

TABLE D-17

METALS IN GROUND WATER

Remedial Investigation/Feasibility Study
Astoria Area-Wide Petroleum Site
Astoria, Oregon

| Locator ID | Sample ID | Sample Date | Arsenic, Total | Barium | Cadmium | Chromium | Chromium, Hexavalent | Lead |
|------------|-----------|-------------|----------------|--------|---------|----------|-------------------------|-----------|
| | | | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| MW-1(F) | MW-1(F) | 10/22/2003 | 9.53 | 254 | 0.24 J | 23.7 | | 25.5 |
| MW-1(F) | MW-1 (F) | 1/15/2004 | 2.34 | 64.9 | 1 U | 1 U | | 1 U B |
| MW-1(F) | MW-1(F) | 4/15/2004 | | | | | | 1.89 |
| MW-1(F) | MW-1 (F) | 7/20/2004 | | | | | | 0.39 J |
| MW-2(M) | MW-2(M) | 6/19/2003 | | | | | | 10 U |
| MW-2(M) | MW-2 (M) | 10/15/2003 | 21.6 | 32 | 1 U | 4.98 | | 8.72 |
| MW-2(M) | MW-2 (M) | 1/12/2004 | 17.2 | 13.8 | 1 U | 1 U | | 1.77 J+,B |
| MW-2(M) | MW-2(M) | 4/14/2004 | | | | | | 60.5 |
| MW-2(M) | MW-2 (M) | 7/22/2004 | | | | | | 21.7 |
| MW-6(M) | MW-6(M) | 10/22/2003 | 13.3 | 20 | 1 U | 2.07 | | 7.57 |
| MW-6(M) | MW-6 (M) | 1/12/2004 | 10.4 | 16 | 0.25 J | 1.85 | | 3.79 JB |
| MW-6(M) | MW-6 (M) | 4/13/2004 | | | | | | 2.32 |
| MW-6(M) | MW-6 (M) | 7/19/2004 | | | | | | 0.67 J |
| MW-7(M) | MW-7(M) | 10/13/2003 | 12.6 | 32.3 | 1 U | 3.54 | | 8.4 |
| MW-7(M) | MW-7 (M) | 1/12/2004 | 8.04 | 33.1 | 1 U | 2.26 | | 8.07 |
| MW-7(M) | MW-7 (M) | 4/12/2004 | | | | | | 20.3 |
| MW-7(M) | MW-7 (M) | 7/19/2004 | | | | | | 6.63 |
| MW-10(M) | MW-10(M) | 6/19/2003 | | | | | | 10 U |
| MW-10(M) | MW-10 (M) | 10/15/2003 | 25.7 | 111 | 0.7 J | 13.3 | | 11.5 |
| MW-10(M) | MW-10 (M) | 1/13/2004 | 25.3 | 42.6 | 1 U | 1 U | | 1 U B |
| MW-10(M) | MW-10 (M) | 4/13/2004 | | | | | | 9.58 |
| MW-10(M) | MW-10 (M) | 7/19/2004 | | | | | | 3.53 |
| MW-11(M) | MW-11 (M) | 10/15/2003 | 13.9 | 10.3 | 1 U | 1 U | | 1 U |
| MW-11(M) | MW-11 (M) | 1/13/2004 | 24 | 30.1 | 1 U | 3.63 | | 4.96 J+,B |
| MW-11(M) | MW-11 (M) | 4/13/2004 | | | | | | 2.23 |

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Astoria, Oregon

| Locator ID | Sample ID | Sample Date | Arsenic, Total | Barium | Cadmium | Chromium | Chromium, Hexavalent | Lead |
|------------|-----------|-------------|----------------|--------|---------|----------|-------------------------|--------|
| | | | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| MW-11(M) | MW-11 (M) | 7/21/2004 | | | | | | 0.45 J |
| MW-12(A) | MW-12(A) | 10/22/2003 | 1 U | 38 | 1 U | 1 U | | 1 U |
| MW-12(A) | MW-12 (A) | 1/15/2004 | 1 U | 39.1 | 1 U | 1 U | | 1 U B |
| MW-12(A) | MW-12(A) | 4/16/2004 | | | | | | 2.08 |
| MW-12(A) | MW-12 (A) | 7/22/2004 | | | | | | 0.5 J |
| MW-13(A) | MW-13(A) | 10/22/2003 | 1 U | 15 | 1 U | 1 U | | 0.83 J |
| MW-13(A) | MW-13 (A) | 1/15/2004 | 2.88 | 38.5 | 1 U | 1 U | | 2.6 |
| MW-13(A) | MW-13(A) | 4/16/2004 | | | | | | 6.71 |
| MW-13(A) | MW-13 (A) | 7/22/2004 | | | | | | 3.18 |
| MW-14(A) | MW-14(A) | 10/21/2003 | 1 U | 28.3 | 1 U | 1 U | | 1 U |
| MW-14(A) | MW-14 (A) | 1/15/2004 | 1 U | 26.7 | 1 U | 1 U | | 1 U B |
| MW-14(A) | MW-14(A) | 4/16/2004 | | | | | | 1.18 |
| MW-14(A) | MW-14 (A) | 7/23/2004 | | | | | | 1 U |
| MW-15(A) | MW-15(A) | 10/20/2003 | 1 U | 33.6 | 1 U | 1 U | | 0.47 J |
| MW-16(A) | MW-16(A) | 10/20/2003 | 2.13 | 39.6 | 1 U | 1.09 | | 0.97 J |
| MW-16(A) | MW-16(A) | 1/19/2004 | 2.6 | 42.5 | 1 U | 1.39 | | 148 |
| MW-16(A) | MW-16(A) | 4/15/2004 | | | | | | 5.04 |
| MW-16(A) | MW-16 (A) | 7/22/2004 | | | | | | 1.31 |
| MW-17 (A) | BM-17 (A) | 7/22/2004 | | | | | | 1 U |
| MW-17(A) | MW-17 (A) | 10/17/2003 | 1 U | 49.3 | 1 U | 2.58 | | 1.65 |
| MW-17(A) | BM-17(A) | 1/19/2004 | 1.22 | 33.2 | 1 U | 1 U | | 1.97 |
| MW-17(A) | MW-17(A) | 1/19/2004 | 1.77 | 32.6 | 1 U | 1 U | | 2.03 |
| MW-17(A) | MW-17(A) | 4/15/2004 | | | | | | 3.22 |
| MW-17(A) | MW-17 (A) | 7/22/2004 | | | | | | 1 U |

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Remedial Investigation/Feasibility Study
Astoria Area-Wide Petroleum Site
Astoria, Oregon

| Locator ID | Sample ID | Sample Date | Arsenic, Total | Barium | Cadmium | Chromium | Chromium, Hexavalent | Lead |
|------------|-----------|-------------|----------------|--------|---------|----------|-------------------------|-----------|
| | | | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| MW-18(A) | MW-18(A) | 10/21/2003 | 1 U | 55.6 | 1 U | 1.82 | | 4.57 |
| MW-18(A) | MW-18(A) | 1/19/2004 | 1 U | 67 | 1 U | 4.06 | | 7.81 |
| MW-18(A) | MW-18(A) | 4/15/2004 | | | | | | 14.2 |
| MW-18(A) | MW-18 (A) | 7/21/2004 | | | | | | 5.49 |
| MW-19(A) | BM-19(A) | 10/20/2003 | 1.69 | 29 | 1 U | 1 U | | 0.57 J |
| MW-19(A) | MW-19(A) | 10/20/2003 | 1.32 | 29.9 | 1 U | 1 U | | 0.5 J |
| MW-19(A) | MW-19 (A) | 1/13/2004 | 0.97 J | 14.1 | 1 U | 1 U | | 1 U B |
| MW-19(A) | MW-19(A) | 4/15/2004 | | | | | | 12.3 |
| MW-19(A) | BM-19 (A) | 7/20/2004 | | | | | | 8.18 |
| MW-19(A) | MW-19 (A) | 7/20/2004 | | | | | | 8.02 |
| MW-20(A) | MW-20(A) | 10/20/2003 | 1.29 | 23.7 | 1 U | 1.42 | | 1.45 |
| MW-20(A) | MW-20 (A) | 1/13/2004 | 2.15 | 35.8 | 1 U | 2.4 | | 3.88 J+,B |
| MW-20(A) | MW-20(A) | 4/15/2004 | | | | | | 9.24 |
| MW-20(A) | MW-20 (A) | 7/20/2004 | | | | | | 3.82 |
| MW-21(A) | MW-21(A) | 10/20/2003 | 1.21 | 30.6 | 1 U | 1.93 | | 1.8 |
| MW-21(A) | BM-21 (A) | 1/13/2004 | 1 U | 13.6 | 1 U | 1 U | | 1 U B |
| MW-21(A) | MW-21 (A) | 1/13/2004 | 1 U | 13.4 | 1 U | 1 U | | 1 U B |
| MW-21(A) | MW-21(A) | 4/16/2004 | | | | | | 2.16 |
| MW-21(A) | MW-21 (A) | 7/20/2004 | | | | | | 0.62 J |
| MW-22(A) | MW-22 (A) | 10/16/2003 | 1.47 | 24.1 | 1 U | 1.45 | | 0.69 J |
| MW-22(A) | MW-22(A) | 1/19/2004 | 1.69 | 26 | 1 U | 2.03 | | 1.35 |
| MW-22(A) | MW-22(A) | 4/15/2004 | | | | | | 4.73 |
| MW-22(A) | MW-22 (A) | 7/20/2004 | | | | | | 0.58 J |
| MW-23(A) | MW-23(A) | 10/20/2003 | 1 U | 25.7 | 1 U | 1 U | | 0.61 J |

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Astoria Area-Wide Petroleum Site
Astoria, Oregon

| Locator ID | Sample ID | Sample Date | Arsenic, Total | Barium | Cadmium | Chromium | Chromium, Hexavalent | Lead |
|------------|-----------|-------------|----------------|--------|---------|----------|-------------------------|--------|
| | | | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| MW-23(A) | MW-23 (A) | 1/15/2004 | 1 U | 11.4 | 1 U | 1 U | | 3.27 |
| MW-23(A) | BM-23(A) | 4/15/2004 | | | | | | 23.7 |
| MW-23(A) | MW-23(A) | 4/15/2004 | | | | | | 23.3 |
| MW-23(A) | MW-23 (A) | 7/20/2004 | | | | | | 1.56 |
| MW-24(A) | MW-24(A) | 10/21/2003 | 2.15 | 57.9 | 1 U | 0.89 J | | 0.93 J |
| MW-24(A) | MW-24 (A) | 1/15/2004 | 5.74 | 23.8 | 1 U | 1.01 | | 5.75 |
| MW-24(A) | MW-24(A) | 4/14/2004 | | | | | | 4.54 |
| MW-24(A) | MW-24 (A) | 7/22/2004 | | | | | | 1.09 |
| MW-26(A) | MW-26 (A) | 10/17/2003 | 1.04 J | 59.3 | 1 U | 1.37 | | 1.97 |
| MW-26(A) | MW-26 (A) | 1/15/2004 | 8.61 | 22.9 | 1 U | 1.57 | | 5.98 |
| MW-26(A) | MW-26(A) | 4/14/2004 | | | | | | 4.03 |
| MW-26(A) | MW-26 (A) | 7/22/2004 | | | | | | 4.22 |
| MW-27(A) | MW-27(A) | 10/21/2003 | 1 | 11.2 | 1 U | 1 U | | 0.33 J |
| MW-27(A) | MW-27 (A) | 1/14/2004 | 16.5 | 13.3 | 1 U | 1 U | | 1 U B |
| MW-27(A) | MW-27 (A) | 4/14/2004 | | | | | | 1 U |
| MW-27(A) | MW-27 (A) | 7/22/2004 | | | | | | 0.24 J |
| MW-28(A) | MW-28 (A) | 10/17/2003 | 3.45 J | 112 | 1 U | 12.8 | | 46.4 |
| MW-28(A) | MW-28(A) | 1/19/2004 | 3.11 | 60.8 | 1 U | 6.18 | | 19.8 |
| MW-28(A) | MW-28(A) | 4/14/2004 | | | | | | 101 |
| MW-28(A) | MW-28 (A) | 7/23/2004 | | | | | | 15.2 |
| MW-29(A) | MW-29(A) | 10/21/2003 | 5.73 | 33.6 | 1 U | 2.5 | | 5.04 |
| MW-29(A) | MW-29(A) | 1/19/2004 | 6.82 | 28.5 | 1 U | 2.25 | | 7.74 |
| MW-29(A) | MW-29(A) | 4/16/2004 | | | | | | 12.7 |
| MW-29(A) | MW-29 (A) | 7/22/2004 | | | | | | 7.45 |

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Astoria Area-Wide Petroleum Site
Astoria, Oregon

| Locator ID | Sample ID | Sample Date | Arsenic, Total | Barium | Cadmium | Chromium | Chromium, Hexavalent | Lead |
|------------|-----------|-------------|----------------|--------|---------|----------|-------------------------|-----------|
| | | | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| MW-30(A) | MW-30 (A) | 10/16/2003 | 7.95 | 65.4 | 1 U | 6.53 | | 3.7 |
| MW-30(A) | MW-30 (A) | 1/16/2004 | 10.9 | 51.5 | 1 U | 4.79 | | 3.17 |
| MW-30(A) | MW-30 (A) | 4/13/2004 | | | | | | 17.3 |
| MW-30(A) | MW-30 (A) | 7/20/2004 | | | | | | 4.79 |
| MW-31(A) | BM-31 (A) | 10/16/2003 | 13.9 | 27.1 | 1 U | 0.96 | J | 0.26 J |
| MW-31(A) | MW-31 (A) | 10/16/2003 | 13.3 | 26.5 | 1 U | 0.91 | J | 0.56 J |
| MW-31(A) | MW-31 (A) | 1/12/2004 | 13 | 46 | 1 U | 2.85 | | 3.02 J+,B |
| MW-31(A) | BM-31 (A) | 4/13/2004 | | | | | | 15.3 |
| MW-31(A) | MW-31 (A) | 4/13/2004 | | | | | | 11.1 |
| MW-31(A) | MW-31 (A) | 7/20/2004 | | | | | | 1.82 |
| MW-32(A) | MW-32(A) | 10/14/2003 | 1.4 | 27.9 | 1 U | 1.41 | | 0.58 J |
| MW-32(A) | MW-32 (A) | 1/12/2004 | 2.29 | 11.9 | 1 U | 1 U | | 1 U B |
| MW-32(A) | MW-32 (A) | 4/13/2004 | | | | | | 3.02 |
| MW-32(A) | MW-32 (A) | 7/19/2004 | | | | | | 0.92 J |
| MW-33(A) | MW-33(A) | 10/14/2003 | 21.6 | 18.2 | 1 U | 0.94 | J | 0.41 J |
| MW-33(A) | MW-33 (A) | 1/12/2004 | 30.7 | 32.1 | 1 U | 1.57 | | 1.51 J+.B |
| MW-33(A) | MW-33 (A) | 4/13/2004 | | | | | | 11.8 |
| MW-33(A) | MW-33 (A) | 7/19/2004 | | | | | | 0.62 J |
| MW-34(A) | MW-34(A) | 10/14/2003 | 1.42 | 36.7 | 1 U | 3.05 | | 1.32 |
| MW-34(A) | MW-34 (A) | 1/13/2004 | 3.26 | 33.3 | 0.19 J | 2.53 | | 1.62 J+,B |
| MW-34(A) | MW-34 (A) | 4/14/2004 | | | | | | 7.5 |
| MW-34(A) | MW-34 (A) | 7/20/2004 | | | | | | 1 U |
| MW-35(A) | MW-35 (A) | 10/16/2003 | 1.02 | 13.6 | 1 U | 1.5 | | 0.24 J |
| MW-35(A) | MW-35 (A) | 1/16/2004 | 1.8 | 22.1 | 1 U | 1.9 | | 1.44 |
| MW-35(A) | MW-35 (A) | 4/13/2004 | | | | | | 5.11 |

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Astoria Area-Wide Petroleum Site
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| Locator ID | Sample ID | Sample Date | Arsenic, Total | Barium | Cadmium | Chromium | Chromium, Hexavalent | Lead |
|------------|-----------|-------------|----------------|--------|---------|----------|-------------------------|-----------|
| | | | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| MW-35(A) | MW-35 (A) | 7/20/2004 | | | | | | 1.03 |
| MW-36(A) | MW-36(A) | 10/21/2003 | 2.27 | 169 | 1 U | 4.74 | | 12.6 |
| MW-36(A) | MW-36 (A) | 1/14/2004 | 1 U | 38.4 | 1 U | 1.42 | | 3.06 |
| MW-36(A) | MW-36 (A) | 4/14/2004 | | | | | | 26.8 |
| MW-36(A) | MW-36 (A) | 7/22/2004 | | | | | | 4.68 |
| MW-37(A) | MW-37 (A) | 10/17/2003 | 1 U | 27.5 | 1 U | 0.93 | J | 0.58 J |
| MW-38(A) | MW-38(A) | 10/21/2003 | 1 U | 20.9 | 1 U | 1 U | | 0.48 J |
| MW-38(A) | MW-38 (A) | 1/14/2004 | 1 U | 12.3 | 1 U | 1 U | | 1.2 J+,B |
| MW-38(A) | MW-38 (A) | 4/14/2004 | | | | | | 8.28 |
| MW-38(A) | MW-38 (A) | 7/22/2004 | | | | | | 0.62 J |
| MW-39(A) | MW-39 (A) | 10/16/2003 | 1.65 | 7.54 | 1 U | 1 U | | 0.19 J |
| MW-39(A) | MW-39 (A) | 1/16/2004 | 2.29 | 11.2 | 1 U | 0.88 | J | 1 U B |
| MW-39(A) | MW-39 (A) | 4/14/2004 | | | | | | 1.12 |
| MW-39(A) | MW-39 (A) | 7/21/2004 | | | | | | 0.57 J |
| MW-40(A) | MW-40 (A) | 10/17/2003 | 3.81 | 46.2 | 1 U | 5.42 | | 2.95 |
| MW-40(A) | MW-40(A) | 1/20/2004 | 12.8 | 33.1 | 1 U | 1 U | | 5.19 |
| MW-40(A) | MW-40(A) | 4/16/2004 | | | | | | 56.7 |
| MW-41(A) | MW-41(A) | 10/14/2003 | 14.4 | 23.5 | 1 U | 1 U | | 0.13 J |
| MW-42(A) | MW-42 (A) | 10/15/2003 | 37.2 | 43.6 | 1 U | 4.66 | | 2.75 |
| MW-43(A) | MW-43(A) | 10/13/2003 | 7.52 | 22.7 | 1 U | 0.85 | J | 0.23 J |
| MW-43(A) | MW-43 (A) | 1/12/2004 | 11.6 | 31.2 | 1 U | 1.89 | | 2.18 J+,B |
| MW-43(A) | MW-43 (A) | 4/13/2004 | | | | | | 0.51 J |

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Astoria, Oregon

| Locator ID | Sample ID | Sample Date | Arsenic, Total | Barium | Cadmium | Chromium | Chromium, Hexavalent | Lead |
|------------|-----------|-------------|----------------|--------|---------|----------|-------------------------|-----------|
| | | | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| MW-43(A) | MW-43 (A) | 7/21/2004 | | | | | | 0.29 J |
| MW-44(A) | MW-44 (A) | 10/17/2003 | 12.2 | 14.7 | 1 U | 0.85 J | | 0.86 J |
| MW-45(A) | MW-45 (A) | 10/16/2003 | 6.55 | 8.55 | 1 U | 1.11 | | 0.54 J |
| MW-45(A) | MW-45 (A) | 1/16/2004 | 1 U | 8.37 | 1 U | 1 U | | 1 U B |
| MW-45(A) | MW-45 (A) | 4/14/2004 | | | | | | 1.49 |
| MW-45(A) | MW-45 (A) | 7/21/2004 | | | | | | 0.8 J |
| MW-46(A) | MW-46(A) | 10/14/2003 | 1.25 | 15.6 | 1 U | 60.6 | | 1.41 |
| MW-46(A) | MW-46(A) | 1/14/2004 | 3.11 | 26 | 1 U | 16.5 | 5.42 J | 2.17 J+,B |
| MW-46(A) | MW-46 (A) | 4/12/2004 | | | | | | 4.95 |
| MW-46(A) | MW-46(A) | 4/12/2004 | | | | 34.9 | | |
| MW-46(A) | MW-46 (A) | 7/21/2004 | | | | 21.7 | 14.8 | 1.18 |
| MW-46(A) | MW-46 (A) | 38189 | | | | 28 | | |
| MW-46(A) | MW-46(A) | 11/10/2004 | | | | 37.5 | | |
| MW-46(A) | MW-46(A) | 2/8/2005 | | | | 41.1 | | |
| MW-46(A) | MW-102 | 6/29/2005 | | | | 41.4 | | |
| MW-46(A) | MW-46(A) | 6/29/2005 | | | | 38.6 | | |
| MW-47(A) | MW-47(A) | 10/13/2003 | 1 U | 19.5 | 1 U | 1.65 | | 0.57 J |
| MW-47(A) | MW-47 (A) | 1/14/2004 | 4.14 | 26.6 | 1 U | 2.34 | | 3.14 J+,B |
| MW-47(A) | MW-47 (A) | 4/12/2004 | | | | | | 8.81 |
| MW-47(A) | MW-47(A) | 4/12/2004 | | | | 5.81 | | |
| MW-47(A) | MW-47 (A) | 7/21/2004 | | | | 0.97 J | 4.55 U | 15 |
| MW-47(A) | MW-47 (A) | 38189 | | | | 6.84 | | |
| MW-47(A) | MW-47(A) | 11/10/2004 | | | | 70.9 | 10 U | |
| MW-47(A) | MW-47(A) | 38301 | | | | 1 U | | |
| MW-47(A) | MW-47(A) | 2/8/2005 | | | | 50.5 | | |
| MW-47(A) | MW-47(A) | 6/29/2005 | | | | 15.1 | | |

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Astoria, Oregon

| Locator ID | Sample ID | Sample Date | Arsenic, Total | Barium | Cadmium | Chromium | Chromium, Hexavalent | Lead |
|------------|------------|-------------|----------------|--------|---------|----------|-------------------------|-------|
| | | | ug/L | ug/L | ug/L | ug/L | ug/L | ug/L |
| MW-48(A) | MW-48(A) | 10/14/2003 | 1 U | 43.5 | 1 U | 2.5 | | 21.6 |
| MW-48(A) | MW-48 (A) | 1/14/2004 | 1.14 | 19.5 | 1 U | 0.79 U | | 1 U J |
| MW-48(A) | MW-48 (A) | 4/12/2004 | | | | | | 33.5 |
| MW-48(A) | MW-48(A) | 4/12/2004 | | | | 3.45 | | |
| MW-48(A) | MW-48 (A) | 7/21/2004 | | | | 0.72 U | 4.55 U | 58.7 |
| MW-48(A) | MW-48 (A) | 38189 | | | | 6.91 | | |
| MW-48(A) | MW-48(A) | 11/10/2004 | | | | 18.8 | 10 U | |
| MW-48(A) | MW-48(A) | 38301 | | | | 1 U | | |
| MW-48(A) | MW-48(A) | 2/8/2005 | | | | 8.89 | | |
| MW-48(A) | MW-101 | 6/29/2005 | | | | 10 | | |
| MW-48(A) | MW-48(A) | 6/29/2005 | | | | 9.39 | | |
| R-1(M) | R-1(M) | 10/22/2003 | 3.56 J | 12 | 1 U | 0.99 J | | 4.01 |
| TW-714(P) | TW-714(P) | 8/21/2002 | | | | | | 1 U |
| TW-900(S) | SB-900(TW) | 8/26/2002 | | | 1 U | 6.09 | | 2.42 |
| TW-901(S) | SB-901(TW) | 8/26/2002 | | | 1 U | 3.08 | | 5.19 |
| TW-902(S) | SB-902(TW) | 8/26/2002 | | | 1 U | 14.1 | | 16.6 |
| TW-903(S) | SB-903(TW) | 8/26/2002 | | | 1 U | 1 U | | 1 U |
| TW-904(S) | SB-904(TW) | 8/26/2002 | | | 1 U | 13.3 | | 3.76 |
| TW-905(S) | SB-905(TW) | 8/26/2002 | | | 1 U | 156 | | 50.8 |
| TW-906(S) | SB-906(TW) | 8/27/2002 | | | 1 U | 5.5 | | 2.09 |
| TW-908(S) | SB-908(TW) | 8/27/2002 | | | 1 U | 22 | | 4.92 |
| TW-909(S) | SB-909(TW) | 8/27/2002 | | | 1 U | 1.84 | | 1 U |
| TW-910(S) | SB-910(TW) | 8/26/2002 | | | 1 U | 2.65 | | 1.57 |
| TW-911(S) | SB-911(TW) | 8/27/2002 | | | 1 U | 2.8 | | 1.05 |

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METALS IN GROUND WATER

Remedial Investigation/Feasibility Study
 Astoria Area-Wide Petroleum Site
 Astoria, Oregon

| Locator ID | Sample ID | Sample Date | Mercury | Selenium | Silver |
|------------|-----------|-------------|------------|----------|--------|
| | | | ug/L | ug/L | ug/L |
| MW-1(F) | MW-1(F) | 10/22/2003 | 0.2 U B | 2.22 | 0.18 J |
| MW-1(F) | MW-1 (F) | 1/15/2004 | 0.2 U B | 1.29 | 1 U |
| MW-1(F) | MW-1(F) | 4/15/2004 | | | |
| MW-1(F) | MW-1 (F) | 7/20/2004 | | | |
| MW-2(M) | MW-2(M) | 6/19/2003 | | | |
| MW-2(M) | MW-2 (M) | 10/15/2003 | 0.2 U | 1 U | 1 U |
| MW-2(M) | MW-2 (M) | 1/12/2004 | 0.2 U B | 1 U | 1 U |
| MW-2(M) | MW-2(M) | 4/14/2004 | | | |
| MW-2(M) | MW-2 (M) | 7/22/2004 | | | |
| MW-6(M) | MW-6(M) | 10/22/2003 | 0.2 U B | 0.98 J | 1 U |
| MW-6(M) | MW-6 (M) | 1/12/2004 | 0.288 J+,B | 1.11 | 0.08 J |
| MW-6(M) | MW-6 (M) | 4/13/2004 | | | |
| MW-6(M) | MW-6 (M) | 7/19/2004 | | | |
| MW-7(M) | MW-7(M) | 10/13/2003 | 0.2 U B | 2 U | 0.11 J |
| MW-7(M) | MW-7 (M) | 1/12/2004 | 0.2 U | 1 U | 1 U |
| MW-7(M) | MW-7 (M) | 4/12/2004 | | | |
| MW-7(M) | MW-7 (M) | 7/19/2004 | | | |
| MW-10(M) | MW-10(M) | 6/19/2003 | | | |
| MW-10(M) | MW-10 (M) | 10/15/2003 | 0.262 J+,B | 1 U | 1 U |
| MW-10(M) | MW-10 (M) | 1/13/2004 | 0.2 U | 1 U | 1 U |
| MW-10(M) | MW-10 (M) | 4/13/2004 | | | |
| MW-10(M) | MW-10 (M) | 7/19/2004 | | | |
| MW-11(M) | MW-11 (M) | 10/15/2003 | 0.2 U | 1 U | 1 U |
| MW-11(M) | MW-11 (M) | 1/13/2004 | 0.2 U | 1 U | 1 U |
| MW-11(M) | MW-11 (M) | 4/13/2004 | | | |

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METALS IN GROUND WATER

Remedial Investigation/Feasibility Study
Astoria Area-Wide Petroleum Site
Astoria, Oregon

| Locator ID | Sample ID | Sample Date | Mercury | Selenium | Silver |
|------------|-----------|-------------|---------|-----------|--------|
| | | | ug/L | ug/L | ug/L |
| MW-11(M) | MW-11 (M) | 7/21/2004 | | | |
| MW-12(A) | MW-12(A) | 10/22/2003 | 0.2 U | 2.77 | 1 U |
| MW-12(A) | MW-12 (A) | 1/15/2004 | 0.2 U B | 4.41 | 1 U |
| MW-12(A) | MW-12(A) | 4/16/2004 | | | |
| MW-12(A) | MW-12 (A) | 7/22/2004 | | | |
| MW-13(A) | MW-13(A) | 10/22/2003 | 0.2 U | 1 U | 1 U |
| MW-13(A) | MW-13 (A) | 1/15/2004 | 0.2 U B | 0.96 J | 1 U |
| MW-13(A) | MW-13(A) | 4/16/2004 | | | |
| MW-13(A) | MW-13 (A) | 7/22/2004 | | | |
| MW-14(A) | MW-14(A) | 10/21/2003 | 0.2 U | 1 U | 1 U |
| MW-14(A) | MW-14 (A) | 1/15/2004 | 0.2 U B | 1.05 | 1 U |
| MW-14(A) | MW-14(A) | 4/16/2004 | | | |
| MW-14(A) | MW-14 (A) | 7/23/2004 | | | |
| MW-15(A) | MW-15(A) | 10/20/2003 | 0.2 U | 1 U | 1 U |
| MW-16(A) | MW-16(A) | 10/20/2003 | 0.2 U | 1 U | 1 U |
| MW-16(A) | MW-16(A) | 1/19/2004 | 0.2 U | 1.35 J+,B | 1 U |
| MW-16(A) | MW-16(A) | 4/15/2004 | | | |
| MW-16(A) | MW-16 (A) | 7/22/2004 | | | |
| MW-17 (A) | BM-17 (A) | 7/22/2004 | | | |
| MW-17(A) | MW-17 (A) | 10/17/2003 | 0.2 U | 1 U | 1 U |
| MW-17(A) | BM-17(A) | 1/19/2004 | 0.2 U | 1.27 J+,B | 1 U |
| MW-17(A) | MW-17(A) | 1/19/2004 | 0.2 U | 1.07 J+,B | 1 U |
| MW-17(A) | MW-17(A) | 4/15/2004 | | | |
| MW-17(A) | MW-17 (A) | 7/22/2004 | | | |

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METALS IN GROUND WATER

Remedial Investigation/Feasibility Study
 Astoria Area-Wide Petroleum Site
 Astoria, Oregon

| Locator ID | Sample ID | Sample Date | Mercury | Selenium | Silver |
|------------|-----------|-------------|----------|-----------|--------|
| | | | ug/L | ug/L | ug/L |
| MW-18(A) | MW-18(A) | 10/21/2003 | 0.2 U | 1 U | 1 U |
| MW-18(A) | MW-18(A) | 1/19/2004 | 0.2 U | 1.28 J+,B | 1 U |
| MW-18(A) | MW-18(A) | 4/15/2004 | | | |
| MW-18(A) | MW-18 (A) | 7/21/2004 | | | |
| MW-19(A) | BM-19(A) | 10/20/2003 | 0.2 U | 1 U | 1 U |
| MW-19(A) | MW-19(A) | 10/20/2003 | 0.2 U | 1 U | 1 U |
| MW-19(A) | MW-19 (A) | 1/13/2004 | 0.33 | 1 U | 1 U |
| MW-19(A) | MW-19(A) | 4/15/2004 | | | |
| MW-19(A) | BM-19 (A) | 7/20/2004 | | | |
| MW-19(A) | MW-19 (A) | 7/20/2004 | | | |
| MW-20(A) | MW-20(A) | 10/20/2003 | 0.2 U | 1 U | 1 U |
| MW-20(A) | MW-20 (A) | 1/13/2004 | 0.2 U | 1 U | 1 U |
| MW-20(A) | MW-20(A) | 4/15/2004 | | | |
| MW-20(A) | MW-20 (A) | 7/20/2004 | | | |
| MW-21(A) | MW-21(A) | 10/20/2003 | 0.2 U | 0.87 J | 1 U |
| MW-21(A) | BM-21 (A) | 1/13/2004 | 0.157 J | 1 U | 0.07 J |
| MW-21(A) | MW-21 (A) | 1/13/2004 | 0.0836 J | 1 U | 1 U |
| MW-21(A) | MW-21(A) | 4/16/2004 | | | |
| MW-21(A) | MW-21 (A) | 7/20/2004 | | | |
| MW-22(A) | MW-22 (A) | 10/16/2003 | 0.2 U | 1 U | 1 U |
| MW-22(A) | MW-22(A) | 1/19/2004 | 0.2 U | 1.17 J+,B | 1 U |
| MW-22(A) | MW-22(A) | 4/15/2004 | | | |
| MW-22(A) | MW-22 (A) | 7/20/2004 | | | |
| MW-23(A) | MW-23(A) | 10/20/2003 | 0.2 U | 1 U | 1 U |

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METALS IN GROUND WATER

Remedial Investigation/Feasibility Study
Astoria Area-Wide Petroleum Site
Astoria, Oregon

| Locator ID | Sample ID | Sample Date | Mercury | Selenium | Silver |
|------------|-----------|-------------|-------------|-----------|--------|
| | | | ug/L | ug/L | ug/L |
| MW-23(A) | MW-23 (A) | 1/15/2004 | 0.2 U B | 1.23 | 1 U |
| MW-23(A) | BM-23(A) | 4/15/2004 | | | |
| MW-23(A) | MW-23(A) | 4/15/2004 | | | |
| MW-23(A) | MW-23 (A) | 7/20/2004 | | | |
| MW-24(A) | MW-24(A) | 10/21/2003 | 0.2 U | 0.6 J | 1 U |
| MW-24(A) | MW-24 (A) | 1/15/2004 | 0.2 U B | 1 U | 1 U |
| MW-24(A) | MW-24(A) | 4/14/2004 | | | |
| MW-24(A) | MW-24 (A) | 7/22/2004 | | | |
| MW-26(A) | MW-26 (A) | 10/17/2003 | 0.223 J+, B | 1 U | 1 U |
| MW-26(A) | MW-26 (A) | 1/15/2004 | 0.2 U B | 1 U | 1 U |
| MW-26(A) | MW-26(A) | 4/14/2004 | | | |
| MW-26(A) | MW-26 (A) | 7/22/2004 | | | |
| MW-27(A) | MW-27(A) | 10/21/2003 | 0.2 U | 1.05 | 1 U |
| MW-27(A) | MW-27 (A) | 1/14/2004 | 0.2 U B | 1 U | 1 U |
| MW-27(A) | MW-27 (A) | 4/14/2004 | | | |
| MW-27(A) | MW-27 (A) | 7/22/2004 | | | |
| MW-28(A) | MW-28 (A) | 10/17/2003 | 0.2 U | 1 U | 1 U |
| MW-28(A) | MW-28(A) | 1/19/2004 | 0.2 U | 1.3 J+,B | 1 U |
| MW-28(A) | MW-28(A) | 4/14/2004 | | | |
| MW-28(A) | MW-28 (A) | 7/23/2004 | | | |
| MW-29(A) | MW-29(A) | 10/21/2003 | 0.2 U | 1 U | 1 U |
| MW-29(A) | MW-29(A) | 1/19/2004 | 0.2 U | 1.23 J+,B | 1 U |
| MW-29(A) | MW-29(A) | 4/16/2004 | | | |
| MW-29(A) | MW-29 (A) | 7/22/2004 | | | |

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METALS IN GROUND WATER

Remedial Investigation/Feasibility Study
Astoria Area-Wide Petroleum Site
Astoria, Oregon

| Locator ID | Sample ID | Sample Date | Mercury | Selenium | Silver |
|------------|-----------|-------------|-------------|----------|--------|
| | | | ug/L | ug/L | ug/L |
| MW-30(A) | MW-30 (A) | 10/16/2003 | 0.248 J+, B | 1 U | 1 U |
| MW-30(A) | MW-30 (A) | 1/16/2004 | 0.2 U B | 1.06 | 1 U |
| MW-30(A) | MW-30 (A) | 4/13/2004 | | | |
| MW-30(A) | MW-30 (A) | 7/20/2004 | | | |
| MW-31(A) | BM-31 (A) | 10/16/2003 | 0.2 U | 1 U | 1 U |
| MW-31(A) | MW-31 (A) | 10/16/2003 | 0.2 U | 1 U | 1 U |
| MW-31(A) | MW-31 (A) | 1/12/2004 | 0.115 J | 1 U | 1 U |
| MW-31(A) | BM-31 (A) | 4/13/2004 | | | |
| MW-31(A) | MW-31 (A) | 4/13/2004 | | | |
| MW-31(A) | MW-31 (A) | 7/20/2004 | | | |
| MW-32(A) | MW-32(A) | 10/14/2003 | 0.2 U B | 2 U | 1 U |
| MW-32(A) | MW-32 (A) | 1/12/2004 | 0.19 J | 1 U | 1 U |
| MW-32(A) | MW-32 (A) | 4/13/2004 | | | |
| MW-32(A) | MW-32 (A) | 7/19/2004 | | | |
| MW-33(A) | MW-33(A) | 10/14/2003 | 0.2 U B | 2 U | 1 U |
| MW-33(A) | MW-33 (A) | 1/12/2004 | 0.0747 B | 1 U | 1 U |
| MW-33(A) | MW-33 (A) | 4/13/2004 | | | |
| MW-33(A) | MW-33 (A) | 7/19/2004 | | | |
| MW-34(A) | MW-34(A) | 10/14/2003 | 0.2 U B | 2 U | 1 U |
| MW-34(A) | MW-34 (A) | 1/13/2004 | 0.2 U | 1 U | 1 U |
| MW-34(A) | MW-34 (A) | 4/14/2004 | | | |
| MW-34(A) | MW-34 (A) | 7/20/2004 | | | |
| MW-35(A) | MW-35 (A) | 10/16/2003 | 0.2 U | 1 U | 1 U |
| MW-35(A) | MW-35 (A) | 1/16/2004 | 0.2 U B | 1.49 | 1 U |
| MW-35(A) | MW-35 (A) | 4/13/2004 | | | |

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METALS IN GROUND WATER

Remedial Investigation/Feasibility Study
Astoria Area-Wide Petroleum Site
Astoria, Oregon

| Locator ID | Sample ID | Sample Date | Mercury | Selenium | Silver |
|------------|-----------|-------------|---------|-----------|--------|
| | | | ug/L | ug/L | ug/L |
| MW-35(A) | MW-35 (A) | 7/20/2004 | | | |
| MW-36(A) | MW-36(A) | 10/21/2003 | 0.2 U | 2.16 | 1 U |
| MW-36(A) | MW-36 (A) | 1/14/2004 | 0.2 U B | 1 U | 1 U |
| MW-36(A) | MW-36 (A) | 4/14/2004 | | | |
| MW-36(A) | MW-36 (A) | 7/22/2004 | | | |
| MW-37(A) | MW-37 (A) | 10/17/2003 | 0.2 U | 1 U | 1 U |
| MW-38(A) | MW-38(A) | 10/21/2003 | 0.2 U | 1 U | 1 U |
| MW-38(A) | MW-38 (A) | 1/14/2004 | 0.2 U | 1 U | 1 U |
| MW-38(A) | MW-38 (A) | 4/14/2004 | | | |
| MW-38(A) | MW-38 (A) | 7/22/2004 | | | |
| MW-39(A) | MW-39 (A) | 10/16/2003 | 0.2 U | 1 U | 1 U |
| MW-39(A) | MW-39 (A) | 1/16/2004 | 0.31 JB | 0.9 J | 1 U |
| MW-39(A) | MW-39 (A) | 4/14/2004 | | | |
| MW-39(A) | MW-39 (A) | 7/21/2004 | | | |
| MW-40(A) | MW-40 (A) | 10/17/2003 | 0.2 U | 1 U | 1 U |
| MW-40(A) | MW-40(A) | 1/20/2004 | 0.2 U | 1.14 J+,B | 1 U |
| MW-40(A) | MW-40(A) | 4/16/2004 | | | |
| MW-41(A) | MW-41(A) | 10/14/2003 | 0.2 U B | 2 U | 1 U |
| MW-42(A) | MW-42 (A) | 10/15/2003 | 0.2 U | 0.71 J | 1 U |
| MW-43(A) | MW-43(A) | 10/13/2003 | 0.2 U B | 2 U | 1 U |
| MW-43(A) | MW-43 (A) | 1/12/2004 | 0.2 U B | 1 U | 1 U |
| MW-43(A) | MW-43 (A) | 4/13/2004 | | | |

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METALS IN GROUND WATER

Remedial Investigation/Feasibility Study
Astoria Area-Wide Petroleum Site
Astoria, Oregon

| Locator ID | Sample ID | Sample Date | Mercury ug/L | Selenium ug/L | Silver ug/L |
|------------|-----------|-------------|-----------------|------------------|----------------|
| MW-43(A) | MW-43 (A) | 7/21/2004 | | | |
| MW-44(A) | MW-44 (A) | 10/17/2003 | 0.2 U | 1 U | 1 U |
| MW-45(A) | MW-45 (A) | 10/16/2003 | 0.2 U | 1 U | 1 U |
| MW-45(A) | MW-45 (A) | 1/16/2004 | 0.2 U | 1.45 | 1 U |
| MW-45(A) | MW-45 (A) | 4/14/2004 | | | |
| MW-45(A) | MW-45 (A) | 7/21/2004 | | | |
| MW-46(A) | MW-46(A) | 10/14/2003 | 0.2 U B | 2 U | 1 U |
| MW-46(A) | MW-46(A) | 1/14/2004 | 0.2 U | 1 U | 1 U |
| MW-46(A) | MW-46 (A) | 4/12/2004 | | | |
| MW-46(A) | MW-46(A) | 4/12/2004 | | | |
| MW-46(A) | MW-46 (A) | 7/21/2004 | | | |
| MW-46(A) | MW-46 (A) | 38189 | | | |
| MW-46(A) | MW-46(A) | 11/10/2004 | | | |
| MW-46(A) | MW-46(A) | 2/8/2005 | | | |
| MW-46(A) | MW-102 | 6/29/2005 | | | |
| MW-46(A) | MW-46(A) | 6/29/2005 | | | |
| MW-47(A) | MW-47(A) | 10/13/2003 | 0.2 U | 2 U | 1 U |
| MW-47(A) | MW-47 (A) | 1/14/2004 | 0.2 U | 1 U | 1 U |
| MW-47(A) | MW-47 (A) | 4/12/2004 | | | |
| MW-47(A) | MW-47(A) | 4/12/2004 | | | |
| MW-47(A) | MW-47 (A) | 7/21/2004 | | | |
| MW-47(A) | MW-47 (A) | 38189 | | | |
| MW-47(A) | MW-47(A) | 11/10/2004 | | | |
| MW-47(A) | MW-47(A) | 38301 | | | |
| MW-47(A) | MW-47(A) | 2/8/2005 | | | |
| MW-47(A) | MW-47(A) | 6/29/2005 | | | |

TABLE D-17**METALS IN GROUND WATER**

Remedial Investigation/Feasibility Study
 Astoria Area-Wide Petroleum Site
 Astoria, Oregon

| Locator ID | Sample ID | Sample Date | Mercury | Selenium | Silver |
|------------|------------|-------------|---------|----------|--------|
| | | | ug/L | ug/L | ug/L |
| MW-48(A) | MW-48(A) | 10/14/2003 | 0.2 U | 2 U | 1 U |
| MW-48(A) | MW-48 (A) | 1/14/2004 | 0.2 U | 1 U | 1 U |
| MW-48(A) | MW-48 (A) | 4/12/2004 | | | |
| MW-48(A) | MW-48(A) | 4/12/2004 | | | |
| MW-48(A) | MW-48 (A) | 7/21/2004 | | | |
| MW-48(A) | MW-48 (A) | 38189 | | | |
| MW-48(A) | MW-48(A) | 11/10/2004 | | | |
| MW-48(A) | MW-48(A) | 38301 | | | |
| MW-48(A) | MW-48(A) | 2/8/2005 | | | |
| MW-48(A) | MW-101 | 6/29/2005 | | | |
| MW-48(A) | MW-48(A) | 6/29/2005 | | | |
| R-1(M) | R-1(M) | 10/22/2003 | 0.2 U | 1 U | 1 U |
| TW-714(P) | TW-714(P) | 8/21/2002 | | | |
| TW-900(S) | SB-900(TW) | 8/26/2002 | | | |
| TW-901(S) | SB-901(TW) | 8/26/2002 | | | |
| TW-902(S) | SB-902(TW) | 8/26/2002 | | | |
| TW-903(S) | SB-903(TW) | 8/26/2002 | | | |
| TW-904(S) | SB-904(TW) | 8/26/2002 | | | |
| TW-905(S) | SB-905(TW) | 8/26/2002 | | | |
| TW-906(S) | SB-906(TW) | 8/27/2002 | | | |
| TW-908(S) | SB-908(TW) | 8/27/2002 | | | |
| TW-909(S) | SB-909(TW) | 8/27/2002 | | | |
| TW-910(S) | SB-910(TW) | 8/26/2002 | | | |
| TW-911(S) | SB-911(TW) | 8/27/2002 | | | |