

The maximum alpha activity for water was 4910 pCi/L and maximum beta activity was 860 pCi/L from samples collected between 10 and 30 ft bgs. Only very small concentrations of TCE, trans-1,2 DCE, and vinyl chloride were detected in the water samples.

4.2.3 Sector 3

4.2.3.1 Site History

Sector 3 consists of the east side of the C-400 Building and several buried utility lines that parallel 11th Street. It does not contain a SWMU, and no spills or releases are known to have occurred in Sector 3.

Sector 3 is a relatively flat area lying between Sector 4 (SWMU 11) to the south and Sector 2 (SWMU 40) to the north. Several small paved areas and buried utilities are present in the sector. Access to the sector is limited on the east side by the presence of an 8- to 10-ft-high security fence. Surface drainage is into storm sewer drains along 11th Street. As part of the Phase I SI (CH2M Hill 1991) and Phase II SI (CH2M Hill 1992), a deep boring was drilled in the southern part of the sector. TCE was first detected at a depth of 50 ft bgs in this boring. PAHs occurred from the surface to total depth. Radionuclides were reported only from the near-surface soils.

4.2.3.2 Nature and Extent of Contaminants

Surface and subsurface soil samples were collected throughout Sector 3 in order to assess the nature and extent of site-related contaminants. Sampling locations within Sector 3 are shown in Fig. 4.5. Three surface soil samples were analyzed for SVOAs, three for metals, and two each for radionuclides and PCBs. The subsurface samples were collected from 10 borings at depths between the surface and 50.5 ft bgs. Thirty-six samples were analyzed for VOAs, 33 for SVOAs, and 37 (including one duplicate) for radionuclides. Thirty-two soil samples (including one duplicate) were analyzed for metals, and 16 samples were analyzed for PCBs. Shallow borings to approximately 15 ft bgs were drilled adjacent to buried utilities that parallel 11th Street and adjacent to the feeder lines that connected to storm drains within the sector. Several deep borings were also drilled near the C-400 Building to assess whether any unknown releases had occurred as a result of the processes performed in the building. Analytical results for samples collected from Sector 3 are summarized in Tables 4.13 to 4.16. Additional information about the analytical results can be found in Table 4.17 (frequency of detection).

Summary of Findings

Several small areas were identified in Sector 3 where the soil has been impacted due to localized spills or releases. The most significant area of contamination occurs in the surface and subsurface of Boring 400-011, which was drilled adjacent to the C-400 Building beside the exterior floor drain collection line. In this boring, TCE was found at elevated levels from near the surface to the total depth of 41 ft. The high TCE concentrations found at this location appear to be associated with a point source release near the C-400 Building. Elevated concentrations of arsenic, SVOAs, and PCBs were found in the surface and shallow subsurface soils at this location. TCE-impacted soil was found at depth in Boring 011-001 and may be contiguous with soil where elevated TCE was found in 400-011. A second release of contaminants at the surface is indicated by surface soil containing PCBs and radionuclides at 400-046. This area of elevated

PCB contamination may be related to the explosion of a transformer on the southwest side of the C-410 Building.

The widespread occurrences of low concentrations of VOAs, SVOAs, PCBs, and radionuclides in the Sector 3 soil represent minor surface spills or isolated releases from the buried utilities that pass through the sector and the results of daily plantwide operations.

Analytical Results—Surface and Subsurface Soils

Organics

VOAs. Three VOAs were reported from the analyzed samples: TCE, toluene, and cis-1,2-dichloroethene. Toluene was detected only in the northern half of the sector between 8 and 23 ft bgs. The two highest detections occurred in 400-062 (260 µg/kg) and 400-063 (270 µg/kg) at 15 ft bgs. Boring 400-062 was drilled along the storm drain that parallels 11th Street. Boring 400-063 was drilled to sample the bedding material adjacent to the sanitary water line. No deeper samples were collected from either of these two borings. Toluene was not detected in any of the samples collected north of Sector 3.

TCE was detected 14 times, including a detection in one duplicate sample, from five locations. One of the most significant concentrations of TCE encountered was in Boring 400-011. The TCE content of the soil at this location was equal to or greater than 1800 µg/kg at depths between 5 and 41 ft bgs, which was the deepest soil analyzed at that location. In addition to TCE, the two shallowest soil samples from 400-011 also contained a small (less than 20 µg/kg) amount of cis-1,2-dichloroethene.

Another high detection of TCE (14,000 µg/kg) was found at 47 to 51 ft bgs at Boring 011-001. This boring was drilled between a storm drain and the building perimeter Floor Drain Collection Line. Only very small quantities (<20 µg/kg) of TCE were reported from the shallow depths of 15 and 30 ft bgs in 011-001.

SVOAs. Sixteen SVOAs (mostly PAHs) were identified in Sector 3 soil samples. SVOAs were most prevalent in the three surface soil samples (Fig. 4.6). The surface sample at 400-011 generally had the highest concentration for each of the detected PAHs, with 887 µg/kg of benzo(a)pyrene, 1642 µg/kg of fluoranthene, 1269 µg/kg of phenanthrene, and 1566 µg/kg of pyrene.

Small quantities of eight PAHs were also detected one or more times in the subsurface soils. SVOAs at concentrations above the SQL were not found in the subsurface.

PCBs. PCB-1260 (Aroclor-1260) was detected at four locations in Sector 3 (Fig. 4.7). The highest concentration was 3300 µg/kg at the surface at Boring 400-046. Boring 400-011 also contained 47 µg/kg Aroclor-1260 at the surface. One sample collected near the storm drain at Boring 400-098 and one sample collected from 400-064 near the sanitary water line each had a low concentration of Aroclor-1260.

Inorganics

Sixteen metals were detected at concentrations that exceeded background levels. The most frequently reported metals were the common soil-forming minerals, aluminum, sodium, and magnesium. An elevated arsenic occurrence of 18.1 µg/kg was reported from 8 ft bgs at Boring 400-011.

Radionuclides

Low activities of several radiological isotopes were reported from the surface soils in Sector 3. The surface sample collected at Boring 400-046 contained the most radioisotopes and the highest activities for all of the detected isotopes. Among the highest detections were ⁹⁹Tc at 3.5 pCi/g, ²³⁰Th at 4.2 pCi/g, ²³⁴U at 7.1 pCi/g, and ²³⁸U at 9.1 pCi/g. Several radionuclides with activities below 2 pCi/g were reported from the subsurface. Figure 4.8 shows the distribution for detected activities of ²³⁸U and ¹³⁷Cs, two of the COCs identified for Sector 3 soils.

4.2.4 Sector 4 [Trichloroethene Leak Site (SWMU 11)]

4.2.4.1 Site History

The Trichloroethene Leak Site (SWMU 11) is located at the southeast corner of the C-400 Building, along 11th Street and Tennessee Avenue. It contains an area of known contamination that was caused by release of effluent from a leaking subsurface pipe carrying discharge from a sump in the C-400 Building to the storm sewer. A previously unidentified TCE spill source was discovered in Sector 4 during the WAG 6 RI. Apparently, a pump station (and associated piping) used to off-load TCE from tank cars into the aboveground storage tank had broken several times in the past and released an unknown, yet significant quantity of TCE into the subsurface soils. Based on the distribution and concentration of TCE in the soils, the off-loading pump station is now suspected to have been the primary source for TCE introduction into the WAG 6 subsurface.

Practices and Release Description

A sump in the TCE degreaser pit basement (SWMU 98) inside the C-400 Building inadvertently released TCE, along with wastewater, to the storm sewer line east of the C-400 Building. Before discovery of the leak, it was not known that the basement sump discharged directly to the storm sewer. The sump was thought to discharge to the C-403 Neutralization Tank (SWMU 40). The leak was discovered during construction of a discharge line from the truck unloading dock containment sump to the 11th Street storm sewer line. During excavation, TCE was discovered leaking from the joints of the storm sewer line. Although the actual duration of the leak is unknown, it is believed that TCE may have been discharged to the storm sewer as early as the 1950s. Once the leak was discovered, the discharge line from the basement sump was disconnected from the storm sewer, material from the sump was routed to 55-gal drums, and TCE-contaminated soil was excavated from the area of the leak.

The main excavation area measured approximately 20 ft wide (east to west) by 40 ft long (north to south). A 10-ft-wide trench, centered on the storm sewer, was dug 16 ft deep to expose the pipe, which lay 13 ft below original grade. The remainder of the excavation was 7 ft deep. Concern for the stability of nearby structures limited the extent and depth of the excavation. Not all contaminated soil could be removed. Forty 55-gal drums were used to containerize excavated contaminated soil.

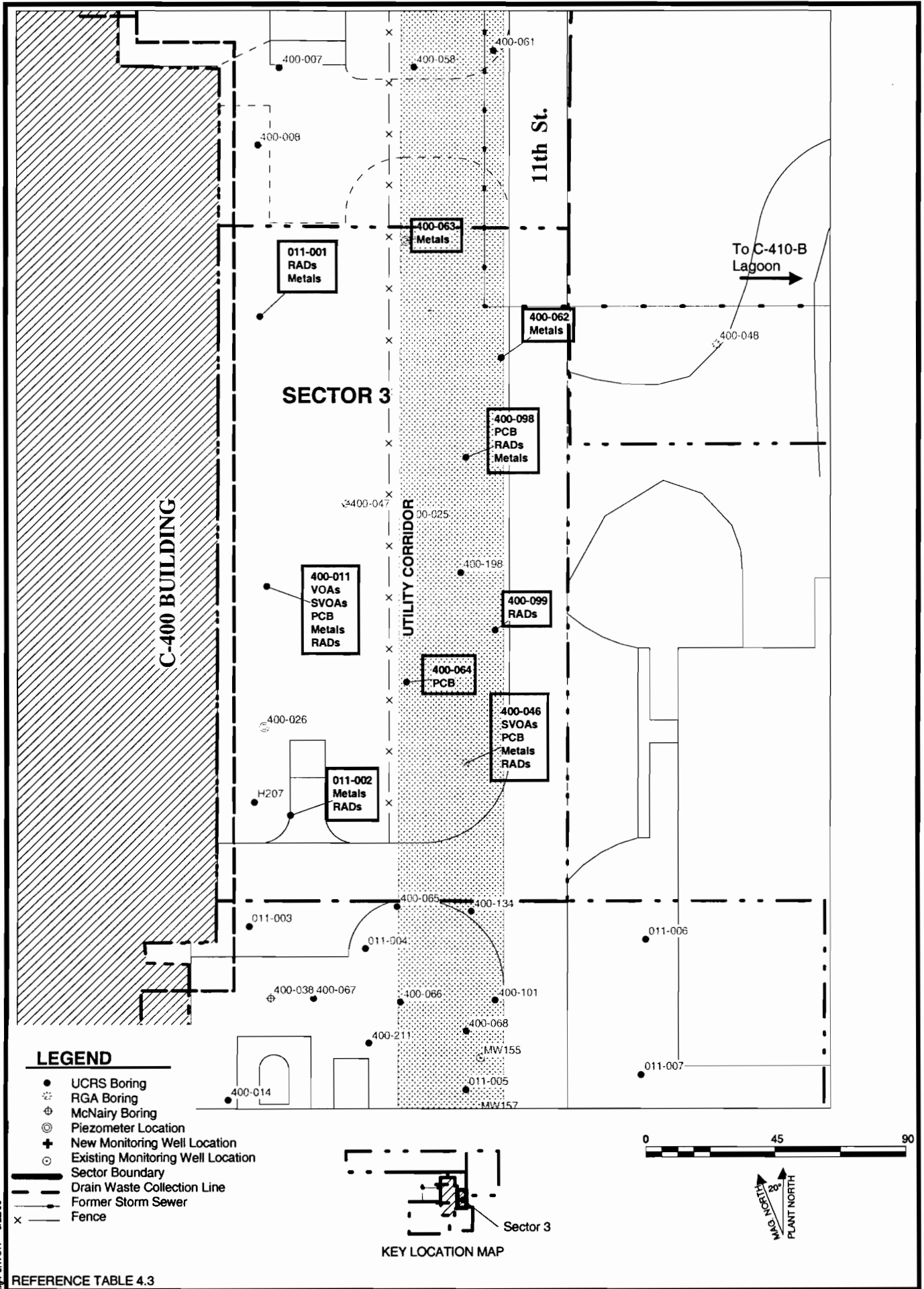
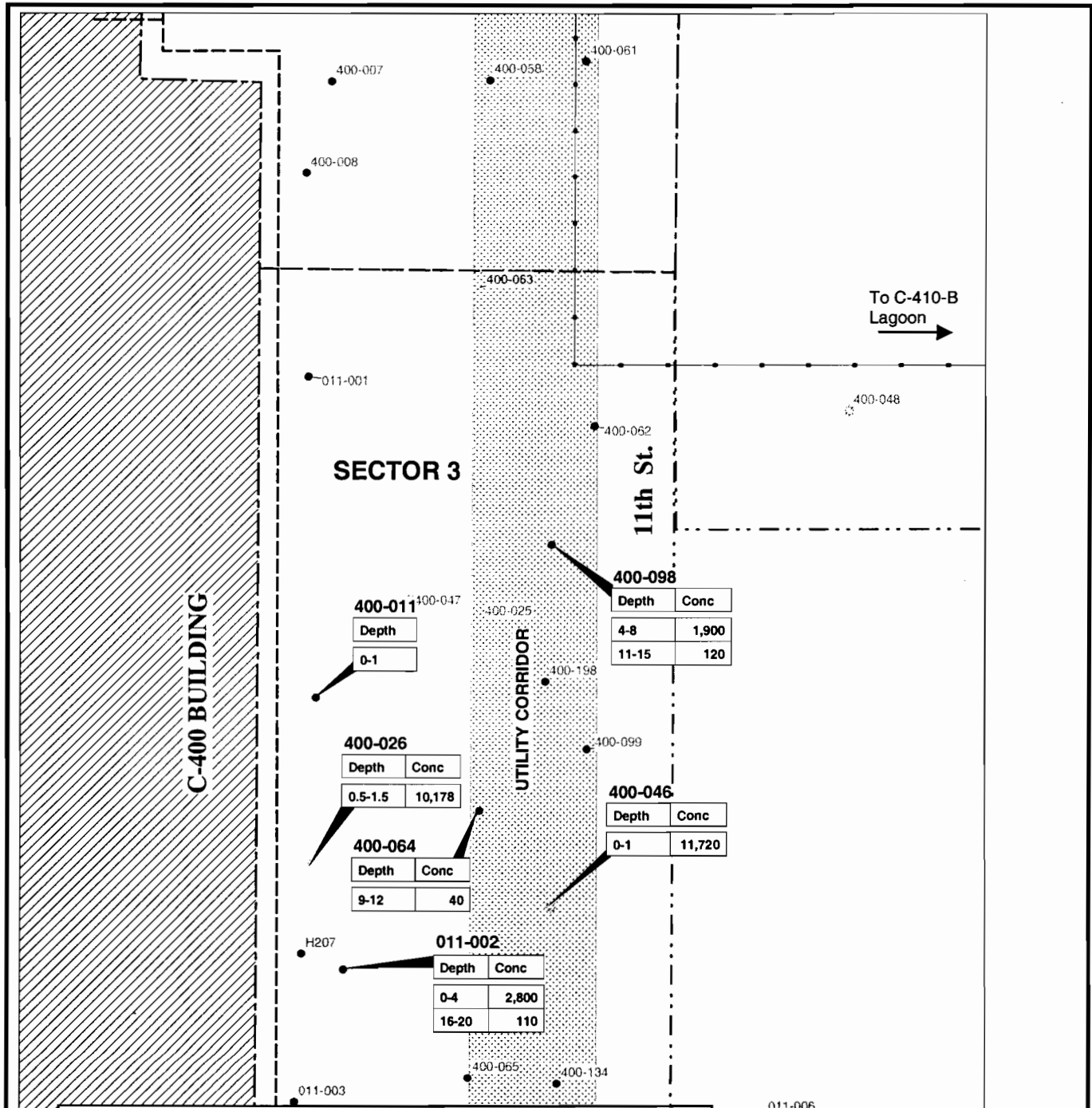


Fig. 4.5. Sector 3 site map showing contaminant groups detected in UCRS soil above SQL at each sample location.



Soil samples not containing detectable PAH compounds in Sector 3 are:
 011001SA010, 011001SA020, 011001SA030, 011002SA008, 011002SA012,
 011002SA016, 011002SA024, 011002SA028, 011002SA032, 011002SA040,
 011002SA044, 011002SA048, 400011SA005, 400011SA010, 400011SA020,
 400011SA030, 400011SA040, 400011SD005, 400062SA015, 400063SA015,
 400098SA012, 400098SA020, 400099SA015, 400198SA015

LEGEND

- UCRS Boring
- ⊕ RGA Boring
- ⊕ McNairy Boring
- ⊕ Piezometer Location
- ⊕ New Monitoring Well Location
- ⊕ Existing Monitoring Well Location
- Sector Boundary
- - - Drain Waste Collection Line
- Former Storm Sewer
- x Fence



Units
 Total PAH Concentration given in ug/kg
 Depth in feet below ground surface

REFERENCE TABLE 4.3

Fig. 4.6. Map showing distribution and total concentration of PAHs detected in sector 3 UCRS soil.

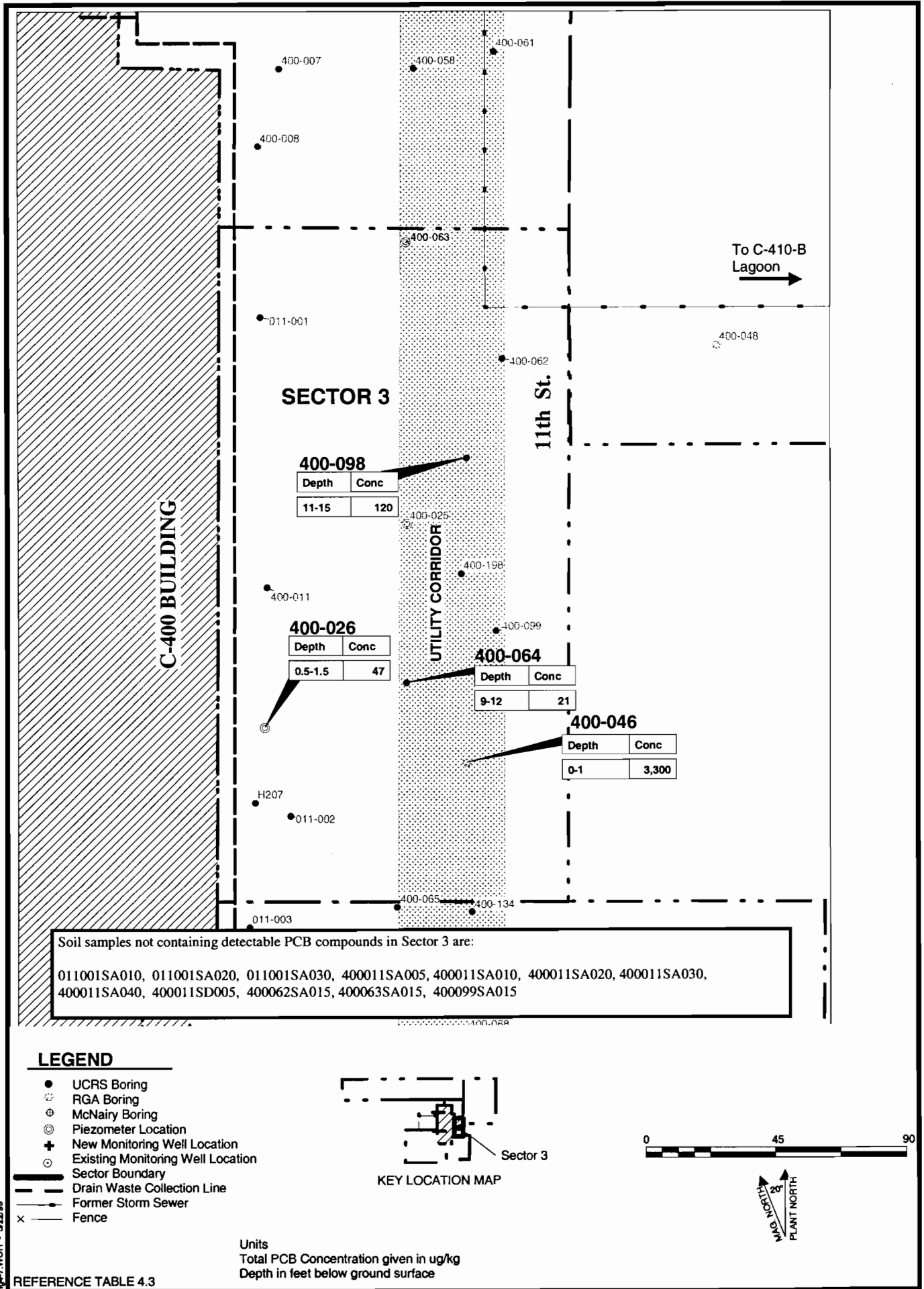
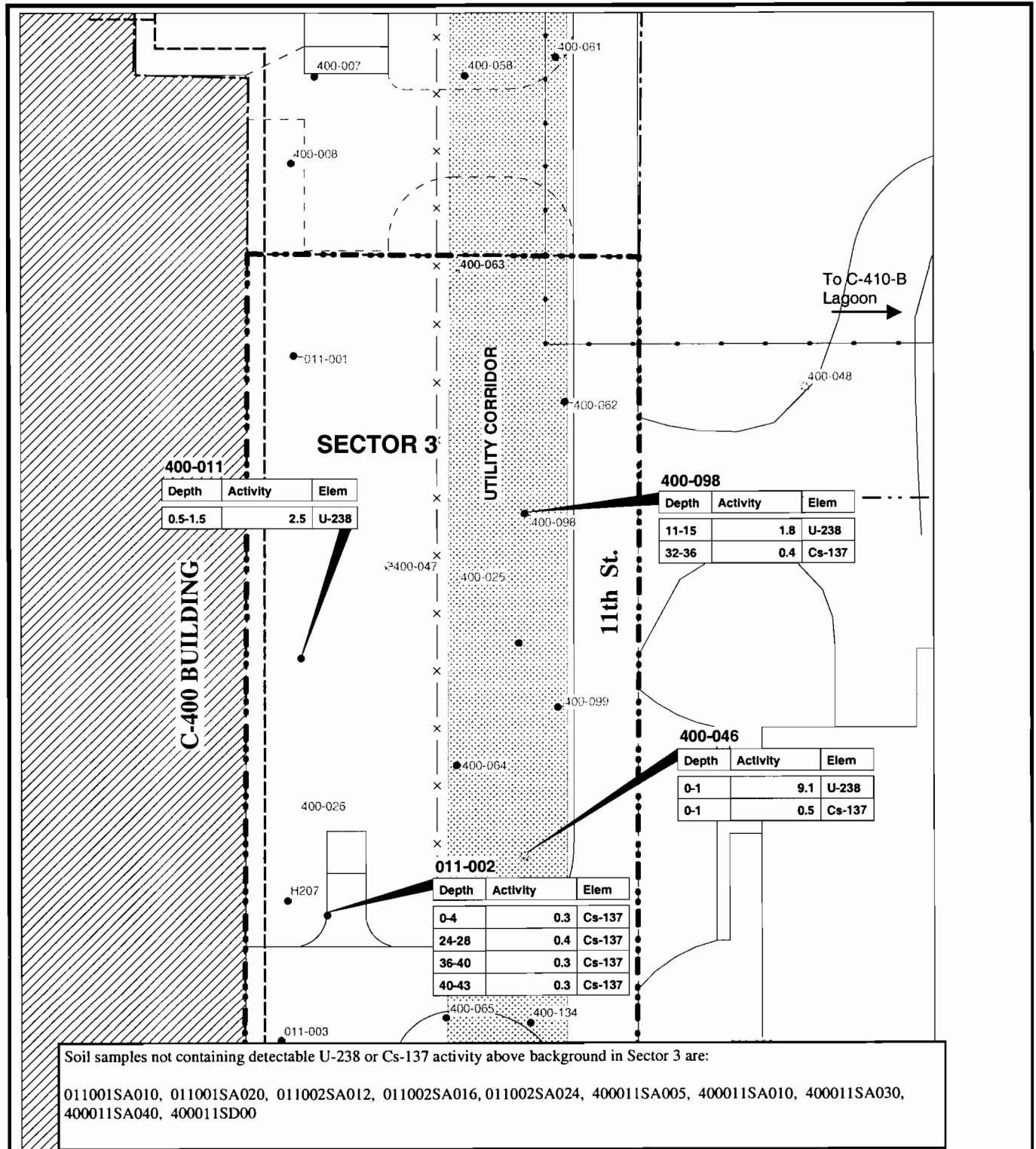
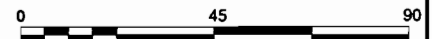
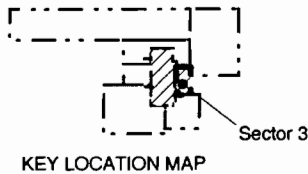


Fig. 4.7. Map showing distribution and total concentration of PCBs detected in sector 3 UCRS soil.



LEGEND

- UCRS Boring
- ⊕ RGA Boring
- ⊕ McNairy Boring
- ⊕ Piezometer Location
- ⊕ New Monitoring Well Location
- ⊕ Existing Monitoring Well Location
- Sector Boundary
- - - Drain Waste Collection Line
- - - Former Storm Sewer
- x Fence



Units
 Total U-238 and Cs-137 Activity given in pCi/g
 Depth in feet below ground surface

REFERENCE TABLE 4.3

Fig-8-WOR - 7/8/98

Fig. 4.8. Map showing distribution and total activity of U-238 and Cs-137 detected in sector 3 UCRS soil.

**Table 4.13. VOA compounds detected in Sector 3
UCRS soil**

| Sample Type | Sample ID | Sample Interval (ft bgs) | | Analytical Compound | Results ug/kg | Lab Qualifier | Validation Qualifier | Data Assessment |
|-------------|-------------|--------------------------|--------|------------------------|---------------|---------------|----------------------|-----------------|
| | | Top | Bottom | | | | | |
| Soil | 011001SA010 | 8 | 12 | Toluene | 2 | J | ? | |
| | | 8 | 12 | Trichloroethene | 5.3 | J | ? | |
| | 011001SA020 | 19.5 | 23 | Toluene | 1.8 | J | ? | |
| | | 19.5 | 23 | Trichloroethene | 3.2 | J | ? | |
| | 011001SA030 | 30 | 33.5 | Trichloroethene | 2.4 | J | ? | |
| | 011001SA048 | 47.5 | 50.5 | Trichloroethene | 14000 | | ? | |
| | 011002SA024 | 20 | 24 | Trichloroethene | 1.9 | J | ? | BH-ER |
| | 011002SA028 | 24 | 28 | Trichloroethene | 1.8 | J | ? | BH-ER |
| | 400011SA005 | 5 | 8 | cis-1,2-Dichloroethene | 46 | | ? | |
| | | 5 | 8 | Trichloroethene | 2900 | | ? | |
| | 400011SA010 | 10 | 13.5 | cis-1,2-Dichloroethene | 9.7 | | ? | |
| | | 10 | 13.5 | Trichloroethene | 2700 | | ? | |
| | 400011SA020 | 20 | 23.5 | Trichloroethene | 5000 | | ? | |
| | 400011SA030 | 29.5 | 32 | Trichloroethene | 1800 | | ? | |
| | 400011SA040 | 38 | 41 | Trichloroethene | 4100 | | ? | |
| | 400011SD005 | 5 | 8 | cis-1,2-Dichloroethene | 15 | | ? | |
| | | 5 | 8 | Trichloroethene | 2100 | | ? | |
| | 400062SA015 | 11 | 15 | Toluene | 260 | | = | |
| | | 11 | 15 | Trichloroethene | 36 | J | = | |
| | 400063SA015 | 11 | 15 | Toluene | 270 | | = | |
| | 400098SA036 | 32 | 36 | Trichloroethene | 2 | J | ? | |
| | 400098SA040 | 36 | 40 | Trichloroethene | 3.1 | J | ? | |

**Table 4.13. VOA compounds detected in Sector 3
UCRS soil**

| Sample Type | Sample ID | Sample Interval (ft bgs) | | Analytical Compound | Results ug/kg | Lab Qualifier | Validation Qualifier | Data Assessment |
|-------------|-----------|--------------------------|--------|---------------------|---------------|---------------|----------------------|-----------------|
| | | Top | Bottom | | | | | |

Note: Soil boring samples not containing any detectable VOA compounds in Sector 3 are:

011002SA004, 011002SA008, 011002SA012, 011002SA016, 011002SA020, 011002SA032, 011002SA040, 011002SA044, 011002SA048, 400064SA015, 400098SA008, 400098SA012, 400098SA015, 400098SA020, 400098SA024, 400098SA028, 400098SA032, 400098SA044, 400099SA015, 400198SA015

**Table 4.14. SVOA and PCB compounds detected in Sector 3
UCRS soil**

| Sample Type | Analytical Group | Sample ID | Sample Interval (ft bgs) | | Analytical Compound | Results ug/kg | Lab Qualifier | Validation Qualifier | Data Assessment | |
|-------------|------------------|-------------|--------------------------|--------------|---------------------------|----------------------|---------------|----------------------|-----------------|--|
| | | | Top | Bottom | | | | | | |
| Soil | SVOA | 011001SA048 | 47.5 | 50.5 | N-Nitroso-di-n-propylamin | 331 | J | ? | | |
| | | 011002SA004 | 0 | 4 | Benz(a)anthracene | 300 | J | ? | | |
| | | | 0 | 4 | Benzo(a)pyrene | 300 | J | ? | | |
| | | | 0 | 4 | Benzo(b)fluoranthene | 200 | J | ? | | |
| | | | 0 | 4 | Benzo(k)fluoranthene | 300 | J | ? | | |
| | | | 0 | 4 | Chrysene | 300 | J | ? | | |
| | | | 0 | 4 | Fluoranthene | 600 | J | ? | | |
| | | | 0 | 4 | Phenanthrene | 300 | J | ? | | |
| | | | 0 | 4 | Pyrene | 500 | J | ? | | |
| | | | 011002SA020 | 16 | 20 | Fluoranthene | 60 | J | ? | |
| | | | | 16 | 20 | Pyrene | 50 | J | ? | |
| | | | 400011SA001 | 0.5 | 1.5 | Acenaphthene | 100 | J | ? | |
| | | | | 0.5 | 1.5 | Anthracene | 463 | J | ? | |
| | | | | 0.5 | 1.5 | Benz(a)anthracene | 968 | | ? | |
| | | | | 0.5 | 1.5 | Benzo(a)pyrene | 887 | | ? | |
| | | | | 0.5 | 1.5 | Benzo(b)fluoranthene | 924 | | ? | |
| | | | | 0.5 | 1.5 | Benzo(ghi)perylene | 130 | J | ? | |
| | | | | 0.5 | 1.5 | Benzo(k)fluoranthene | 947 | | ? | |
| | | | | 0.5 | 1.5 | Chrysene | 962 | | ? | |
| | | | | 0.5 | 1.5 | Dibenzofuran | 50 | J | ? | |
| | | 0.5 | 1.5 | Fluoranthene | 1642 | | ? | | | |

**Table 4.14. SVOA and PCB compounds detected in Sector 3
UCRS soil**

| Sample Type | Analytical Group | Sample ID | Sample Interval (ft bgs) | | Analytical Compound | Results ug/kg | Lab Qualifier | Validation Qualifier | Data Assessment |
|-------------|------------------|--------------|--------------------------|--------|------------------------|----------------------|---------------|----------------------|-----------------|
| | | | Top | Bottom | | | | | |
| Soil | SVOA | 400011SA001 | 0.5 | 1.5 | Fluorene | 70 | J | ? | |
| | | | 0.5 | 1.5 | Indeno(1,2,3-cd)pyrene | 160 | J | ? | |
| | | | 0.5 | 1.5 | Naphthalene | 40 | J | ? | |
| | | | 0.5 | 1.5 | Phenanthrene | 1269 | | ? | |
| | | | 0.5 | 1.5 | Pyrene | 1566 | | ? | |
| | | 400046SA001 | 0 | 1 | Acenaphthene | 130 | J | ? | |
| | | | 0 | 1 | Anthracene | 220 | J | ? | |
| | | | 0 | 1 | Benz(a)anthracene | 960 | J | ? | |
| | | | 0 | 1 | Benzo(a)pyrene | 1000 | J | ? | |
| | | | 0 | 1 | Benzo(b)fluoranthene | 1400 | J | ? | |
| | | | 0 | 1 | Benzo(ghi)perylene | 370 | J | ? | |
| | | | 0 | 1 | Benzo(k)fluoranthene | 870 | J | ? | |
| | | | 0 | 1 | Chrysene | 1000 | J | ? | |
| | | | 0 | 1 | Dibenz(a,h)anthracene | 160 | J | ? | |
| | | | 0 | 1 | Fluoranthene | 2100 | | ? | |
| | | | 0 | 1 | Fluorene | 90 | J | ? | |
| | | | 0 | 1 | Indeno(1,2,3-cd)pyrene | 420 | J | ? | |
| | | | 0 | 1 | Phenanthrene | 1200 | J | ? | |
| | | | 0 | 1 | Pyrene | 1800 | | ? | |
| | | | 400047SA001 | 0 | 1 | Benzo(k)fluoranthene | 254 | J | ? |
| 0 | 1 | Fluoranthene | | 224 | J | ? | | | |

**Table 4.14. SVOA and PCB compounds detected in Sector 3
UCRS soil**

| Sample Type | Analytical Group | Sample ID | Sample Interval (ft bgs) | | Analytical Compound | Results ug/kg | Lab Qualifier | Validation Qualifier | Data Assessment |
|-------------|------------------|-------------|--------------------------|------------------------|----------------------|---------------|---------------|----------------------|-----------------|
| | | | Top | Bottom | | | | | |
| Soil | SVOA | 400047SA001 | 0 | 1 | Pyrene | 227 | J | ? | |
| | | 400064SA015 | 9 | 12 | Fluoranthene | 40 | J | ? | |
| | | 400098SA008 | 4 | 8 | Anthracene | 40 | J | ? | |
| | | | 4 | 8 | Benz(a)anthracene | 250 | J | ? | |
| | | | 4 | 8 | Benzo(a)pyrene | 210 | J | ? | |
| | | | 4 | 8 | Benzo(b)fluoranthene | 230 | J | ? | |
| | | | 4 | 8 | Benzo(ghi)perylene | 120 | J | ? | |
| | | | 4 | 8 | Benzo(k)fluoranthene | 180 | J | ? | |
| | | | 4 | 8 | Chrysene | 270 | J | ? | |
| | | 4 | 8 | Fluoranthene | 260 | J | ? | | |
| | | 4 | 8 | Indeno(1,2,3-cd)pyrene | 110 | J | ? | | |
| | | 4 | 8 | Pyrene | 230 | J | ? | | |
| | | 400098SA015 | 11 | 15 | Fluoranthene | 70 | J | = | |
| | 11 | | 15 | Pyrene | 50 | J | = | | |
| | PPCB | 400011SA001 | 0.5 | 1.5 | PCB-1260 | 47 | | ? | |
| | | 400046SA001 | 0 | 1 | PCB-1260 | 3300 | | ? | |
| | | 400064SA015 | 9 | 12 | PCB-1260 | 21 | | ? | |
| | | 400098SA015 | 11 | 15 | PCB-1260 | 120 | | = | |

**Table 4.14. SVOA and PCB compounds detected in Sector 3
UCRS soil**

| Sample Type | Analytical Group | Sample ID | Sample Interval (ft bgs) | | Analytical Compound | Results ug/kg | Lab Qualifier | Validation Qualifier | Data Assessment |
|-------------|------------------|-----------|--------------------------|--------|---------------------|---------------|---------------|----------------------|-----------------|
| | | | Top | Bottom | | | | | |

Note: Soil boring samples not containing any detectable SVOA compounds in Sector 3 are:

011001SA010, 011001SA020, 011001SA030, 011002SA008, 011002SA012, 011002SA016, 011002SA024, 011002SA028, 011002SA032, 011002SA040, 011002SA044, 011002SA048, 400011SA005, 400011SA010, 400011SA020, 400011SA030, 400011SA040, 400011SD005, 400062SA015, 400063SA015, 400098SA012, 400098SA020, 400099SA015, 400198SA015

Soil boring samples not containing any detectable PCB compounds in Sector 3 are:

011001SA010, 011001SA020, 011001SA030, 400011SA005, 400011SA010, 400011SA020, 400011SA030, 400011SA040, 400011SD005, 400062SA015, 400063SA015, 400099SA015

**Table 4.15. Metals detected in Sector 3
UCRS soil**

| Sample Type | Sample ID | Sample Interval (ft bgs) | | Analytical Compound | Results mg/kg | Lab Qualifier | Validation Qualifier | Data Assessment | Background mg/kg | |
|-------------|-------------|--------------------------|----------|---------------------|---------------|---------------|----------------------|-----------------|------------------|-------|
| | | Top | Bottom | | | | | | | |
| Soil | 011001SA010 | 8 | 12 | Aluminum | 12700 | | ? | | 12000 | |
| | | 8 | 12 | Magnesium | 2310 | | ? | | 2100 | |
| | | 8 | 12 | Sodium | 432 | | ? | | 340 | |
| | 011001SA020 | 19.5 | 23 | Sodium | 610 | | ? | | 340 | |
| | 011001SA030 | 30 | 33.5 | Sodium | 518 | | ? | | 340 | |
| | 011002SA004 | 0 | 4 | Aluminum | 20300 | | ? | | 12000 | |
| | | 0 | 4 | Antimony | 0.8 | B | ? | | 0.21 | |
| | | 0 | 4 | Arsenic | 9.12 | | ? | | 7.9 | |
| | | 0 | 4 | Magnesium | 3060 | | ? | | 2100 | |
| | | 0 | 4 | Potassium | 1070 | | ? | | 950 | |
| | | 0 | 4 | Sodium | 864 | | ? | | 340 | |
| | | 011002SA008 | 4 | 8 | Aluminum | 17300 | | ? | | 12000 |
| | | | 4 | 8 | Arsenic | 8.96 | | ? | | 7.9 |
| | 4 | | 8 | Cobalt | 15.8 | | ? | | 13 | |
| | 4 | | 8 | Magnesium | 2260 | | ? | | 2100 | |
| | 4 | | 8 | Manganese | 996 | | ? | | 820 | |
| | 011002SA012 | 4 | 8 | Sodium | 787 | | ? | | 340 | |
| | | 8 | 12 | Aluminum | 14400 | | ? | | 12000 | |
| | | 8 | 12 | Magnesium | 2410 | | ? | | 2100 | |
| | 011002SA016 | 8 | 12 | Sodium | 793 | | ? | | 340 | |
| 12 | | 16 | Aluminum | 12600 | | ? | | 12000 | | |

**Table 4.15. Metals detected in Sector 3
UCRS soil**

| Sample Type | Sample ID | Sample Interval (ft bgs) | | Analytical Compound | Results mg/kg | Lab Qualifier | Validation Qualifier | Data Assessment | Background mg/kg |
|-------------|-------------|--------------------------|--------|---------------------|---------------|---------------|----------------------|-----------------|------------------|
| | | Top | Bottom | | | | | | |
| Soil | 011002SA016 | 12 | 16 | Cobalt | 18.6 | | ? | | 13 |
| | | 12 | 16 | Manganese | 996 | | ? | | 820 |
| | | 12 | 16 | Sodium | 635 | | ? | | 340 |
| | 011002SA020 | 16 | 20 | Aluminum | 18100 | | ? | | 12000 |
| | | 16 | 20 | Sodium | 620 | | ? | | 340 |
| | 011002SA024 | 20 | 24 | Aluminum | 12400 | | ? | | 12000 |
| | | 20 | 24 | Sodium | 547 | | ? | | 340 |
| | | 20 | 24 | Thallium | 0.8 | B | ? | | 0.34 |
| | 011002SA028 | 24 | 28 | Aluminum | 15700 | | ? | | 12000 |
| | | 24 | 28 | Sodium | 582 | | ? | | 340 |
| | 011002SA032 | 28 | 32 | Aluminum | 13900 | | ? | | 12000 |
| | | 28 | 32 | Beryllium | 1 | | ? | | 0.69 |
| | | 28 | 32 | Sodium | 751 | | ? | | 340 |
| | 011002SA040 | 36 | 40 | Sodium | 465 | | ? | | 340 |
| | 011002SA048 | 43 | 46.5 | Aluminum | 13400 | | ? | | 12000 |
| | | 43 | 46.5 | Sodium | 563 | | ? | | 340 |
| | 400011SA001 | 0.5 | 1.5 | Aluminum | 15400 | | ? | | 13000 |
| | | 0.5 | 1.5 | Antimony | 0.6 | B | ? | | 0.21 |
| | | 0.5 | 1.5 | Cadmium | 0.39 | B | ? | | 0.21 |
| | | 0.5 | 1.5 | Chromium | 20.4 | | ? | | 16 |
| 0.5 | | 1.5 | Sodium | 357 | | ? | | 320 | |

**Table 4.15. Metals detected in Sector 3
UCRS soil**

| Sample Type | Sample ID | Sample Interval (ft bgs) | | Analytical Compound | Results mg/kg | Lab Qualifier | Validation Qualifier | Data Assessment | Background mg/kg |
|-------------|-------------|--------------------------|--------|---------------------|---------------|---------------|----------------------|-----------------|------------------|
| | | Top | Bottom | | | | | | |
| Soil | 400011SA005 | 5 | 8 | Aluminum | 19000 | | ? | | 12000 |
| | | 5 | 8 | Arsenic | 18.1 | | ? | | 7.9 |
| | | 5 | 8 | Magnesium | 2220 | | ? | | 2100 |
| | 400011SA010 | 5 | 8 | Sodium | 528 | | ? | | 340 |
| | | 10 | 13.5 | Aluminum | 12500 | | ? | | 12000 |
| | | 10 | 13.5 | Magnesium | 2700 | | ? | | 2100 |
| | 400011SA030 | 10 | 13.5 | Sodium | 540 | | ? | | 340 |
| | | 29.5 | 32 | Beryllium | 0.9 | | = | | 0.69 |
| | | 29.5 | 32 | Vanadium | 37.7 | | = | | 37 |
| | 400011SA040 | 38 | 41 | Antimony | 3 | B | = | | 0.21 |
| | 400011SD005 | 5 | 8 | Aluminum | 17500 | | ? | | 12000 |
| | | 5 | 8 | Magnesium | 2390 | | ? | | 2100 |
| | | 5 | 8 | Sodium | 559 | | ? | | 340 |
| | 400046SA001 | 0 | 1 | Cadmium | 0.38 | B | ? | | 0.21 |
| | | 0 | 1 | Chromium | 18.2 | | ? | | 16 |
| | | 0 | 1 | Copper | 34.6 | | ? | | 19 |
| | | 0 | 1 | Nickel | 22.8 | | ? | | 21 |
| | | 0 | 1 | Sodium | 620 | | ? | | 320 |
| | 400047SA001 | 0 | 1 | Sodium | 573 | | ? | | 320 |
| | | 0 | 1 | Thallium | 1.2 | B | ? | | 0.21 |
| | 400062SA015 | 11 | 15 | Aluminum | 12900 | | = | | 12000 |

**Table 4.15. Metals detected in Sector 3
UCRS soil**

| Sample Type | Sample ID | Sample Interval (ft bgs) | | Analytical Compound | Results mg/kg | Lab Qualifier | Validation Qualifier | Data Assessment | Background mg/kg |
|-------------|-------------|--------------------------|--------|---------------------|---------------|---------------|----------------------|-----------------|------------------|
| | | Top | Bottom | | | | | | |
| Soil | 400062SA015 | 11 | 15 | Sodium | 394 | | = | | 340 |
| | 400063SA015 | 11 | 15 | Aluminum | 16600 | | = | | 12000 |
| | 400064SA015 | 9 | 12 | Calcium | 9260 | | ? | | 6100 |
| | | 9 | 12 | Magnesium | 2290 | | ? | | 2100 |
| | | 9 | 12 | Sodium | 375 | | ? | | 340 |
| | 400098SA008 | 4 | 8 | Cadmium | 0.4 | B | ? | | 0.21 |
| | | 4 | 8 | Sodium | 633 | | ? | | 340 |
| | 400098SA012 | 8 | 12 | Antimony | 0.8 | B | ? | | 0.21 |
| | | 8 | 12 | Sodium | 739 | | ? | | 340 |
| | 400098SA015 | 11 | 15 | Aluminum | 14000 | | = | | 12000 |
| | | 11 | 15 | Sodium | 419 | | = | | 340 |
| | 400098SA020 | 16 | 20 | Calcium | 14300 | | ? | | 6100 |
| | | 16 | 20 | Sodium | 569 | | ? | | 340 |
| | 400099SA015 | 9 | 13 | Sodium | 364 | | ? | | 340 |

**Note: Soil boring samples not containing any detectable metals at concentrations above background in Sector 3 are:
011001SA048, 011002SA004, 400011SA020**

**Table 4.16. Radioactive isotopes detected in Sector 3
UCRS soil**

| Sample Type | Sample ID | Sample Interval (ft bgs) | | Analytical Compound | Results pCi/g | Lab Qualifier | Validation Qualifier | Data Assessment | Background pCi/g |
|-------------|-------------|--------------------------|-------------|---------------------|---------------|---------------|----------------------|-----------------|------------------|
| | | Top | Bottom | | | | | | |
| Soil | 011001SA030 | 30 | 33.5 | Neptunium-237 | 0.2 | | ? | | 0 |
| | 011001SA048 | 47.5 | 50.5 | Neptunium-237 | 0.2 | | ? | | 0 |
| | 011002SA004 | 0 | 4 | Cesium-137 | 0.3 | | ? | | 0.28 |
| | | 0 | 4 | Neptunium-237 | 0.3 | | ? | | 0 |
| | 011002SA008 | 4 | 8 | Neptunium-237 | 0.4 | | ? | | 0 |
| | 011002SA020 | 16 | 20 | Neptunium-237 | 0.3 | | ? | | 0 |
| | 011002SA028 | 24 | 28 | Cesium-137 | 0.4 | | ? | | 0.28 |
| | | 24 | 28 | Neptunium-237 | 0.3 | | ? | | 0 |
| | 011002SA032 | 28 | 32 | Neptunium-237 | 0.3 | | ? | | 0 |
| | 011002SA040 | 36 | 40 | Cesium-137 | 0.3 | | ? | | 0.28 |
| | 011002SA044 | 40 | 43 | Cesium-137 | 0.3 | | ? | | 0.28 |
| | 011002SA048 | 43 | 46.5 | Neptunium-237 | 0.4 | | ? | | 0 |
| | 400011SA001 | 0.5 | 1.5 | Uranium-238 | 2.5 | | ? | | 1.2 |
| | 400011SA020 | 20 | 23.5 | Thorium-230 | 1.6 | | ? | | 1.4 |
| | 400046SA001 | 0 | 1 | Cesium-137 | 0.5 | | ? | | 0.49 |
| | | 0 | 1 | Neptunium-237 | 0.4 | | ? | | 0.1 |
| | | 0 | 1 | Technetium-99 | 3.5 | | ? | | 2.5 |
| | | 0 | 1 | Thorium-230 | 4.2 | | ? | | 1.5 |
| | | 0 | 1 | Uranium-234 | 7.1 | | ? | | 2.5 |
| | | 0 | 1 | Uranium-235 | 0.4 | | ? | | 0.14 |
| | 0 | 1 | Uranium-238 | 9.1 | | ? | | 1.2 | |

**Table 4.16. Radioactive isotopes detected in Sector 3
UCRS soil**

| Sample Type | Sample ID | Sample Interval (ft bgs) | | Analytical Compound | Results pCi/g | Lab Qualifier | Validation Qualifier | Data Assessment | Background pCi/g |
|-------------|-------------|--------------------------|--------|---------------------|---------------|---------------|----------------------|-----------------|------------------|
| | | Top | Bottom | | | | | | |
| Soil | 400098SA015 | 11 | 15 | Uranium-238 | 1.8 | | = | | 1.2 |
| | 400098SA036 | 32 | 36 | Cesium-137 | 0.4 | | ? | | 0.28 |
| | 400098SA044 | 40 | 44 | Uranium-235 | 0.2 | | ? | | 0.14 |
| | 400099SA015 | 9 | 13 | Americium-241 | 0.2 | | ? | | 0 |

Note: Soil boring samples not containing any detectable radioactive isotopes at concentrations above background in Sector 3 are:

011001SA010, 011001SA020, 011002SA012, 011002SA016, 011002SA024, 400011SA005, 400011SA010, 400011SA030, 400011SA040, 400011SD005, 400062SA015, 400063SA015, 400064SA015, 400098SA008, 400098SA012, 400098SA020, 400098SA024, 400098SA028, 400098SA032, 400098SA040

**Table 4.17. Frequency of detection of organic compounds, metals, and radioactive isotopes in Sector 3
UCRS soil**

| Analytical Group | Analytical Compound | No. of Detects | No. of Analyses | Maximum Result | Minimum Result | Average Result | Units |
|------------------|----------------------------|----------------|-----------------|----------------|----------------|----------------|-------|
| VOA | Trichloroethene | 15 | 36 | 14000.00 | 1.80 | 1103.45 | ug/kg |
| | Toluene | 4 | 35 | 270.00 | 1.80 | 133.45 | ug/kg |
| | cis-1,2-Dichloroethene | 3 | 36 | 46.00 | 9.70 | 23.57 | ug/kg |
| SVOA | Fluoranthene | 8 | 33 | 2100.00 | 40.00 | 510.19 | ug/kg |
| | Pyrene | 7 | 33 | 1800.00 | 50.00 | 531.57 | ug/kg |
| | Benzo(k)fluoranthene | 5 | 33 | 947.00 | 180.00 | 433.40 | ug/kg |
| | Benz(a)anthracene | 4 | 33 | 968.00 | 250.00 | 509.13 | ug/kg |
| | Benzo(a)pyrene | 4 | 33 | 1000.00 | 210.00 | 518.50 | ug/kg |
| | Benzo(b)fluoranthene | 4 | 33 | 1400.00 | 200.00 | 598.50 | ug/kg |
| | Chrysene | 4 | 33 | 1000.00 | 270.00 | 518.88 | ug/kg |
| | Anthracene | 3 | 33 | 463.00 | 40.00 | 187.17 | ug/kg |
| | Benzo(ghi)perylene | 3 | 33 | 370.00 | 120.00 | 206.67 | ug/kg |
| | Indeno(1,2,3-cd)pyrene | 3 | 33 | 420.00 | 110.00 | 230.00 | ug/kg |
| | Phenanthrene | 3 | 33 | 1269.00 | 300.00 | 803.17 | ug/kg |
| | Acenaphthene | 2 | 33 | 130.00 | 100.00 | 115.00 | ug/kg |
| | Fluorene | 2 | 33 | 90.00 | 70.00 | 80.00 | ug/kg |
| | Dibenz(a,h)anthracene | 1 | 33 | 160.00 | 160.00 | 160.00 | ug/kg |
| | Dibenzofuran | 1 | 33 | 50.00 | 50.00 | 50.00 | ug/kg |
| | Naphthalene | 1 | 33 | 40.00 | 40.00 | 40.00 | ug/kg |
| | N-Nitroso-di-n-propylamine | 1 | 33 | 331.00 | 331.00 | 331.00 | ug/kg |
| PCB | PCB-1260 | 4 | 16 | 3300.00 | 21.00 | 872.00 | ug/kg |
| Metals | Sodium | 26 | 32 | 864.00 | 357.00 | 570.65 | mg/kg |
| | Aluminum | 17 | 32 | 20300.00 | 12400.00 | 15217.65 | mg/kg |
| | Magnesium | 8 | 32 | 3060.00 | 2220.00 | 2455.00 | mg/kg |
| | Antimony | 4 | 32 | 3.00 | 0.60 | 1.30 | mg/kg |
| | Arsenic | 3 | 32 | 18.10 | 8.96 | 12.06 | mg/kg |
| | Cadmium | 3 | 32 | 0.40 | 0.38 | 0.39 | mg/kg |
| | Beryllium | 2 | 32 | 1.00 | 0.90 | 0.95 | mg/kg |
| | Calcium | 2 | 32 | 14300.00 | 9260.00 | 11780.00 | mg/kg |
| | Chromium | 2 | 32 | 20.40 | 18.20 | 19.30 | mg/kg |
| | Cobalt | 2 | 32 | 18.60 | 15.80 | 17.20 | mg/kg |
| Manganese | 2 | 32 | 996.00 | 996.00 | 996.00 | mg/kg | |

**Table 4.17. Frequency of detection of organic compounds, metals, and radioactive isotopes in Sector 3
UCRS soil**

| Analytical Group | Analytical Compound | No. of Detects | No. of Analyses | Maximum Result | Minimum Result | Average Result | Units |
|-----------------------------|----------------------------|-----------------------|------------------------|-----------------------|-----------------------|-----------------------|--------------|
| Metals | Thallium | 2 | 32 | 1.20 | 0.80 | 1.00 | mg/kg |
| | Copper | 1 | 32 | 34.60 | 34.60 | 34.60 | mg/kg |
| | Nickel | 1 | 32 | 22.80 | 22.80 | 22.80 | mg/kg |
| | Potassium | 1 | 32 | 1070.00 | 1070.00 | 1070.00 | mg/kg |
| | Vanadium | 1 | 32 | 37.70 | 37.70 | 37.70 | mg/kg |
| Radioactive isotopes | Neptunium-237 | 9 | 37 | 0.40 | 0.20 | 0.31 | pCi/g |
| | Cesium-137 | 6 | 37 | 0.50 | 0.30 | 0.37 | pCi/g |
| | Uranium-238 | 3 | 37 | 9.10 | 1.80 | 4.47 | pCi/g |
| | Thorium-230 | 2 | 37 | 4.20 | 1.60 | 2.90 | pCi/g |
| | Uranium-235 | 2 | 37 | 0.40 | 0.20 | 0.30 | pCi/g |
| | Americium-241 | 1 | 37 | 0.20 | 0.20 | 0.20 | pCi/g |
| | Technetium-99 | 1 | 37 | 3.50 | 3.50 | 3.50 | pCi/g |
| | Uranium-234 | 1 | 37 | 7.10 | 7.10 | 7.10 | pCi/g |

Table 5.14. Sector 3 source terms

| Contaminant | Level | X-Axis (ft) | Y-Axis (ft) | Z-Axis (ft) | Notes |
|--------------------------------|--------------|----------------|----------------|----------------|---|
| Source: Surface Soil | | | | | |
| Arochlor-1260 | 3,300 µg/kg | | | | Maximum detected values. |
| Neptunium-237 | 0.4 pCi/g | | | | Only two surface soil sampling |
| PCBs | 10,000 µg/kg | | | | Locations in Sector 3, so Modeled as distributed across |
| Phenanthrene | 1,200 µg/kg | 122 | 234 | 1 | Entire sector. |
| Thallium | 1.2 mg/kg | | | | |
| Thorium-230 | 4.2 pCi/g | | | | |
| Uranium-234 | 7.1 pCi/g | | | | |
| Uranium-235 | 0.4 pCi/g | | | | |
| Uranium-238 | 9.1 pCi/g | | | | |
| Source: Subsurface Soil | | | | | |
| Phenanthrene | 706.3 µg/kg | 70 | 135 | 4 | Average of 3 detects. |
| Trichloroethene | 1,502 µg/kg | 152 | 234 | 49 | Average of 23 detects. Area includes entire sector plus a small portion of the eastern side of Sector 1. |
| Neptunium-237 | 0.3 pCi/g | 70 | 234 | 49 | Average of 8 detects. The area is centered around the 2 borings (011-001 and 011-002) with the 8 detects. |

Notes:

No sources were modeled for the following subsurface contaminants because they were detected in only one sample:

- Dibenzofuran (max detect = 50 µg/kg), 1 detect, 43 non-detects.
- N-Nitroso-di-n-propylamine (max detect = 331 µg/kg), 1 detect, 43 non-detects.
- Thallium (maximum detect = 0.8 mg/kg), 1 detect, 29 non-detects. The one detect value was only slightly above the PRG.
- Americium-241 (maximum detect = 0.2 pCi/g), 1 detect, 35 non-detects.

In addition, Uranium-238 was not modeled in a subsurface source because it was only detected once above the 2 times background value in 35 detects. This maximum detect value (2.5 pCi/g) only slightly exceeded 2 times background (2.4 pCi/g).

X-axis is east-west; Y-axis is north-south; Z-axis is vertical (thickness).

Table 5.15. Contaminant inventory for Sector 3

| Source | Site Contaminant | Contaminant Concentration/Activity | | | WS- | WS- | z | Volume ft ³ | Volume cm ³ | Bulk Density g/cm ³ | Inventory g | Inventory Ci |
|------------|------------------|------------------------------------|-------|-------|--------------|-------------|-----------------|---------------------------|---------------------------|-----------------------------------|----------------|-----------------|
| | | mg/kg | g/g | pCi/g | Length ft | Width ft | Thickness ft | | | | | |
| Surface | Aroclor 1260 | 3.3 | 3E-06 | | 234 | 122.1 | 1 | 2.86E+04 | 809118309.5 | 1.6 | 4272.144674 | |
| | PCB (General) | 10 | 1E-05 | | 234 | 122.1 | 1 | 2.86E+04 | 809118309.5 | 1.6 | 12945.89295 | |
| | Phenanthrene | 1.2 | 1E-06 | | 234 | 122.1 | 1 | 2.86E+04 | 809118309.5 | 1.6 | 1553.507154 | |
| | Neptunium-237 | | | 0.4 | 234 | 122.1 | 1 | 2.86E+04 | 809118309.5 | 1.6 | | 5.18E-04 |
| | Thallium | 1.2 | 1E-06 | | 234 | 122.1 | 1 | 2.86E+04 | 809118309.5 | 1.6 | 1553.507154 | |
| | Thorium-230 | | | 4.2 | 234 | 122.1 | 1 | 2.86E+04 | 809118309.5 | 1.6 | | 5.44E-03 |
| | Uranium-234 | | | 7.1 | 234 | 122.1 | 1 | 2.86E+04 | 809118309.5 | 1.6 | | 9.19E-03 |
| | Uranium-235 | | | 0.4 | 234 | 122.1 | 1 | 2.86E+04 | 809118309.5 | 1.6 | | 5.18E-04 |
| | Uranium-238 | | | 9.1 | 234 | 122.1 | 1 | 2.86E+04 | 809118309.5 | 1.6 | | 1.18E-02 |
| Subsurface | Phenanthrene | 0.7 | 7E-07 | | 135 | 70 | 4 | 3.78E+04 | 1070376930 | 1.86 | 1393.630763 | |
| | Neptunium-237 | | | 0.3 | 234 | 70 | 49 | 8.03E+05 | 22727670147 | 1.86 | | 1.27E-02 |
| | Trichloroethene | 1.5 | 2E-06 | | 234 | 152 | 49 | 1.74E+06 | 49351512319 | 1.86 | 137690.7194 | |

Note:

MEPAS uses WS-Length to denote length of source in direction of groundwater flow and WS-Width to denote width in direction perpendicular to groundwater flow.

Table 5.16. MEPAS results for Sector 3

| Constituent | Plant Fence | | Property Boundary | |
|------------------------|----------------------------|--------------|----------------------------|--------------|
| | Max Conc. (mg/L)(pCi/L) | Time (yr) | Max Conc. (mg/L)(pCi/L) | Time (yr) |
| Source: Surface | | | | |
| PCB | 0.00E+00 | 10,000 | 0.00E+00 | 10,000 |
| Aroclor-1260 | 0.00E+00 | 10,000 | 0.00E+00 | 10,000 |
| Phenanthrene | 7.73E-06 | 7,560 | 4.66E-06 | 7,980 |
| ²³⁵ U | 4.06E-09 | 5,160 | 2.39E-09 | 5,950 |
| ²³¹ Th | 4.06E-09 | 5,160 | 2.39E-09 | 5,950 |
| ²³¹ Pa | 4.19E-10 | 5,160 | 2.82E-10 | 5,950 |
| ²²⁷ Ac | 4.16E-10 | 5,160 | 2.80E-10 | 5,950 |
| ²²⁷ Th | 4.16E-10 | 5,160 | 2.80E-10 | 5,950 |
| ²²³ Ra | 4.16E-10 | 5,160 | 2.80E-10 | 5,950 |
| ²³⁸ U | 9.25E-08 | 5,160 | 5.43E-08 | 5,950 |
| ²³⁴ Th | 9.25E-08 | 5,160 | 5.43E-08 | 5,950 |
| ²³⁴ U | 1.35E-09 | 5,160 | 9.10E-10 | 5,950 |
| ²³⁰ Th | 3.09E-11 | 5,160 | 2.41E-11 | 5,950 |
| ²²⁶ Ra | 1.44E-11 | 5,160 | 1.21E-11 | 5,950 |
| ²²² Rn | 1.44E-11 | 5,160 | 1.21E-11 | 5,950 |
| ²¹⁰ Pb | 1.42E-11 | 5,160 | 1.20E-11 | 5,950 |
| ²¹⁰ Bi | 1.42E-11 | 5,160 | 1.20E-11 | 5,950 |
| ²¹⁰ Po | 1.41E-11 | 5,160 | 1.20E-11 | 5,950 |
| Thallium | 2.09E-03 | 31 | 1.17E-03 | 37 |
| ²³⁰ Th (1) | 3.29E-53 | 10,000 | 0.00E+00 | 10,000 |
| ²²⁶ Ra (1) | 3.31E-50 | 10,000 | 0.00E+00 | 10,000 |
| ²³⁷ Np | 6.55E-08 | 320 | 3.75E-08 | 359 |
| ²³³ Pa | 6.55E-08 | 320 | 3.75E-08 | 359 |
| ²³³ U | 9.12E-11 | 320 | 5.86E-11 | 359 |
| ²²⁹ Th | 1.36E-12 | 320 | 1.07E-12 | 379 |
| ²²⁵ Ra | 1.36E-12 | 320 | 1.07E-12 | 379 |
| ²²⁵ Ac | 1.36E-12 | 320 | 1.07E-12 | 379 |
| ²³⁴ U | 7.10E-08 | 5,160 | 4.16E-08 | 5,950 |
| ²³⁰ Th | 3.25E-09 | 5,160 | 2.19E-09 | 5,950 |
| ²²⁶ Ra | 1.97E-09 | 5,160 | 1.42E-09 | 5,950 |

Table 5.16. (continued)

| Constituent | Plant Fence | | Property Boundary | |
|---------------------------|----------------------------|--------------|----------------------------|--------------|
| | Max Conc. (mg/L)(pCi/L) | Time (yr) | Max Conc. (mg/L)(pCi/L) | Time (yr) |
| Source: Subsurface | | | | |
| Phenanthrene | 7.02E-06 | 7,560 | 4.21E-06 | 8,220 |
| <i>²³⁷Np</i> | 5.77E-07 | 455 | 3.64E-07 | 497 |
| <i>²³³Pa</i> | 5.77E-07 | 455 | 3.64E-07 | 497 |
| <i>²³³U</i> | 1.21E-09 | 493 | 8.41E-10 | 537 |
| <i>²²⁹Th</i> | 2.79E-11 | 512 | 2.15E-11 | 537 |
| <i>²²⁵Ra</i> | 2.79E-11 | 512 | 2.15E-11 | 557 |
| <i>²²⁵Ac</i> | 2.79E-11 | 512 | 2.15E-11 | 557 |
| TCE | 2.91E-02 | 105 | 1.85E-02 | 112 |

¹Did not reach maximum during model runs.

Notes:

Bold type denote constituents which were run from screening.

Italic type denote daughter product concentrations resulting from constituents listed in bold.

Table 6.5. Summary of human health risk characterization for Sector 3 without lead as a COC

| Receptor | Total ELCR* | ELCR COCs | % Total ELCR | ELCR POCs | % Total ELCR | Total HI * | Systemic Toxicity COCs | % Total HI | Systemic Toxicity POCs | % Total HI |
|--|------------------------|---------------|--------------|--------------------------|--------------|------------|--------------------------------|---------------|--|---------------|
| Current industrial worker at current concentrations | 8.5 × 10 ⁻⁵ | PAHs | 52 | Ingestion of soil | 8 | 0.3 | NE | NE | NE | NE |
| | | PCBs | 37 | Dermal contact with soil | 82 | | | | | |
| | | Cesium-137 | 6 | External exposure | 10 | | | | | |
| | | Uranium-238 | 3 | | | | | | | |
| Future industrial worker at current concentrations | 8.5 × 10 ⁻⁵ | PAHs | 52 | Ingestion of soil | 8 | 0.3 | NE | NE | NE | NE |
| | | PCBs | 37 | Dermal contact with soil | 82 | | | | | |
| | | Cesium-137 | 6 | External exposure | 10 | | | | | |
| | | Uranium-238 | 3 | | | | | | | |
| Future child recreational user at current concentrations | NA | NA | NA | NA | NA | <0.1 | NE | NE | NE | NE |
| Future teen recreational user at current concentrations | NA | NA | NA | NA | NA | <0.1 | NE | NE | NE | NE |
| Future adult recreational user at current concentrations | 5.9 × 10 ⁻⁶ | PAHs | 16 | Ingestion of rabbit | 86 | <0.1 | NE | NE | NE | NE |
| | | PCBs | 84 | | | | | | | |
| Future child rural resident at current concentrations | NA | NA | NA | NA | NA | 13.3 | Cadmium Chromium Uranium | 5 31 63 | Ingestion of soil Dermal contact with soil Ingestion of vegetables | 1 14 84 |
| Future adult rural resident at current concentrations | 8.2 × 10 ⁻³ | PAHs | 25 | Ingestion of soil | <i | 4.0 | Cadmium Chromium Uranium | 5 28 66 | Dermal contact with soil Ingestion of vegetables | 9 90 |
| | | PCBs | 72 | Dermal contact with soil | 3 | | | | | |
| | | Cesium-137 | <1 | Ingestion of vegetables | 96 | | | | | |
| | | Neptunium-237 | <1 | External exposure | <1 | | | | | |
| | | Uranium-235 | <1 | | | | | | | |
| | | Uranium-238 | 2 | | | | | | | |
| Future excavation worker at current concentrations | 1.2 × 10 ⁻⁴ | Arsenic | 12 | Ingestion of soil | 15 | 0.7 | NE | NE | NE | NE |
| | | Beryllium | 61 | Dermal contact with soil | 83 | | | | | |
| | | PAHs | 21 | External exposure | 2 | | | | | |
| | | PCBs | 2 | | | | | | | |
| | | Cesium-137 | 1 | | | | | | | |

*Total ELCR and total HI columns reflect values from Tables 1.68 to 1.77 of Appendix A in Volume 3 without lead included. Also, the values in this table do not include contributions from water ingestion or use because groundwater was evaluated on an area basis. For risks due to water use, see Table 6.2.

Notes:

NA = ELCR not applicable to child and teen cohorts. Values for adult include exposure as child and teen.

NE = Land use scenario not of concern.