

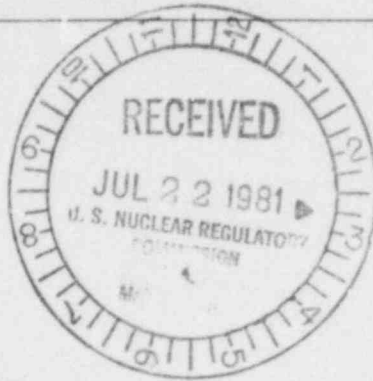
40-8743

T. W. Quigley
Environmental Project Leader
Sand Rock Mill
Minerals Department

Conoco Inc.
555 Seventeenth Street
Denver, CO 80202
(303) 575-6069

PDR
Return to
D. Cramer
396-55

July 15, 1981



Mr. Thomas E. Fleming
Project Manager
U.S. Nuclear Regulatory Commission
7915 Eastern Avenue
Silver Spring, Maryland 20910

Re: Revisions to Section 5.0 - Sand Rock Environmental Report - NRC
Docket No. 40-8743

Dear Mr. Fleming:

Due to revisions and additions to the Radiological Baseline (Section 2.10) of the Sand Rock ER (forwarded July 14, 1981), two minor changes have been made in Section 5 of that document:

Page 5-8 Range of radon concentration changed from 10 to 200 pCi/m³ to 10 to 1250 pCi/m³.

Page 5-22 Lowest value for Ra-226 revised to read 0.22 pCi/g (originally read 0.06).

Enclosed are 25 sets of revised pages.

Based on my June conversations with Greg Eadie, and being guided by Dan Martin's July 8, 1981 letter, revisions and additions are underway on certain portions of Section 6 of the ER. Revised pages will be furnished in the near future.

If you have any questions regarding this material, please contact me.

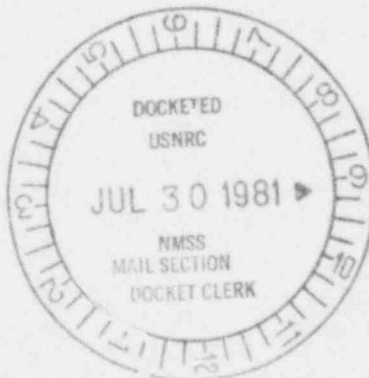
Sincerely,

T.W. Quigley
T. W. Quigley

kr

Enclosures

- cc: J. E. Cearley
- D. W. Bollig
- N. S. Lynn
- D. Martin
- G. Eadie
- Dr. M. Kelley



FEE EXEMPT

10227

Add'l Inks

TABLE 5.1-2
SOURCES OF RADIOACTIVE EFFLUENTS

| Source | Location ⁽¹⁾ | | | | Annual Radionuclide Release (Ci/yr) ⁽²⁾ | | | | |
|----------------------------------|-------------------------|---------|--------|----------------|----------------------------------------------------|---------|---------|---------|--------|
| | X km | Y km | Z m | Area Sq. km | U-238 | Th-230 | Ra-226 | Pb-210 | Rn-222 |
| Product Drying and Packaging | 0.0 | 0.0 | 21.3 | 0.0 | 1.50E-2 ⁽³⁾ | 7.00E-4 | 3.00E-5 | 3.00E-5 | 0.0 |
| Ore Piles | 0.0 | 0.17 | 0.0 | 0.0 | 7.40E-4 | 7.40E-4 | 7.40E-4 | 7.40E-4 | 1.50E2 |
| Pit 35N (Tailings Disposal Site) | 0.80 | -0.57 | 0.0 | 0.33 | 0.0 | 0.0 | 0.0 | 0.0 | 6.50E2 |
| Evaporation Pond | 2.06 | -2.00 | 0.0 | 0.47 | 4.00E-4 | 1.00E-2 | 1.10E-2 | 1.10E-2 | 8.60E1 |
| Mines | 0.15 | -0.57 | 0.0 | 0.08 | 0.0 | 0.0 | 0.0 | 0.0 | 7.45E2 |

(1) Location relative to Product Drying and Packaging Vent stack.

(2) Details of radionuclide emissions are given in Sections 3.4 and 3.5.

(3) 1.5E-2 is to be read as 1.5×10^{-2} .

Figures 5.1-2, 5.1-3 and 5.1-4 show the calculated radon concentrations (in picocuries per cubic meter) from each onsite source in the sector of highest downwind concentration. Radon concentrations from all site sources combined were determined and are presented in Table 5.1-3.

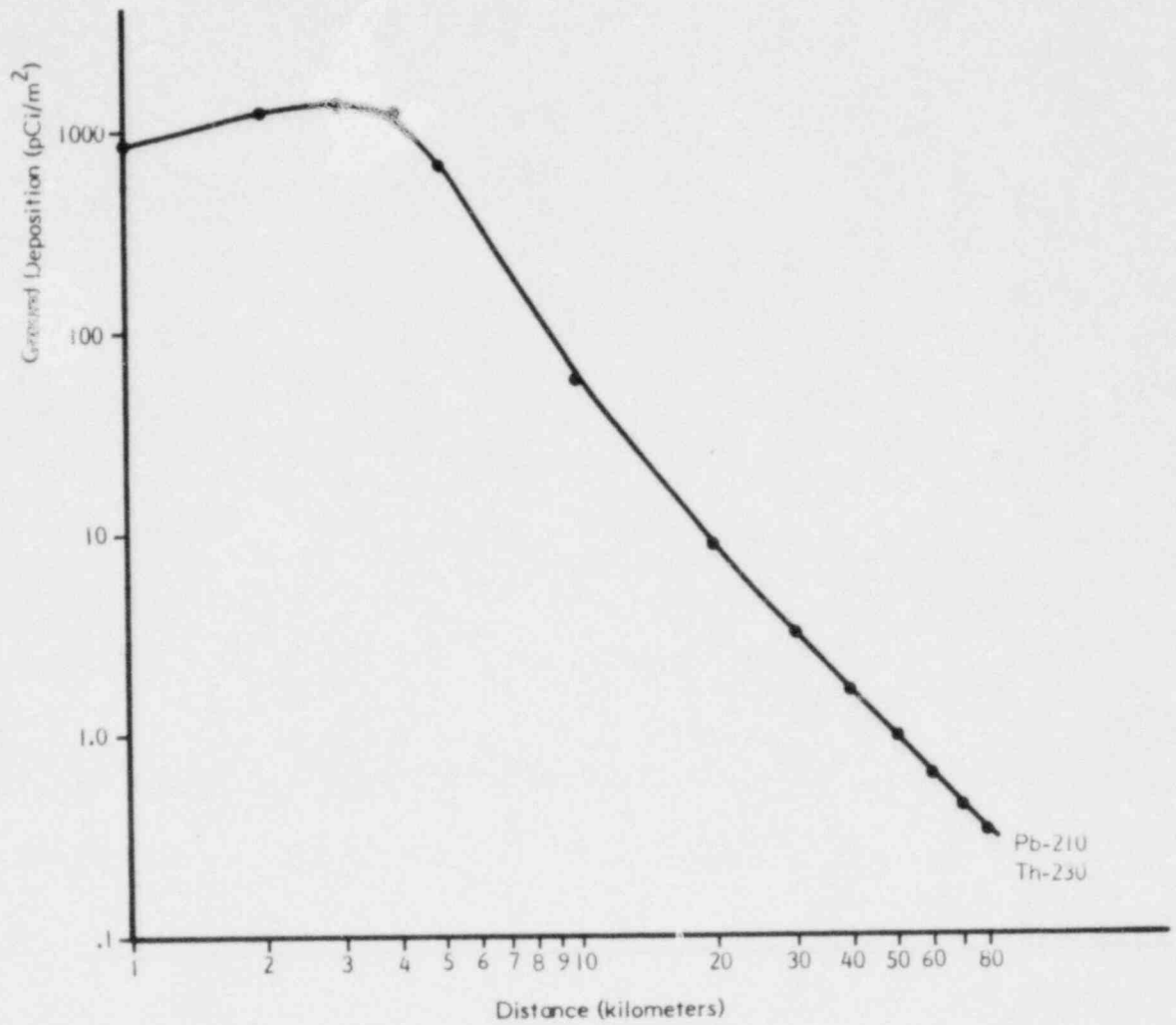
As a result of the onsite pre-operational radiological onsite measurement program conducted in accordance with NRC recommendations, ambient radon concentrations were measured (see Section 2.10). Radon concentrations in the site vicinity varied between 10 and 1250 picocuries per cubic meter during the period of measurement. Using 10 picocuries per cubic meter as a conservative criterion for determining the distance and area of impact of site operations, it can be seen that this radon concentration is reached at a distance of 4,700 meters in the direction of highest calculated radon concentration. The total land area in the site vicinity in which radon concentrations were calculated to exceed 10 picocuries per liter is 63 square kilometers.

Radon releases from the Sand Rock Mill project will not produce a significant increase in ambient radon concentrations in the environment. The impact of the radon releases from the Sand Rock site will not be measurable beyond the immediate site vicinity.

5.1.2.2 AIRBORNE PARTICULATES

Radioactive particulates will be released from three onsite sources during the routine operation of the mill. The sources of radioactive particulate effluents are:

- Dusting from the ore storage pile releasing small quantities of ore dust.
- Yellowcake not removed from the ventilation air from the yellowcake roaster and yellowcake packaging unit. (Effluents from those two sources are controlled by a venturi scrubber and a baghouse, respectively (see Sections 3.4 and 3.5).)



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SAND ROCK MILL PROJECT
CAMPBELL COUNTY, WYOMING

FIGURE 5.1-9
 TOTAL GROUND DEPOSITION

TABLE 5.1-5
 RANGE OF SURFACE SCIL RADIONUCLIDE CONCENTRATIONS⁽¹⁾

| <u>Nuclide</u> | <u>Minimum Measured Concentration (pCi/gm)</u> | <u>Maximum Measured Concentration (pCi/gm)</u> |
|----------------|--------------------------------------------------------|--------------------------------------------------------|
| U _n | 0.0 | 5.1 |
| Th-230 | 0.80 | 2.7 |
| Ra-226 | 0.22 | 3.2 |
| Pb-210 | 1.4 | 4.9 |

(1) See Section 6.1.5 for a complete discussion of the pre-operational radiological monitoring program.