

40-8728/SLW/83/12/13/0

- 1 -

JAN 03 1984

URFO:SLW
Docket No. 40-8728
04008728

MEMORANDUM FOR: Docket File No. 40-8728

FROM: Sandra L. Wastler, Project Manager
Licensing Branch 1
Uranium Recovery Field Office, Region IV

SUBJECT: REQUEST FOR SURFACE DISCHARGE OF EVAPORATION POND
WATER AT THE TETON R&D LEUENBERGER SITE

Discussion

By letter dated November 21, 1983, Teton Exploration Drilling Company, Inc. (Teton) requested that their Source Material License SUA-1373 be amended to allow surface discharge of all water presently contained within the south Leuenberger solar evaporation pond and, thereby eliminating the present license requirement to take pond water samples, pond level measurements and leak detection system checks. The purpose of Teton's proposed amendment is to eliminate the potential for pond leakage during the current inactive period at the site and to reduce potential site hazards by disposing of the pond sludge and possibly the old liners at a licensed disposal facility. The staff's evaluation and recommendations on the licensee's request is discussed below.

As discussed in the November 26, 1982 memorandum to the files, the licensee has concluded all research and development activities and cleaned up the Leuenberger site. The water in the south solar evaporation pond resulted from the final ground-water restoration at the Leuenberger site and cleanup activities. The water originated from site ground water and does not contain process water or brines from R&D operations. The applicant has treated the pond water with barium chloride in order to reduce the level of radium to dischargeable levels. Water samples taken after treatment show pond water quality to be within livestock use category (see Enclosure 1). Teton proposes a one-time surface discharge from NE 1/4 of Section 14, T34N, R74W, Converse County,

| | | | | | | | |
|----------|---|---|---|---|---|---|---|
| FC | : | : | : | : | : | : | : |
| NAME | : | : | : | : | : | : | : |
| DATE | : | : | : | : | : | : | : |
| 83/12/28 | : | : | : | : | : | : | : |

JAN 03 1984

Wyoming, at a controlled discharge flow of 50-100 gallons per minute (gpm). The controlled discharge will allow Teton to keep the surface discharge from leaving the UNC Teton R&D site.

Conclusions

Due to the facts that the surface discharge will be maintained onsite, any ponded water available to livestock or wild animals is within the livestock use category of water quality, and the licensee is required by license condition to conduct a final radiation survey at site, the NRC staff considers the environmental impact of the proposed surface discharge to be minimal. Based on the current conditions at the site, as discussed in the licensee's letter dated November 21, 1983, and the November 26, 1982 memorandum to Docket File 40-8728, the staff concludes that the proposed surface discharge from the south Leuenberger solar evaporation pond is acceptable and recommends amending SUA-1373 to delete license conditions 23 and 32.

15/
Sandra L. Wastler, Project Manager
Licensing Branch 1
Uranium Recovery Field Office
Region IV

Approved by:

15/
Edward F. Hawkins, Acting Chief
Licensing Branch 1
Uranium Recovery Field Office, Region IV

Enclosure: As stated

Case Closed: 04008728

| | | | | | | | |
|-----|----------------------------|------------|-----------|---|---|---|---|
| FC | :URFO | : URFO | <i>EW</i> | : | : | : | : |
| AME | : <i>SW</i> Swastler/lv | : EHawkins | : | : | : | : | : |
| ATE | :83/12/28 | : 1/3/84 | : | : | : | : | : |

UNC ENVIRONMENTAL SERVICES, INC. - ANALYTICAL DATA REPORT
 CLIENT: UNC-TETON EXPLORATION DRILLING, INC. LEUBENBERGER IN-SITU PROJECT POND TREATMENT
 FINAL REPORT DATE: 10/24/83
 FINAL SAMPLES RECEIVED: 9/23/83

| PARAMETERS | 025 S FOND SE* | 026 S FOND NU* | 027 S FOND SW* | 028 S FOND NE* | MEAN | STD DEV |
|----------------|----------------|----------------|----------------|----------------|---------|---------|
| 025 S FOND SE* | 275.7 | 294.3 | 290.4 | 272.3 | 283.2 | 10.8 |
| 026 S FOND NU* | 25.0 | 25.0 | 25.9 | 32.2 | 28.6 | 3.7 |
| 027 S FOND SW* | 1026 | 1026 | 1020 | 1013 | 1017 | 9.4 |
| 028 S FOND NE* | 477 | 458 | 489 | 477 | 477.8 | 8.6 |
| 30.1 | 30.1 | 30.2 | 30.3 | 30.1 | 30.1 | 0.3 |
| 51.0 | 52.0 | 50.0 | 51.0 | 51.0 | 51.0 | 0.9 |
| 839 | 839 | 839 | 835 | 839 | 839 | 2.9 |
| 23.6 | 24.0 | 23.6 | 23.6 | 23.7 | 23.7 | 0.2 |
| 44.40 | 44.40 | 44.58 | 44.05 | | | |
| 42.95 | 42.93 | 42.76 | 42.67 | | | |
| 102.15 | 103.43 | 104.26 | 103.22 | | | |
| 281 | 283 | 281 | 277 | 279.8 | 2.8 | |
| 4257 | 4183 | 4257 | 4257 | 4238 | 37 | |
| 2618 | 2798 | 2818 | 2840 | 2819 | 17 | |
| 2538 | 2613 | 2623 | 2598 | 2608 | 12 | |
| 8.95 | 8.89 | 8.87 | 8.88 | | | |
| <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | NA |
| <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | NA |
| 0.006 | 0.006 | <0.005 | 0.005 | 0.006 | 0.006 | 0.0006 |
| <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | NA |
| 0.15 | 0.13 | 0.16 | 0.14 | 0.15 | 0.15 | 0.01 |
| <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | NA |
| <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | NA |
| <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | NA |
| <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | 0.01 |
| <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | NA |
| <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | NA |
| <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | NA |
| <0.0002 | <0.0002 | <0.0002 | <0.0002 | <0.0002 | <0.0002 | NA |
| <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | NA |
| <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | NA |
| <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | NA |
| 0.06 | 0.06 | 0.06 | 0.06 | 0.04 | 0.04 | 0.03 |
| 0.027 | 0.027 | 0.028 | 0.022 | 0.027 | 0.027 | 0.004 |
| 3.13 | 3.17 | 3.22 | 3.25 | 3.19 | 0.05 | |
| <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | NA |
| <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | NA |
| 0.7 | 0.7 | 1.1 | 0.7 | 1.0 | 0.4 | |
| +/-0.4 | +/-0.3 | +/-0.4 | +/-0.3 | 2.2 | 1.7 | |
| 4.4 | 2.3 | 1.6 | 0.4 | | | |
| +/-1.6 | +/-1.3 | +/-1.1 | +/-0.8 | | | |
| <0.6 | <0.6 | <0.6 | <0.6 | <0.6 | <0.6 | NA |
| HA | NA | NA | NA | NA | NA | NA |
| 4.5 | <0.1 | <0.1 | <0.1 | 1.2 | 2.2 | |
| +/-1.0 | NA | NA | NA | | | |

Water
 W40 Pporking
 250.00
 250
 6.5-8.5
 500
 250
 CL Side .01
 SE
 Downside

RA-226 WAMCO 128 354
 RA-PRECISION +/-10 +/-26
 TH-230 WAMCO 12.4 -40 2.7
 TH-PRECISION +/-2.8 +/-7.1
 RA-226 CEP
 TH-230 CEP
 TH-PRECISION
 SAMPLES 001- & 002 COMPOSITE POND SAMPLES TAKEN PRIOR TO TREATMENT - 6/9/83
 SAMPLE 024 COMPOSITE NORTH POND SAMPLE TAKEN AFTER SOUTH TO NORTH TRANSFER/TREATMENT-SAMPLES 025-028 SOUTH POND GRAB SAMPLES TAKEN AT POND CORNERS AT VARIOUS DEPTHS-MEAN COLUMN REFERS TO MEAN OF 9/23 S POND SAMPLES
 ALL VALUES REPORTED IN MG/L EXCEPT RA-226 & TH-230 (PPC/L)