

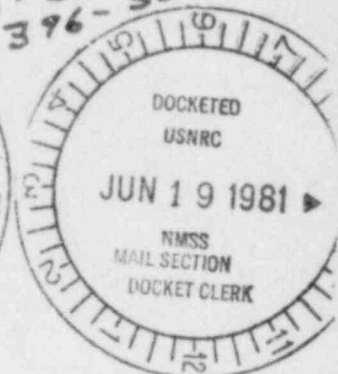
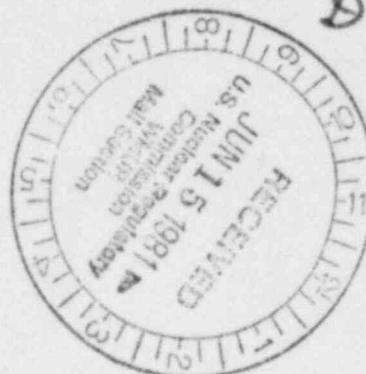
Docket  
40-8743

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. Cromer  
396-55

June 12, 1981



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

Re: Replacement Pages for Sections 2.10 and 5.1 of the Sand Rock Mill  
ER - NRC Docket No. 40-8743

Dear Mr. Fleming:

In my June 3, 1981 discussion with Greg Eadie concerning the radiological baseline data for this project, it was pointed out that a number of corrections and modifications were appropriate for the July 1980 document.

Enclosed you will find revised copies (25 sets) for some of the pages which were prime topics at the June 3 meeting:

1. Pages 2-237 and 2-238 of Section 2.10 have been corrected to show the proper units for the air particulate data. Also, additional data has been included which was not available in July 1980.
2. Table 5.1-4 (page 5-18) has been revised to reflect the ranges of the complete data set which are shown in 1 above.
3. Figure 2.10-7 (page 2-252) has been revised to show the gamma measurements which were taken at the radiological monitoring stations where radon and air particulate data was collected.

Sections 2.10, along with portions of Sections 5 and 6 are undergoing reevaluation and additional modifications will be presented at a later date.

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

Sincerely,

*T.W. Quigley*  
T. W. Quigley

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Enclosures

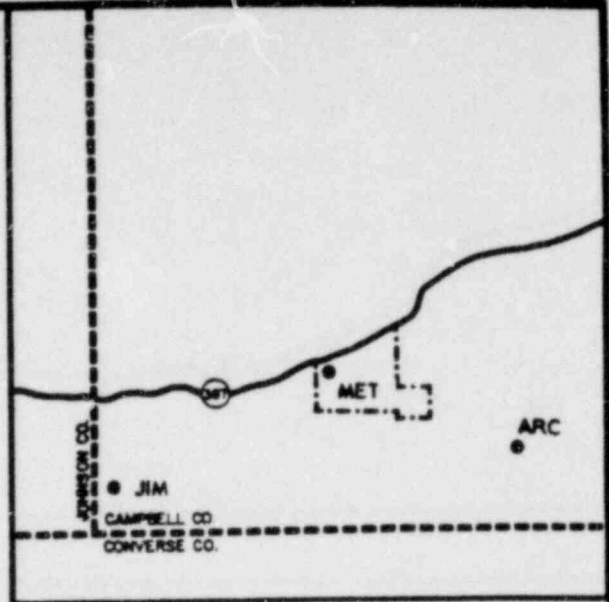
cc: J. E. Cearley  
D. W. Bollig

c. Eadie

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FEE EXEMPT Add'l info



| QUARTER        | 1979       |            |              | 1980         |                  |
|----------------|------------|------------|--------------|--------------|------------------|
|                | 2          | 3          | 4            | 1            | 2 <sup>(2)</sup> |
| <b>MET</b>     |            |            |              |              |                  |
| Ra-226         | 0 ± 0.1    | 0.2 ± 0.1  | 0.06 ± 0.005 | 0.07 ± 0.009 | 0.91 ± 0.32      |
| Th-230         | 0.5 ± 0.2  | 0.2 ± 0.1  | 0.2 ± 0.02   | 1.4 ± 0.2    | 1.46 ± 1.63      |
| Pb-210         | 13.0 ± 1.0 | 18.0 ± 1.0 | 21.0 ± 1.0   | 13.0 ± 0.6   | 7.6 ± 0.2        |
| U <sub>n</sub> | 3.2 ± 0.5  | 1.9 ± 0.3  | 0.2 ± 0.03   | 0.37 ± 0.06  | 1.7 ± 0.0        |
| <b>ARC</b>     |            |            |              |              |                  |
| Ra-226         | 0.3 ± 0.1  | 0.4 ± 0.1  | 0.4 ± 0.007  | 0 ± 0.003    | 1.19 ± 0.57      |
| Th-230         | 0 ± 0.1    | 0.4 ± 0.1  | 0.2 ± 0.03   | 0.27 ± 0.03  | 1.58 ± 1.35      |
| Pb-210         | 12.0 ± 1.0 | 17.0 ± 1.0 | 21.0 ± 1.0   | 9.0 ± 1.0    | 9.7 ± 2.4        |
| U <sub>n</sub> | 2.9 ± 0.2  | 3.3 ± 0.2  | 0.25 ± 0.08  | 0.29 ± 0.04  | 3.3 ± 0.0        |
| <b>JIM</b>     |            |            |              |              |                  |
| Ra-226         | 0.2 ± 0.1  | 0 ± 0.1    | 0.05 ± 0.008 | 0.09 ± 0.01  | 0.99 ± 0.48      |
| Th-230         | 0.8 ± 0.1  | 0.3 ± 0.1  | 0.2 ± 0.02   | 0.28 ± 0.04  | 0.90 ± 1.10      |
| Pb-210         | 11.0 ± 1.0 | 19.0 ± 1.0 | 22.0 ± 1.0   | 15.0 ± 1.0   | 10.8 ± 2.4       |
| U <sub>n</sub> | 9.0 ± 0.4  | 3.0 ± 1.0  | 0.3 ± 0.1    | 0.3 ± 0.04   | 3.5 ± 0.0        |

(1) pCi x 10<sup>-3</sup>/m<sup>3</sup>; ±2σ

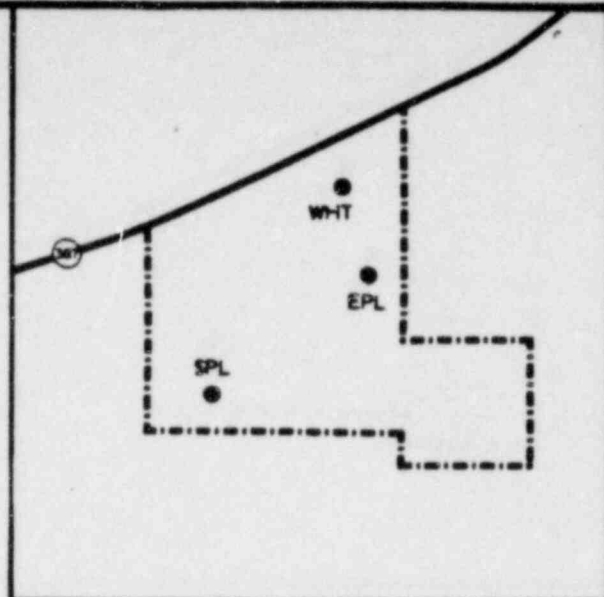
(2) Second quarter 1980 is partial data set due to equipment problems. LLDs range from 2.8 x 10<sup>-16</sup> μCi/ml to 1.5 x 10<sup>-15</sup> μCi/ml

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**MINERALS DEPARTMENT**  
 555 Seventeenth Street Denver, CO 80202

**SAND ROCK MILL PROJECT**  
**CAMPBELL COUNTY, WYOMING**

**FIGURE 2.10-4**  
**AIRBORNE PARTICULATE**  
**CONCENTRATIONS<sup>(1)</sup>**

NOTE: No data collected at these sites during second quarter of 1979; site power not available.



| QUARTER        | 1979       |              |             | 1980        |             |
|----------------|------------|--------------|-------------|-------------|-------------|
|                | 3          | 4            | 1           | 2           | 3(2)        |
| SPL            |            |              |             |             |             |
| Ra-226         | 0.2 ± 0.1  | 0.04 ± 0.007 | 0 ± 0.002   | 0.18 ± 0.02 | 0.57 ± 0.29 |
| Th-230         | 0.2 ± 0.1  | 0.2 ± 0.02   | 0.26 ± 0.06 | 1.15 ± 0.2  | 1.88 ± 0.92 |
| Pb-210         | 15.0 ± 1.0 | 19.0 ± 1.0   | 38.0 ± 4.0  | 5.4 ± 0.3   | 22.5 ± 1.9  |
| U <sub>n</sub> | 4.4 ± 0.8  | 0.3 ± 0.03   | 0.37 ± 0.06 | 1.9 ± 0.1   | 1.39 ± 0.0  |
| EPL            |            |              |             |             |             |
| Ra-226         | 0.2 ± 0.1  | 0.01 ± 0.007 | 0.13 ± 0.01 | 0.12 ± 0.01 | 0.41 ± 0.06 |
| Th-230         | 0.3 ± 0.1  | 0.2 ± 0.03   | 0.30 ± 0.04 | 0.8 ± 0.2   | 0.92 ± 0.30 |
| Pb-210         | 17.0 ± 1.0 | 18.0 ± 0.8   | 15.0 ± 1.0  | 2.0 ± 0.3   | 15.5 ± 0.5  |
| U <sub>n</sub> | 3.5 ± 0.2  | 0.3 ± 0.08   | 0.14 ± 0.04 | 0.23 ± 0.06 | 0.90 ± 0.0  |
| WHT            |            |              |             |             |             |
| Ra-226         | 0.3 ± 0.1  | 0.04 ± 0.007 | 0.12 ± 0.01 | 0.12 ± 0.01 | 0.41 ± 0.06 |
| Th-230         | 0.5 ± 0.1  | 0.1 ± 0.02   | 0.13 ± 0.02 | 0.34 ± 0.04 | 0.36 ± 0.26 |
| Pb-210         | 24.0 ± 1.0 | 18.0 ± 0.8   | 16.0 ± 1.0  | 12.7 ± 0.6  | 14.3 ± 0.7  |
| U <sub>n</sub> | 4.9 ± 0.2  | 0.3 ± 0.08   | 0.60 ± 0.02 | 1.3 ± 0.1   | 0.82 ± 0.0  |

(1)  $\mu\text{Ci} \times 10^{-3}/\text{m}^3$ ;  $\pm 2\sigma$

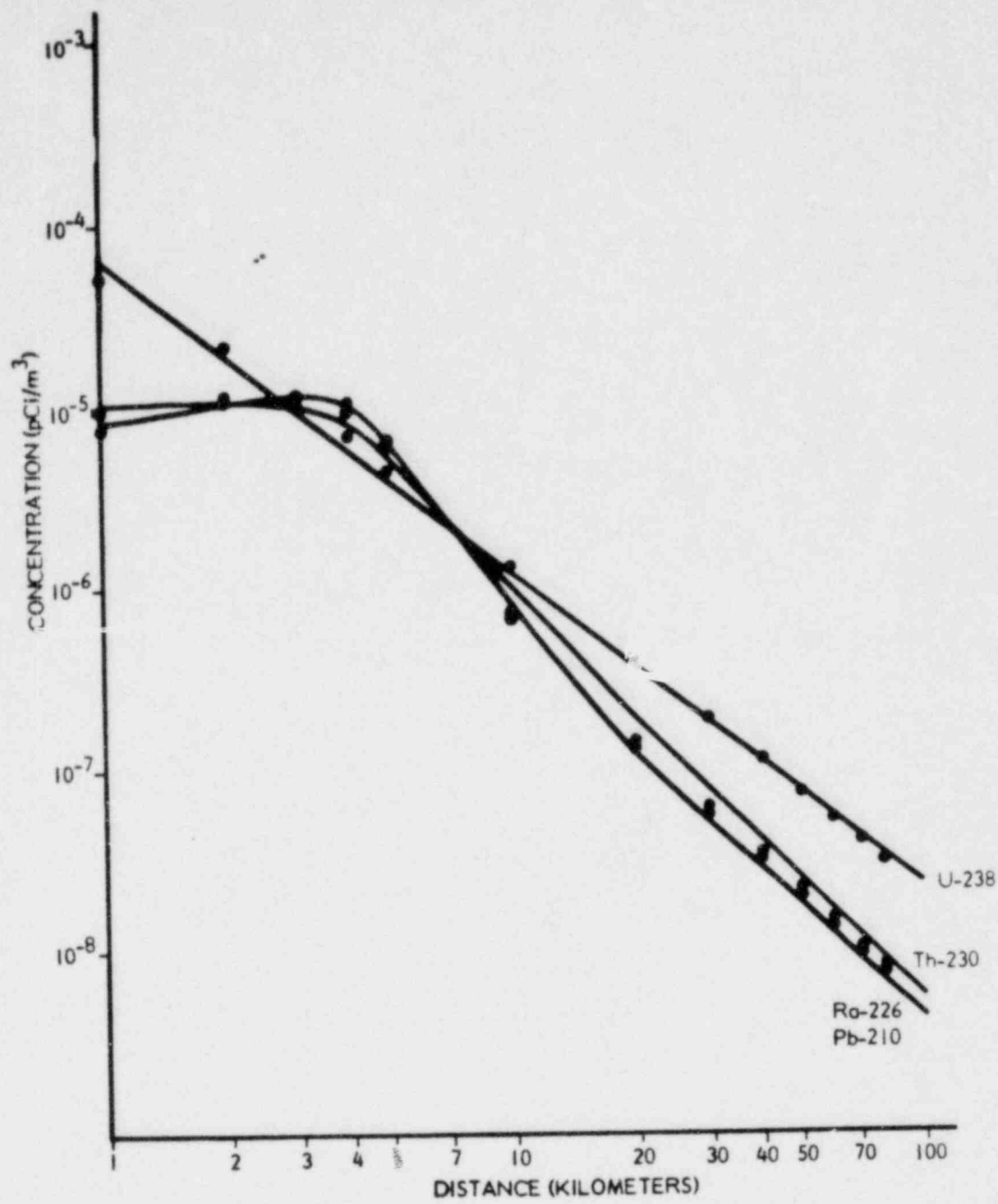
(2) Third quarter 1980 data at EPL and WHT did not include month of June due to equipment problems. Th-230 LLD's were  $1.8 \times 10^{-16}$  and  $2.2 \times 10^{-16}$   $\mu\text{Ci}/\text{m}^3$

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**FIGURE 2.10-3**

**AIRBORNE PARTICULATE  
 CONCENTRATIONS (1)**



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FIGURE 5.1-7  
 TOTAL AIR CONCENTRATION OF PARTICULATES

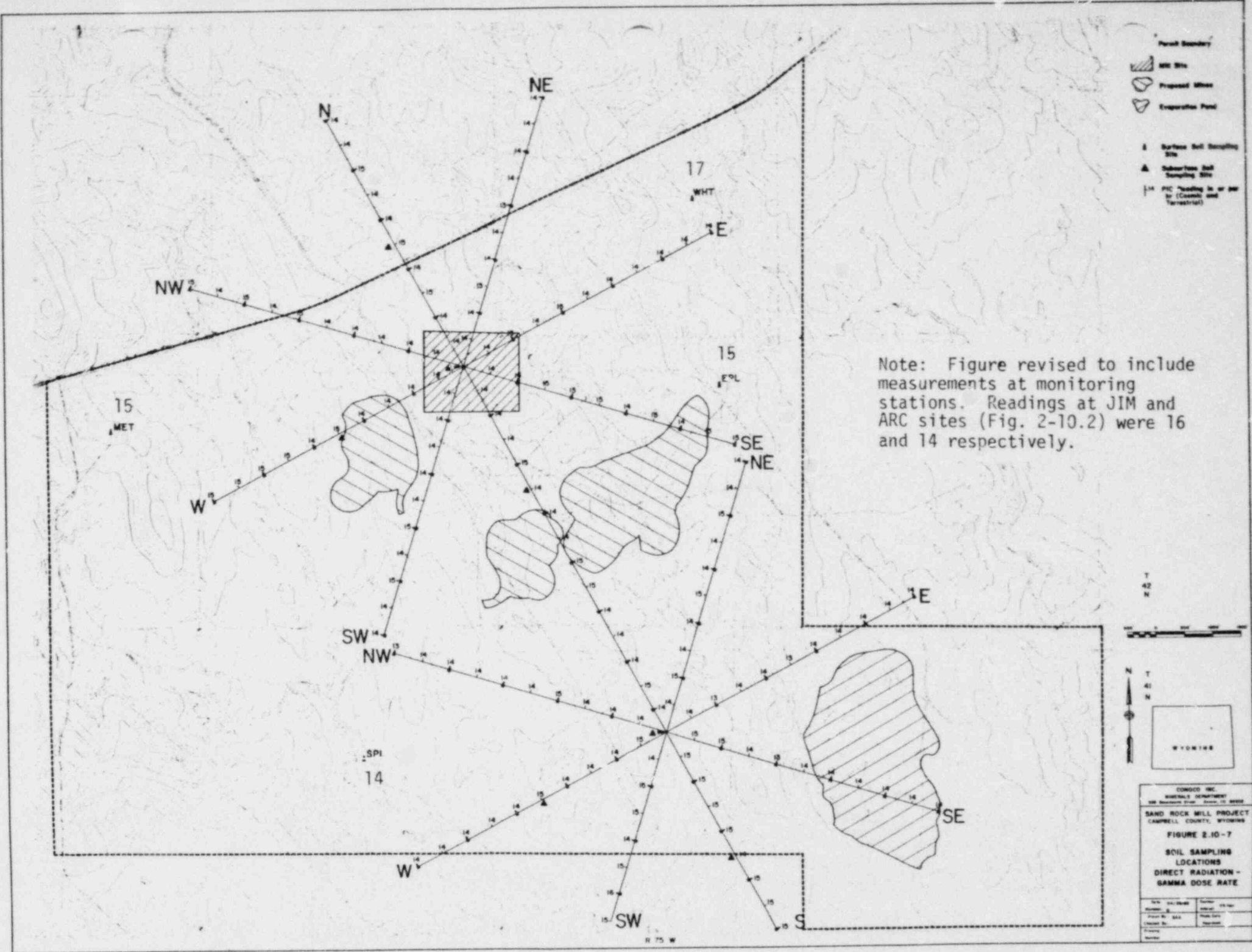
TABLE 5.1-4  
RANGE OF AIRBORNE RADIONUCLIDE CONCENTRATIONS<sup>(1)</sup>

| <u>Nuclide</u> | <u>Minimum Measured<br/>Concentration<br/>(pCi/m<sup>3</sup> x 10<sup>-3</sup>)</u> | <u>Maximum Measured<br/>Concentration<br/>(pCi/m<sup>3</sup> x 10<sup>-3</sup>)</u> |
|----------------|---|---|
| U <sub>n</sub> | 0.20  | 9.00  |
| Th-230         | 0.0   | 1.88  |
| Ra-226         | 0.0   | 1.19  |
| Pb-210         | 2.0   | 38.0  |

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

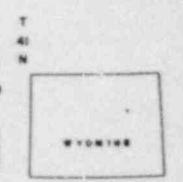
NOTE: Revision reflects addition of data to Figures 2.10-3 and 2.10-4.





Note: Figure revised to include measurements at monitoring stations. Readings at JIM and ARC sites (Fig. 2-10.2) were 16 and 14 respectively.

- Parcel Boundary
- Mill Site
- Proposed Mine
- Expansion Pond
- Surface Soil Sampling Site
- Substrate Soil Sampling Site
- PIC Reading in or on by (Cosmic and Terrestrial)



|  |            |           |             |
|--|------------|-----------|-------------|
| CONOCO INC.<br>MINERALS DEPARTMENT<br>100 Westwood Drive, Denver, CO 80202 |            |           |             |
| SAND ROCK MILL PROJECT<br>CAMPBELL COUNTY, WYOMING                         |            |           |             |
| FIGURE 2.10-7  |            |           |             |
| SOIL SAMPLING<br>LOCATIONS -<br>DIRECT RADIATION -<br>GAMMA DOSE RATE      |            |           |             |
| Date:  | Scale:     | Author:   | File No.:   |
| Project No.:   | Sheet No.: | Drawn By: | Checked By: |
| Client:  | Number:    |           |             |