

**APPENDIX A**  
**ESTIMATED DOSES TO ON-SITE RECEPTOR LOCATIONS**



CDPHE expressed concern that the location of the Piñon Ridge administration building was not ALARA. As a consequence, two alternate locations were also modeled as shown in Fig. A-1. Results are shown in Table A-1.

**Table A-1 Doses at Alternate Administration Building Locations.**

| Location         | TEDE (mrem/yr) | 40 CFR 190 Dose (mrem/yr) |          |           |
|------------------|----------------|---------------------------|----------|-----------|
|                  |                | Effective                 | Bone     | Lung      |
| Planned location | 4.81E+00       | 1.52E+00                  | 1.61E+01 | 5.21E+00  |
| Alternative 1    | 2.19E+00       | 3.16E-01                  | 3.58E+00 | 9.80E-01  |
| Alternative 2    | 1.75E+01       | 3.37E+00                  | 3.93E+01 | 09.25E+00 |

The currently planned location has modeled doses about double the potential dose of alternative 1, which is approximately straight north near fence line receptor 9. Doses to location alternative 2 are considerably higher than both the planned location and alternative 1, likely due to the direction of the prevailing winds.

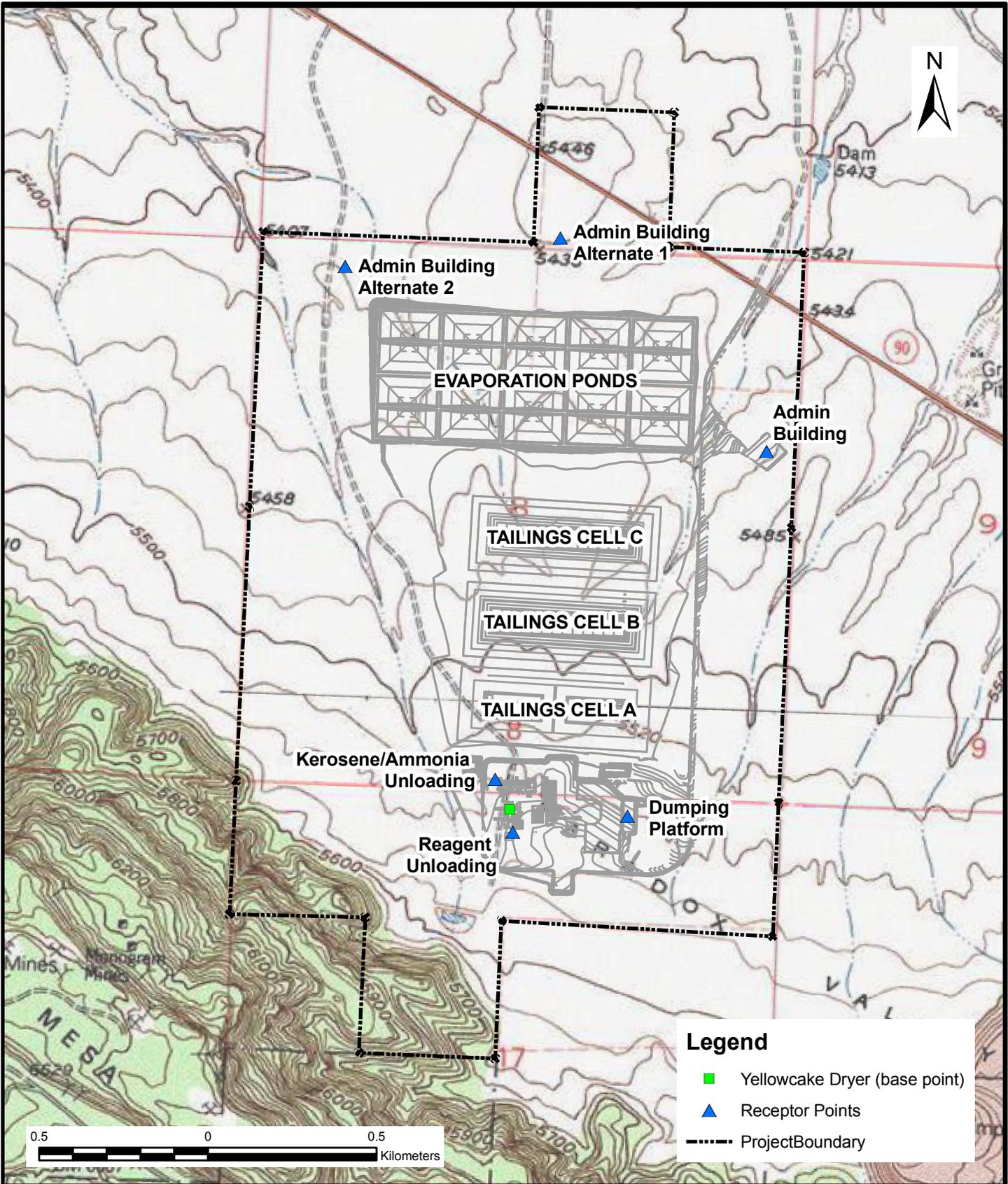
It is important to note for all three alternatives that the calculated doses are large over estimates for several reasons. First, MILDOS calculates dose based on an entire year's occupancy at the modeled location, or 8760 hours. A worker at that location would receive less than ¼ (2000 hr vs 8760 hr) of the doses listed in Table A-1. Second, MILDOS does not take into account potential reductions in dose that arise from being inside a building. Taking both of these factors into account, the potential TEDE doses at the planned location are more likely to be in the range of 1 mrem/yr, while those at Alternative 1 would be approximately 0.5 mrem/yr.

Other on-site locations outside of the Restricted Area were also modeled to assess the likelihood of doses to delivery personnel at those locations. These included the dumping platform, reagent unloading area and kerosene/ammonia unloading area. These locations are also shown on Fig. A-1. Modeled doses at these locations are shown in Table A-2.

**Table A-2 Doses at Other On-Site Locations.**

| Location                   | TEDE (mrem/yr) | 40 CFR 190 Dose (mrem/yr) |          |          |
|----------------------------|----------------|---------------------------|----------|----------|
|                            |                | Effective                 | Bone     | Lung     |
| Dumping Platform           | 4.92E+01       | 1.09E+01                  | 9.21E+01 | 4.99E+01 |
| Reagent Unloading          | 1.24E+01       | 4.13E-01                  | 4.36E+00 | 1.44E+00 |
| Kerosene/ammonia unloading | 1.65E+01       | 1.25E+00                  | 1.49E+01 | 3.45E+00 |

The dumping platform shows the highest modeled TEDE dose of 49.2 mrem, a potential bone dose of 92.1 mrem/yr, and a potential lung dose of nearly 50 mrem/yr. As mentioned above, MILDOS-calculated doses are for a 365 day year of 8760 hours. In the case of delivery personnel, it is reasonable to assume a potential exposure of 1 hour per day, or 250 hours per year. Under those conditions, the maximum TEDE dose that might be expected at the dumping platform would be approximately 1.4 mrem (49.2 mrem \* 250 hrs / 8760 hr per year). The other modeled locations would result in doses that are well below a mrem/yr under the same assumptions. These values are well below those at which worker monitoring is required.



**Energy Fuels Resources Corporation**

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| PROJECT     | Pinon Ridge        |
| DRAWN:      | 10/12/10           |
| DRAWN BY:   | Z Rogers           |
| CHECKED BY: |                    |
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| <b>On-Site Receptor Locations</b>  |          |
| ENERGY FUELS RESOURCES<br>PINON RIDGE MILL SITE<br>MONTROSE COUNTY, COLORADO |          |
| ORIGINATOR:  | Z Rogers |
| APPROVED BY:   |          |

|        |           |
|--------|-----------|
| FIGURE | <b>A1</b> |
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