for this information. Respondents are requested to write (or type) responses clearly within these spaces. In any instance in which the response has fewer digits than the number of spaces provided, the response should be right justified. For example, if a facility generated 21,292 tons of process waste during 1978, the response on Form A, Question 3 would be recorded as follows:

hundred tons . . . . | | | | | 2 | 1 | 3 | (25-32)

In requesting information on amounts of process waste generated, disposed at a given site or hauled by a given firm/contractor, three different categories (gallons, tons and cubic yards) have been provided. One or all of these categories may be used, depending upon which is most convenient for a facility. In no instance, however, should the amount of waste be double counted (i.e. a given amount should not be recorded as both gallons and tons).

All non-numerical responses (eg. names and addresses) should be written legibly or typed in the spaces provided. If there is a need to clarify responses to any questions, clarification should be provided on the back of the form or on an appended page.

WHO TO CALL WITH QUESTIONS

The Subcommittee will hold a private briefing for all companies asked to participate in this survey on Friday, April 27, 1979 at 3:00 p.m. in 2123 Rayburn House Office Building in order to answer any questions or concerns. Companies should hold all initial questions for this private briefing. Following this date, all questions should be directed to Anne Cohn, Survey Coordinator at (202) 225-4231 or Mark Raabe, Staff Director, at (202) 225-4441.

WHO TO RETURN FORMS TO

The Subcommittee requests that a company compile completed forms from all of their facilities and forward the entire package, at one time, to:

Hon. Bob Eckhardt, Chairman
Subcommittee on Oversight and Investigations
Committee on Interstate and Foreign Commerce
2323 Rayburn HOB
U. S. Congress
Washington, D. C. 20515

Attn: Survey Coordinator

WHEN TO RETURN FORMS

All completed forms are to be returned to the Subcommittee no later than June 29, 1979.

FORM D: SUPPLEMENTAL HAU R INFORMATION

COMPLETE THIS FORM FOR E H FIRM OR INDEPENDENT CONTRACT (INCLUDING YOUR OWN COMPANY, ITS AFFILIATES & SUBSIDIARIES) WHO REMOVED PROCESS WASTE FROM THIS FACILITY SINCE 1950 AND TOOK IT TO AN UNKNOWN LOCATION

|_|_|_|_|_|_|_| (1-8)
(DO NOT USE)

div./sub.

Company Name: _____
Facility Name: _____
Name of Hauling Firm/Contractor: _____
Address: (no.) (street) _____
(city) (state) (zip code) _____

1. Year first used ..... 19|_|_| (10-11)
2. Year last used (enter "79" if still in use) ..... 19|_|_| (12-13)
3. Total amount of process waste hauled from this facility:
   thousand gallons ..... |_|_|_|_|_|_|_| (14-21)
   hundred tons ..... |_|_|_|_|_|_|_| (22-28)
   thousand cubic yards ..... |_|_|_|_|_|_|_| (29-36)
4. Components (or characteristics) of process waste from this facility disposed at site: (1=present in waste; 2=not present in waste; 9=don't know):
   FILL IN EVERY BLOCK SPACE

Acid solutions, with pH<3	(37)
pickling liquor	(38)
metal plating waste	(39)
circuit etchings	(40)
inorganic acid manufacture	(41)
organic acid manufacture	(42)
Base solutions, with pH>12	(43)
caustic soda manufacture	(44)
nylon and similar polymer generation	(45)
scrubber residual	(46)
Heavy metals & trace metals (bonded organically & inorganically)	(47)
arsenic, selenium, antimony	(48)
mercury	(49)
iron, manganese, magnesium	(50)
zinc, cadmium, copper, chromium (trivalent)	(51)
chromium (hexavalent)	(52)
lead	(53)
Radioactive residues, >50 pico curies/liter	(54)
uranium residuals & residuals for UF_6 recycling	(55)
lathanide series elements and rare earth salts	(56)
phosphate slag	(57)
thorium	(58)
radium	(59)
other alpha, beta & gamma emitters	(60)
Organics	(61)
insecticides & intermediates	(62)
herbicides & intermediates	(63)
fungicides & intermediates	(64)
rodenticides & intermediates	(65)
halogenated aliphatics	(66)
halogenated aromatics	(67)
acrylates & latex emulsions	(68)
PCB/PBB's	(69)
amides, amines, imides	(70)
plastizers	(71)
resins	(72)
elastomers	(73)
solvents polar (except water)	(74)
carbontetrachloride	(75)
trichloroethylene	(76)
other solvents nonpolar	(77)
solvents halogenated aliphatic	(78)
solvents halogenated aromatic	(79) 1 (80)
oils and oil sludges	(10)
esters and ethers	(11)
alcohols	(12)
ketones & aldehydes	(13)
dioxins	(14)
Inorganics	(15)
salts	(16)
mercaptans	(17)
Misc	(18)
pharmaceutical wastes	(19)
paints & pigments	(20)
catalysts (eg. vanadium, platinum, palladium)	(21)
asbestos	(22)
shock sensitive wastes (eg. nitrated toluenes)	(23)
air water reactive wastes (eg. P_4, aluminum chloride)	(24)
wastes with flash point below 100° F	(25) 2 (80)

(5)

KERR-McGEE CORPORATION

INTERNAL CORRESPONDENCE

TO A. L. Anderson

DATE May 17, 1979

FROM R. E. Harris

SUBJECT Analysis of Henderson Plant EIMCO Tails for RCRA Leach Test; Project 1526

This is to confirm the results given to you today by Wil Robertson in a preliminary report. The sample of EIMCO tails submitted with your memo of March 5, 1979 to Dr. Long has been analyzed according to the RCRA extraction procedure given in Fed. Register 43 No. 243, December 18, 1978, pp. 58956 and 58957. The organics were assayed by ARRO Laboratories in Joliet, Illinois.

As can be seen in the attached table of results, all of the values are well below the RCRA Limit except Cd and it is 1/2 the limit. On this basis the sample of material sent to us would not be considered a hazardous waste on the basis of toxic substances as defined in Section 250.13(d) of the proposed regulations.

Roy E. Harris

R. E. Harris

REH/nvb

Attachment

cc: C. H. Long

TECHNOLOGY DIVISION

TABLE I

EXTRACTION PROCEDURE EXTRACT

Section 250.13(f)

Extract: Solid Ratio = 20:1 (wt.)

	Sple 2/24 to 2/28/79	RCRA Limit
As	0.007 mg/l	0.50 mg/l
Ba	0.021	10.0
Cd	0.049	0.10
Cr	0.002	0.50
Pb	0.002	0.50
Hg	<.001	0.02
Se	0.012	0.10
Ag	<.001	0.50
Endrin	<.001	0.002
Lindane	<.001	0.040
Methoxychlor	<.001	1.0
Toxaphene	<.001	0.050
2,4-D	<.001	1.0
2,4,5-TP	<.001	0.1

April 11, 1979

Mr. C.B. Armstrong, Plant Manager
Kerr-McGee Chemical Corporation
P.O. Box 55
Henderson, NV 89015

Dear Mr. Armstrong:

This letter is to acknowledge receipt of the information the Division of Environmental Protection requested of Kerr-McGee Chemical Corporation on February 23, 1979.

As you are aware this information was requested by the Division of Environmental Protection in view of the unauthorized discharges into the old BMI ponds and the Henderson treatment plant. These discharges are a violation of NRS 445.221. The information should provide this office with a better understanding of your facilities waste water treatment system and the various process waste it receives.

In order for this office to more thoroughly understand the relationship of the various industries in the BMI complex, a meeting with all parties in the BMI complex is proposed. This meeting will be held in the BMI conference Room at 9:00 a.m. on April 24, 1979.

It is requested that a representative of Kerr-McGee Chemical Corporation attend the meeting. This person should be prepared to provide a brief presentation addressing the legal boundries Kerr-McGee is responsible for, the information previously submitted, the facilities network of ditches which enter the common BMI ditch and any additional information that you feel would aid our understanding of the BMI complex.

Should you have any questions or suggestions concerning this matter please contact Marvin Tebeau at (702) 885-4670. Thank you for your cooperation.

Sincerely,

Roland Westergard
Director

gc
cc: Greg Fischer E-5-2
U.S.E.P.A.

ARRO Laboratories, Inc.

P.O. Box 686 Caton Farm Road Joliet, Illinois 60434 Telephone (815) 727-5436 Telex 723421 UAR JOL

Attention of Mr. D.G. Biechler
Company Kerr McGee Corporation
Address P.O. Box 25861
City/State/Zip Oklahoma City, OK 73125

P.O. Number
Date Received March 22, 1979
Date Completed April 11, 1979

ARRO NO.	SAMPLE DESCRIPTION	ARRO PICK-UP	ARRO SAMPLING	DATE
42746E	552-REH-1-147 Leachate			3/22

WASTE WATER ANALYSIS

	42746				
BOD, 5-day					
Cadmium					
COD					
Chlorides					
Chlorine,Total Residual					
Chromium,Hex					
Chromium,Tri					
Chromium,Total					
Copper					
Cyanide,Total					
Iron,Total					
Lead					
Nitrogen,Total as N					
Nitrogen,Ammonia as N					
Nitrogen,Organic as N					
Oils & Grease					
pH					
Phenols					
Phosphate,Total (as PO_4)					
Phosphorus (as P)					
Solids,Total					
Solids,Dissolved					
Solids,Total Suspended					
Solids,Volatile Suspended					
Sulfate (as SO_4)					
Zinc					
Endrin	<0.1 ppB				
Lindane	<0.1 ppB				
Methoxychlor	<0.1 ppB				
Toxaphene	<0.1 ppB				
2,4-D	<0.1 ppB				
2,4,5-TP	<0.1 ppB				
SAMPLE COLLECTION DATA					
Type of Sampling					

| | | | |(1-5)
(Do Not Use)

FORM A: GENERAL FACILITY INFORMATION

Company Name: Kerr-McGee Corporation

Facility Name: Kerr-McGee Chemical Corporation, Henderson Plant

Address: P. O. Box 55
No. Street

Henderson, NV 89015
City State Zip Code

Name of Person Completing Form: R. B. Chase

Position: Manager, Production

Phone Number: (702) 565-8901

1. Year Facility Opened .... 19 [|] (10-11)

2. Primary SIC Code .... [| | |] (12-15)

3. Estimate the total amounts of process wastes (excluding wastes sold for use) generated by this facility during 1978:
use only this if possible — right justify response
thousand gallons .... [| | | | | | | |] (16-24)
hundred tons .... [| | | | | | 8 | 4] (25-32)
thousand cubic yards .... [| | | | | | | |] (33-41)

4. Estimate (in whole percents) how these process wastes generated in 1978 were disposed of:
in landfill .... [| 5 | 7] (42-44)
in pit/pond/lagoon .... [| 1 | 0] (45-47)
in deep well .... [| | 0] (48-50)
incinerated .... [| | 0] (51-53)
reprocessed/recycled .... [| 3 | 3] (54-56)
evaporated .... [| | 0] (57-59)
unknown .... [| | 0] (60-62)
other (Specify____________)................ [| | 0] (63-65)

5. What is the total number of known sites (including disposal on the property where this facility is located as one site) that have been used for the disposal of process wastes from this facility since 1950? .... [| | 3] (66-68)

COMPLETE ONE FORM "B" FOR EACH OF THE SITES

6. Have any of the process wastes generated at this facility been hauled (removed) from this facility for disposal? (Yes=1; no=2) .... [1] (69)

IF YES, COMPLETE FORM "C"

7. Do you know the disposal site locations of all of the process waste hauled from your facility since 1950? (Yes=1; no=2) .... [1] (70)

IF NO, COMPLETE ONE FORM "D" FOR EACH FIRM OR CONTRACTOR WHO TOOK WASTE TO AN UNKNOWN LOCATION

8. Specify the earliest year represented by information from company or facility records supplied on this and other forms .... 19 [5 | 9] (71-72)

9. Specify the earliest year represented by information from employee knowledge supplied on this and other forms .... 19 [5 | 0] (73-74)

7

FORM B: DISPOSAL SITE INFORMATION

(DO NOT USE) (1-8)

COMPLETE THIS FORM FOR EVERY SITE (INCLUDING THE LOCATION OF THIS FACILITY AS ONE SITE) USED FOR THE DISPOSAL OF PROCESS WASTES GENERATED BY THIS FACILITY SINCE 1950.

Company Name: Kerr-McGee Corporation
Facility Name: Kerr-McGee Chemical Corporation
Name of Site: BMI Dump
Address of Site: _____
no. street

Henderson, NV 89015
city state zip code

Name of Owner (while used by facility): Basic Management Incorporated (BMI)
Address: _____
no. street

Henderson NV 89015
city state zip code

Current Owner (if different from above): _____
Address: _____
no. street

_____
city state zip code

1. Location (1= the property on which facility is located; 2= off-site) ..... [2] (10)
2. Ownership at time of use (1= company ownership; 2=private but not company ownership) 3=public ownership) 9=don't know ..... [2] (11)
3. Current status (1= closed; 2= still in use; 9=don't know) ..... [2] (12)
   IF CLOSED, specify year closed ..... 19[ ] (13-14)
4. Year first used for process waste from this facility ..... 19[50] (15-16)
5. Year last used for process waste from this facility (enter "79" if still in use) ..... 19[79] (17-18)
6. Total amount of process waste from this facility disposed at site:
   use tons only if possible — right justify response.
   thousand gallons ..... [ ] (19-26)
   hundred tons ..... [13] (27-33)
   thousand cubic yards ..... [ ] (34-41)
7. Specify type(s) of disposal method(s) used at site and whether method is still in use (1=currently in use; 2=no longer in use; 3=never used; 9=don't know)

landfill, mono industrial waste	[3] (42)
landfill, mixed industrial waste	[3] (43)
landfill, drummed waste	[3] (44)
landfill, municipal refuse co-disposed ...	[3] (45)
pits/ponds/lagoons	[3] (46)
deep well injection	[3] (47)
land farming	[3] (48)
incineration	[2] (49)
treatment (eg. neutralizing).....	[3] (50)
reprocessing/recycling	[3] (51)
other (specify) _____....	[3] (52)

8. Users of this site (1=this facility; 2=this facility and other company facilities only; 3=this company and others; 9=don't know) ..... [3] (53)

LIST NAMES AND ADDRESSES OF OTHER KNOWN USERS BELOW

Timet, Henderson, NV 89015
Stauffer Chemical Company, Henderson, NV 89015
Flintkote Lime Company, Henderson, NV 89015
Montrose Chemical Company, Henderson, NV 89015
Jones Chemical Company, Henderson, NV 89015
Buckles Construction Company, 541 National Street, Henderson, NV 89015
Basic Management Incorporated, Henderson, NV 89015
U. S. Bureau of Reclamation, Boulder City, NV 89005

FORM B CONTINUED ON SECOND PAGE

[1] (80)

FORM B - Page 2

(1-8)
(DO NOT USE)

Company Name: Kerr-McGee Corporation

Facility Name: Kerr-McGee Chemical Corporation, Henderson Plant

Site Name: EMI Dump

9. Components (or characteristics) of process waste from this facility disposed at site: (1=present in waste; 2=not present in waste; 9=don't know)

FILL IN EVERY BLOCK SPACE

Acid solutions, with pH<3	2	(10)
pickling liquor	2	(11)
metal plating waste	2	(12)
circuit etchings	2	(13)
inorganic acid manufacture	2	(14)
organic acid manufacture	2	(15)
Base solutions, with pH>12	2	(16)
caustic soda manufacture	2	(17)
nylon and similar polymer generation	2	(18)
scrubber residual	2	(19)
Heavy metals & trace metals (bonded organically & inorganically)	1	(20)
arsenic, selenium, antimony	2	(21)
mercury	2	(22)
iron, manganese, magnesium	1	(23)
zinc, cadmium, copper, chromium (trivalent)	2	(24)
chromium (hexavalent)	1	(25)
lead	2	(26)
Radioactive residues, >50 pico curies/liter	2	(27)
uranium residuals & residuals for UF_6 recycling	2	(28)
lathanide series elements and rare earth salts	2	(29)
phosphate slag	2	(30)
thorium	2	(31)
radium	2	(32)
other alpha, beta & gamma emitters	2	(33)
Organics	2	(34)
insecticides & intermediates	2	(35)
herbicides & intermediates	2	(36)
fungicides & intermediates	2	(37)
rodenticides & intermediates	2	(38)
halogenated aliphatics	2	(39)
halogenated aromatics	2	(40)
acrylates & latex emulsions	2	(41)
PCB/PBB's	2	(42)
amides, amines, imides	2	(43)
plastizers	2	(44)
resins	2	(45)
elastomers	2	(46)
solvents polar (except water)	2	(47)
carbontetrachloride	2	(48)
trichloroethylene	2	(49)
other solvents nonpolar	2	(50)
solvents halogenated aliphatic	2	(51)
solvents halogenated aromatic	2	(52)
oils and oil sludges	2	(53)
esters and ethers	2	(54)
alcohols	2	(55)
ketones & aldehydes	2	(56)
dioxins	2	(57)
Inorganics	1	(58)
salts	1	(59)
mercaptans	2	(60)
Misc		(61)
pharmaceutical wastes	2	(62)
paints & pigments	2	(63)
catalysts (eg. vanadium, platinum, palladium)	2	(64)
asbestos	2	(65)
shock sensitive wastes (eg. nitrated toluenes)	2	(66)
air water reactive wastes (eg. P_4, aluminum chloride)	2	(67)
wastes with flash point below 100° F	2	(68)

2 (80)

FORM B: DISPOSAL SITE INFORMATION

[| | | | | | |] (1-8)
(DO NOT USE)

COMPLETE THIS FORM FOR EVERY SITE (INCLUDING THE LOCATION OF THIS FACILITY AS ONE SITE) USED FOR THE DISPOSAL OF PROCESS WASTES GENERATED BY THIS FACILITY SINCE 1950.

Company Name: Kerr-McGee Corporation
Facility Name: Kerr-McGee Chemical Corporation, Henderson Plant
Name of Site: BMI Ponds
Address of Site: _____
no. street
Henderson, NV 89015
city state zip code

Name of Owner (while used by facility): Basic Management Incorporated (BMI)
Address: _____
no. street
Henderson, NV 89015
city state zip code

Current Owner (if different from above): -
Address: _____
no. street
_____
city state zip code

1. Location (1= the property on which facility is located; 2= off-site)..... [2] (10)
2. Ownership at time of use (1= company ownership; 2=private but not company ownership) 3=public ownership) ..... [2] (11)
3. Current status (1= closed; 2= still in use; 9=don't know) ..... [2] (12)
   IF CLOSED, specify year closed ..... 19[ ] (13-14)
4. Year first used for process waste from this facility ..... 19[50] (15-16)
5. Year last used for process waste from this facility (enter "79" if still in use) ..... 19[79] (17-18)
6. Total amount of process waste from this facility disposed at site:
   use tons only if possible — right justify response.
   thousand gallons ..... [| | | | | | |] (19-26)
   hundred tons ..... [| | | | 1 | 1 | 7] (27-33)
   thousand cubic yards ..... [| | | | | | |] (34-41)
7. Specify type(s) of disposal method(s) used at site and whether method is still in use (1=currently in use; 2=no longer in use; 3=never used; 9=don't know)

landfill, mono industrial waste	[3] (42)
landfill, mixed industrial waste	[3] (43)
landfill, drummed waste	[3] (44)
landfill, municipal refuse co-disposed ...	[3] (45)
pits/ponds/lagoons	[1] (46)
deep well injection	[3] (47)
land farming	[3] (48)
incineration	[3] (49)
treatment (eg. neutralizing).....	[3] (50)
reprocessing/recycling	[3] (51)
other (specify)_____....	[3] (52)

8. Users of this site (1=this facility; 2=this facility and other company facilities only; 3=this company and others; 9=don't know) ..... [3] (53)

LIST NAMES AND ADDRESSES OF OTHER KNOWN USERS BELOW

Timet, Henderson, NV 89015
Stauffer Chemical Company, Henderson, NV 89015
Flintkote Lime Company, Henderson, NV 89015
Montrose Chemical Company, Henderson, NV 89015
City of Henderson, 243 Water Street, Henderson, NV 89015

FORM B CONTINUED ON SECOND PAGE

[1] (80)

	(DO NOT USE)	(1-8)

Company Name: Kerr-McGee Corpor n

Facility Name: Kerr-McGee Chemical Corporation, Henderson Plant

Site Name: BMI Ponds

9. Components (or characteristics) of process waste from this facility disposed at site: (1=present in waste; 2=not present in waste; 9=don't know)

FILL IN EVERY BLOCK SPACE

Acid solutions, with pH<3	2	(10)
pickling liquor	2	(11)
metal plating waste	2	(12)
circuit etchings	2	(13)
inorganic acid manufacture	2	(14)
organic acid manufacture	2	(15)
Base solutions, with pH>12	2	(16)
caustic soda manufacture	2	(17)
nylon and similar polymer generation	2	(18)
scrubber residual	2	(19)
Heavy metals & trace metals (bonded organically & inorganically)	1	(20)
arsenic, selenium, antimony	2	(21)
mercury	2	(22)
iron, manganese, magnesium	1	(23)
zinc, cadmium, copper, chromium (trivalent)	2	(24)
chromium (hexavalent)	1	(25)
lead	2	(26)
Radioactive residues, >50 pico curies/liter	2	(27)
uranium residuals & residuals for UF_6 recycling	2	(28)
lathanide series elements and rare earth salts	2	(29)
phosphate slag	2	(30)
thorium	2	(31)
radium	2	(32)
other alpha, beta & gamma emitters	2	(33)
Organics	2	(34)
insecticides & intermediates	2	(35)
herbicides & intermediates	2	(36)
fungicides & intermediates	2	(37)
rodenticides & intermediates	2	(38)
halogenated aliphatics	2	(39)
halogenated aromatics	2	(40)
acrylates & latex emulsions	2	(41)
PCB/PBB's	2	(42)
amides, amines, imides	2	(43)
plastizers	2	(44)
resins	2	(45)
elastomers	2	(46)
solvents polar (except water)	2	(47)
carbontetrachloride	2	(48)
trichloroethylene	2	(49)
other solvents nonpolar	2	(50)
solvents halogenated aliphatic	2	(51)
solvents halogenated aromatic	2	(52)
oils and oil sludges	2	(53)
esters and ethers	2	(54)
alcohols	2	(55)
ketones & aldehydes	2	(56)
dioxins	2	(57)
Inorganics	1	(58)
salts	1	(59)
mercaptans	2	(60)
Misc.	2	(61)
pharmaceutical wastes	2	(62)
paints & pigments	2	(63)
catalysts (eg. vanadium, platinum, palladium)	2	(64)
asbestos	2	(65)
shock sensitive wastes (eg. nitrated toluenes)	2	(66)
air water reactive wastes (eg. P_4, aluminum chloride)	2	(67)
wastes with flash point below 100° F	2	(68)

2 (80)

[ ][ ][ ][ ][ ][ ] (1-8)
(DO NOT USE)

FORM B: DISPOSAL SITE INFORMATION

COMPLETE THIS FORM FOR EVERY SITE (INCLUDING THE LOCATION OF THIS FACILITY AS ONE SITE) USED FOR THE DISPOSAL OF PROCESS WASTES GENERATED BY THIS FACILITY SINCE 1950.

Company Name: Kerr-McGee Corporation
Facility Name: Kerr-McGee Chemical Corporation, Henderson Plant
Name of Site: Plant Site
Address of Site: P. O. Box 55 (no.) Lake Mead Drive (street)
Henderson, NV (city) (state) 89015 (zip code)

Name of Owner (while used by facility): As Above
Address: (no.) (street)
(city) (state) (zip code)

Current Owner (if different from above): -
Address: (no.) (street)
(city) (state) (zip code)

1. Location (1= the property on which facility is located; 2= off-site)..... [1] (10)
2. Ownership at time of use (1= company ownership; 2=private but not company ownership) 3=public ownership) 9=don't know..... [1] (11)
3. Current status (1= closed; 2= still in use; 9=don't know) ..... [2] (12)
   IF CLOSED, specify year closed ..... 19[ ][ ] (13-14)
4. Year first used for process waste from this facility ..... 19[5][0] (15-16)
5. Year last used for process waste from this facility (enter "79" if still in use) ..... 19[7][9] (17-18)
6. Total amount of process waste from this facility disposed at site:
   use tons only if possible — right justify response.
   thousand gallons ..... [ ][ ][ ][ ][ ][ ][ ] (19-26)
   hundred tons ..... [ ][ ][ ][4][9][0] (27-33)
   thousand cubic yards ..... [ ][ ][ ][ ][ ][ ][ ] (34-41)
7. Specify type(s) of disposal method(s) used at site and whether method is still in use (1=currently in use; 2=no longer in use; 3=never used; 9=don't know)

landfill, mono industrial waste	[1] (42)
landfill, mixed industrial waste	[1] (43)
landfill, drummed waste	[3] (44)
landfill, municipal refuse co-disposed ...	[3] (45)
pits/ponds/lagoons	[1] (46)
deep well injection	[3] (47)
land farming	[3] (48)
incineration	[3] (49)
treatment (eg. neutralizing).....	[3] (50)
reprocessing/recycling	[1] (51)
other (specify) _____	[3] (52)

8. Users of this site (1=this facility; 2=this facility and other company facilities only; 3=this company and others; 9=don't know) ..... [1] (53)

LIST NAMES AND ADDRESSES OF OTHER KNOWN USERS BELOW

FORM B CONTINUED ON SECOND PAGE

[1] (80)

Company Name: Kerr-McGee Corp

(1-8) (DO NOT USE)

Facility Name: Kerr-McGee Chemical Corporation, Henderson Plant

Site Name: Plant Site

9. Components (or characteristics) of process waste from this facility disposed at site: (1=present in waste; 2=not present in waste; 9=don't know)

FILL IN EVERY BLOCK SPACE

Acid solutions, with pH<3	[2]	(10)
pickling liquor	[2]	(11)
metal plating waste	[2]	(12)
circuit etchings	[2]	(13)
inorganic acid manufacture	[2]	(14)
organic acid manufacture	[2]	(15)
Base solutions, with pH>12	[2]	(16)
caustic soda manufacture	[2]	(17)
nylon and similar polymer generation	[2]	(18)
scrubber residual	[2]	(19)
Heavy metals & trace metals (bonded organically & inorganically)	[1]	(20)
arsenic, selenium, antimony	[2]	(21)
mercury	[2]	(22)
iron, manganese, magnesium	[1]	(23)
zinc, cadmium, copper, chromium (trivalent)	[2]	(24)
chromium (hexavalent)	[1]	(25)
lead	[2]	(26)
Radioactive residues, >50 pico curies/liter	[2]	(27)
uranium residuals & residuals for UF_6 recycling	[2]	(28)
lathanide series elements and rare earth salts	[2]	(29)
phosphate slag	[2]	(30)
thorium	[2]	(31)
radium	[2]	(32)
other alpha, beta & gamma emitters	[2]	(33)
Organics	[2]	(34)
insecticides & intermediates	[2]	(35)
herbicides & intermediates	[2]	(36)
fungicides & intermediates	[2]	(37)
rodenticides & intermediates	[2]	(38)
halogenated aliphatics	[2]	(39)
halogenated aromatics	[2]	(40)
acrylates & latex emulsions	[2]	(41)
PCB/PBB's	[2]	(42)
amides, amines, imides	[2]	(43)
plastizers	[2]	(44)
resins	[2]	(45)
elastomers	[2]	(46)
solvents polar (except water)	[2]	(47)
carbontetrachloride	[2]	(48)
trichloroethylene	[2]	(49)
other solvents nonpolar	[2]	(50)
solvents halogenated aliphatic	[2]	(51)
solvents halogenated aromatic	[2]	(52)
oils and oil sludges	[2]	(53)
esters and ethers	[2]	(54)
alcohols	[2]	(55)
ketones & aldehydes	[2]	(56)
dioxins	[2]	(57)
Inorganics	[1]	(58)
salts	[1]	(59)
mercaptans	[2]	(60)
Misc.	[ ]	(61)
pharmaceutical wastes	[2]	(62)
paints & pigments	[2]	(63)
catalysts (eg. vanadium, platinum, palladium)	[2]	(64)
asbestos	[2]	(65)
shock sensitive wastes (eg. nitrated toluenes)	[2]	(66)
air water reactive wastes (eg. P_4, aluminum chloride)	[2]	(67)
wastes with flash point below 100° F	[2]	(68)

FORM C: HAULER INFORMATION

(1-5)
(DO NOT USE)

PROVIDE A COMPLETE LIST OF ALL FIRMS AND INDEPENDENT CONTRACTORS, INCLUDING THE COMPANY AND ITS AFFILIATES AND SUBSIDIARIES, USED TO REMOVE PROCESS WASTES FROM THIS FACILITY SINCE 1950.

Company Name: Kerr-McGee Corporation
Division/Subsidiary: ———
Facility Name: Kerr-McGee Chemical Corporation, Henderson Plant

Name of Firm or Contractor	Address	ICC # (If Known)	Years Used
Kerr-McGee	Henderson, NV		30

KERR-McGEE CHEMICAL CORPORATION
POST OFFICE BOX 55 • HENDERSON, NEVADA 89015

(6b)

March 22, 1979

Mr. W. Marvin Tebeau, Environmental Scientist
State of Nevada
Department of Conservation and Natural Resources
Division of Environmental Protection
Capitol Complex
Carson City, NV 89710

Reference: NPDES Permit No. NV0000078

Dear Mr. Tebeau:

In accordance with your letter of February 23, 1979, the following are attached:

1. A listing of our ponds with the questions in Item II of the request answered. The answers are designated by the same letter as the sub-questions under Item II.

2. A drawing of the BMI Complex with the ponds and the pipelines to them superimposed in color.

We do not have any monitoring wells.

I believe this completes the requirements of the order. If you require any other information, please contact me.

Sincerely,

C. B. Armstrong
Plant Manager

CBA:jc
Attachments

bcc: WBHayes/RJVreeland-OKC
TLHurst-OKC
RFWohletz

DATA ON LINED PONDS

POND C-1

a. Liner - PVC bottom, reinforced butyl side

b. Surface area - 69,000 ft.^{2}

c. Volume - 415,000 ft.^{3}

d. Process waste and average volume:

Boiler house wastes	-	4,000 gallons/day
Main cooling tower waste) Cooling tower filter wash)	-	15,000 gallons/day
Cleaning liquor waste	-	1,500 gallons/day

e. Impoundment currently in use.

POND AP-1

a. Liner - PVC bottom, CPE side

b. Surface area - 14,000 ft.^{2}

c. Volume - 58,000 ft.^{3}

d. Sodium perchlorate purification and ammonium perchlorate process purification filter wash liquor; total recycle; no addition other than that required to maintain volume.

e. Impoundment currently in use.

POND AP-2

Same as Pond AP-1

POND AP-3

a. Liner - PVC

b. Surface area - 2,000 ft.^{2}

c. Volume - 6,500 ft.^{3}

d. Pump basin for AP-1 and AP-2. No flow.

e. Impoundment currently in use.

POND AP-4

a. Liner - PVC bottom, CPE side

b. Surface area - 20,000 ft.^{2}

c. Volume - 115,000 ft.^{3}

d. Ammonium perchlorate cooling tower waste; emergency only. Salt crystallizer washout - 500 gallons/day.

e. Impoundment currently in use.

POND P-1

a. Liner - PVC bottom, CPE side
b. Surface area - 26,000 ft.^{2}
c. Volume - 125,000 ft.^{3}
d. No process waste at this time.
e. Impoundment abandoned July, 1975.

POND P-2

a. Liner - reinforced butyl rubber
b. Surface area - 12,000 ft.^{2}
c. Volume - 47,000 ft.^{3}
d. Process waste: sodium chlorate solution; this pond for emergency use only, and all solution is recycled. Caustic scrubber solution from ammonium perchlorate plant - 500 gallons/day.
e. Impoundment currently in use.

POND P-3

a. Liner - reinforced butyl rubber
b. Surface area - 12,000 ft.^{2}
c. Volume - 47,000 ft.^{3}
d. Process waste: sodium chlorate solution; this pond for emergency use only, and all solution is recycled. No regular flows to pond.
e. Impoundment currently in use.

POND S-1

a. Liner - PVC bottom, CPE side
b. Surface area - 47,500 ft.^{2}
c. Volume - 270,000 ft.^{3}
d. Process waste: potassium perchlorate process tailings - 5,000 gallons/day; boron leach liquor - 1,000 gallons/day.
e. Impoundment currently in use.

STATE OF NEVADA
DEPARTMENT OF CONSERVATION AND NATURAL RESOURCES
DIVISION OF ENVIRONMENTAL PROTECTION
CAPITOL COMPLEX
CARSON CITY, NEVADA 89710

TELEPHONE (702) 885-4670

FEB 27 1979

x/c RJV/WBH
TLH
RFW
CBL

6a

February 23, 1979

Mr. C. B. Armstrong
Kerr McGee Chemical Company
P.O. Box 55
Henderson, NV 89015

RE: Kerr McGee Chemical Company NPDES Permit No. NV000078

Dear Mr. Armstrong:

The enclosed Order is issued by the Administrator of the Division of Environmental Protection pursuant to Nevada Revised Statutes (NRS) Chapter 445.214 Section 1, 2, 3, 7, and 12 and in accordance with NRS 445.307, NRS 445.317 subsection 1(a) and NRS 445.324.

The Order is requesting that you provide certain information on the lined and unlined impoundments on your property.

Your cooperation with the State in providing this information is appreciated. Should you have any questions, please call at 885-4670.

Sincerely,

W. Marvin Tebeau

W. Marvin Tebeau
Environmental Scientist

gc
cc: Greg Fischer E-5-2
EPA, Region IX

IN THE MATTER OF)
Kerr McGee Chemical Company)
NV000078)

ORDER

The following Order is issued this date pursuant to the powers and duties vested in the Director by Nevada Revised Statutes (NRS) Chapter 445.214 subsection 1, 2, 3, 7 and 12 and in accordance with NRS 445.307 and NRS 445.317, subsection 1(a) and NRS 445.324.

In the recent past the Division of Environmental Protection has sampled discharges of process waste at the BMI siphon prior to entering the upper BMI ponds and in the influent domestic waste at the Henderson treatment plant.

In order for the Division of Environmental Protection to develop and administer a compreshensive plan and program for preventing, reducing or eliminating these discharges and their subsequent impact on the ground water and surface water of the State, your cooperation is needed in providing certain information on the lined and unlined ponds and the process waste they recieve.

On the basis of the findings listed above the Administrator of the Division of Environmental Protection requires Kerr McGee Chemical Company to provide the following information by March 26, 1979.

LINED AND UNLINED IMPOUNDMENT DATA

I. Depict on a USGS map or provide a drawing of:

   a. Impoundments in relation to the plant

   b. Piping schematic of the process waste from the production areas to the impoundment

   c. Any monitoring well on your property

II. Concerning each impoundment provide information on:

a. Type of liner used, if clay give thickness

b. Surface area

c. Volume

d. Name of process waste and daily average volume being stored or disposed of

e. Is the impoundment presently in use, if not last year of operation and age

III. Concerning each monitoring well:

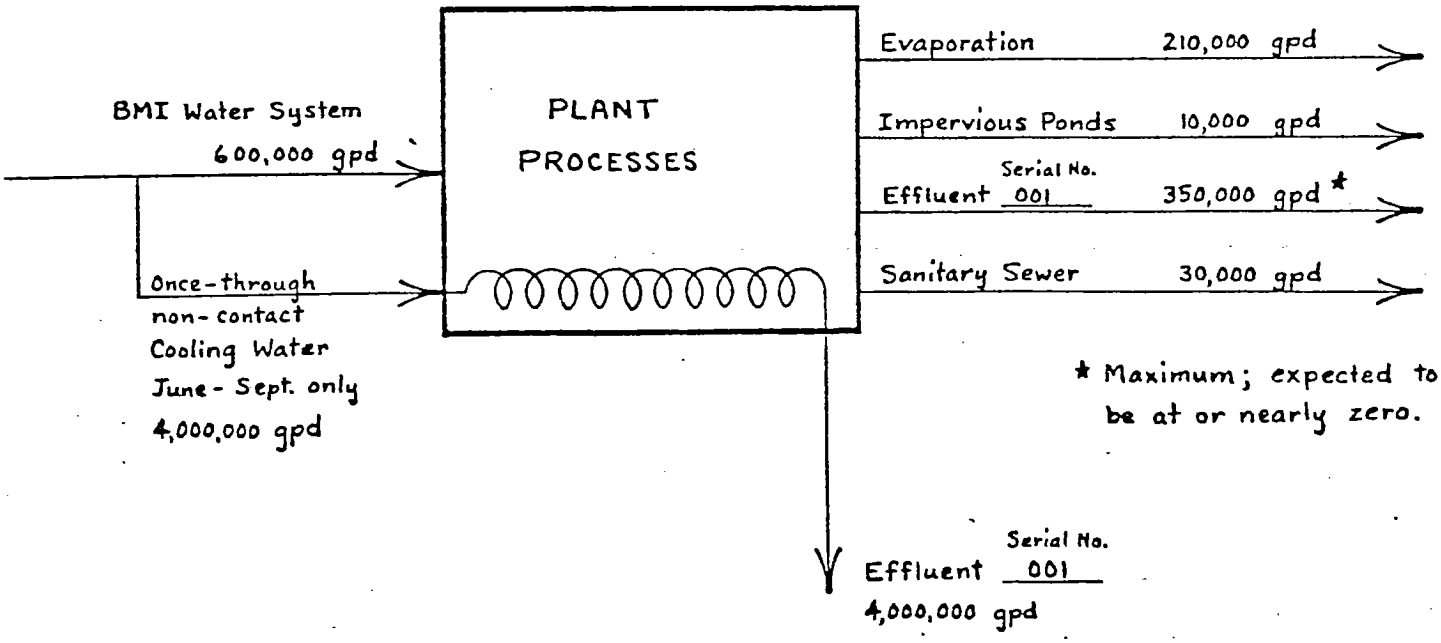
a. Depth to ground water if known

b. Frequency of sampling and copy of any analysis of the ground water

c. Copy of any well logs or test hole logs taken in the immediate area if available.

DATED 7-23-79

E.G. Gregory, Administrator
Division of Environmental Protection



KERR-McGEE CHEMICAL CORP. HENDERSON, NEVADA

ENGR. K.D. Heine	JOB NO.	WATER FLOW SCHEMATIC	DRWG. NO.
SCALE	A.F.E.		p.1 of 1
DATE 8-12-74	APP.		

FORM APPROVED
OMB No. 158–R0100

STANDARD FORM C – MANUFACTURING AND COMMERCIAL

FOR AGENCY USE

SECTION II. BASIC DISCHARGE DESCRIPTION

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

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

1. Discharge Serial No. and Name		
a. Discharge Serial No. (see instructions)	201a	001
b. Discharge Name Give name of discharge, if any. (see instructions)	201b	Unnamed drainage ditch to BMI ponds
c. Previous Discharge Serial No. If previous permit application was made for this discharge (see Item 4, Section I), provide previous discharge serial number.	201c	NA
2. Discharge Operating Dates		
a. Discharge Began Date If the discharge described below is in operation, give the date (within best estimate) the discharge began.	202a	46 – (YR MO)
b. Discharge to Begin Date If the discharge has never occurred but is planned for some future date, give the date (within best estimate) the discharge will begin.	202b	NA (YR MO)
c. Discharge to End Date If discharge is scheduled to be discontinued within the next 5 years, give the date (within best estimate) the discharge will end.	202c	77 12 (YR MO) (For once through noncontact cooling water) 75 12 (For process effluent)
3. Engineering Report Available Check if an engineering report is available to reviewing agency upon request. (see instructions)	203	☐
4. Discharge Location Name the political boundaries within which the point of discharge is located.		Agency Use
State	204a	Nevada — 204d
County	204b	Clark — 204e
(If applicable) City or Town	204c	NA — 204f
5. Discharge Point Description Discharge is into (check one): (see instructions)		
Stream (Includes ditches, arroyos, and other intermittent watercourses)	205a	☒ STR
Lake		☐ LKE
Ocean		☐ OCE
Municipal Sanitary Wastewater Transport System		☐ MTS
Municipal Combined Sanitary and Storm Transport System		☐ MCS

DISCHARGE SERIAL NUMBER

001

FOR AGENCY USE

Municipal Storm Water Transport System ☐ STS

Well (Injection) ☐ WEL

Other ☒ OTH

If 'other' is checked, specify

205b Combination evaporation and percolation ponds

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

Latitude 206a 36 DEG 03 MIN 32 SEC

Longitude 206b 114 DEG 58 MIN 34 SEC

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

207a BMI ponds near Las Vegas Valley drainage to Lake Mead

If the discharge is through an outfall that extends beyond the shoreline or is below the mean low water line, complete Item 8.

For Agency Use				For Agency Use
Major	Minor	Sub		303e
207b			207c	

8. Offshore Discharge

a. Discharge Distance from Shore 208a NA feet

b. Discharge Depth Below Water Surface 208b NA feet

9. Discharge Type and Occurrence

a. Type of Discharge Check whether the discharge is continuous or intermittent. (see instructions)

209a ☒ (con) Continuous

☐ (int) Intermittent

b. Discharge Occurrence Days per Week Enter the average number of days per week (during periods of discharge) this discharge occurs.

209b 7 days per week

c. Discharge Occurrence —Months If this discharge normally operates (either intermittently, or continuously) on less than a year-around basis (excluding shutdowns for routine maintenance), check the months during the year when the discharge is operating. (see instructions)

209c ☐ JAN ☐ FEB ☐ MAR ☒ APR

☐ MAY ☐ JUN ☐ JUL ☐ AUG

☐ SEP ☐ OCT ☐ NOV ☐ DEC

The summer use of noncontact cooling water will be from June through September at a rate of 4,000,000 gallons per day.

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

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

210 NA thousand gallons per discharge occurrence.

11. Intermittent Discharge Duration and Frequency

a. Intermittent Discharge Duration Per Day State the average number of hours per day the discharge is operating.

211a NA hours per day

b. Intermittent Discharge Frequency State the average number of discharge occurrences per day during days when discharging.

211b NA discharge occurrences per day

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

212 From June (month) to Sept. (month)

DISCHARGE SERIAL NUMBER

001

FORM APPROVED
OMB No. 158—R0100

FOR AGENCY USE

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

213a Production of various chlorates and perchlorates by electrolysis and subsequent double decomposition. Electrolytic production of battery active manganese dioxide.

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

a. **Raw Materials**

214a SIC Code (1)	Name (2)	Maximum Amount/Day (3)	Unit (See Table I) (4)	Shared Discharges (Serial Number) (5)
2819	NaCl	52	K-1	NA
2819	NH_3	9	K-1	NA
2819	31% HCl	33	K-1	NA
2819	MnO_2 Ore	55	K-1	NA

b. **Products**

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

DISCHARGE SERIAL NUMBER

001

FOR AGENCY USE

15. Waste Abatement

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

215a

Narrative: The following practices are routinely followed:

1. Washing of filter cakes to remove soluble material.
2. Ponding of effluents for evaporation
3. Use of recirculated cooling water.
4. Use of mechanical seal pumps.
5. Reuse of byproducts as raw materials

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

215b

(1) ESEGRE,	(2) EMERGE,	(3) ECOUNT,
(4) EPUMPS,	(5) DREACT,	(6) DSTUPD,
(7) RECOVE,	(8) RDOWNG,	(9) RUSEOR,
(10) RECYCL,	(11) OMONIT,	(12) ,
(13) ,	(14) ,	(15) ,
(16) ,	(17) ,	(18) ,
(19) ,	(20) ,	(21) ,
(22) ,	(23) ,	(24) ,
(25) .		

DISCHARGE SERIAL NUMBER

001

FORM APPROVED
OMB No. 158–R0100

FOR AGENCY USE

16. Wastewater Characteristics

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

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

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

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

DISCHARGE SERIAL NUMBER

001

FOR AGENCY USE

17. Description of Intake and Discharge

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

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

Parameter and Code 217a	Influent		Effluent					
	Untreated Intake Water (Daily Average) (1)	In-Plant Treated Intake Water (Daily Average) (2)	Daily Average (3)	Minimum Value Observed or Expected During Discharge Activity (4)	Maximum Value Observed or Expected During Discharge Activity (5)	Frequency of Analysis (6)	Number of Analyses (7)	Sample Type (8)
Flow* Gallons per day 00056	600,000	NA	350,000	0	4,350,000	1/1	365	24
pH Units 00400	8	NA	X	6	10	1/1	365	24
Temperature (winter) °F 74028	55	NA	65	60	70	None	NA	NA
Temperature (summer) °F 74027	65	NA	75	70	80	None	NA	NA
Biochemical Oxygen Demand (BOD 5-day) mg/l 00310	A	NA	A	A	A	NA	NA	NA
Chemical Oxygen Demand (COD) mg/l 00340	24	NA	22	15	30	None	NA	NA
Total Suspended (nonfilterable) Solids mg/l 00530	4	NA	150	100	300	None	NA	NA
Specific Conductance micromhos/cm at 25° C 00095	- - - -	- - - -	X	UNDETERMINED			- -	-
Settleable Matter (residue) ml/l 00545	- - - -	- - - -	- - - -	UNDETERMINED			- -	-

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

FORM APPROVED
OMB No. 158–R0100

DISCHARGE SERIAL NUMBER
001

FOR AGENCY USE

17. (Cont'd.)

Parameter and Code 217a		Influent		Effluent					
		Untreated Intake Water (Daily Average) (1)	In-Plant Treated Intake Water (Daily Average) (2)	Daily Average (3)	Minimum Value Observed or Expected During Discharge Activity * (4)	Maximum Value Observed or Expected During Discharge Activity ** (5)	Frequency of Analysis (6)	Number of Analyses (7)	Sample Type (8)
Aluminum u g/l	01105	25	NA	60	25	100	None	NA	NA
Cadmium u g/l	01027	12	NA	60	12	100	None	NA	NA
Chromium u g/l	01034	8	NA	60	8	6,000	None	NA	NA
Copper u g/l	01042	100	NA	150	100	200	None	NA	NA
Lead u g/l	01051	200	NA	200	150	250	None	NA	NA
Zinc u g/l	01092	12,000	NA	24,000	12,000	36,000	None	NA	NA

* With cooling water only.
** With process water only.

18. **Plant Controls** Check if the following plant controls are available for this discharge. 218

Alternate power source for major pumping facility. ☐ APS

Alarm or emergency procedure for power or equipment failure ☐ ALM

NA

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

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

a. Name of Material(s) 219a — NA

b. Name and address of manufacturer 219b

c. Quantity (pounds added per million gallons of water treated). 219c

DISCHARGE SERIAL NUMBER
001

FOR AGENCY USE

d. Chemical composition of these additives (see instructions). | 219d | NA

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

20. Thermal Discharge Source Check the appropriate item(s) indicating the source of the discharge. (see instructions) | 220

- ☐ Boiler Blowdown — BLBD
- ☐ Boiler Chemical Cleaning — BCCL
- ☐ Ash Pond Overflow — APOF
- ☐ Boiler Water Treatment — Evaporator Blowdown — EPBD
- ☐ Oil or Coal Fired Plants — Effluent from Air Pollution Control Devices — OCFP
- ☐ Condense Cooling Water — COND
- ☐ Cooling Tower Blowdown — CTBD
- ☐ Manufacturing Process — MFPR
- ☐ Other — OTHR

NA

21. Discharge/Receiving Water Temperature Difference

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

Summer	221a	_____ °F.
Winter	221b	NA °F.

22. Discharge Temperature, Rate of Change Per Hour | 222

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

NA °F./hour

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

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

Frequency of occurrence		10%	5%	1%	Maximum
a. Intake Water Temperature (Subject to natural changes)	223a	°F	°F	°F	°F
b. Discharge Water Temperature	223b	°F	°F	°F	°F

NA

24. Water Intake Velocity (see instructions) | 224 | _____ feet/sec.

NA

25. Retention Time Give the length of time, in minutes, from start of water temperature rise to discharge of cooling water. (see instructions) | 225 | _____ minutes

FORM APPROVED
OMB NO. 158-R0100

DISCHARGE SERIAL NUMBER

001

FOR AGENCY USE

Ed. Additional Information

Item	Information
	NA

FORM APPROVED
OMB No. 158—R0100

FOR AGENCY USE

STANDARD FORM C — MANUFACTURING AND COMMERCIAL

SECTION III. WASTE ABATEMENT REQUIREMENTS & IMPLEMENTATION (CONSTRUCTION) SCHEDULE

This section requires information on any uncompleted implementation schedule which may have been imposed for construction of waste abatement facilities. Such requirements and implementation schedules may have been established by local, State, or Federal agencies or by court action. In addition to completing the following items, a copy of an official implementation schedule should be attached to this application. IF YOU ARE SUBJECT TO SEVERAL DIFFERENT IMPLEMENTATION SCHEDULES, EITHER BECAUSE OF DIFFERENT LEVELS OF AUTHORITY IMPOSING DIFFERENT SCHEDULES (Item 1a.) AND/OR STAGED CONSTRUCTION OF SEPARATE OPERATION UNITS (Item 1c), SUBMIT A SEPARATE SECTION III FOR EACH ONE.

FOR AGENCY USE
SCHED. NO.

1. **Improvements**

300		
301a	**a. Discharge Serial Number Affected** List the discharge serial numbers, assigned in Section II, that are covered by this implementation schedule.	001 ____ ____ ____ ____ ____ ____
	b. Authority Imposing Requirements Check the appropriate item indicating the authority for implementation schedule. If the identical implementation schedule has been ordered by more than one authority, check the appropriate items. (see instructions)	
301b	Locally developed plan	☐ LOC
	Areawide Plan	☐ ARE
	Basic Plan	☐ BAS
	State approved implementation schedule	☐ SQS
	Federal approved water quality standards implementation plan.	☒ WQS
	Federal enforcement procedure or action	☐ ENF
	State court order	☐ CRT
	Federal court order	☐ FED
	c. Facility Requirement. Specify the 3-character code of those listed below that best describes in general terms the requirement of the implementation schedule and the applicable six-character abatement code(s) from Table II of the Instruction booklet. If more than one schedule applies to the facility because of a staged construction schedule, state the stage of construction being described here with the appropriate general action code. Submit a separate Section III for each stage of construction planned.	
301c		3-character (general) ELI
301d		6-character (specific) (see Table II) DSTOPD

New Facility	NEW
Modification (no increase in capacity or treatment)	MOD
Increase in Capacity	INC
Increase in Treatment Level	INT
Both Increase in Treatment Level and Capacity	ICT
Process Change	PRO
Elimination of Discharge	ELI

FOR AGENCY USE

2. Implementation Schedule and 3. Actual Completion Dates

Provide dates imposed by schedule and any actual dates of completion for implementation steps listed below. Indicate dates as accurately as possible. (see instructions)

Implementation Steps		2. Schedule (Yr./Mo./Day)		3. Actual Completion (Yr./Mo./Day)
a. Preliminary plan complete	302a	6 / 23 / 72	303a	5 / 26 / 72
b. Final plan submission	302b	6 / 23 / 72	303b	5 / 26 / 72
c. Final plan complete	302c	8 / 15 / 74	303c	9 / 1 / 74
d. Financing complete & contract awarded	302d	/ NA /	303d	/ NA /
e. Site acquired	302e	/ NA /	303e	/ NA /
f. Begin action (e.g., construction)	302f	10 / 1 / 73	303f	10 / 1 / 73
g. End action (e.g., construction)	302g	12 / 31 / 74	303g	12 / 31 / 74
h. Discharge Began	302h	/ NA /	303h	/ NA /
i. Operational level attained	302i	1 / 31 / 75	303i	12 / 31 / 75

GPO 865-742

KERR-McGEE

KERR-McGEE BUILDING • OKLAHOMA CITY, OKLAHOMA 73102

October 5, 1971

District Engineer
Department of the Army
Los Angeles District, Corps of Engineers
P. O. Box 2711
Los Angeles, California 90053

Re: Discharge Permit Application
NV 075-0YQ-2-000254
Discharge Serial No. 001

Dear Sir;

Forwarded herewith is part B of the above captioned water discharge permit application covering the Kerr-McGee Chemical Corp. facility at Henderson, Nevada, together with a certification statement.

Data are not yet complete for some of the required parameters. These will be submitted as soon as they are available.

Please contact me for permit application coordination and any additional information that you may need.

Very truly yours,

TLH

T. L. Hurst
Director of Environmental Services

TLH:jl
Enclosures 2

bcc: C. B. Armstrong w/a - Henderson
M. C. Locke w/a

Permit No. NV0000078

Name of permittee Kerr McGee Chemical Corporation

Effective date AUG 2 6 1973

Expiration date January 31, 1975

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM

DISCHARGE PERMIT

In reference to application number: 075-OYQ-2-000254 for a permit authorizing a discharge in compliance with the provisions of the Act of Congress enacted October 18, 1972, (86 Stat. 816) entitled the Federal Water Pollution Control Act Amendments of 1972 (hereinafter referred to as "the Act"), Kerr McGee Chemical Corporation is authorized by the Environmental Protection Agency, Region IX, to discharge

from: Henderson, Nevada plant, Basic Management Incorporated Complex, Henderson, Nevada,

to the waters of the United States at: Las Vegas Wash, approximately five miles from its confluence with Las Vegas Bay,

in accordance with the following general and special conditions:

General Conditions

I. All discharges authorized herein shall be consistent with the terms and conditions of this permit; facility expansions, production increases, or process modifications which result in new or increased discharges of pollutants must be reported by submission of a new NPDES application at least 180 days prior to such changes or modifications or, if such new or increased discharge does not violate the effluent limitations specified in this permit, by notification of the issuing authority of this permit at least 30 days prior to such new or increased discharges of pollutants; the discharge of any pollutant more frequently than or at a level in excess of that identified and authorized by this permit shall constitute a violation of the terms and conditions of this permit.

II. After notice and opportunity for a hearing, this permit may be modified, suspended, or revoked in whole or in part during its term for cause including, but not limited to, the following:

a. Violation of any terms or conditions of this permit;

b. Obtaining this permit by misrepresentation or failure to disclose fully all relevant facts;

c. A change in any condition that requires either a temporary or permanent reduction or elimination of the authorized discharge.

III. Notwithstanding (II) above, if a toxic effluent standard or prohibition (including any schedule of compliance specified in such effluent standard or prohibition) is established under Section 307(a) of the Act, or amendments thereto, for a toxic pollutant which is present in the discharge authorized herein and such standard or prohibition is more stringent than any limitation upon such pollutant in this permit, the issuing authority of this permit shall revise or modify this permit in accordance with the toxic effluent standard or prohibition and so notify the permittee.

IV. The permittee shall allow the Director of the State water pollution control agency, the Regional Administrator, and/or their authorized representatives, upon presentation of credentials:

a. To enter upon the permittee's premises where an effluent source is located or in which any records are required to be kept under the terms and conditions of this permit;

b. To have access to at reasonable times and copy any records required to be kept under the terms and conditions of this permit;

c. To inspect at reasonable times any monitoring equipment or monitoring method required in this permit; or,

d. To sample at reasonable times any discharge of pollutants.

V. The discharge of any radiological, chemical, or biological warfare agent or high-level radioactive waste into waters of the United States is prohibited.

VI. In the event of any change in control or ownership of land or waste discharge facilities presently owned or controlled by the permittee, the permittee shall notify the succeeding owner or controller of the existence of this permit by letter, a copy of which shall be forwarded to the Regional Administrator.

VII. The permittee shall at all times maintain in good working order and operate as efficiently as possible all treatment or control facilities or systems installed or used by the permittee to achieve compliance with the terms and conditions of this permit.

VIII. The issuance of the permit does not convey any property rights in either real or personal property, or any exclusive privileges, nor does it authorize any injury to private property or any invasion of personal rights, nor any infringement of Federal, State or local laws or regulations.

IX. This permit does not authorize or approve the construction of any onshore or offshore physical structures or facilities or the undertaking of any work in any navigable waters.

X. The specific effluent limitations and other pollution controls applicable to the discharge permitted herein are set forth below in the Special Conditions. Also set forth below are self-monitoring and reporting requirements. Unless otherwise specified, the permittee shall submit duplicate original copies of

all reports to the head of the State water pollution control agency and the Regional Administrator. All such reports shall be available for public inspection at the offices of the head of the State water pollution control agency and the Regional Administrator. Knowingly making any false statements on any such report may result in the imposition of criminal penalties as provided for in Section 309 of the Act.

Special Conditions

(Special Conditions are specified on the following pages.)

Special Conditions

Kerr McGee Chemical Corporation

1. Effluent Limits.

a. General

Except as specified in 1b below, the permittee is authorized to discharge to Las Vegas Wash a final effluent which shall not exceed the average daily and maximum daily values as specified on the application dated, June 11, 1971, including any modification thereto, including but not limited to any modifications as recorded in the transcript of the public meeting held on May 17, 1973, at Las Vegas, Nevada, for the permit.

b. Specific

(1) After the effective date of this permit and until December 31, 1974, the permittee is authorized to discharge to Las Vegas Wash, an effluent whose characteristics shall not exceed at any time the following limits:

Discharge Serial Number 001

Constituent	30-Day Average Pollutant Discharge Rate (kg/day)	(lbs/day)	Maximum Daily Pollutant Discharge Rate (kg/day)	(lbs/day)	Maximum Concentration (mg/l)
Total Dissolved Solids	8,600	19,000	23,000	51,000	5,600
Chlorides	2,700	6,000	9,100	20,000	4,000

(2) All discharge of pollutants shall be eliminated by December 31, 1974.

2. Implementation Schedule.

a. The Schedule

3. Monitoring and Reporting.

A sampling station shall be established for each point of discharge and shall be located where representative samples of effluent can be obtained prior to discharge and where the effluent can be observed.

The permittee shall monitor and record the quality and quantity of each discharge according to the following schedule and other provisions:

a. Monitoring Schedule

Discharge Serial Number	Constituent	Minimum Frequency of Analysis	Sample Type
001	Flow	Once Every Two Weeks	Discrete
001	Total Dissolved Solids	Once Every Two Weeks	Composite
001	Chlorides	Once Every Two Weeks	Composite

b. Quality Control

The permittee shall calibrate and perform maintenance procedures on all monitoring and analytical instrumentation at sufficiently frequent intervals to ensure accuracy of measurements or shall insure that both activities will be conducted.

Samples shall be representative of the volume and quality of effluent discharged over the sampling and reporting period.

All samples are to be taken during normal operating hours.

c. Recording

The permittee shall record for all samples, the date and time of sampling, the sample method used, the date analyses were performed, the identity of the analysts, and the results of all required analyses and measurements.

(1) All sampling and analysis records mentioned in the preceding paragraph and all original strip-chart recordings from any continuous monitoring instrumentation together with any calibration and maintenance records shall be retained for a minimum of three years. This period will be extended during the course of any unresolved litigation, or when so requested by the Regional Administrator.

(2) The permittee shall identify and record the effluent sampling point used for each discharge outfall.

(3) The permittee shall provide the above records and shall demonstrate the accuracy of the flow measuring devices upon request of the Regional Administrator.

d. Sampling and Analysis

The analytical and sampling methods used, must conform to any one of the following reference methods (latest edition) and to any guidelines establishing test procedures for the analysis of pollutants promulgated by the Administrator of the Environmental Protection Agency pursuant to Section 304(g) of the Act. However, different but equivalent methods are allowable if they receive the prior, written approval of the Regional Administrator.

(1) Standard Methods for the Examination of Water and Wastewaters, 13th Edition, 1971, American Public Health Association, New York, New York 10019

(2) A.S.T.M. Standards, Part 23, Water; Atmospheric Analysis, 1970, American Society for Testing and Materials, Philadelphia, Pennsylvania 19103

(3) Methods for Chemical Analysis of Water and Wastes, April 1971, Environmental Protection Agency Water Quality Office, Analytical Quality Control Laboratory, 1014 Broadway, Cincinnati, Ohio 45202

e. Reporting

The results of the above monitoring requirements shall be reported on the Discharge Monitoring Report Form in the units specified. The permittee shall include in this report any previously approved non-standard methods used. Permanent elimination of a discharge should be brought to the attention of the Regional Administrator within 15 days by a special, written notification. A written report should be submitted if there have been any modifications in the waste collection, treatment, and

disposal facilities not provided for in this permit; changes in operational procedures; or other significant activities which alter the nature and frequency of the discharges or otherwise concern the conditions of this permit.

All reports shall be signed by the principal executive officer or corporate official in a corporation, of at least the level of vice president, or by his duly authorized representative, if such representative is responsible for the overall operation of the facility from which the discharge described in the application originates; or a general partner or the proprietor in the case of a partnership or sole proprietorship, respectively.

f. Other Provisions

(1) Soil Moisture Monitoring

The permittee shall, by December 31, 1973, submit to the Regional Administrator a plan for monitoring soil moisture and water quality of soil moisture beneath each impermeable pond or an alternative plan which would demonstrate the continuing effectiveness of measures taken to prevent the percolation of waste water from each pond into the underlying soil. The plan shall include:

(a) description of equipment and installation of the equipment required for monitoring;

(b) location of sampling sites; and may include

(c) analyses of soil moisture extracts for total dissolved solids and chlorides.

The permittee shall implement the plan upon approval of the Regional Administrator including in such implementation any additions or modifications which the Regional Administrator may make in approving the plan.

4. Oil Discharges.

There shall be no discharge of harmful quantities of oil, as defined pursuant to 40 CFR 110, including (1) any amendments or revisions made subsequent hereto, or (2) any more restrictive limitations which may be imposed otherwise by law or regulation. The authorization of this permit does not preclude the institution of any legal action, nor relieve the permittee

from any liabilities, penalties or responsibilities established by Section 311 of the Act, or amendments thereto, or by any superseding Federal or State legislation.

5. Other Materials.

Other materials ordinarily produced or used in the operation of this facility which have been specifically identified in the application for the permit dated June 11, 1971, including any modification thereto, may be discharged at the average and maximum frequencies and average and maximum levels noted in the application, provided:

a. they are not

(1) designated as hazardous under provisions of Section 311 of the Act, or amendments thereto, or

(2) known to be hazardous or toxic by the permittee; except that such materials may be discharged in certain limited amounts with the written approval of, and under special conditions established by, the Administrator or his designated representative, if the substances will not pose any imminent hazard to public health or safety;

b. the discharge of such materials will not violate applicable water quality standards; and

c. the permittee is not notified by the Regional Administrator to eliminate or reduce the quantity of such materials in the discharge.

6. Solids Disposal.

Collected screenings, sludges, and other solids removed from liquid wastes shall be disposed of by the permittee or his agent in such a manner as to prevent entry of such materials into waters of the United States. A report of plans, methods and procedures for such disposal shall be submitted to the Regional Administrator by September 1, 1973. If there is no solids disposal, the report shall so state.

7. Non-Compliance.

In the event the permittee is unable to comply with any of the conditions of this permit, due, among other reasons, to

a. breakdown of waste treatment equipment,

b. accidents caused by human error or negligence, or

c. other causes such as acts of nature,

the permittee shall notify the Regional Administrator in writing, as soon as he or his agents have knowledge of the incident. The written notification shall include pertinent information explaining reasons for the non-compliance and shall indicate what steps were taken to correct the problem, and the dates thereof, and what steps are being taken to prevent the problem from recurring.

In addition, if the non-compliance is with respect to any of the effluent limits (condition 1) of this permit, the permittee shall promptly initiate a monitoring program to analyse the discharge at least once every day for those constituents for which the effluent limits have been violated. Such daily analyses shall continue until compliance with the effluent limits has been attained, or until such time as the Regional Administrator determines to be appropriate. The results of such monitoring programs shall be included in the Discharge Monitoring Reports required by condition 3e.

8. Emergency Action -- Electric Power Failure.

The permittee shall

a. by December 31, 1974 provide an alternate source of electric power to operate all waste treatment facilities, or

b. indicate in writing, within thirty (30) days after the effective date of this permit, to the Regional Administrator, that production shall be controlled or the discharge shall be handled in such a manner that, in the event the primary source of electric power to the waste treatment facilities fails, any discharge into the receiving waters will comply with condition 1 requirements.

The alternate power supply, as referred to in (a) above, whether from a generating unit located at the plant site or purchased from an independent producer of electricity, must be separate from the existing power source used to operate the waste treatment facilities. If a separate facility located at the plant site is to be used, the permittee shall certify in writing to the Regional Administrator when the facility is completed and prepared to generate power.

9. Bypass of Waste Treatment Facilities.

There shall be no bypass of waste treatment or disposal facilities at any time.

10. Other Conditions.

a. Spill Prevention and Containment Plan

Within 90 days from the effective date of this permit, the permittee shall prepare and submit to the Regional Administrator and State Agency, a Spill Prevention, Containment, and Countermeasure Plan for the facility covered by this permit. Such plan shall contain information and procedures relative to the prevention of spills and unplanned discharges of oil and hazardous substances including:

(1) a description of the reporting system which will be used to alert responsible facility management and appropriate legal authorities;

(2) a description of preventive facilities (including overall facility plot) which prevent, contain or treat spills and unplanned discharges;

(3) a list of all oil and hazardous materials used, processed, or stored at the facility which may be spilled into the waters of the United States;

(4) a brief description of recent spills and the measures taken to prevent recurrence; and

(5) an implementation schedule for additional facilities which might be required for (2) above, but which are not yet operational.

Permittee shall implement and comply with the provisions of such Plan after the Plan has been approved by the Regional Administrator, including in said implementation and compliance any additions or modifications which the Regional Administrator may make in approving the Plan.

b. Holding Pond Conditions

If any waste waters from the permittee's facility are placed in ponds, such ponds shall be located and constructed so as to:

(1) contain with no discharge the once-in-one-hundred years storm at said location;

(2) withstand with no discharge the once-in-one-hundred years flood of said location;

(3) prevent escape of waste water by either seepage or leakage.

11. Reapplication.

If the permittee desires to continue to discharge, he shall reapply not later than 180 days before this permit expires, on the application forms then in use.

12. Definitions.

For purposes of this permit, the following definitions shall apply:

Regional Administrator: Regional Administrator
Environmental Protection Agency
Region IX
100 California Street
San Francisco CA 94111

State Agency: Commission of Environmental Protection
201 South Fall Street
Nye Building
Carson City NV 89701

Maximum Daily Pollutant Discharge Rate:

The maximum daily pollutant discharge rate shall be the value of M that is obtained from either of the following calculations for any calendar day:

$$M(\text{lbs/day}) = \frac{8.34}{N} \sum_{i=1}^{N} Q_i C_i; \quad M(\text{kg/day}) = \frac{86.4}{N} \sum_{i=1}^{N} Q_i C_i$$

in which N is the number of samples analyzed in any calendar day, and Q_i and C_i are the flow rate (million gallons per day or cubic meters per second) and the constituent concentration (milligrams per liter), respectively, which are associated with each of the N samples. For any sample concentration, the associated flow rate is the average rate occurring during the period of sampling.

Thirty Day Average Pollutant Discharge Rate:

The thirty (30) day average pollutant discharge rate shall be the arithmetic average of all of the values of M calculated using the results of analyses of all samples collected during any thirty consecutive calendar day period. If fewer than four (4) samples are collected and analyzed during any thirty consecutive calendar day period, compliance with the thirty day average pollutant discharge rate limitation shall not be determined.

Maximum Concentration:

Maximum concentration limits shall be applied to the concentration values (milligrams per liter, mg/l) associated with any single discrete or composite sample.

Discrete Sample:

An individual sample collected in less than 15 minutes.

Composite Sample:

A combination of no fewer than eight individual samples obtained at equal time intervals over the specified sampling period. The volume of each individual sample shall be proportional to the discharge flow rate at the time of sampling. The sampling period shall equal the discharge period, or 24 hours, whichever is shorter.

The Regional Administrator has notified the applicant and interested agencies and persons of his intent to issue a permit for the discharge described in Application No. 075-OYQ-2-000254 and has provided them an opportunity for a public hearing and an opportunity to submit their written views and recommendations.

This permit shall become effective 30 days following the date of the Regional Administrator's signature, below, and shall expire on January 31, 1975.

By authority of the United States Environmental Protection Agency.

JUL 2 7 1973
Date

Regional Administrator

(3)

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION IX
215 FREMONT STREET
SAN FRANCISCO, CALIFORNIA 94105

Mr. George H. Cobb, Executive
Vice President
Kerr McGee Chemical Corporation
133 Robert S. Kerr Drive
Oklahoma City OK 73102

RECEIVED
JUL 30 1975
GEORGE H. COBB
EXEC. VICE PRESIDENT

Dear Mr. Cobb:

In accordance with the provisions of the Federal Water Pollution Control Act (33 USC 1251 et. seq.), the Environmental Protection Agency has reviewed your application (No. 075-OYQ-2-000254) for a National Pollutant Discharge Elimination System permit to discharge waste waters from your Henderson, Nevada facility into Las Vegas Wash. This Agency has published a public notice regarding the application and our proposed action with respect to it, and held a public hearing to receive the views of all interested parties.

After consideration of the expressed views of all interested persons and agencies, pertinent Federal statutes and regulations, and State action regarding certification of this discharge, the enclosed National Pollutant Discharge Elimination System permit has been issued on this date by the Environmental Protection Agency for the discharge referred to above. The permit as issued differs from that proposed at the public hearing in the following significant respect:

1) The requirement for groundwater monitoring has been deleted.

The permit shall take effect thirty days from the date of this notice, unless a valid request for an adjudicatory hearing on this matter is received within twenty days

of the date of this notice. A request for an adjudicatory hearing will be considered to be valid if it complies in all respects with the requirements for such requests as described in pertinent Federal regulations (40 CFR 125.34).

Sincerely,

Paul De Falco, Jr.
Regional Administrator

Enclosure

cc: Nevada Commission
of Environmental Protection
(w/encl.)

JUL 26 1972

(2)

H/C's WHU FAR

UNITED STATES
ENVIRONMENTAL PROTECTION AGENCY
REGION IX
100 CALIFORNIA STREET
SAN FRANCISCO, CALIFORNIA 94111

File

Mr. James J. Kelley, President
Kerr-McGee Chemical Corporation
Kerr-McGee Building
Oklahoma City OK 73012

Dear Mr. Kelley:

We have received your letter of May 26, 1972 outlining the measures you intend to take to bring wastewater discharges from your facility at Henderson, Nevada into compliance with State-Federal water quality standards established for Lake Mead and the Colorado River.

As we understand your intentions, these measures include:

1. Technical studies, design, and process changes for the chlorate plant, ammonium perchlorate plant, and manganese dioxide plant;

2. Design and construction of completely lined and sealed evaporation ponds for potassium wastewaters;

3. Design and construction of completely lined and sealed evaporation ponds for wastewaters from the chlorate plant;

4. Design and construction of completely lined and sealed evaporation ponds for wastewaters from the ammonium perchlorate plant;

5. Design and construction of completely lined and sealed evaporation ponds for blowdown from cooling towers.

We understand further that these measures will result in a complete cessation of wastewater discharges to groundwaters and surface waters and will be taken in accordance with the following schedule:

Date	Item
7/1/72	Initiate item #1 above
10/1/72	Complete item #2 above

RECEIVED

J. J. K.

9/30/73	Initiate item #4 above
12/31/73	Complete item #1 and initiate item #3 above
3/31/74	Complete item #4 above
6/30/74	Complete item #3 and initiate item #5 above
12/31/74	Complete all work

We find that your proposed schedule of progress report submission to this office is satisfactory and will, accordingly, expect reports by 1/15/73, 7/15/73, 1/15/74, 7/15/74, and 1/15/75. Please furnish copies of these reports to the Nevada Commission of Environmental Protection, as well.

You are to be commended for your forthright response to the environmental problems in Las Vegas Valley and we will look forward to completion of the pollution abatement facilities you will be installing.

Sincerely,

R. L. O'Connell, Director
Enforcement Division

cc: Nevada Commission of Environmental Protection
U.S. Attorney, Las Vegas
Mr. Charles Armstrong

1c

KERR-McGEE CORPORATION

KERR-McGEE BUILDING • OKLAHOMA CITY, OKLAHOMA 73102

COPY

March 9, 1972

Department of the Army
Los Angeles District, Corps of Engineers
P. O. Box 2711
Los Angeles, California 90053

Attention: Mr. R. P. Young
Chief, Construction-Operations Division

Re: 075-0YQ-2-000254

Gentlemen:

As mentioned in my letter to you of March 6, 1972, enclosed herewith is an original tracing and four copies of waste water discharge serial 001 from the Kerr-McGee Chemical Corp. facility at Henderson, Nevada.

Very truly yours,

TLH

T. L. Hurst
Director of Environmental Services

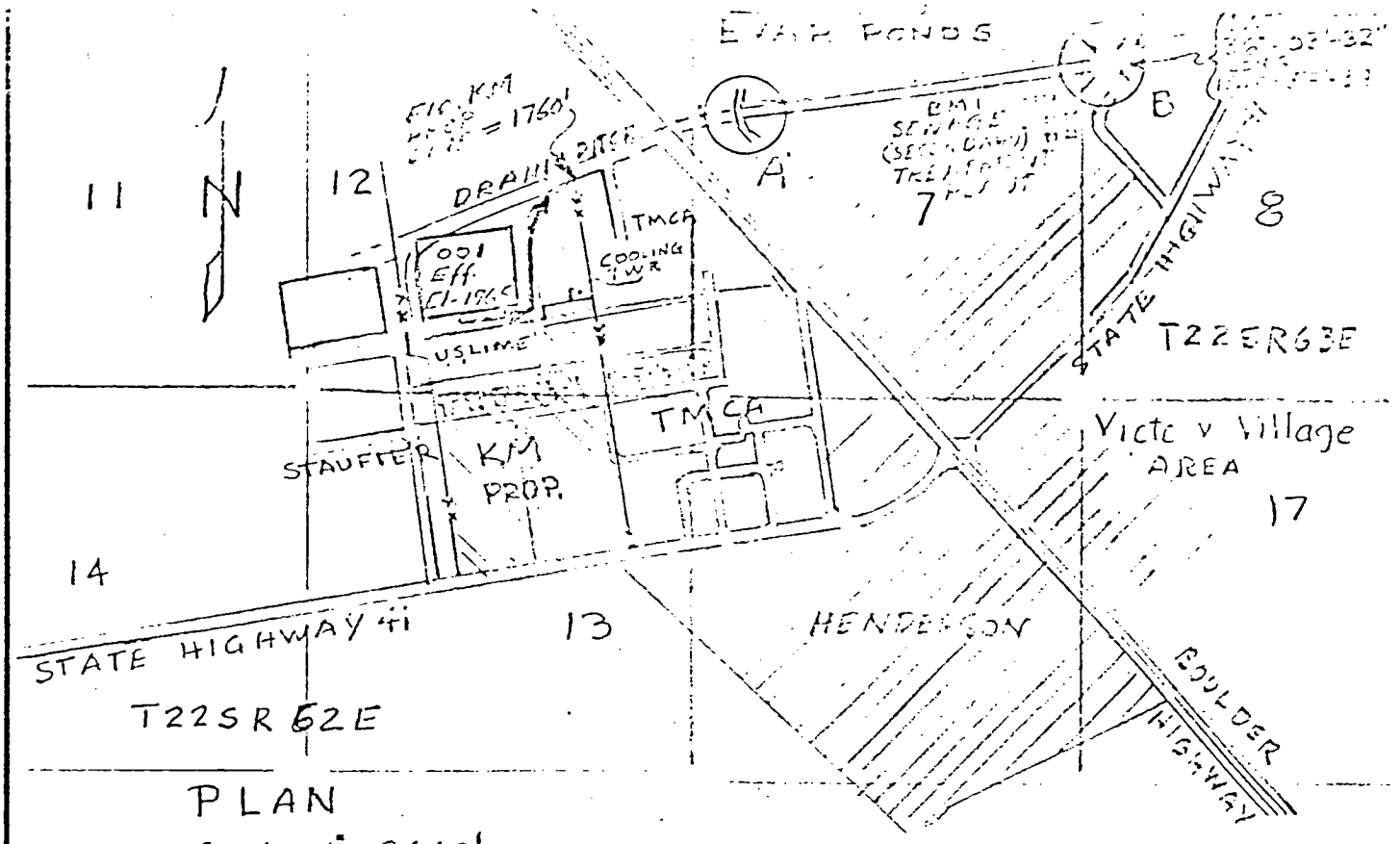
TLH:jl
Enclosures 5

bcc: C. B. Armstrong—Henderson w/a
L. E. Craig w/a
M. C. Locke w/a

BLIND NOTE TO C. B. Armstrong:

Chuck, you will note the changes that we asked Ralph Vreeland to make to show a commingled outfall 001 that conforms with the data in the original application.

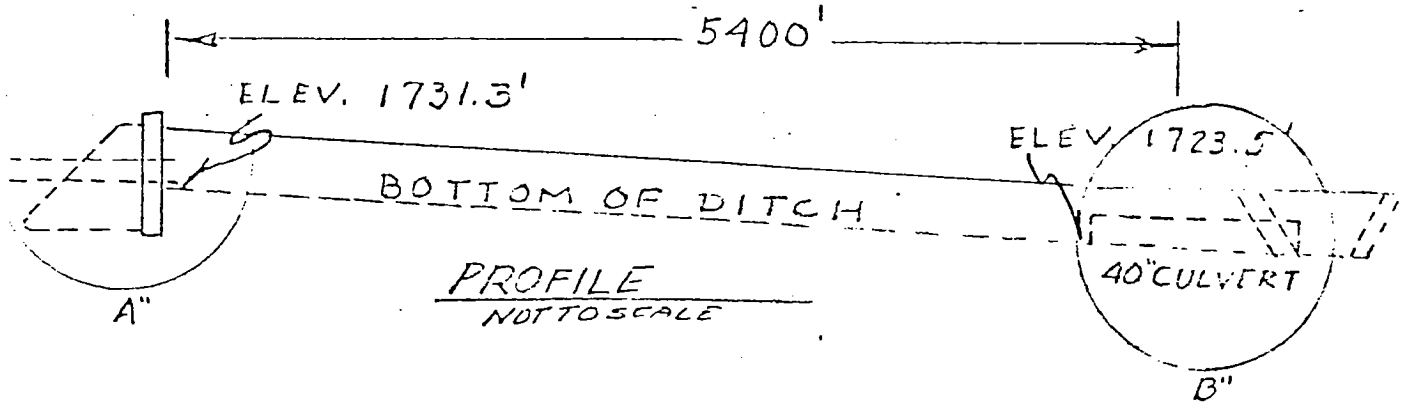
TLH
T.L.H.



PLAN

Scale - 1" = 2640'

½ 0 1 2



PROFILE
NOT TO SCALE

Kerr McGee Chemical Corp.
Discharge 075-040-2-00254
Sec. 001. Drain Ditch to
BMI Ponds with Elevations

HENDERSON		NEVADA	KERR-MCGEE CHEM. CORP. PLANT EFFLUENT OUTFALL
DRAWN	CHECK	APPR.	D-00-1-31
DATE	SCALE		

CAE
MAR 10 1972
16.

KERR-McGEE
KERR-McGEE BUILDING • OKLAHOMA CITY, OKLAHOMA 73102

March 6, 1972

Department of the Army
Los Angeles District, Corps of Engineers
P. O. Box 2711
Los Angeles, California 90053

Attention: Mr. R. P. Young
Chief, Construction-Operations Division

Re: 075-0YQ-2-000254

Gentlemen:

Returned herewith is above captioned application that provides additional data you requested on the Kerr-McGee Chemical Corp. facility at Henderson, Nevada.

A yellum or reproducible negative copy of the revised discharge drawing will be sent to you as soon as it is available which we expect to be in the next few days.

Sincerely,

T. L. Hurst
Director of Environmental Services

TLH:jl
Enclosure

bcc: C. B. Armstrong - Henderson w/a
L. E. Craig w/a
M. C. Locke w/a

(4)

FORM APPROVED
OMB No. 158—R0100

FOR AGENCY USE

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM
APPLICATION FOR PERMIT TO DISCHARGE WASTEWATER

STANDARD FORM C – MANUFACTURING AND COMMERCIAL

SECTION I. APPLICANT AND FACILITY DESCRIPTION

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

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

Please Print or Type

1. Legal Name of Applicant (see instructions)	101	KERR-McGEE CHEMICAL CORPORATION
2. Mailing Address of Applicant (see instructions) Number & Street	102a	McGee Tower
City	102b	Oklahoma City
State	102c	Oklahoma
Zip Code	102d	73102
3. Applicant's Authorized Agent (see instructions) Name and Title	103a	C. B. Armstrong, Plant Manager
Number & Street Address	103b	P. O. Box 55
City	103c	Henderson
State	103d	Nevada
Zip Code	103e	89015
Telephone	103f	702 (Area Code) 565-8901 (Number)
4. Previous Application If a previous application for a National or Federal discharge permit has been made, give the date of application. Use numeric designation for date.	104	71 (YR) 10 (MO) 5 (DAY)

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

C. B. Armstrong Printed Name of Person Signing	102e	Plant Manager Title
C. B. Armstrong Signature of Applicant or Authorized Agent	102f	74 8 2 YR MO DAY Date Application Signed

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

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

FOR AGENCY USE

OFFICE ___ EPA Region Number

FOR AGENCY USE

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

Name	105a	Henderson Plant
Ownership (Public, Private or Both Public and Private)	105b	☐ PUB XX PRV ☐ BPP
Check block if Federal Facility and give GSA Inventory Control Number	105c	☐ FED
	105d	NA
Location		
Street & Number	105e	Lake Mead Drive
City	105f	Henderson
County	105g	Clark
State	105h	Nevada

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

	106a	Chemical Processing
AGENCY USE	106b	

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

		Continuous Year Around		Additional Summer Flow June - September
Municipal or private water system	107a	600	thousand gallons per day	4,000
Surface water	107b	NA	thousand gallons per day	NA
Groundwater	107c	NA	thousand gallons per day	NA
Other*	107d	NA	thousand gallons per day	NA
Total Item 7	107e	600	thousand gallons per day	4,000
*If there is intake water from 'other,' specify the source.	107f	NA		

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

				June - September
Noncontact cooling water	108a	220	thousand gallons per day	4,000
Boiler feed water	108b	80	thousand gallons per day	NA
Process water (including contact cooling water)	108c	270	thousand gallons per day	NA
Sanitary water	108d	30	thousand gallons per day	NA
Other*	108e	NA	thousand gallons per day	NA
Total Item 8	108f	600	thousand gallons per day	4,000
*If there are discharges to 'other,' specify.	108g	NA		
If there is 'Sanitary' water use, give the number of people served.	108h	200	people served	

FORM APPROVED
OMB No. 158–R0100

FOR AGENCY USE

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

		Number of Discharge Points		Year Around Total Volume Used or Discharged, Thousand Gal/Day	Additional June - September
Surface Water	109a1		109a2	NA	NA
Sanitary wastewater transport system	109b1		109b2	NA	NA
Storm water transport system	109c1		109c2	NA	NA
Combined sanitary and storm water transport system	109d1		109d2	NA	NA
Surface impoundment with no effluent	109e1	1	109e2	10	
Underground percolation	109f1	1	109f2	350	4,000
Well injection	109g1		109g2	NA	NA
Waste acceptance firm	109h1	1	109h2	30	NA
Evaporation	109i1		109i2	210	NA
Consumption	109j1		109j2	NA	NA
Other*	109k1		109k2	NA	NA
Facility discharges and volume Total Item 9.	109l1	3	109l2	600	4,000

*If there are discharges to 'other,' specify. 109m1 NA

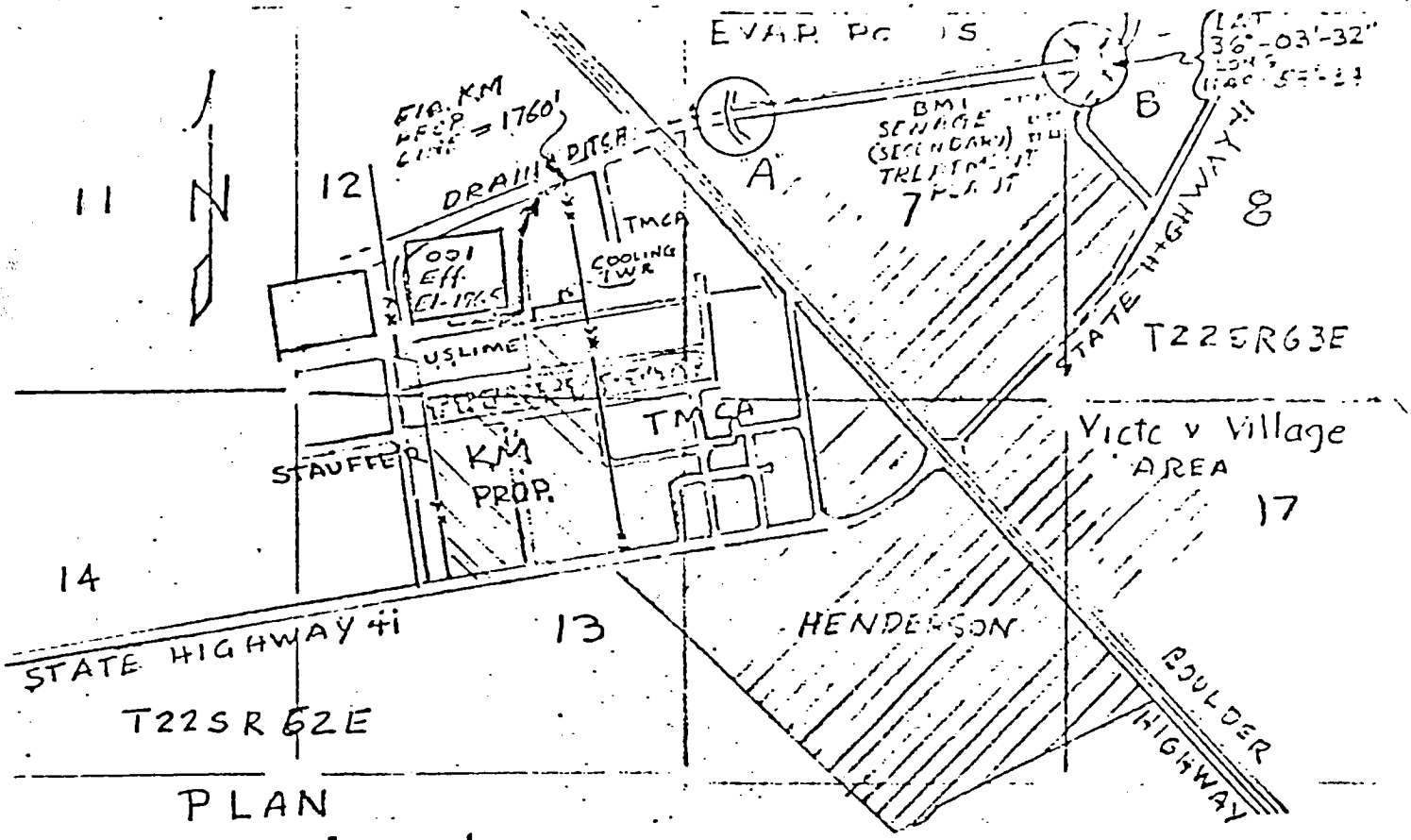
10. Permits, Licenses and Applications
List all existing, pending or denied permits, licenses and applications related to discharges from this facility (see instructions).

10	Issuing Agency (a)	For Agency Use (b)	Type of Permit or License (c)	ID Number (d)	Date Filed YR/MO/DA (e)	Date Issued YR/MO/DA (f)	Date Denied YR/MO/DA (g)	Expiration Date YR/MO/DA (h)
1.	EPA		NPDES	NV0000078	71/10/5	73/8/26	NA	75/1/31
2.								
3.								

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

12. Additional Information

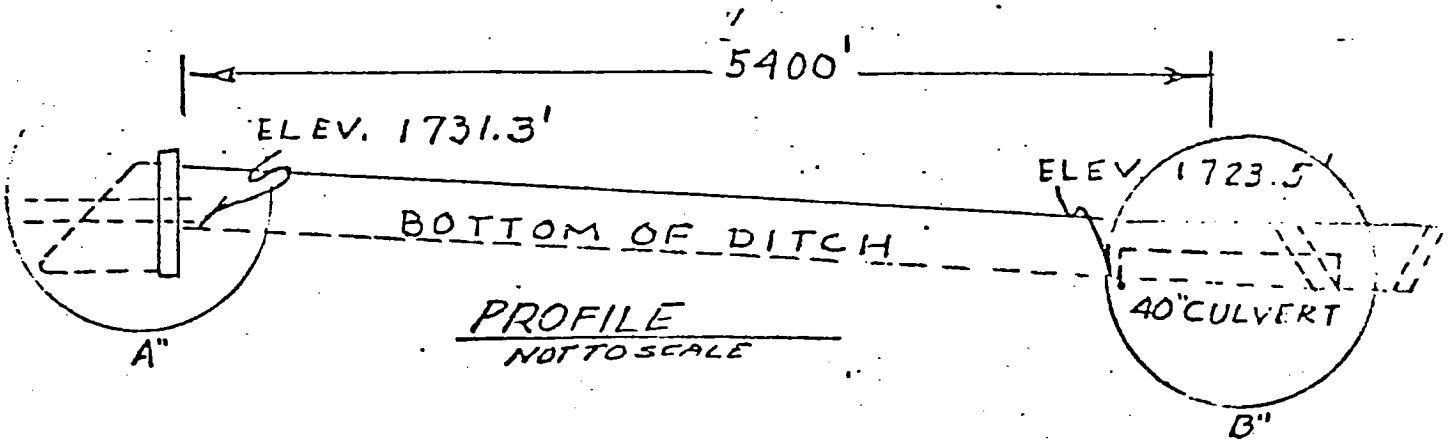
112 Item Number	Information
	NA



PLAN

Scale - 1" = 2640'

½ 0 1 2



PROFILE
NOT TO SCALE

Kerr McGee Chemical Corp.
Discharge 075-040-2-00254
Ser. 001 Drain Ditch to
BMI Ponds with Elevations

HENDERSON NEVADA			KERR MCGEE CHEM. CORP. PLANT EFFLUENT OUTFALL	I-00-1-31 △
DRAWN	CHECK	APPR.		
DATE 7-1-77	SCALE 1"=2640'			

5. Date: 6 11 71 (mo day yr)

(Office use only) 025-0YA-7-000254

6. Check type of application: a. Original [X] b. Revision [ ]

7. Number of original application

8. Name of facility where discharge or construction will occur.

Henderson, Nevada Plant
Kerr-McGee Chemical Corp.

9. Full mailing address of facility named in item 8 above.

P. O. Box 55
Henderson, Nevada 89015

10. Names and mailing addresses of all adjoining property owners whose property also adjoins the waterway.

Unnamed drainage ditch discharging to BMI imponding lagoons
Stauffer Chemical Company - Henderson, Nevada
U. S. Lime - Henderson, Nevada
Titanium Metals Corp. of America - Henderson, Nevada

11. Check to indicate the nature of the proposed activity:
a. Dredging [ ] b. Construction [ ] c. Construction with Discharge [ ] b. Discharge only [X]

12. If activity is temporary in nature, estimate its duration in months.

PERMANENT

If application is for a discharge:

13. List intake sources

Source	Estimated Volume in Million Gallons Per day or Fraction Thereof
Municipal or private water supply system	0.8
Surface water body	
Ground water	
Other	

14. Describe water usage within the plant

Type	Estimated Volume in Million Gallons Per day or Fraction Thereof
Cooling water	2.2
Boiler Feed water	0.8
Process water	3.5
Sanitary system*	0.3
Other **	1.2

Par. 14 Other**

Floor wash down	.03
Direct process cooling	.07
Gland water	.01
Landscaping	.01
	0.12

15. List volume of discharges or losses other than into navigable waters.

Type	Estimated Volume in Million Gallons Per day or Fraction Thereof
Municipal waste treatment system	6.7
Surface containment	
Underground disposal	
Waste Acceptance firms	0.3
Evaporation	.1
Consumption	

* Indicate number employees served per day: 135

FORM APPROVED
OMB NO. 49-R 0408

DEPARTMENT OF THE ARMY, CORPS OF ENGINEERS

APPLICATION FOR PERMIT TO DISCHARGE OR WORK IN NAVIGABLE WATERS AND THEIR TRIBUTARIES

(1)

SECTION I. GENERAL INFORMATION

1. State	Application Number (to be assigned by Corps of Engineers)			
N A	Div.	Dist.	Type	Sequence No.

2. Name of applicant and title of signing official

Kerr-McGee Chemical Corp.
Subsid. of Kerr-McGee Corp. George H. Cobb, Executive Vice-President

3. Mailing address of applicant

133 Robert S. Kerr
Oklahoma City, Oklahoma 73102

4. Name, address, telephone number and title of applicant's authorized agent for permit application coordination and correspondence.

T. L. Hurst
Director of Environmental Studies
Kerr-McGee Corporation
133 Robert S. Kerr
Oklahoma City, Oklahoma 73102
(405) 236-1313, Ext. 6105

NOTE TO APPLICANT: Refer to the pamphlet entitled "Permits for Work and Structures in and for Discharges or Deposits into Navigable Waters" before attempting to complete this form.

Required Information

a. All information contained in this application will, upon request, be made available to the public for inspection and copying. A separate sheet entitled "Confidential Answers" must be used to set out information which is considered by the applicant to constitute trade secrets or commercial or financial information of a confidential nature. The information must clearly indicate the item number to which it applies. Confidential treatment can be considered only for that information for which a specific written request of confidentiality has been made on the attached sheet. However, in no event will identification of the contents and frequency of a discharge be recognized as confidential or privileged information.

b. The applicant shall furnish such supplementary information as is required by the District Engineer in order to evaluate fully an application.

c. If additional space is needed for a complete response to any item on this form, attach a sheet entitled "Additional Information." Indicate on that sheet the item numbers to which answers apply.

d. Drawings required by items 20 and 21 should be attached to this application. Other papers which must be attached to this application include, if applicable, copies of a water quality certification or a written communication which describes water quality impact (see Item 22 and Item 10 of Section II below), the additional information sheet(s) in "c" above, and the confidential information sheet described in "a" above.

Fees

If any discharge or deposit is involved, an application fee of $100 must be submitted with this application. An additional $50 is required for each additional point of discharge or deposit.

Signature

a. If a discharge is involved, an application submitted by a corporation must be signed by the principal executive officer of that corporation or by an official of the rank of corporate vice president or above who reports directly to such principal executive officer and who has been designated by the principal executive officer to make such applications on behalf of the corporation. In the case of a partnership or a sole proprietorship, the application must be signed by a general partner or the proprietor. Other signature requirements are discussed in the pamphlet.

b. If no discharge is involved, an application may be signed by the applicant or his authorized agent.

Application is hereby made for a permit or permits to authorize the activities described herein. I certify that I am familiar with the information contained in this application, and that to the best of my knowledge and belief such information is true, complete, and accurate.

Signature of Applicant

GEORGE H. COBB

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

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

FOR CORPS OF ENGINEERS USE ONLY

Acronym name of applicant

Are discharge structures

Major? ☐ Minor? ☐ N/A? ☐

Date received, form not complete — — — — — —

Date received, form complete but without certificate — — — — — —

Date received, form complete Date of Cert./Ltr. — — — — — —

day mo yr

Date sent to EPA, form not complete — — — — — —

Date sent to EPA, NOAA, D/I, AEC, FPC in complete form — — — — — —

day mo yr

5. Date __6 __ 71
mo day yr

(For ... only)

6. Check type of application: a. Original [X] b. Revision [ ]

7. Number of original application

8. Name of facility where discharge or construction will occur.

Henderson, Nevada Plant
Kerr-McGee Chemical Corp.

9. Full mailing address of facility named in item 8 above.

P. O. Box 55
Henderson, Nevada 89015

10. Names and mailing addresses of all adjoining property owners whose property also adjoins the waterway.

Unnamed drainage ditch discharging to BMI impounding lagoons
Stauffer Chemical Company - Henderson, Nevada
U. S. Lime - Henderson, Nevada
Titanium Metals Corp. of America - Henderson, Nevada

11. Check to indicate the nature of the proposed activity:
a. Dredging [ ] b. Construction [ ] c. Construction with Discharge [ ] b. Discharge only [X]

12. If activity is temporary in nature, estimate its duration in months.

If application is for a discharge:

13. List intake sources

Source	Estimated Volume in Million Gallons Per day or Fraction Thereof
Municipal or private water supply system	0.8
Surface water body	
Ground water	
Other	

14. Describe water usage within the plant

Type	Estimated Volume in Million Gallons Per day or Fraction Thereof
Cooling water	.2 2
Boiler Feed water	.0 8
Process water	.3 5
Sanitary system*	.0 3
Other	.1 2

15. List volume of discharges or losses other than into navigable waters.

Type	Estimated Volume in Million Gallons Per day or Fraction Thereof
Municipal waste treatment system	
Surface containment	.6 7
Underground disposal	
Waste Acceptance firms	.0 3
Evaporation	.1
Consumption	

* Indicate number employees served per day 135

If structures exist, or dredging other construction will occur, the precise location of the activity to be described.

(Corps only)

a. Name the corporate boundaries within which the structures exist or the activity will occur.

16. State: Nevada 17. County: Clark 18. City or Town: None

b. Name of waterway at the location of the activity

19. Unnamed drainage ditch to BMI imponding lagoons

20. Maps and sketches which show the location and character of each structure or activity, including any and all outfall devices, dispersive devices, and non-structural points of discharge, must be attached to this application.

21. For construction or work in navigable waters for which a separate permit is sought under 33 U.S.C. 403, the character of each structure must be fully shown on detailed plans to be submitted with this application. Note on the drawings those structures for which separate discharge information (Section II of this form) has been submitted.

22. List all approvals or denials granted by Federal, interstate, State or local agencies for any structures, construction, discharges or deposits described in this application.

Type of document	Id. No.	Date	Issuing Agency

23. Check if facility existed or was lawfully under construction prior to April 3, 1970. ☒

24. If dredging or filling will occur:

State the type of materials involved, their volume in cubic yards, and the proposed method of measurement.

Not Applicable

25. Describe the proposed method of instrumentation which will be used to measure the volume of any solids which may be deposited and to determine its effect upon the waterway.

A weir-type continuous sampler and continuous conductivity monitoring on the effluent stream.

26. State rates and periods of deposition described in Item 25.

Not Applicable

SECTION II. PLANT PROCESS AND DISCHARGE DESCRIPTION

1. Discharge described below is a. Present [X] b. Proposed new or changed [ ]	2. Implementation schedule [ ]	(Office use only)

Name of corporate boundaries within which the point of discharge is located.

3. State	4. County	5. City or Town	6. Discharge Serial No.
Nevada	Clark	None	001

State the precise location of the point of discharge.

7. Latitude 36 Degrees; 02 Min; 57 Sec.

8. Longitude 114 Degrees; 59 Min; 54 Sec.

9. Name of waterway at the point of discharge.

Unnamed drainage ditch to BMI imponding lagoons.

10. Has application for water quality certification or description of impact been made? If so, give date:

Date	Check if certificate is attached to form	Name Issuing Agency
6 (mo) 15 (day) 71 (yr)	[ ]	

11. Narrative description of activity (include terms of general 4-digit Standard Industrial Classification, and specific manufacturing process).

Salt water is electrolyzed to sodium chlorate. A portion of this chlorate is further electrolyzed to sodium perchlorate. Sodium perchlorate is reacted with ammonia and muriatic acid to ammonium perchlorate.

Manganese ore (pyrolusite) is roasted and treated to extract the manganese content in a water soluble form. This solution is electrolyzed to form battery active manganese dioxide.

Some sodium chlorate and perchlorate is converted to potassium chlorate and perchlora

(All processes included under SIC Code 2819)

12. Standard industrial classification number.	13. Principal product.	14. Amount of principal product produced per day.
2819		

15. Principal raw material.	16. Amount of principal raw material consumed per day.	17. Number of batch discharges per day.
Salt	48 Tons	Continuous
Manganese Ore	22 Tons	Continuous
Ammonia	2 Tons	Semi-continuous
Muriatic Acid	11 Tons	Semi-continuous

18. Average gallons per batch discharge.	19. Date discharge began.	20. Date discharge will begin.
	Before 1950 (mo / day / yr)	(mo / day / yr)

21. Describe waste abatement practices.

Wastes are minimized by use of mechanical seals on many pumps (EPUMPS), recycle of wash waters (ECOUNT), recovery of material for reuse in process (RECOVE).

Vacuum filtration with wash water recovery to the process in the manganese area SVACUM, RECOVE, SLAGOO.

Pressure filtration with wash water recovery to process in the chlorate and ammonium perchlorate areas.

Continuous sampling and conductivity monitoring is practiced on the effluent stream.

SICAL DESCRIPTION OF INTAKE WAT ... DISCHARGE

Intake | Discharge | (Office use only)

Discharge Serial No.

Parameter and Code	UNTREATED INTAKE WATER (1)	TREATED INTAKE WATER (2)	AVERAGE (DAILY) (3)	MINIMUM (OPERATING YEAR) (4)	MAXIMUM (OPERATING YEAR) (5)	SAMPLE FREQUENCY (6)	CONTINUOUS MONITORING (7)
Flow (Gallons per day) 00056	800,000	None	600,000	500,000	4,000,000	Daily	Mon
pH 00400	8	-	8	6	10	Daily	Mon
Temperature (Winter) (°F) 74028	55	-	65	Ambient	Ambient	Other	ABS
Temperature (Summer) (°F) 74027	65	-	75	Ambient	Ambient	Other	ABS

23. DISCHARGE CONTENTS

PARAMETER	PRESENT	ABSENT	PARAMETER	PRESENT	ABSENT	PARAMETER	PRESENT	ABSENT
Color 00080	X		Aluminum 01105		X	Nickel 01067	X	
Turbidity 00070	X		Antimony 01097	X		Selenium 01147		X
Radioactivity 74050		X	Arsenic 01002	X		Silver 01077		X
Hardness 00900	X		Beryllium 01012		X	Potassium 00937	X	
Solids 00500	X		Barium 01007		X	Sodium 00929	X	
Ammonia 00610	X		Boron 01022		X	Titanium 01152		X
Organic Nitrogen 00605		X	Cadmium 01027		X	Tin 01102		X
Nitrate 00620		X	Calcium 00916	X		Zinc 01092	X	
Nitrite 00615		X	Cobalt 01037	X		Algicides 74051		X
Phosphorus 00665	X		Chromium 01034	X		Oil and Grease 00550		X
Sulfate 00945	X		Copper 01042	X		Phenols 32730		X
Sulfide 00745		X	Iron 01045	X		Surfactants 38260		X
Sulfite 00740		X	Lead 01051	X		Chlorinated Hydrocarbons 74052		X
Bromide 71870		X	Magnesium 00927	X		Pesticides 74053		X
Chloride 00940	X		Manganese 01055	X		Fecal Streptococci Bacteria 74054		X
Cyanide 00720		X	Mercury 71900		X	Coliform Bacteria 74056		X
Fluoride 00951		X	Molybdenum 01062	X				

24a. Have all known hazardous and potentially hazardous substances in your plant been used?

[X] Yes [ ] No

24b. If yes, have steps been taken to insure that there exists no possibility of any such known hazardous or potentially hazardous substance enter... this discharge?

[X] Yes [ ] No

25. Remarks.

The information above completes the basic reporting requirements which are required of all applicants. Those applicants whose discharge results from an activity included within any of the Standard Industrial Classification Code (SIC Code) categories listed below must complete Part A of this form as well.

CRITICAL INDUSTRIAL GROUPS

SIC	098	FISH HATCHERIES, FARMS, AND PRESERVES
SIC	10-14	DIVISION B – MINING
SIC	201	MEAT PRODUCTS
SIC	202	DAIRY PRODUCTS
SIC	203	CANNED PRESERVED FRUITS, VEGETABLES (EXCEPT SEAFOODS, SIC 2031 AND 2036)
SIC	2031, 2036	CANNED AND CURED FISH AND SEAFOODS; FRESH OR FROZEN PACKAGED FISH AND SEAFOODS
SIC	204	GRAIN MILL PRODUCTS
SIC	206	SUGAR
SIC	207	CONFECTIONARY AND RELATED PRODUCTS
SIC	208	BEVERAGES
SIC	209	MISCELLANEOUS FOOD PREPARATIONS AND KINDRED PRODUCTS
SIC	22	TEXTILE MILL PRODUCTS
SIC	23	APPAREL AND OTHER FINISHED PRODUCTS MADE FROM FABRICS AND SIMILAR MATERIALS
SIC	242	SAWMILLS AND PLANING MILLS
SIC	2432	VENEER AND PLYWOOD
SIC	2491	WOOD PRESERVING
SIC	26	PAPER AND ALLIED PRODUCTS
SIC	281	INDUSTRIAL INORGANIC AND ORGANIC CHEMICALS (EXCEPT SIC 2818)
SIC	2818	INDUSTRIAL ORGANIC CHEMICALS
SIC	282	PLASTICS MATERIALS AND SYNTHETIC RESINS, SYNTHETIC RUBBER, SYNTHETIC AND OTHER MAN-MADE FIBERS, EXCEPT GLASS
SIC	283	DRUGS
SIC	284	SOAP, DETERGENTS, AND CLEANING PREPARATIONS, PERFUMES, COSMETICS, AND OTHER TOILET PREPARATIONS
SIC	285	PAINTS, VARNISHES, LACQUERS, ENAMELS, AND ALLIED PRODUCTS
SIC	2871	FERTILIZERS
SIC	2879	AGRICULTURAL PESTICIDES, AND OTHER AGRICULTURAL CHEMICALS, NOT ELSEWHERE CLASSIFIED
SIC	2891	ADHESIVES AND GELATIN
SIC	2892	EXPLOSIVES
SIC	29	PETROLEUM REFINING AND RELATED INDUSTRIE
SIC	3011, 3069	TIRES AND INNER TUBES; FABRICATED RUBBER PRODUCTS, NOT ELSEWHERE CLASSIFIED
SIC	3079	MISCELLANEOUS PLASTICS PRODUCTS
SIC	311	LEATHER TANNING AND FINISHING
SIC	32	STONE, CLAY, GLASS, AND CONCRETE PRODUCTS
SIC	331	BLAST FURNACES, STEEL WORKS, AND ROLLING AND FINISHING MILLS
SIC	332	IRON AND STEEL FOUNDRIES
SIC	333, 334	PRIMARY SMELTING AND REFINING OF NONFERROUS METALS; SECONDARY SMELTING AND REFINING OF NONFERROUS METALS
SIC	336	NONFERROUS FOUNDRIES
SIC	347	COATING, ENGRAVING, AND ALLIED SERVICES
SIC	35	MACHINERY, EXCEPT ELECTRICAL
SIC	36	ELECTRICAL MACHINERY, EQUIPMENT, AND SUPPLIES
SIC	37	TRANSPORTATION EQUIPMENT (EXCEPT SHIP BUILDING AND REPAIRING, SIC 3731)
SIC	3731	SHIP BUILDING AND REPAIRING
SIC	491	ELECTRIC COMPANIES AND SYSTEMS
SIC	493	COMBINATION COMPANIES AND SYSTEMS

PART A

(Note: Submission of Part A is required of all applicants whose processes are listed on page 3 above.)

(C .e use only)

Discharge Serial No.

INFORMATION REQUIRED OF SPECIFIED INDUSTRIES

	Intake		Discharge								
PARAMETER AND CODE	(1) DAILY AVG. CONCENTRATION UNTREATED INTAKE WATER	(2) DAILY AVG. CONCENTRATION TREATED INTAKE WATER	(3) MAXIMUM CONCENTRATION PER PROCESS UNIT	(4) MAXIMUM POUNDS PER DAY PER PROCESS UNIT	(5) DAILY AVG. CONCENTRATION	(6) AVERAGE POUNDS PER DAY	(7) SAMPLE TYPE	(8) SAMPLE FREQUENCY	(9) METHOD OF ANALYSIS	(10) CONTINUOUS MONITORING	(11)
ALKALINITY (as $CaCO_3$) 00410	122	NA	120	NA	4,000	110	550	COMP	OTHER	STD	ABS
B.O.D. 5-DAY 00310	NA	"	NA	"	NA	NA	NA	NA	NA	NA	NA
CHEMICAL OXYGEN DEMAND (C.O.D.) 00340	24	"	36	"	875	22	110	COMP	OTHER	STD	ABS
TOTAL SOLIDS 00500	800	"	6,036	"	52,800	4,036	20,200	COMP	OTHER	STD	ABS
TOTAL DISSOLVED SOLIDS 70300	796	"	5,606	"	50,600	3,822	19,100	COMP	OTHER	STD	ABS
TOTAL SUSPENDED SOLIDS 00530	4	"	430	"	2,200	216	1,080	COMP	OTHER	STD	ABS
TOTAL VOLATILE SOLIDS 00505	176	"	1,380	"	11,900	968	4,840	COMP	OTHER	STD	ABS
AMMONIA (as N) 00610	ND	"	30	"	184	7	35	COMP	OTHER	STD	ABS
KJELDAHL NITROGEN 00625	ND	"	30	"	184	7	35	COMP	OTHER	STD	ABS
NITRATE (as N) 00620	1.0	"	.92	"	31	0.49	2.5	COMP	OTHER	STD	ABS
PHOSPHORUS TOTAL (as P) 00665	0.25	"	.80	"	12	0.4	2	COMP	OTHER	STD	ABS

TABLE A
Guide for Completion of Pa:

PARAMETER & UNITS	METHOD	REFERENCES			SIGNIFICAN IN REPORTINC DATA
		STANDARD METHODS 13TH ED. 1971	A.S.T.M. STANDARDS Pt. 23 1970	W.Q.O. METHODS 1971	
ALKALINITY AS $Ca\ CO_3$ Mg/liter	ELECTROMETRIC TITRATION TECHNICON METHYL ORANGE METHOD	p. 370	p. 154	p. 6	X.
B.O.D. 5-DAY Mg/liter	MODIFIED WINKLER METHOD OR PROBE METHOD	p. 489	p. 712	p. 15	X.
CHEMICAL OXYGEN DEMAND (C.O.D.) Mg/liter	DICHROMATE REFLUX METHOD	p. 495	—	p. 17	X.
TOTAL SOLIDS Mg/liter	GRAVIMETRIC, 105°C. METHOD	p. 535	—	p. 280	X.
TOTAL DISSOLVED (FILTERABLE) SOLIDS Mg/liter	GLASS FIBER FILTRATION METHOD, 180°C.	p. 539	—	p. 275	X.
TOTAL SUSPENDED (NON-FILTERABLE) SOLIDS Mg/liter	GLASS FIBER FILTRATION METHOD, 103-105°C.	p. 537	—	p. 278	X.
TOTAL VOLATILE SOLIDS Mg/liter	GRAVIMETRIC METHOD 550°C.	p. 536	—	p. 282	X.
AMMONIA (as N) Mg/liter	DISTILLATION-NESSLERIZATION METHOD OR TECHNICON-DIGESTION & PHENOLATE METHOD	p. 453	—	p. 134	.XX
KJELDAHL NITROGEN Mg/liter	DIGESTION-DISTILLATION METHOD OR TECHNICON-DIGESTION & PHENOLATE METHOD	p. 469	—	p. 149	.XX
NITRATE (as N) Mg/liter	BRUCINE SULFATE METHOD OR TECHNICON-HYDRAZINE REDUCTION METHOD	p. 461	—	p. 170	.XX
TOTAL PHOSPHORUS (as P) Mg/liter	PERSULFATE DIGESTION & SINGLE REAGENT METHOD OR TECHNICON-MANUAL DIGESTION & SINGLE REAGENT OR STANNOUS CHLORIDE	p. 526	—	p. 235	.XX

1a

KERR-MCGEE BUILDING • OKLAHOMA CITY, OKLAHOMA 73102

Discharge Permit Application No. NV 075-0YQ-2-000254

Discharge Serial No. 001

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

George H. Cobb
Executive Vice President

GHC:jl
Attachment

10/5/71

B DISCHARGE DESCRIPTION

Note: Submission of Part B is required of all applicants who are required to submit Part A. Only those parameters specifically indicated in the instructions are to be reported by a particular industry.

(Office use only)

NW 0750Y02000254

Discharge Serial No. 001

B-1. PHYSICAL AND BIOLOGICAL PARAMETERS OF INTAKE WATER AND DISCHARGE (See Table B-1)

	Intake	Discharge						
PARAMETER AND CODE	UNTREATED INTAKE WATER (1)	TREATED INTAKE WATER (2)	AVERAGE (DAILY) (3)	MINIMUM (OPERATING YEAR) (4)	MAXIMUM (OPERATING YEAR) (5)	SAMPLE FREQUENCY (6)	CONTINUOUS MONITORING (7)
COLOR 00080	<5.	NA.	<5	X	<5	D	A
SPECIFIC CONDUCTANCE 00095	NA	NA	NA	NA	NA	NA	NA
TURBIDITY 00070	<4	NA	10	X	15	D	A
FECAL STREPTOCOCCI BACTERIA 74054	NA	NA	NA	X	NA	NA	NA
FECAL COLIFORM BACTERIA 74055	NA	NA	NA	X	NA	NA	NA
TOTAL COLIFORM BACTERIA 74056	NA	NA	NA	X	NA	NA	NA

ENG FORM 4345-1 JUN 71

PART B

(Office use only)

NV 075-0YQ-2-000254

Discharge Serial No. 001

B-2. CHEMICAL PARAMETERS OF INTAKE WATER AND DISCHARGE (See Table B-2)

	Intake	Discharge									
PARAMETER AND CODE	UNTREATED INTAKE WATER (1)	TREATED INTAKE WATER (2)	MAXIMUM CONCENTRATION (3)	MAXIMUM POUNDS PER DAY PER PROCESS UNIT (4)	MAXIMUM POUNDS PER DAY (5)	DAILY AVG. CONCENTRATION (6)	AVERAGE POUNDS PER DAY (7)	SAMPLE TYPE (8)	SAMPLE FREQUENCY (9)	METHOD OF ANALYSIS (10)	CONTINUOUS MONITORING (11)
ACIDITY (as $CaCO_3$) 00435	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
TOTAL ORGANIC CARBON (T.O.C.) 00680	A	NA	-3	NA	15	2	10	C	D	S	A
TOTAL HARDNESS 00900 B	360	NA	1,200	NA	11,000	1,100	5,500	C	D	O	A
NITRITE (as N) 00615	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
ORGANIC NITROGEN 00605	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
PHOSPHORUS-ORTHO (as P) 70507	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
SULFATE 00945 K	315	NA	2,500	NA	13,000	1,700	8,500	C	D	O	A
SULFIDE 00745	0.2	NA	1.0	NA	.5 6	0.6	3.0 3.6	C	D	S	A
SULFITE 00740	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
BROMIDE 71870	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

PART B

(Office use only)

NV 075-0YQ-2-000254

Discharge Serial No. 001

B-2. (cont.) CHEMICAL PARAMETERS OF INTAKE WATER AND DISCHARGE (See Table B-2).

Intake	Discharge										
PARAMETER AND CODE	(1) UNTREATED INTAKE WATER	(2) TREATED INTAKE WATER	(3) MAXIMUM CONCENTRATION	(4) MAXIMUM POUNDS PER DAY PER PROCESS UNIT	(5) MAXIMUM POUNDS PER DAY	(6) DAILY AVG. CONCENTRATION	(7) AVERAGE POUNDS PER DAY	(8) SAMPLE TYPE	(9) SAMPLE FREQUENCY	(10) METHOD OF ANALYSIS	(11) CONTINUOUS MONITORING
CHLORIDE 00940 X	110	NA	4,000	NA	20,000	1,200	6,000	C	D	O	R
CYANIDE 00720	A	NA	0.01	NA	.05 0.06	A	A	C	D	S	A
FLUORIDE 00951	0.30	NA	0.30	NA	1.5 1.8	0.30	1.5 1.8	C	D	S	A
ALUMINUM-TOTAL 01105	25	NA	100	NA	0.5	60	0.3	C	D	S	A
ANTIMONY-TOTAL 01097	A	NA	A	NA	A	A	A	C	D	S	A
ARSENIC-TOTAL 01002	A	NA	6	NA	0.03	4	0.02	C	D	S	A
BARIUM-TOTAL 01007	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
BERYLLIUM-TOTAL 01012	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
BORON-TOTAL 01022	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
CADMIUM-TOTAL 01027	12	NA	100	NA	0.5	60	0.3	C	D	S	A

PART B

(Office use only)

NV 075-0YQ-2-000254

Discharge Serial No. 001

B-2. (cont.) CHEMICAL PARAMETERS OF INTAKE WATER AND DISCHARGE (See Table B-2)

Intake		Discharge										
PARAMETER AND CODE	(1) UNTREATED INTAKE WATER	(2) TREATED INTAKE WATER	(3) MAXIMUM CONCENTRATION	(4) MAXIMUM POUNDS PER DAY PER PROCESS UNIT	(5) MAXIMUM POUNDS PER DAY	(6) DAILY AVG. CONCENTRATION	(7) AVERAGE POUNDS PER DAY	(8) SAMPLE TYPE	(9) SAMPLE FREQUENCY	(10) METHOD OF ANALYSIS	(11) CONTINUOUS MONITORING
CALCIUM-TOTAL 00916	100.0	NA	500	NA	2,500	400	2,000	C	D	S	A
CHROMIUM-TOTAL 01034	8	NA	6,000	NA	30	60	0.3	C	D	S	A
COBALT-TOTAL 01037	0	NA	500	NA	2.5	300	1.5 1.4	C	D	S	A
COPPER-TOTAL 01042	100	NA	1,000	NA	5.0 8.0	800	4.0	C	D	S	A
IRON-TOTAL 01045	0	NA	480,000	NA	2,400	220,000	1,100	C	D	S	A
LEAD-TOTAL 01051	200	NA	1,000	NA	12.0	800	4.0	C	D	S	A
MAGNESIUM-TOTAL 00927	28	NA	40	NA	1,200	30	150	C	D	S	A
MANGANESE-TOTAL 01055	0	NA	600,000	NA	3,000	360,000	1,800	C	D	S	A
MERCURY-TOTAL 71900	A	NA	A	NA	A	A	A	C	D	S	A
MOLYBDENUM-TOTAL 01062	10	NA	60	NA	.03	45	.02	C	D	S	A

PART B

(Office use only)

NV 075-0YQ-2-000254

Discharge Serial No. 001

B-2. (cont.) CHEMICAL PARAMETERS OF INTAKE WATER AND DISCHARGE (See Table B-2)

	Intake	Discharge									
PARAMETER AND CODE	(1) UNTREATED INTAKE WATER	(2) TREATED INTAKE WATER	(3) MAXIMUM CONCENTRATION	(4) MAXIMUM POUNDS PER DAY PER PROCESS UNIT	(5) MAXIMUM POUNDS PER DAY	(6) DAILY AVG. CONCENTRATION	(7) AVERAGE POUNDS PER DAY	(8) SAMPLE TYPE	(9) SAMPLE FREQUENCY	(10) METHOD OF ANALYSIS	(11) CONTINUOUS MONITORING
NICKEL-TOTAL 01067	A	NA	2,000	NA	10.0	1,600	8.0	C	D	0	A
POTASSIUM-TOTAL, 00937	5.00	NA	480	NA	2,400	240	1,200	C	D	0	A
SELENIUM-TOTAL 01147	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
SILVER-TOTAL 01077	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
SODIUM-TOTAL 00929	150	NA	3,000	NA	15,000	1,000	5,000	C	D	S	R
THALLIUM-TOTAL 01059	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
TIN-TOTAL 01102	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
TITANIUM-TOTAL 01152	A	NA	A	NA	A	A	A	C	D	O	A
ZINC-TOTAL 01092	12,000	NA	30,000	NA	600	26,000	130	C	D	S	A
OIL AND GREASE 00550	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

PART B

(Office use only)

Discharge Serial No. 001

NV. 075-0YQ-2-000254

B-2. (cont.) CHEMICAL PARAMETERS OF INTAKE WATER AND DISCHARGE (See Table B-2)

	Intake	Discharge									
PARAMETER AND CODE	UNTREATED INTAKE WATER (1)	TREATED INTAKE WATER (2)	MAXIMUM CONCENTRATION (3)	MAXIMUM POUNDS PER DAY PER PROCESS UNIT (4)	MAXIMUM POUNDS PER DAY (5)	DAILY AVG. CONCENTRATION (6)	AVERAGE POUNDS PER DAY (7)	SAMPLE TYPE (8)	SAMPLE FREQUENCY (9)	METHOD OF ANALYSIS (10)	CONTINUOUS MONITORING (11
PHENOLS 32730	A	NA	A	NA	A	A	A	C	D	S	A
SURFACTANTS 38260	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	N
ALGICIDES* 74051	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	N
CHLORINATED HYDRO-CARBONS* (EXCEPT PESTICIDES) 74052	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	N
PESTICIDES* 74053	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	N

*Name specific compound(s) and fill in the required data for each. Use extra blanks at the end of the form and the "Remarks" space as necessary.

PART C

(Office use only)

NA

NV 0750YQQ-2-0002554

Discharge Serial No.
001

B-3. RADIOACTIVE PARAMETERS OF INTAKE WATER AND DISCHARGE (See Item B2)

PARAMETER AND CODE	Intake: UNTREATED INTAKE WATER (1)	Intake: TREATED INTAKE WATER (2)	Discharge: AVERAGE (DAILY) (3)	Discharge: MINIMUM (OPERATING YEAR) (4)	Discharge: MAXIMUM (OPERATING YEAR) (5)	Discharge: SAMPLE FREQUENCY (6)	Discharge: CONTINUOUS MONITORING (7)
ALPHA-TOTAL 01501	NA	NA	NA	X	NA	NA	NA
ALPHA COUNTING ERROR 01502	NA	NA	NA	X	NA	NA	NA
BETA-TOTAL 03501	NA	NA	NA	X	NA	NA	NA
BETA COUNTING ERROR 03502	NA	NA	NA	X	NA	NA	NA
GAMMA-TOTAL 05501	NA	NA	NA	X	NA	NA	NA
GAMMA COUNTING ERROR 05502	NA	NA	NA	X	NA	NA	NA
TRITIUM-TOTAL 07000	NA	NA	NA	X	NA	NA	NA
TRITIUM COUNTING ERROR 07001	NA	NA	NA	X	NA	NA	NA

B-6. REMARKS

1. Total hardness - Sum of Ca & Mg converted to $CaCO_3$
2. Sulfate - Barium Chloride Gravimetric
3. Chloride - Mohr Method
4. Nickel & Potassium - Atomic Absorption Spectrophotometer
5. Color and turbidity by visual comparison. Did not use turbidimeter.

ENG FORM 4345-1 JUN 71