## SOIL EXPOSURE PATHWAY SCORESHEET (CONTINUED)

**Factor Categories and Factors**

| | Nearby Population Threat Score | Maximum Value | Projected Score | Rationale | Data Qual. |
|---|---|---|---|---|---|
| 21. | Nearby Population Threat (lines 14 x 17 x 20) | b | 11,700 | | |

**SOIL EXPOSURE PATHWAY SCORE**

| | | | | | |
|---|---|---|---|---|---|
| 22. | Soil Exposure Pathway Score (Ss), [lines (11+21)/82,500 subject to a maximum of 100] | 100 | 11.54 [d] | | |

a Maximum value applies to waste characteristics category.
b Maximum value not applicable.
c No specific maximum value applies to this factor. However, pathway score based solely on sensitive environments is limited to a maximum of 60.
d Do not round to the nearest integer.
e Use additional tables.



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SOIL EXPOSURE CALCULATIONS

20. Nearby Population Targets

| Distance (miles) | Total Population Within Distance Ring | (P) Distance-Weighted Population Values (Table 5-10) |
|---|---|---|
| 0 to 1/4 | 3,001 | 130 |
| >1/4 to 1/2 | | |
| >1/2 to 1 | | |
| | Sum (P) | |

Nearby Population Threat factor value $\frac{\text{Sum (P)}}{10}$ = 13.0



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## AIR MIGRATION PATHWAY SCORESHEET

### Factor Categories and Factors

| Likelihood of Release | Maximum Value | Projected Score | Rationale | Data Qual. |
|---|---|---|---|---|
| 1. Observed Release | 550 | 0 | A-1 | H |
| 2. Potential to Release[e] | | | | |
| 2a. Gas Potential | 500 | 500 | A-2 | E |
| 2b. Particulate Potential | 500 | 390 | A-3 | E |
| 2c. Potential to Release (higher of lines 2a and 2b) | 500 | 500 | | |
| 3. Likelihood of Release (higher of Lines 1 or 2c) | 550 | 500 | | |
| **Waste Characteristics** | | | | |
| 4. Toxicity/Mobility | a | 10,000 | A-4 | E |
| 5. Hazardous Waste Quantity | a | 10 | A-5 | H |
| 6. Waste Characteristics (lines 4 x 5, then use Table 2-7) | 100 | 18 | | |
| **Targets** | | | | |
| 7. Nearest Individual | 50 | 20 | A-6 | H |
| 8. Population[e] | | | | |
| 8a. Level I Concentrations | b | | | |
| 8b. Level II Concentrations | b | | | |
| 8c. Potential Contamination[e] | b | 192 | A-7 | H |
| 8d. Population (8a+8b+8c) | b | 192 | | |
| 9. Resources | 5 | 5 | A-8 | E |
| 10. Sensitive Environments[e] | | | | |
| 10a. Actual Contamination | c | | | |
| 10b. Potential Contamination | c | 6 | A-9 | |
| 10c. Sensitive Environments (lines 10a+10b) | c | 6 | | |
| 11. Targets (Lines 7+8d+9+10c) | b | 223 | | |

### Air Pathway Migration Score

| | | | | |
|---|---|---|---|---|
| 12. Air Pathway Score (Sa) [(lines 3 x 6 x 11)/82,500] | 100 | 24.33[d] | | |

a Maximum value applies to waste characteristics category.
b Maximum value not applicable.
c No specific maximum value applies to factor. However, pathway score based solely on sensitive environments is limited to a maximum of 60.
d Do not round to nearest integer.
e Use additional tables.

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AIR PATHWAY CALCULATIONS

2. Potential to Release

Gas Potential to Release

| Source Type (Name) | Gas Containment Factor Value (Table 6-3) | Gas Source Type Factor Value (Table 6-4) | Gas Migration Potential Factor Value (Table 6-7) | Sum | Gas Source Value |
|---|---|---|---|---|---|
| | (A) | (B) | (C) | (B+C) | A x (B+C) |
| 1. soil | 10 | | 17 | 17 | 170 |
| 2. drum | 10 | | 17 | 17 | 170 |
| 3. sludge | 10 | 28 | 6 | 34 | 340 |
| 4. landfill | 10 | 33* | 17 | 50 | 500 |

Gas Potential to Release Factor Value
(Select the highest Gas Source Value) _____

Particulate Potential to Release

| Source Type (Name) | Particulate Containment Factor Value (Table 6-9) | Particulate Source Type Factor Value (Table 6-4) | Particulate Migration Potential Factor Value (Figure 6-2) | Sum | Particulate Source Value |
|---|---|---|---|---|---|
| | (A) | (B) | (C) | (B+C) | A x (B+C) |
| 1. soil | 10 | 0 | 17 | 17 | 170 |
| 2. drums | 10 | 0 | 17 | 17 | 170 |
| 3. sledy depot | 10 | 22 | 17 | 39 | 390 |
| 4. landfill | 10 | 22 | 17 | 39 | 390 |

Particulate Potential to Release Factor Value
(Select the highest Particulate Source Value) _____



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AIR PATHWAY CALCULATIONS (CONTINUED)

8. Potential Contamination

| Distance (miles) | Total Population Within Distance Ring | (A) Distance-Weighted Population Value (Table 6-17) |
|---|---|---|
| On a source (0) | 0 | |
| >0 to 0.25 | >3,000 | 1,304 |
| >0.25 to 0.5 | | |
| >0.5 to 1 | | |
| >1 to 2 | 35,178 | 266 |
| >2 to 3 | 96,688 | 120 |
| >3 to 4 | 126,843 | 229 |
| | Sum of (A) = | 1,919 |

Air Potential Contamination Factor Value = $\frac{\text{Sum of (A)}}{10}$ = 192

10. Sensitive Environments

Actual Contamination

| Wetland or Type of Sensitive Environment | (A) Sensitive Environment Rating Value (Table 4-23) | (B) Wetland Rating Value (Table 6-18) | (A + B) |
|---|---|---|---|
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |

Actual Contamination Factor Value [sum (A + B)] 75

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## AIR PATHWAY CALCULATIONS (CONTINUED)

Potential Contamination

| Wetland or Type of Sensitive Environment | (A) Sensitive Environment Rating Value (Table 4-23) | (B) Wetland* Rating Value (Table 5-15) | Distance (miles) | (DW) Distance Weights (Table 5-13) | DW x (A + B) |
|---|---|---|---|---|---|
| Falcon | 75 | | 0.25 | .25 | 18.75 |
| Tern | 75 | | 0.25 | .25 | 18.75 |
| Pelican | 75 | | 0.25 | .25 | 18.75 |
| | | | | | |
| | | | | | |
| | | | | Sum DW x (A + B) | 56.25 |

Potential Contamination
Sensitive Environments Factor Value = $\frac{\text{Sum DW x (A + B)}}{10}$ = 5

* Only assign a Wetland Rating Value once for each wetland within a distance category.



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HRS SCORESHEET
RATIONALE: Treasure Island Naval Station
EPA ID # CA7170023330

GROUNDWATER

* There is no utilization of groundwater within 4 miles of the site. Groundwater underlying the site is brackish due to intrusion of bay water and is generally considered non-potable. (ref. NEESA-PA)

SURFACE WATER

SW-1 There are no surface water bodies on either of the two islands that make up the site. The San Francisco Bay with surrounds the site is not utilized as a drinking water source. (ref. NEESA-PA)

SW-2 There has not been any sampling of surface water bodies to determine whether a release has occurred. A release was projected based on the lack of containment, distance to surface water, and runoff characteristics. Documentation exists, that indicates that some wastes were directly deposited into the San Francisco Bay through storm drains from the site. (ref. NEESA-PA)

SW-3 The types of wastes and contaminants deposited on site are mostly unknown. The value was determined based on a worst case situation using PCBs, and mercury as contaminants of concern. (ref. NEESA-PA)

SW-4 The quantity of waste deposited is unknown. It does not appear likely that the waste quantity factor value would exceed 100 since the quantity value is so much less than 10,000. (ref. NEESA-PA)

| WASTE | Quantity Value |
|---|---|
| 1,440 cubic yards of sludge as waste steam: | 576 |
| 16,000 cubic yards landfill | 6.4 |
| 44,200 square feet contaminated soil | 1.3 |
| Total | 583.7 |

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Surface water (continued)

SW-5 The site is situated in the midst of San Francisco Bay. The San Francisco Bay is a source of recreational and commercial fishing. Since sampling has not been done to determine whether the fishery is contaminated, Level II contamination to the Food Chain Individual is projected. (ref. WESTON-PA)

SW-6 Since sampling of the fishery has not been done, the extent of the contamination has not been determined. (ref. WESTON-PA)

SW-7 Potential contamination is based on the following fish that are caught in the San Francisco Bay: herring, perch, sharks, jack smelt, white croker, striped bass, and other species. In addition, clams are also harvested in the San Francisco Bay. Approximately, 11,000,000 pounds of fish/shellfish are caught annually in the bay. This results in an assigned population value of 31,000. Multiplying this by a dilution factor for coastal tidal waters of .0001 and divided the product by 10 to determine the HRS potential contamination Human Food chain contamination factor value of 0.31. (ref. WESTON-PA and fish catch data)

SW-8 The San Francisco Bay provides a habitat for federally listed endangered species. It has also been reported that three federally endangered species have been seen at FINS. FIT assumed that one of these endangered species' designated habitat areas may be on or adjacent to the waste sources at FINS. Since sampling has not been done to determine whether these environments are contaminated, Level II contamination to the habitat is projected. (ref. WESTON-PA)

Soil Exposure

SE-1 Since work and residential areas were not identified, FIT projected that areas of contamination were likely located within 200 feet of a site work or residential areas. (ref. WESTON-PA)

SE-2 The types of wastes and contaminants deposited on site is mostly unknown. The value was determined based on a worst-case situation using PCBs, and mercury as contaminants of concern. (ref. WESTON-PA)

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Soil exposure (continued)

SE-3 Value was based on the projected Hazardous Waste Quantity of all identified areas of contamination from the NEESA-PA available to the soil-exposure pathway. The areas include the PCB storage area, fire training area, pesticide storage area, the old bunker area, refuse transfers area, auto hobby shop, aeroplane maintenance area, area point sludge disposal area, and TRI landfill. Each of these areas have or potentially have uncontrolled contaminated soils within 2 feet of the surface. (ref. NEESA-PA)

SE-4 Since work and residential areas were not identified, FIT projected that areas of concern with Level II contamination were likely located within 200 feet of a residential areas. Level I soil contamination does not appear to have yet been documented. Level II contamination has been documented. (ref. SSI and NEESA-PA)

SE-5 Since work and residential areas were not identified FIT projected that 10 individuals reside within 200 feet of areas of Level II contamination. (ref. NEESA-PA)

SE-6 FIT projects that between 100 and 300 individuals work within 200 feet of an area of contamination. This projection is based on the assumption that there is uniform worker distribution throughout TINS (ref. NEESA-PA)

SE-7 There does not appear to be any commercial agriculture, silviculture, or livestock production on the site. (ref. NEESA-PA)

SE-8 There does not appear to be a terrestrial sensitive environment on the site, although three endangered species are known to occasionally use the site. (ref. NEESA-PA)

SE-9 Waste source areas on TINS may be is slightly accessible to residents and employees who do not live or work within 200 feet of sources. Waste source area may have some public recreation use particularly the hobby shop/transportation center area and the landfill areas. (ref. NEESA-PA)

SE-10 FIT estimated 300,000 square feet of contamination. (ref. NEESA-PA)

SE-11 Population is based on assumption that projected on-site residents are within 0-25 miles of contamination. (ref. NEESA-PA and facility contact)

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AIR

A-1 Air sampling does not appear to have been preformed and therefore an observed release has not been documented. PIT does not consider the possibility of documenting an observed release to air to be likely. (ref. NEESA-PA)

A-2 The potential for gas release was calculated using the former landfill as the primary source for a potential release to air. Since landfills have not been sampled to determine what contaminants are of concern or if biogas is being released, the value is a projection. (ref. NEESA-PA)

A-3 The potential for particulate release was calculated using the former landfill and former sludge disposal areas as the primary sources for a potential release to air. Sludge disposal areas are documented to be contaminated (ref. NEESA-PA)

A-4 The types of wastes and contaminants deposited on site are mostly unknown. The value was determined based on a worst-case situation. (ref. NEESA-PA)

A-5 Value was based on the projected Hazardous Waste Quantity of all identified areas of contamination from the NEESA-PA available to air pathway. (ref. NEESA-PA)

| Waste | Quantity Value |
|---|---|
| 16,000 cubic yards landfill | 6.4 |
| 44,200 square feet contaminated soil | 1.3 |
| Total | 7.7 |

A-6 The nearest residents are assumed to be located within 0.125 miles. (ref. NEESA-PA)

A-7 Population of surrounding areas. (ref. GEMS)

A-8 Designated recreation areas are located within 0.5 miles of areas of contamination. The recreation areas include a playground and parks. (ref. NEESA-PA)

A-9 Three endangered species are known to occasionally use the site. (ref. NEESA-PA)

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