UNITED STATES OF AMERICA

ATOMIC ENERGY COMMISSION

9/22/60

IN THE MATTER OF	)	
	)	Source Material License No. R-157
KERR McGEE OIL INDUSTRIES, INC.	)	

ORDER

I

Kerr McGee Oil Industries, Inc., Okhahoma,City, Oklahoma, hereinafter referred to as the licensee, is the holder of source material license No. R-157 issued by the Atomic Energy Commission under its regulation "Control of Source Material", Title 10 Code of Federal Regulations, Part 40, (10 CFR 40). This license authorizes the company to receive possession of and title to raw and refined source material for processing at its mill at Shiprock, New Mexico. The expiration date of the license was February 29, 1960. The licensee filed an application for renewal of the license on January 25, 1960. Accordingly, pursuant to Section 40.26,10 CFR 40, Section 2.103, 10 CFR 2, such application constituted a timely application for renewal causing license No. R-157 not to expire until the application for renewal is finally determined by the Commission.

II

On January 9, 1958, an inspection of the licensee's activities under the license was conducted. The violation of the Commission's regulations by the company in failing to conduct surveys necessary to determine

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compliance with Section 20.201(b), 10 CFR 20 was the subject of a notice of violation issued by the Commission pursuant to Section 2.201, 10 CFR 2, dated May 14, 1958. The licensee responded to the notice by a letter dated May 29, 1958, stating that it would be in a position to comply with the survey requirements of the Commission shortly after June 15, 1958.

(Acknowledgment letter not sent on surveys).

III

From inspection of the licensee's activities at the Shiprock mill conducted on January 9, 1958, and investigations conducted on August 31, 1960, September 1 and 2, 1960, and October 4-6, 1960, it appears that the mill is being operated in violatinn of the Commission's regulations "Standards for Protection against Radiation", 10 CFR 20 (and of the terms and conditions of license No. R-157), issued pursuant to the Atomic Energy Act of 1954, as amended, in that:

1. Airborne to unrestricted areas
2. Airborne in mill
3. Effluence to un restricted areas - liquid
4. Discharged to unrestricted areas quantities of liquid effluent containing radioactive material in excess of the limits

IV

It is hereby found that health, interest, and safety of members of the public, including the licensee's employees, who are subject to receiving exposure to radiation in excess of the maximum permissible

limits set forth in "Standards for Protection against Radiation", 10 CFR 20 as a result of the violations set forth in Section III require that:

1. No further notice of violation pursuant to Section 2.201, 10 CFR 2, be given, and

2. That the provisions of this Order be effective immediately (as set forth in Section V below).

V

In view of the foregoing and pursuant to the Atomic Energy Act of 1954, as amended, and the regulations in Parts 2, 20, and 40, 10 CFR, IT IS HEREBY ORDERED THAT THE LICENSEE SHALL:

1. Within 30 days after the date of this order, submit to the Division of Licensing and Regulation, for its approval, a complete description of its radiation safety procedures, which shall contain:

   a. A detailed description of the survey program, including sampling procedures, occupancy factors, any change in present method of sample analysis, commencement date of survey program and identification of personnel responsibile for making surveys, to determine:

      (1) Concentrations of airborne radioactive material to which employees are exposed;

(2) Concentrations of radioactive material in airborne and liquid effluents to unrestricted areas; and

(3) Exposure of employees to sources of external radiation

b. A detailed description of the program instituted by the licensee for the instruction of employees in radiation safety measures to be observed in the mill.

c. A detailed description of the program for supervision instituted by the licensee to assure that

(1) Radiation safety equipment installed in the plant or provided to employees is in proper working order and is being used in the proper manner, and

(2) Safety instructions and procedures are being observed.

2. Within 30 days after the date of this Order submit to the Commission:

a. A detailed description of the licensee's organization, including authority and responsibility of each level of management and/or supervision in regard to development and adoption of and adherence to mill operating procedures.

b. The qualifications, experience and duties of the personnel in the licensee's organization assigned the responsibility for developing, conducting, and administering the radiation safety program for the mill.

3. Within 60 days after the date of this Order and for each calendar month thereafter, submit a report on progress of the program instituted by the licensee pursuant to Section V.2 which shall contain:

   a. Identification of areas of the mill or its environs for which surveys were conducted.

   b. Identification of each area of the mill or its environs where it appears that employees may be exposed to airborne concentrations of radioactive material or to external radiation in excess of the limits specified in Part 20, or where airborne or liquid effluents are discharged in concentrations in excess of the limits of Part 20. Such monthly reports shall be filed not later than the 10th day of each subsequent month. Such monthly reports shall be filed until the license is terminated or until, upon application of the licensee to the Commission, this Order is modified or rescinded.

   c. A detailed description of plans to correct conditions identified in Item 2.

   d. A statement of the effectiveness of planned corrections set forth in previous rep[illegible]

DIVISION OF LICENSING AND REGULATION

ROUTING SLIP

DATE 7-11-62

Price, Harold	___	Nussbaumer, D.	___	Bryan, R.	___
Lowenstein, R.	___	Delaney, J.	___	Borlik, R.	___
Kirk, R. L.	___	Doulos, N.	___	Boyd, R.	___
Price, E. R.	___	/ Harmon, D.	___	Gaske, M.	___
Mason, J. R.	___	Lane, J.	___	Mason, N.	___
		Layfield, R.	___	Muller, D.	___
Page, R.	___	McCreless, T.	___	Murphy, J.	___
Brauch, L.	___			Watson, N.	___
Hallan, J.	___	Cunningham, R.	___	Wilcox, R.	___
Handler, R.	___	Buchanan, C.	___		
Rock, B.	___			Levine, S.	___
Welty, C.	___	Rogers, L. R.	___	Breslauer, S.	___
				Davis, P.	___
DiNunno, J.	___	Barker, R.	___	Elliott, K.	___
Anderson, F.	___	Smith, D.	___	Fleury, E.	___
Baker, R.	___			Ireland, R.	___
DeYoung, R.	___	Catlin, R.	___	Karas, F.	___
Holt, A.	___	Hutton, G.	___	Klug, N.	___
Inman, G.	___			Parker, C.	___
Maccary, R.	___	Huard, Roger	___	Rizzo, J.	___
		Edwards, C.	___		
Johnson, L. E.	___	Steele, H.	___	Newell, J.	___
		Teets, Stella	___	Waterfield, R.	___
Aikens, A.	___	Peterson, Helen	___		
Beck, C.	___	Case, E. G.	___		
Glynn, J.	___				
Gresh, G.	___	Luke, C. D.	___	FROM L. Smith	
Lindberg, B.	___	Durkan, F.	___		
Ray, W.	___				
Rusnack, W.	___	Skovholt, D.	___		
		Wilgus, W.	___		

Files _____

Remarks _____

_____

_____

U. S. ATOMIC ENERGY COMMISSION

APPLICANT Vanadium Corporation of America
[redacted]

DOCKET NO. 40-1712

DOCUMENTS

DATE DOCKETED	DESCRIPTION
September 27, 1957	Appl. for SM Lic. renewal of prev. lic. R-102 to cover raw vanadium uranium ores and sodium uranate.
October 24, 1957	Ltr. returning SM Appl. for re-submittancce without "Company-Confidential" on them.
November 7, 1957	Ltr. 11/6/57 withdrawing former lic. appl. and resubmitting appl. for SM Lic. to cover vanadium-uranium ores and sodium uranate.
November 18, 1957	SM Lic. R-102 issued.
May 22, 1958	Ltr. informing that there were several items of non-compliance due to the inspection. A ltr. informing of the steps to be taken to correct this is requested within 30 days.
June 4, 1958	Ltr. informing of the steps to be taken to correct the deficiencies of non-compliance.
July 3, 1958	Ltr. informing that the steps of action taken is adequate to correct the deficiencies.
Oct. 14, 1958	Ltr. trans. appl. for renewal of SM Lic. R-102 due to expire 12/1/58.
Oct. 20, 1958	AEC-2, submitted Oct. 20,1958 for renewal of SM Lic.
Nov. 17, 1958	SM Lic. R-102 amendment #1 issued.
Mar. 30, 1959	Ltr. 3/24/59 req. exemtion from regulations by the use of a single warning sign at each entrace to the area.
May 22, 1959	Ltr. to VCA re: inspection conducted at the mill in Durango, being operated in violation to AEC's regulation under R-102.
May 27, 1959	Ltr. to Dr. Cleere(Dept. of Pub. Health)Informing him of orders issued.
June 26, 1959	Ltr. frm. VCA in and. to our ltr. of 5/22/59 re: violations discovered.
July 24, 1959	Ltr. to VCA amending SM Lic. R-102 under certains conditions effective as of the date of this order.
Aug. 4,1959	Ltr. to Dr. Cleere(Dept. of Pub. Health) trans. further orders to the same companies,amending their licensees to incorperate survey programs and procedures, facility and equipment changes which they have proposed.
Oct. 26, 1959	Ltr. 10/23/59 trans. AEC-2, for the renewal for SM Lic. R-102.
Oct. 14, 1959	Ltr. 10/14/59 frm. applicant submitting the progress rpt. for their effluent and Animas River pollution problem.

U. S. ATOMIC ENERGY COMMISSION

APPLICANT Vanadium Corporation of America DOCKET NO. 40-1712

DOCUMENTS

DATE DOCKETED	DESCRIPTION
Nov. 5, 1959	Ltr. to acknowledging receipt of application for renewal of SM Lic. R-102.
Nov. 6, 1959	Ltr. to applicant req. additional information.
December 17, 1959	Ltr. 12/16/59 from VCA ack. 11/6/59 ltr. to them and informing us that addl. info requested is forthcoming.
December 30, 1959	Ltr. 12/26/59 giving info regarding the operation of the mill at Durango, Colorado.
June 16, 1960	Ltr. to applicant stating that the concentrations of airborne radioactive material within the mill are still to high to be considered safe.
July 21, 1960	Ltr. to applicant stating that Dr. Leslie Silverman and R. E. Cunningham will visit your mill the week of Aug. 7, 1960 to perform an on-site evaluation of your plans at Durango on Aug. 10, 1960.
August 22, 1960	8-15-60 Report "VCA-Dust Control" (9 cys rec'd).
September 14, 1960	Ltr. to applicant trans. rpt. entitled "AEC Radiation Control Program for Uranium Mill Operators", dtd. May 11, 1960.
September 19, 1960	Rpt. "Vanadium Corporation of America Durango Mill-Dust Control rec'd. Exhibit I "Flat. Plate. Specifications" of Dust Control Systems" req. Company Confidential (2 cys. ppt. & exhibit rec'd) Received for docketing 9-19-60. See ltr. of 11-12-60
September 8, 1960	Ltr. 9/8/60 to VCA, stating that the installation schedule which they proposed in their Aug. 19, 1960 ltr. is satisfactory, but we cannot assure them that additional changes will not have to be made before Mar. 31, 1962 as req. in their ltr. of Aug. 19, 1960.
Oct. 13, 1960	Ltr. 10/11/60 frm. applicant submitting a rpt. on their dust project containing data and details for the month of Sept. (1 cy. rec'd)

U. S. ATOMIC ENERGY COMMISSION

APPLICANT Vanadium Corperation of America DOCKET NO. 4e-1712

DOCUMENTS

DATE DOCKETED	DESCRIPTION
Nov. 16, 1960	Ltr. 11/10/60 frm. VCA submitting a rpt. on their dust project containing data and details for the month of October,,1960.
Nov. 21, 1960	Ltr. 11/21/60 to VCA in ans. to ltr. of 7/29/60 on dust control at the Durango Mill. Exhibit I, "Plot Plan & Specifications of Dust Control Systems" marked for "company confidential" is treated as proprietary info, unless we hear from you within 30 days to the contrary.
Dec. 7, 1960	Ltr. 12/5/60 frm. VCA submitting a rpt. on their dust project containing data and details as well as an approximate completion schedule.(1 cy. rec'd.)
Jan. 9, 1961	Ltr. 1/6/61 frm. VCA submitting a rpt. on their dust project containing data and details as well as an approximate completion shedule for Dec., 1960.(1 cy.)
Jan. 12, 1961	Ltr. 1/12/61 to VCA advising that inasmuch as no reply has been received to our letter of 11/21/60 regarding withholding of Exhibit I to ltr. of 7/29/60, sequesting Exhibit I is being released to AEC Public Document Room.
Feb. 13, 1961	Ltr. 2/9/61 frm. VCA submitting a rpt. on their dust project containing data and details for the month of January, 1961.(1 cy. rec'd)
Mar. 13, 1961	Ltr. 3/10/61 frm. VCA submitting a rpt. on their dust control at the Durango mill.(1 cy. rec'd.)
April 17, 1961	Ltr. 4/12/61 frm. VCA informing us that on Apr. 6, they started the No. 2 Scrubber with its dust collecting equipment, within the next few days they expec to have the mechanical operation satisfactory with all the adjustments necessary
May 15, 1961	Ltr. 5-12-61 fm VCA informing us that their dust collecting system for their Durango Mill was started on April 6 as stated in their Apr 12 ltr and that some minor mechanical adjustments have been made and are satisfied with its operatio
May 10, 1961	Complaint dtd. April 20, 1961 in the matter of "Vanadium Corp. of America"

U.S. ATOMIC ENERGY COMMISSION

APPLICANT Vanadium Corporation of America — DOCKET NO. 40-1712

DOCUMENTS

DATE DOCKETED	DESCRIPTION
June 2, 1961	Ltr. 5/31/61 frm. VCA confirming the telephone conversation with Mr. Dunningham regarding their Durango Dust project.
June 13, 1961	Ltr. 6/13/61 frm. VCA enclosing a rpt. dtd. 6/9/61 frm. the Univ. of Colorado Medical Center showing the crushing, grinding, roasting, uranium plant and automatic sampling area for the period of Apr. 1, 1961 to June 3, 1961; and the non-restricted area sampling data from Jan. 1, 1961 to date. (2 complete cys. rec'd.
June 29, 1961	Ltr. 6-29-61 to VCA advising them that eff. this date they are hereby relieved of any requirements to perform routine urinalysis for uranium in conn. w/their uranium milling operations if such h/been inc. as a condition of their lic as a result of statements and representations made by them in their lic appl or amendments thereto
June 30, 1961	Ltr. 6-27-61 frm. VCA supplying a detailed description of their procedure for calibrating their alpha counter.
June 30, 1961	Ltr. 6-27-61 frm. VCA submitting a respirator programs for their Durango plant.
July 12, '61	Ltr. 6-29-61 to VCA confirming results of REC's mtg. visit of 6-22-61--listing steps they agreed to take to correct conditions of roaster area, No. 2 and 4 crushing grinding area, and the automatic ore sampling area have concentrations of air borne radioactive matl. such that personnel can be exposed to a max. of 3 times the allowable limits.....in addition, they will forward w/their reply to this ltr all data they have in their possession correlating alpha count to chemical analysis.
July 12 '61	Ltr. 7-6-61 fm VCA ack our recent ltr (6-29-61) re urinalysis for uranium.
July 12, '61	Ltr. 7-6-61 fm VCA ack our ltr of 6-29-61, re recent visit of REC, and confirming corrective steps in our ltr of 6-29-61 that they agreed to take.....and advising us further that their ltr dtd 6-27-61 contained requested data to correlate the alpha count to chemical analysis by their methods.
July 17, '61	Ltr. 7-14-61 fm VCA trans. a cy of their Radiation Control Report for the the 2nd quarter, 1961. Which includes: (1 cy rec'd of both transmal.)

Section 1 - Airborne Rad. Area Code
" 2 - Airborne Rad. Area Summaries
" 3 - Individual Airborne Rad. Quarterly Summaries
" 4 - Film Badge Results
" 5 - Stack Discharge Measurements
" 6 - Liquid Effluent Discharge
" 7 - Unrestricted Area Air Sampling Results
" 8 - River Water Sampling Results

U.S. ATOMIC ENERGY COMMISSION

APPLICANT Vanadium Corporation of America
Durango, Colorado

DOCKET NO. 40-1712

DOCUMENTS

DATE DOCKETED	DESCRIPTION
Aug. 7, 61	Ltr. 8-1-61 fm VCA advising us of overexposure of three of their employees...the determination of dosage was fm. film badge readings rec'd fm Rad'n Detection Co., cys. of which were included in their Radiation Control Report, Second Quarter, 196 submitted 7-14-61. (for PDR, see File for Part 9)
Aug. 21,61	Ltr 8/11/61 to Vanadium Corporation of America Acknowlegging their ltr 8/1/61 reporting high film badges readings for three employees for second quarter of 1961 (no cy made fro PDR)
Sept. 6, 61	Ltr. 8-30-61 fm Vanadium Corporation of America requesting permission for Effluent Discharge into Animas River in accordance with par 20.106 of 10 CFR, Part 20. (2 cys. rec'd)
Dec. 11, 61	Ltr. 12-8-61 to VCA requesting them to inform within 15 days whether or not crushing and grinding operations at their Durango mill are continuing, in view of the fact that it was Mr. Cunningham's (as a result of his June visit) understanding th they pla ned to discontinue such operns at their Durango mill when the upgrader at Naturia (40-6589) was licensed for operation.....if so, inform us what other measures they have taken to further reduce concentrations at the Durango mill; and requesting them to describe the new process for extracting uranium from ore, incluc ing the route by which Radium leaves the mill.
Dec. 11, 61	Ltr. 12-7-61 from VCA furnishing detailed counting technique with certain conclusions on the matter of appraisal of alpha counting techniques, supplement to their ltr. of 6-27-61. Included: Ltr. 12-5-61 from Univ of Colorado Medical Ctr. to VCA, appraising data accumulated concerning uranium assay versus alpha counting techniques on 406 airborne rad dust samples collected in Durango mill ore handling areas in Sept and Oct 1961--recommend that all past accumulated data obtained by the use of counting techniques be corrected by a factor of 0.5 and that all future data be caluculated in accord with this factor.
Dec. 21,61	Ltr. dtd 12/19/61 fm VCA ack. our ltr of Dec. 8, 1961 and additional info which was requested in that ltr.
Feb. 28, 62	Ltr. 2-26-62 from VCA advising that they will defer making the survey (re soda leach tailings) and furnishing the results until they have finished acid leaching these tailings...in conn w/their ltr of 12-19-61. (3 cys. rec'd)#2423
Feb. 28, 62	Ltr. 2-26-62 from VCA concerning talks between their Mr. Gilliland and ours Messrs Harmon & Mussbaumer re uranium chemical assay versus counting techniques. Encl. Ltr. 2-22-62 from Univ of Col. Medical Ctr. to VCA (Brinker) Re: Alpha Counting vs. Chemical Assay. #2425 (file cy of ltr dtd 9-22-61 ref'd in this ltr. is in Central Files, "Comments on Part 20")

WLR-5 (3-62) U. S. ATOMIC ENERGY COMMISSION

APPLICANT Vanadium Corporation of American, Durango, Colorado — DOCKET NO. 40-1712

DOCUMENTS

DATE DOCKETED	DESCRIPTION
Mar. 29, 1962	Ltr. 3-26-62 frm VCA trans. a copy of a ltr. addressed to them from Mr. Gilliland dtd. 3-20-62 giving a further evaluation of use of alpha counting techniques for the radiation control program. #3364 (4 cys. rec'd
Apr. 27, '62	Ltr. 4-27-62 fm Vanadium Corp. reporting the exposure of an employee to radioactive material. (Rec'd for docketing 5-8-62)
May 8, 1962	Ltr. 5-8-62 to VCA ack. their 4-27-62 ltr. and advising that they will be notified if further info is required.
May 14, 1962	Ltr. 5-11-62 fm Vanadium Corp. advising us of the changes in procedures at their Durango plant during the last few months. (4 cys. rec'd) #4711
June 5,62	Ltr. dtd 6/4/62 to Vanadium Corp. of America, giving them notice that we intend to modify their license in order to provide assurance that appropriate steps are taken by all concerned in the event of a rupture in an earth dam retention system and the resulting release of the contained waste to unrestricted areas.
June 11, 1962	Ltr. 6-7-62 fm Vanadium Corp. req. that the limits given in Appendix B, Table 1 of Section 20.103(b) of 10 CFR 20 be deemed to apply to exposure to the concentrations specified for 160 hours in any period of 28 consecutive days. (4 cys. rec'd) #5432
June 20, 1962	Ltr. 6-18-62 fm Vanadium supplementing their 5-11-62 ltr. in regard to the matter of processing, etc.....(4 cys. rec'd) #5724
June 21, 1962	Ltr. 6-19-62 fm Vanadium ref. our 6-4-62 lyr. and advising that the proposed statement in that ltr. may be made a part of their lic. (1 cy. rec'd) #5772
June 29,62	Ltr. dtd 6/29/62 to Vanadium Corp. of America advising tha their Lic. No. R-102 has been amended as requests in their ltr of 6/19/62
July 3, 1962	Ltr. 7-3-62 to Vanadium Corp. advising that Messrs. Nussbaumer, Beck, Page and Harmon plan to visit their mill on 7-17-62 to obtain first hand knowledge of their mill in connection with our review of their application for license renewal.
July 9, 1962	Ltr. 7-6-62 fm Vanadium Corp. providing us with info in regard to their method for analysis of airborne dust samples, etc. Attached: "Statement by Vanadium Corp. of American, Durango, Colorado, for Third Session of Conferences on the Interstate Pollution of the Colorado River, May 9, 1962, Salt Lake City, Utah." (4 cys. of ltr. & attachment rec'd) #7223

WLR-5 (3-62) U. S. ATOMIC ENERGY COMMISSION

APPLICANT Vanadium Corporation of America
Durango, Colorado

DOCKET NO. 40-1712

DOCUMENTS

DATE DOCKETED	DESCRIPTION
July 11, 1962	Ltr. 7-9-62 fm Vanadium Corp. advising that the date July 3, 1962, is satisfactory in regard to the visit from us to their Durango plant. (1 cy. rec'd) #7318 (Suppl only)

D R A F T REC:hgs 8-31-60 TWX

Kerr-McGee Oil Industries, Inc.
P. O. Box 608
Shiprock, New Mexico

Attention: Mr. C. L. Wise

Based on preliminary information, itappears that on August 22, 1960 a portion of the dam on the tailings pond of your uranium mill located at Shiprock, New Mexico, broke, releasing liquid effluents containing radioactive materials in concentrations in excess of limits authorized by 10 CFR ~~XXXXXXX~~ Part 20, "Standards for Protection Against Radiation," to the San Juan River. It further appears that since August 22, 1960, additional liquid effluents containing radioactive materials resulting from the milling of uranium ore under License No. R-157 have been discharged into the San Juan River in concentrations in excess of the limits authorized by 10 CFR Part 20, "Standards for Protection Against Radiation." In view of the foregoing and pursuant to the Atomic Energy Act of 1954, as amended, and the regulations in Parts 2, 20 and 40, 10 CFR, it is ordered that the licensee ~~shall~~ cease and desist from any further discharge of liquid ~~effluents~~ effluents containing radioactive materials resulting from activities conducted under License No. R-157 into the San Juan River, ~~except after completion of an investigation by the AEC and~~ specific written approval is obtained from the Commission, after completion of an investigation by the AEC

The public health interest and safety requires that theabove order be effective immediately.

You may request a formal hearing with respect to this order or any part thereof, by filing a written request for hearing with the Office of the Secretary, United States Atomic Energy Commission, Washington 25, D. C., within fifteen days after the date of this order. Filing of a written request for a hearing may also be accomplished in person either in the

in the Commission's Public Document Room, 1717 H Street, NW, Washington, D. C., or the Office of the Secretary, Germantown, Maryland.

A timely filing of a request for formal hearing with respect to this order or any part thereof, shall not stay the order, or such part of the order pending determination of the issues by the Commission.

H. L. Price

D R A F T REC:hgs 9-22-60

Memo to Low from HLPrice

Subject: KERR-McGee oil industries, inc., licensee No. R-157

This refers to your memorandum of September 21, 1960, forwarding a report of an inspection conducted at the Kerr-McGee uranium mill on June 14, through 17, 1960. The citations for noncompliance as specified in the inspection report contain certain deficiencies which should be clarified prior to taking enforcement action.

Portions of the citation for noncompliance with Section 20.201(b) cannot be supported or are incomplete as follows:

1. Deficiencies in surveys with regard to airborne radioactive materials released to unrestricted areas are not supported by the information specified in the Inspection Guide, particularly with respect to the information outlined under "Essential Information (b)" on Page A-22. In order for us to be specific with the licensee, it is necessary to know how and where air containing radioactive material is discharged from the mill. This includes a description of the ventilation and air cleaning systems, stack locations and dimensions and the boundaries of the restricted area with respect to stacks. This information is not only necessary so that we can be specific with the licensee with regard to the violation but also for evaluation of a proposal the licensee might submit to conduct surveys.

2. With regard to the citation for noncompliance with surveys in that the licensee did not take breathing zone samples, please note the testimony given in the Mines Development hearing with regard to where and when samples should be taken. Breathing zone samples are not necessarily required to make an adequate survey. There is no information in the report which indicates that the licensee would be obliged to take breathing zone samples to determine whether or not people are

being overexposed. With regard to the licensee's failure to perform time occupancy studies on the employees, such a requirement is not apparent from the air survey data gathered by the licensee nor, for the most part, is it indicated by the information in the data gathered by the AEC. There are instances where the license data shows slightly above MPC, but this is so small it would be more in the nature of a technical noncompliance rather than the type of noncompliance which would require an order be issued. The real deficiency regarding surveys appears to be that the licensee has not taken a sufficient number of samples to determine variation of air concentrations with respect to changes in operating, meteorological conditions, etc. and samples were not repeated often enough to lend statistical ~~validity~~ reliability. This, however, is not specified as the reason for the violation.

3. The specific areas where the licensee should have surveyed but failed to do so are not identified. This identification is necessary since locations sampled by the licensee and the AEC are not identified by the same nomenclature in all instances.

4. The inspection report does not contain information as to why it was necessary for the licensee to have conducted a complete survey for airborne concentrations in the period from February 6 to June 14, 1960. It is noted that the licensee did start a survey program in June. There is an implication that dust conditions changed because of the addition of the vanadium recovery circuit. However, reasons as to why this would change conditions are not discussed in the inspection report.

5. Enforcement action on the citation that the licensee had not sufficiently sampled the tailings pond seepage as of June, 1960, is not timely since this matter was under further investigation ~~report~~. in late August or early September, 1960. We do not have the investigation report.

5. continued.

An order directing the licensee to survey would not be adequate if your investigation has revealed a need to modify the tailings pond to prevent a recurrence of the incident.

Four breathing zone samples gathered by the AEC during preparation of the yellow cake sample show an ~~a~~ average concentration of 1,357 X MPC. Also, a general air sample gathered by the AEC during operation of the yellow cake sample preparation room showed a concentration of 875 X MPC. If employees are exposed to these concentrations for extended periods, it may constitute a hazard which should be corrected immediately. The report contains no information by which an evaluation as to hazard can be made.

We will take appropriate enforcement action when these matters are clarified.

4. a. Immediately upon receipt of this Order institute corrective action to assure that no liquid efflents containing radioactive materials in excess of the limits provided in Table B, Column____, 10 CFR 20 are discharged into any unrestricted area from any tailings pond or other area at the Shiprock mill and

b. Within 30 days after the date of this Order submit a report as to the status which had been taken and will be taken by the licensee to assure that no liquid effluent containing radioactive material in excess of the quantities prescribed in Table B, Column____ are discharged into unrestricted areas from any tailings pond or any other area of the Shiprock mill.

VI

The licensee may request a formal hearing with respect to this order, or any part thereof, by filing a written request for hearing with the Office of the Secretary, United States Atomic Energy Commission, Washington 25, D. C., within fifteen (15) days after the date of this order. Filing of a written request for hearing may also be accomplished in person either in the Commission's Public Document Room, 1717 H Street, N.W., Washington D. C., or the Office of the Secretary, Germantown, Maryland.

Pursuant to Section 2.202(b) of the Commission's "Rules of

Practice," 10 CFR 2, a timely filing of a request for formal hearing with respect to this order or any part thereof, shall obey the order, or such part of the order, pending determination of the issues by the Commission.

FOR THE ATOMIC ENERGY COMMISSION

H. L. Price, Director
Division of Licensing and Regulation

Dated at Germantown, Maryland
this_____day of October

Robert A. Taft Sanitary Engineering Center
4676 Columbia Parkway, Cincinnati 26, Ohio

UNITED STATES GOVERNMENT

Memorandum

TO : Chief, R&SPC, PHS, Washington, D.C.
Attn: K. S. Krauss, Chief
Technical Services Branch

DATE: September 23, 1960

FROM : E. C. Tsivoglou, In Charge
Radiological Pollution Activities
Field Oper. Sec., Tech.Ser.Br., WSPC

SUBJECT: Detailed Report of Data Regarding
Shiprock Accident.

This memorandum is to supplement the Summary statement recently transmitted and to provide the detailed data available. As you may see from attachments, there has been a great deal of speculative comment from various quarters including the press. As a result, it was felt here highly desirable to refrain from reporting until adequate factual information could be available. This occurred with completion this week of the fish toxicity tests of the waste involved, and the accumulated data and conclusions are herewith transmitted.

The Accident

Date and Time. On August 22, 1960, at 11:30 PM or earlier, a tailings pond wall at the Shiprock, New Mexico, uranium mill (Kerr-McGee) broke, releasing the contents of two out of a series of ten ponds to a wash, or ditch leading to the San Juan River. Mill personnel estimate that the release occurred from 11:30 PM until 1:30 AM on August 23. An observer from the Helium Plant just downstream noted that the San Juan was milky at 7:00 PM on the 22nd of August and reported the likelihood that one of Kerr-McGee's dikes had broken. At 4:00 PM on August 22, a U. S. Geological Survey worker (Mr. Orville McCoy) noted that the river three miles downstream was clear, and also noted in a pool a number of fish, all apparently healthy. At 8:00 AM on August 23 he observed "many" dead or dying fish at the same location. The exact duration of the release is not known.

Reporting. It has been verified both by this office and by personnel of the Division of Compliance of the Atomic Energy Commission that the mill management did not report the release to any official or unofficial agency. (Note: Any A.E.C. licensee is required by law to report such "incidents" immediately). Neither the A.E.C., the Public Health Service, the State of New Mexico, nor the San Juan County Health Department were notified, nor were any of the downstream water plant operators. First reports of a fish kill appeared in the local press (see attachments) on August 27 or 28, some five or more days following the release. Individual observers noted dead fish beginning on August 23.

The release was thereafter reported rapidly by local P.H.S. Division of Indian Health personnel to Regional and other P.H.S. units, and through them to the State of Utah and the Division of Licensing and Regulation, A.E.C.

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Quality and Quantity of Waste Released. Initial estimates were that some 200,000 gallons of waste were released; later estimates place the figure at about 250,000 gallons. These are the figures supplied by mill personnel and later estimated by P.H.S. and A.E.C. observers. The attached sketch map indicates the general area and route of the released material.

As indicated in the attachments, the waste was an organic raffinate, highly acid, and similar to that produced in the V.C.A. plant at Durango, Colorado. The pH was about 1.7, and the liquor contained kerosene, an organic phosphoric acid and tributylphosphate. Its radioactivity and radium contents are presently being determined, but they can be estimated roughly from prior experience with the V.C.A. waste. A.E.C. initial estimates were that the waste contained from 3 to 4 millicuries of Ra-226 and Th-230. Our own estimate is that the total Ra-226 released might have been roughly 300 microcuries or about 0.3 millicuries. Later A.E.C. estimates (by phone) are more in agreement with our figure.

Ra-226 determinations require several weeks, hence the need to estimate here. The exact figures will be transmitted as soon as available.

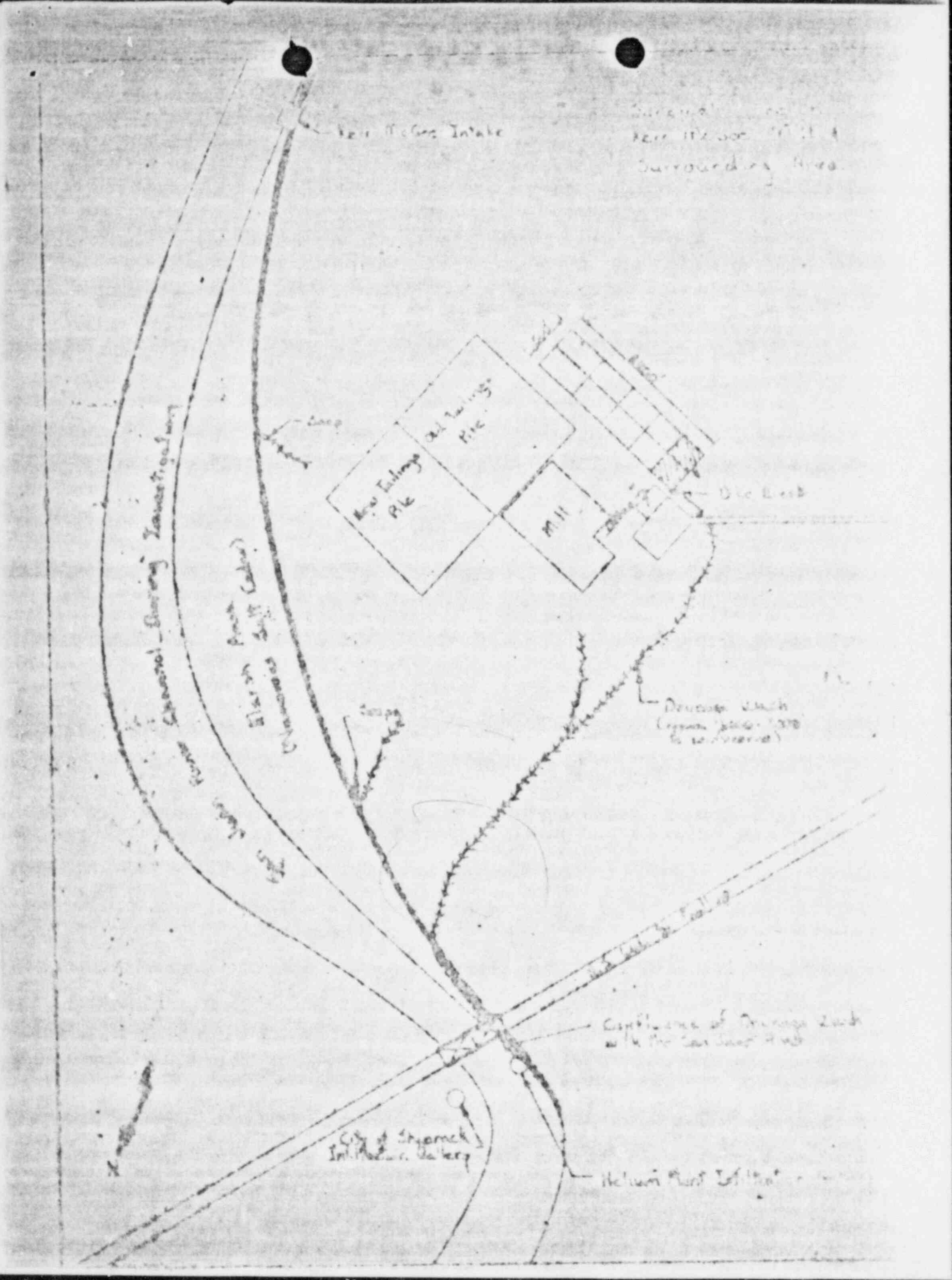
Field Observations

Upon learning of the accident late on August 30, this office notified A.E.C's Division of Licensing and Regulation at once. Arrangements were made for joint field observation and sampling by Mr. Lammering of this office, A.E.C. Division of Compliance personnel from Idaho Operations Office, Drs. McMartin and Thompson of D.R.H., and Mr. McElfrish of the San Juan County Health Department. The field inspection was carried out during August 31 and September 1 and 2, and samples of a variety of media were obtained. First-hand reports were also gathered at this time from Kerr-McGee personnel, Helium Plant observers, and other local witnesses.

Downstream Water Users

Several downstream water supplies are taken from the San Juan River. A Helium Plant located immediately below the mill takes its water supply from the river on the mill side at a point only a few hundred feet below the point at which the raffinate entered the river. The intake is a tile underdrain in the river bed. This in effect gives pretreatment so far as turbidity is concerned. The supply is then filtered, softened by zeolite units and chlorinated.

Shiprock's water supply is taken at times from an irrigation ditch that carries water taken from the San Juan some miles above the mill, and at times from the San Juan via an infiltration gallery located below the mill opposite the Helium Plant intake. Our information is that at the time of the Kerr-McGee


Intake
Surrounding Area
Old Tailings Pile
New Tailings Pile
Mill
Confluence of Drainage Ditch

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spill water was being taken from the irrigation canal and not directly from the river. This supply receives only filtration (anthracite and calorinator).

The Mexican Hat, Utah, water supply also is drawn from the San Juan River. Details of intake construction and treatment are not immediately available.

The area below Shiprock is part of a large Navajo Indian Reservation, and it is believed that the San Juan is used untreated by a significant number of Indians, as reported in the recent Animas River investigations.

Chemical Data

Although actual data for the time of the spill is sparse, because of the lack of information that a spill had occurred, certain useful data for that period does exist.

1. First, according to Dr. McMartin, and as shown by Helium Plant data, the Helium Plant was called by mill personnel and asked to watch the pH of their water supply on the morning of August 23. No explanation was given. The pH dropped from 7.8 to 7.4, and soon rose again to its original level of 7.7 or 7.8. The total dissolved solids changed as shown below:

Table 1

Total Dissolved Solids, Helium Plant

Date	Total Dissolved Solids, Raw Water
July 21	400 mg/l.
August 22	not reported
August 23	1432
August 24	2088
August 25	2160
August 26	2192

These data from the Helium Plant, while not conclusive, do seem to indicate change in quality due to the spill.

Conductance. The U. S. Geological Survey samples the San Juan River routinely at the gaging station three miles below Shiprock, as well as at Mexican Hat, Utah. Information obtained by telephone from their Albuquerque office (Mr. C. E. Sponagle in a conversation with Mr. Stowe of U.S.G.S.) regarding samples at Shiprock gage is as follows:

Table 2

Conductivity of San Juan River at Shiprock

Date	Time	Specific Conductivity, Micromhos
August 19	7:30 PM	1940
August 20	6:30 PM	1940
August 21	12:05 PM	1820
August 22	11:15 AM	1860
August 23	8:00 AM	4390

These data indicate a sharp change in specific conductivity at the same time the pH change was observed at the Helium Plant, and considerably strengthen the evidence that the spill reached the river in considerable quantity during the early hours of August 23.

Color. The U. S. Geological Survey also noted that their sample for August 22 was clear and uncolored, whereas the sample for the 23rd of August (8:00 AM) was orange reddish in color. This led them to suspect the presence of iron.

Considered collectively, these chemical and physical data appear to leave little doubt as to the presence of the mill wastes in the river at Shiprock. Some color change was also noted on two separate days by an observer at Mexican Hat, Utah. The first occasion was August 24. However, as will be seen below, there is some evidence also of a rain below Shiprock at about this time, and some doubt remains regarding the cause of the unusual color at Mexican Hat.

River Flow and Rainfall

Early reports from persons at the mill and others indicated that a local shower might have caused a sudden rise and fall of the San Juan at Shiprock, as well as a sharp change in turbidity. There was speculation that excessive turbidity may have killed the fish, or that they may have been stranded by the sudden flow change. Accordingly, Mr. Lammering of this office gather-

* See page 11.

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all available local rainfall data, and flows for the U.S.G.S. gaging station three miles below the mill were obtained. The flows were as follows:

Table 3

Flow in San Juan River at Shiprock, New Mexico

Date	Flow, cfs
August 18	71
" 19	82
" 20	72
" 21	66
" 22	80
" 23	82
" 24	255
" 25	260
" 26	275
" 27	285
" 28	195
" 29	175
" 30	137
" 31	100

These data, obtained by Mr. Sponagle from Mr. McCoy (U.S.G.S. worker for the area involved), show clearly that, although the river did rise, the rise did not begin until late on August 23 or early on August 24. In contrast, chemical changes and dying fish were observed at 8:00 AM on August 23, or clearly before any rise in river stage. Mr. McCoy further stated his opinion that much of the rise on August 24 was due to upstream release of impounded or irrigation water, rather than heavy rain.

Rainfall is collected and measured at the Helium Plant. During the night of August 22 there was some rain, but the amount collected was small. Personnel there stated that it was less than 0.10 inches. They also indicated that it was the only rain in a week.

A rain gage at Fruitland, New Mexico, (about 15 miles upstream from Shiprock) indicated that no rain occurred during the entire month of August except for 0.02 inches on August 1. This gage recorded in addition 0.04 inches on September 1, and 0.15 inches on September 2.

Mr. John Blaeske, Division of Indian Health worker at Shiprock, indicated that on August 22 a heavy rain did occur in the Sanostee area, but not at Shiprock. Surface flow from this rain would enter the San Juan via the Chaco Wash about one mile above Shiprock. One wash was stated to be flowing on the morning of August 23. However, the downstream flow record indicates that apparently any increase in river flow due to this rain was minor.

This evidence, then, indicates clearly that neither excessive turbidity nor sudden changes in river stage was responsible for the fish kill, which was observed as early as 8:00 AM, August 23.

Fish Kill

Various newspaper and other statements regarding the occurrence of dead fish below Shiprock have been gathered. In addition, a sample of the type of waste involved was obtained on September 1 by Mr. Lemmering, and has been tested at the Sanitary Engineering Center by the standard bioassay technique. An attachment reporting the fish bioassay results is included, as are the newspaper references that could be obtained, and a memorandum on this subject by Dr. McMartin.

Eyewitness Accounts. At 8:00 AM on August 23, in connection with his usual duties, Mr. McCoy again visited the U. S. Geological Survey gaging station on the San Juan about three miles below the mill. At that time he observed that "many" fish in the pool were dead or dying, that catfish especially were trying to surface and that the fish were clustered near the stream's edges in an apparent effort to avoid the main flow. He noted a "methyl" smell in the river at the gaging station.

A second eyewitness report was made by Mr. Sam Kapatan, Health Educator, who observed numbers of dead fish near Aneth, Utah, some 40 or 50 miles below Shiprock. (Maps for this general area are limited in detail, and mileages given in this report are necessarily only estimates. They are believed to be not grossly in error). This kill was observed on August 24.

A third witness, Mr. Ralph Harmon, night foreman at the Helium Plant, observed large numbers of dead fish ("hundreds") on August 24 in the morning. The location was approximately five miles downstream from the point where the waste entered the river.

Unfortunately, by the time (September 1) P.H.S. personnel from this office arrived on the scene the remaining dead fish that could be found were in bad condition due to decay and due to being eaten by birds and/or animals. Otherwise specimens might have been collected and autopsy attempted at the Sanitary Engineering Center.

Two newspaper articles referring to the fish kill are attached. We understand that there were several other such articles, possibly one in an Albuquerque newspaper, but we have been unable to obtain copies at this writing.

In summary, the various accounts establish that large numbers of fish were killed over at least 60 miles or so of the San Juan below Shiprock immediately following the release of raffinate at the Kerr-McGee mill.

<u>Fish Toxicity Tests</u>. As noted above, samples of the kind of waste that was spilled to the river were obtained on September 1 by Mr. Lammering. They were taken from the pond immediately adjoining the one from which the spill occurred, and it was thoroughly verified with mill personnel that this was the same waste.

Upon receipt at the Sanitary Engineering Center, fish bioassay tests were commenced at once using the waste. Attached are the detailed results of the tests, as reported by Mr. Henderson of the Aquatic Biology Section.

In brief, the wastes were tested for their toxicity to fathead minnows and bluegills. Dilution water was made up to be similar to that in the San Juan River, based on chemical data obtained from local water plants. The tests indicate that the waste was "highly toxic" to the fish. Its 24-hour TL_m (Median Tolerance Limit) was 0.41 per cent. This means that a concentration by volume of 0.41 per cent waste in unpolluted water will result in the death of 50 per cent of the fish present within 24 hours.

By direct computations it has been estimated that at the existing river flow of 82 cfs a waste flow in the neighborhood of [illegible] would give a waste concentration in the river equal to the 24-hour TL_m for the [illegible]. The duration of waste discharge and exact quantity reaching the river are not definitely established. As noted above, the quantity released was about 250,000 gallons, but there exists some speculation that a part of this seeped into the soil before reaching the river. The duration may have been as short as the two hours estimated by mill personnel (11:30 PM August 22 to 1:30 AM August 23) or longer. It would appear to have been not finished by [illegible] on August 23, according to the chemical data noted before.

If the 250,000 gallons of waste all flowed into the river in [illegible] period, it would have amounted to 4.6[illegible] cfs, or 13 times the TL_m noted above.

This appears unlikely. However, even if the duration was a full 24 hours, which appears unlikely, an average of 0.39 cfs would have resulted, which is essentially the 24-hour TL_m at which 50 per cent of the fish might be expected to die. Undoubtedly, the actual duration was between these two extremes. Also, of course, averaging the flow over the period of discharge is fallacious - most probably there was an early surge of waste to the river, resulting in a relatively high cfs rate for a short time, with the flow of waste diminishing thereafter. This would result in a "slug" discharge and peak waste concentration passing downriver.

There seems little doubt that the TL_m itself was exceeded (probably by several times) in the river. Of course, the TL_m refers to a concentration at which many fish will die. A safe concentration, at which fish will be protected and not die is estimated by various authorities to be at the most 1/3 of the TL_m, and most authorities agree that an "application factor" of 1/10 is more likely to be safe. In other terms, according to best authority, at the existing 82 cfs a maximum waste flow that might have been tolerated would have been about 0.12 cfs. This flow was surely exceeded substantially.

One other item of interest emerged from these bioassay tests. The kill that occurred in the tests was all within the first 24 hours of exposure. In other words, fish that survived the first 24 hours survived for the full 96-hour test period, and presumably indefinitely. The toxicity of the waste was therefore seen to be immediate and sharp.

In summary, all available evidence indicates that the extensive fish kill observed on the San Juan was the direct result of the spill of acid organic raffinate that began on August 22. The toxicity of this waste is sufficient many times over to account for the kill, and there is no evidence of any other possible contributing cause.

Some speculation that the fish might have been killed by dynamite has been called to our attention. This is mentioned here only because we have heard it from several Headquarters sources including DMRPC and DFH. We believe its origin occurs in a memorandum from Dr. McMartin (dated September 7, 1960, to E. C. Tsivoglou, copy attached). How it spread to other places we do not know. From the foregoing evidence it seems to be very clearly fallacious, especially as dead fish were observed at a fairly widely separated group of locations.

Radioactivity

Estimates of the amount of radioactivity, specifically Ra-226, that may have been discharged with the spill have been made by both this office and personnel of A.E.C. The A.E.C. estimates are referred to in a memorandum dated September 7, 1960, from Dr. McMartin to Dr. Francis J. Weber (copy attached).

It has estimated by A.E.C. personnel that a total of 3,000 to 4,000 [illegible] of Ra-226 and Th-230 could have been released. In another memorandum from Dr. Kerber to Dr. Weber, dated September 2, 1966, (copy attached) it is noted that the A.E.C. personnel estimated that there could have been as much as 10 times the MPC of Ra-226 and Th-230 at the point of flow into the river for a brief time. It should be noted that these are very early estimates.

Our own guess as to the amount of Ra-226 involved has been about 300 microcuries. This does not include Th-230. It was based upon our experience and data regarding the Ra-226 concentrations in other mill effluents that might be similar - for example, the raffinate from the V.C.A. mill at Durango, Colo. Later, in telephone conversations with A.E.C. personnel, they indicated that they did not disagree widely with our estimate for Ra-226 alone.

A preliminary gross alpha assay of the sample of typical pond contents collected by Mr. Lammering has been partially completed. It indicates a gross alpha activity of about 7,000 μμc/l. From prior experience with other effluents it appears reasonable to estimate the Ra-226 content at 1-10 per cent of this figure. Using the 5 per cent, and the 250,000 gallon estimated release it is estimated that there would be about 330 microcuries of Ra-226 released. Thus our estimate remains at about 300 microcuries total Ra-226 release.

If this were released over only two hours, at a flow of 82 cfs in the river, and was well mixed with the river, an average concentration of about 13 to 20 μμc/l. of Ra-226 would result, or about five times the continuous lifetime exposure MPC of 4.0 (or 3.3, if ICRP standards are used). The very short duration of such exposure makes it minor in terms of allowable exposures, even though a standard was momentarily exceeded. The only possible exception here is the Nelium Plant intake which is located immediately below the discharge (about 300 feet) and on the mill side of the river. As noted before, a tile underdrain is used as the intake. It is possible that the spilled waste passed over the intake and missed it. It is also possible that it did not. In that event the Ra-226 concentration in the Nelium Plant intake could have briefly been considerably higher than the estimated 13-20 μμc/l., because the waste was still concentrated and not fully mixed with the 82 cfs of river flow. This cannot be determined now, and must remain in doubt. In any event, even though the Ra-226 MPC was probably exceeded, this was quite brief relative to the fact that the MPC is for lifetime exposures and continuous exposures.

It is therefore estimated that no humans suffered serious overexposure to Ra-226 as a result of the spill from the Kerr-McGee mill.

A large number and variety of samples of water, effluents, river muds and silts from the Kerr-McGee property were collected on September 1 and 2 by Mr. Lammering and others. Also, small aliquots of San Juan River water on each day covering the period of release have been obtained from the U.S. Geological

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Survey for their Mexican Hat, Utah, and Shiprock, N.M., sampling stations. (Daily water samples are collected routinely at these points by the U. S. G.S. in connection with their own studies of chemical water quality). All of these samples are presently being analyzed by D. E. Rushing and D. A. Clark for their Ra-226 content. However, this analysis requires a number of weeks to complete, and results are not available now. As soon as they are reported, it will be possible to estimate more precisely the actual Ra-226 release and exposure.

Questions Remaining

As noted in our memorandum of September 22, Summary Statement, certain basic questions remain. First, even though no serious human radiation exposure apparently occurred, the amount that did occur was undesirable. Other effluents also contain more Ra-226 at times. Should such releases occur in the future it seems imperative that the nuclear plant undertake to promptly notify responsible A.E.C. and public health officials. Failing this, it is not inconceivable that more serious incidents may occur in the future. It appears highly desirable that this be brought to the attention of the nuclear industry to assure their more prompt future cooperation.

Secondly, this particular type of incident is not completely uncommon. It has occurred elsewhere - for example, twice at the old Naturita, Colorado, mill (presently not operating). It occurs generally because the tailings pond walls are not compacted or otherwise protected from failure and usually because too much liquor is sent into the ponds. In view of this it seems quite necessary that the several mills of the Colorado River Basin undertake to quickly determine practical methods of preventing this type of incident and place these methods in operation at their respective mills. Otherwise it appears that such failures of tailings pond walls can be expected to occur in the future.

It is suggested here that the Division of Licensing and Regulation of the U. S. Atomic Energy Commission might well be approached by the Public Health Service and requested to assist in finding answers and solutions to the aforementioned questions. The management of the Kerr-McGee mill could not have known a priori that greater human radiation exposure would not occur.

NOTE-

It should be clear from the foregoing that a large number of agencies and individuals have contributed in many ways to develop the foregoing information. The U. S. Geological Survey and U. S. Atomic Energy Commission have been especially cooperative and helpful, as well as personnel from the Shiprock Helium Plant.

K. S. Kramer --- 9/23/60

NOTE:

From "Water Quality Criteria" (1957), Publication No. 3, State Water Pollution Control Board, California, p. 375, the following is taken:

"On the basis of his studies, Ellis concluded that conductances in excess of 1,000 mhos x 10^{-6} (1,000 micromhos) at 25° C. in most types of stream, or in excess of 2,000 mhos (x 10^{-6}) at 25° C. in the alkaline western streams are probably indicative of the presence of acid or salt pollution of various kinds."

FARMINGTON
DAILY TIMES

Tuesday Evening, October 4, 1960 | VOLUME 9 NUMBER 8 | Published Daily Except Saturday in Farmington, New Mexico | 10 PAGES | 10 Cents

State May Seek SJ Fish Damage

SANTA FE (UPI)—The State Game Commission may seek damages against the Kerr-McGee uranium processing plant for loss of "thousands" of dead fish found in the San Juan River after a plant mishap in August.

The commission Monday asked its attorney, Lyle Tenneh Jr. of Santa Fe, to find out if it can file court action.

A state health official, John Bourne, earlier discounted the theory that spillage of radioactive fluid from a plant pond near Shiprock polluted the river enough to kill the fish.

Dead fish were found Aug. 20 as far west as Aneth, Utah, according to Dr. Robert Zebol, chief of the U. S. Public Health Service's Indian division at Albuquerque.

A game department spokesman said the 2000 "cups up into the thousands of fish" valued at $1 each.

Company officials said a dam broke at one of the plant ponds in late August. The fluid contained radium and thorium, plus a strong acid compound used in refining uranium ore.

Charles Caldwell, a state health official, said recently 240,000 gallons were turned loose when the dam broke but most of it was dissipated in a dry arroyo before it reached the river a quarter mile away.

Health and Atomic Energy Commission investigators have investigated the accident.

10-5-60

Those Listed Below

Duncan Clark, Director
Office of Public Information

PHS MEMORANDUM RELATING TO SHIPROCK (KERR-MCGEE) MILL INCIDENT

SYMBOL: OPI:WH

Attached for your information is a copy of a report to the Public Health Service, Washington, from one of its representatives in the Shiprock, New Mexico, area.

We obtained a copy of this report after we were told by the public information office at HEW that the report had been shown to Helene Monberg, a correspondent for a number of papers in the mill area, including the Farmington, New Mexico, paper.

Your attention is called particularly to the statement in the third paragraph on Page 1 that "any AEC licensee is required by law to report such 'incidents' immediately" and to the paragraphs on Page 10 under the heading "Questions Remaining." These statements, if given currency by Miss Monberg, may raise both public information and administrative problems.

For your further information, we were told by HEW that while it is the agency's practice, ordinarily, to treat reports of this sort as internal documents not available to outsiders, in this case Miss Monberg was so insistent that it was believed desirable to depart from practice and allow her to see a copy.

Attachment

Addressees:
Dwight Ink, AGM
William Finan, AGM/RS
Harold Price, L&R
David Low, CO
Nathan Woodruff, R&S
Neil Naiden, OGC
Jesse Johnson, RM
Mack Corbett, IDOO
Richard Elliott, ALOO

Copy J. R. Rogers 10/1/60

ME[illegible]OUTE SLIP
Form A[illegible]ev. May 14, 1947)

See me about this. | For concurrence. | For action.
Note and return. | For signature. | For information.

TO (Name and unit)	INITIALS	REMARKS
L. R. Rogers, L&R		KERR McGEE OIL INDUSTRIES, INC., URANIUM MILL, SHIPROCK, NEW MEXICO; LICENSE NO. R-157 - INVESTIGATION OF HOLDING POND RUPTURE
	DATE	Attached is an information copy of subject investigation report dated October 6, 1960, as well as the cover memorandum dated October 6, 1960.
TO (Name and unit)	INITIALS	REMARKS
	DATE	**Attachment:** **ID inv rpt dtd 10/6/60 w/cover memo fm D. Walker to L. Low dtd 10/6/60**
TO (Name and unit)	INITIALS	REMARKS
	DATE	(only HK copy)
FROM (Name and unit) E. G. Gutten, CO		REMARKS
PHONE NO.	DATE OCT 10 1960	

USE OTHER SIDE FOR ADDITIONAL REMARKS

U. S. GOVERNMENT PRINTING OFFICE : 1957—O-422007