# APPENDIX A

# Rayonier Mill Site Historic Groundwater Monitoring Data

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**REMEDIAL INVESTIGATION FOR THE UPLANDS ENVIRONMENT OF THE FORMER RAYONIER MILL SITE**

January 2006
Public Review Draft

Appendix A. Rayonier Mill Site Historic Groundwater Monitoring Data.

| | Applicable Criteria | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | Washington State (a) | | National Toxics Rule (b) | | | PZ-14 | | | | |
| | | | | | PZ-2 | (PZ-2-Dup) | PZ-2 | PZ-3 | PZ-3 | PZ-3 |
| | | Human | | Human | R652B | R652A | T609F | R661E | T609A | CU21A |
| | Ecological | Health | Ecological | Health | 2/13/1997 | 2/13/1997 | 8/27/1997 | 2/14/1997 | 8/28/1997 | 2/22/2001 |
| **VOLATILE COMPOUNDS (ug/L)** | | | | | | | | | | |
| Chloromethane | | 133 | | | 2.0 U | 2.0 U | 2.0 U | 2.0 U | 2.0 U | 1.0 U |
| Vinyl Chloride | | 3.69 | | 525 | 2.0 U | 2.0 U | 2.0 U | 2.0 U | 2.0 U | 1.0 U |
| Chloroethane | | | | | 2.0 U | 2.0 U | 2.0 U | 2.0 U | 2.0 U | 1.0 U |
| Methylene Chloride | | 960 | | 1600 | 2.0 U | 2.0 U | 2.0 U | 2.0 U | 2.0 U | 2.0 U |
| Acetone | | | | | 5.0 U | 5.0 U | 5.0 U | 5.0 U | 5.0 U | 5.0 U |
| Carbon Disulfide | | | | | 1.0 U | 1.0 U | 1.0 U | 1.0 U | 1.0 U | 1.0 U |
| 1,1-Dichloroethene | | 1.93 | | 3.2 | 1.0 U | 1.0 U | 1.0 U | 1.0 U | 1.0 U | 1.0 U |
| 1,1-Dichloroethane | | | | | 1.0 U | 1.0 U | 1.0 U | 1.0 U | 1.0 U | 1.0 U |
| trans-1,2-Dichloroethene | | 32800 | | 140000 | 1.0 U | 1.0 U | 1.0 U | 1.0 U | 1.0 U | 1.0 U |
| cis-1,2-Dichloroethene | | | | | 1.0 U | 1.0 U | 1.3 | 1.0 U | 1.0 U | 1.0 U |
| Chloroform | | 283 | | 470 | 1.0 U | 1.0 U | 1.0 U | 1.0 U | 1.0 U | 1.0 U |
| 1,2-Dichloroethane | | 59.4 | | 99 | 1.0 U | 1.0 U | 1.0 U | 1.0 U | 1.0 U | 1.0 U |
| 2-Butanone | | | | | 5.0 U | 5.0 U | 5.0 U | 5.0 U | 5.0 U | 5.0 U |
| 1,1,1-Trichloroethane | | 417000 | | | 1.0 U | 1.0 U | 1.0 U | 1.0 U | 1.0 U | 1.0 U |
| Carbon Tetrachloride | | 2.66 | | 4.4 | 1.0 U | 1.0 U | 1.0 U | 1.0 U | 1.0 U | 1.0 U |
| Vinyl Acetate | | | | | 5.0 U | 5.0 U | 5.0 U | 5.0 U | 5.0 U | 5.0 U |
| Bromodichloromethane | | 28 | | 22 | 1.0 U | 1.0 U | 1.0 U | 1.0 U | 1.0 U | 1.0 U |
| 1,2-Dichloropropane | | 23.2 | | 39 | 1.0 U | 1.0 U | 1.0 U | 1.0 U | 1.0 U | 1.0 U |
| cis-1,3-Dichloropropene | | | | | 1.0 U | 1.0 U | 1.0 U | 1.0 U | 1.0 U | 1.0 U |
| Trichloroethene | | 56 | | 81 | 1.0 U | 1.0 U | 1.0 | 1.0 U | 1.0 U | 1.0 U |
| Dibromochloromethane | | 20.6 | | 34 | 1.0 U | 1.0 U | 1.0 U | 1.0 U | 1.0 U | 1.0 U |
| 1,1,2-Trichloroethane | | 25.3 | | 42 | 1.0 U | 1.0 U | 1.0 U | 1.0 U | 1.0 U | 1.0 U |
| Benzene | | 22.7 | | 71 | 1.0 U | 1.0 U | 1.0 U | 1.0 U | 1.0 U | 1.0 U |
| trans-1,3-Dichloropropene | | | | | 1.0 U | 1.0 U | 1.0 U | 1.0 U | 1.0 U | 1.0 U |
| Bromoform | | 219 | | 360 | 1.0 U | 1.0 U | 1.0 U | 1.0 U | 1.0 U | 1.0 U |
| 4-Methyl-2-Pentanone | | | | | 5.0 U | 5.0 U | 5.0 U | 5.0 U | 5.0 U | 5.0 U |
| 2-Hexanone | | | | | 5.0 U | 5.0 U | 5.0 U | 5.0 U | 5.0 U | 5.0 U |
| Tetrachloroethene | | 4.15 | | 8.85 | 1.0 U | 1.0 U | 1.0 U | 1.0 U | 1.0 U | 1.0 U |
| 1,1,2,2-Tetrachloroethane | | 6.48 | | 11 | 1.0 U | 1.0 U | 1.0 U | 1.0 U | 1.0 U | 1.0 U |
| Toluene | | 48500 | | 200000 | 1.0 U | 1.0 U | 1.0 U | 1.0 U | 1.0 U | 1.0 U |
| Chlorobenzene | | 5030 | | 21000 | 1.0 U | 1.0 U | 1.0 U | 1.0 U | 1.0 U | 1.0 U |
| Ethylbenzene | | 6910 | | 29000 | 1.0 U | 1.0 U | 1.0 U | 1.0 U | 1.0 U | 1.0 U |
| Styrene | | | | | 1.0 U | 1.0 U | 1.0 U | 1.0 U | 1.0 U | 1.0 U |
| m,p-Xylene | | | | | 1.0 U | 1.0 U | 1.0 U | 1.0 U | 1.0 U | 1.0 U |
| o-Xylene | | | | | 1.0 U | 1.0 U | 1.0 U | 1.0 U | 1.0 U | 1.0 U |
| Total Xylenes | | | | | NA | NA | NA | NA | NA | NA |
| 4-Isopropyltoluene | | | | | 1.0 U | 1.0 U | 1.0 U | 1.0 U | 1.0 U | 1.0 U |
| **SEMIVOLATILE COMPOUNDS (ug/L)** | | | | | | | | | | |
| Dibromochloropropane | | | | | NA | NA | NA | NA | NA | NA |

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| | Applicable Criteria | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | Washington State (a) | | National Toxics Rule (b) | | | PZ-14 | | | | |
| | | | | | PZ-2 | (PZ-2-Dup) | PZ-2 | PZ-3 | PZ-3 | PZ-3 |
| | | Human | | Human | R652B | R652A | T609F | R661E | T609A | CU21A |
| | Ecological | Health | Ecological | Health | 2/13/1997 | 2/13/1997 | 8/27/1997 | 2/14/1997 | 8/28/1997 | 2/22/2001 |
| Phenol | | 1110000 | | 4600000 | 2.0 U | 2.0 U | 2.0 U | 2.0 U | 2.0 U | 2.0 U |
| Bis-(2-Chloroethyl) Ether | | 0.854 | | 1.4 | 2.0 U | 2.0 U | 2.0 U | 2.0 U | 2.0 U | 2.0 U |
| 2-Chlorophenol | | 96.7 | | 400 | 1.0 U | 1.0 U | 1.0 U | 1.0 U | 1.0 U | 1.0 U |
| 1,3-Dichlorobenzene | | | | 2600 | 1.0 U | 1.0 U | 1.0 U | 1.0 U | 1.0 U | 1.0 U |
| 1,4-Dichlorobenzene | | 4.86 | | 2600 | 1.0 U | 1.0 U | 1.0 U | 1.0 U | 1.0 U | 1.0 U |
| Benzyl Alcohol | | | | | 5.0 U | 5.0 U | 5.0 U | 5.0 U | 5.0 U | 5.0 U |
| 1,2-Dichlorobenzene | | 4200 | | 17000 | 1.0 U | 1.0 U | 1.0 U | 1.0 U | 1.0 U | 1.0 U |
| 2-Methylphenol | | | | | 2.0 U | 2.0 U | 2.0 U | 2.0 U | 2.0 U | 2.0 U |
| 2,2'-Oxybis(1-Chloropropane) | | 37.5 | | 170000 | 1.0 U | 1.0 U | 1.0 U | 1.0 U | 1.0 U | 1.0 U |
| N-Nitroso-Di-N-Propylamine | | 0.819 | | 1.4 | 2.0 U | 2.0 U | 2.0 U | 2.0 U | 2.0 U | 2.0 U |
| Hexachloroethane | | 5.33 | | 8.9 | 2.0 U | 2.0 U | 2.0 U | 2.0 U | 2.0 U | 2.0 U |
| Nitrobenzene | | 449 | | 1900 | 1.0 U | 1.0 U | 1.0 U | 1.0 U | 1.0 U | 1.0 U |
| Isophorone | | 1560 | | 600 | 1.0 U | 1.0 U | 1.0 U | 1.0 U | 1.0 U | 1.0 U |
| 2-Nitrophenol | | | | | 5.0 U | 5.0 U | 5.0 U | 5.0 U | 5.0 U | 5.0 U |
| 2,4-Dimethylphenol | | 553 | | 2300 | 3.0 U | 3.0 U | 3.0 U | 3.0 U | 3.0 U | 3.0 U |
| Benzoic Acid | | | | | 10 U | 10 U | 10 U | 10 U | 10 U | 10 U |
| bis(2-Chloroethoxy) Methane | | | | | 1.0 U | 1.0 U | 1.0 U | 1.0 U | 1.0 U | 1.0 U |
| 2,4-Dichlorophenol | | 191 | | 790 | 3.0 U | 3.0 U | 3.0 U | 3.0 U | 3.0 U | 3.0 U |
| 1,2,4-Trichlorobenzene | | 227 | | 940 | 1.0 U | 1.0 U | 1.0 U | 1.0 U | 1.0 U | 1.0 U |
| 4-Chloroaniline | | | | | 3.0 U | 3.0 U | 3.0 U | 3.0 U | 3.0 U | 3.0 U |
| Hexachlorobutadiene | | 29.9 | | 50 | 2.0 U | 2.0 U | 2.0 U | 2.0 U | 2.0 U | 2.0 U |
| 4-Chloro-3-methylphenol | | | | | 2.0 U | 2.0 U | 2.0 U | 2.0 U | 2.0 U | 2.0 U |
| 2-Methylnaphthalene | | | | | 1.0 U | 1.0 U | 1.0 U | 1.0 U | 1.0 U | 1.0 U |
| Hexachlorocyclopentadiene | | 3580 | | 17000 | 5.0 U | 5.0 U | 5.0 U | 5.0 U | 5.0 U | 5.0 U |
| 2,4,6-Trichlorophenol | | 3.93 | | 6.5 | 5.0 U | 5.0 U | 5.0 U | 5.0 U | 5.0 U | 5.0 U |
| 2,4,5-Trichlorophenol | | | | | 5.0 U | 5.0 U | 5.0 U | 5.0 U | 5.0 U | 5.0 U |
| 2-Chloronaphthalene | | | | 4300 | 1.0 U | 1.0 U | 1.0 U | 1.0 U | 1.0 U | 1.0 U |
| 2-Nitroaniline | | | | | 5.0 U | 5.0 U | 5.0 U | 5.0 U | 5.0 U | 5.0 U |
| Dimethylphthalate | | 72000 | | 2900000 | 1.0 U | 1.0 U | 1.0 U | 1.0 U | 1.0 U | 1.0 U |
| 3-Nitroaniline | | | | | 6.0 U | 6.0 U | 6.0 U | 6.0 U | 6.0 U | 6.0 U |
| 2,4-Dinitrophenol | | 3460 | | 14000 | 10 U | 10 U | 10 U | 10 U | 10 U | 10 U |
| 4-Nitrophenol | | | | | 5.0 U | 5.0 U | 5.0 U | 5.0 U | 5.0 U | 5.0 U |
| Dibenzofuran | | | | | 1.0 U | 1.0 U | 1.0 U | 1.0 U | 1.2 | 1.0 U |
| 2,6-Dinitrotoluene | | | | | 5.0 U | 5.0 U | 5.0 U | 5.0 U | 5.0 U | 5.0 U |

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|---|---|---|---|---|---|---|---|---|---|---|
| | Washington State (a) | | National Toxics Rule (b) | | | PZ-14 | | | | |
| | | | | | PZ-2 | (PZ-2-Dup) | PZ-2 | PZ-3 | PZ-3 | PZ-3 |
| | | Human | | Human | R652B | R652A | T609F | R661E | T609A | CU21A |
| | Ecological | Health | Ecological | Health | 2/13/1997 | 2/13/1997 | 8/27/1997 | 2/14/1997 | 8/28/1997 | 2/22/2001 |
| 2,4-Dinitrotoluene | | 1360 | | 9.1 | 5.0 U | 5.0 U | 5.0 U | 5.0 U | 5.0 U | 5.0 U |
| Diethylphthalate | | 28400 | | 120000 | 1.0 U | 1.0 U | 1.0 U | 1.0 U | 1.0 U | 1.0 U |
| 4-Chlorophenyl-phenylether | | | | | 1.0 U | 1.0 U | 1.0 U | 1.0 U | 1.0 U | 1.0 U |
| 4-Nitroaniline | | | | | 5.0 U | 5.0 U | 5.0 U | 5.0 U | 5.0 U | 5.0 U |
| 4,6-Dinitro-2-Methylphenol | | | | 765 | 10 U | 10 U | 10 U | 10 U | 10 U | 10 U |
| N-Nitrosodiphenylamine | | 9.73 | | 16 | 1.0 U | 1.0 U | 1.0 U | 1.0 U | 1.0 U | 1.0 U |
| 4-Bromophenyl-phenylether | | | | | 1.0 U | 1.0 U | 1.0 U | 1.0 U | 1.0 U | 1.0 U |
| Hexachlorobenzene | | 0.000466 | | 0.00077 | 1.0 U | 1.0 U | 1.0 U | 1.0 U | 1.0 U | 1.0 U |
| Pentachlorophenol | 7.9 | 4.91 | 7.9 | 8.2 | 5.0 U | 5.0 U | 5.0 U | 5.0 U | 5.0 U | 5.0 U |
| Carbazole | | | | | 1.0 U | 1.0 U | 1.0 U | 6.8 | 6.7 | 1.0 U |
| Di-n-Butylphthalate | | 2910 | | 12000 | 1.0 U | 1.0 U | 1.0 U | 1.0 U | 1.0 U | 1.4 |
| Butylbenzylphthalate | | 1250 | | 5200 | 1.0 U | 1.0 U | 1.0 U | 1.0 U | 1.0 U | 1.0 U |
| 3,3'-Dichlorobenzidine | | 0.0462 | | 0.077 | 5.0 U | 5.0 U | 5.0 U | 5.0 U | 5.0 U | 5.0 U |
| bis(2-Ethylhexyl)phthalate | | 3.56 | | 5.9 | 3.1 B | 1.0 U | 1.0 U | 1.0 U | 1.0 U | 1.0 U |
| Di-n-Octyl phthalate | | | | | 1.0 U | 1.0 U | 1.0 U | 1.0 U | 1.0 U | 1.0 U |
| 3-,4-Methylphenol | | | | | NA | NA | NA | NA | NA | NA |
| Diallate A | | | | | NA | NA | NA | NA | NA | NA |
| Diallate B | | | | | NA | NA | NA | NA | NA | NA |
| Isodrin | | | | | NA | NA | NA | NA | NA | NA |
| Chlorobenzilate | | | | | NA | NA | NA | NA | NA | NA |
| **PAHs (µg/L) (d)** | | | | | | | | | | |
| Naphthalene | | 4940 | | | 1.0 U | 1.0 U | 1.0 U | 1.0 U | 1.0 U | 1.0 U |
| Acenaphthylene | | | | | 1.0 U | 1.0 U | 1.0 U | 1.0 U | 1.0 U | 1.0 U |
| Acenaphthene | | 643 | | 2700 | 1.0 U | 1.0 U | 1.0 U | 27 | 22 | 29 |
| Fluorene | | 3460 | | 14000 | 1.0 U | 1.0 U | 1.0 U | 3.1 | 4.2 | 1.0 U |
| Phenanthrene | | | | | 1.0 U | 1.0 U | 1.0 U | 1.0 U | 1.0 U | 1.0 U |
| Anthracene | | 25900 | | 110000 | 1.0 U | 1.0 U | 1.0 U | 1.0 U | 1.0 U | 1.0 U |
| Fluoranthene | | 90.2 | | 370 | 1.0 U | 1.0 U | 1.0 U | 1.1 | 1.0 | 1.0 |
| Pyrene | | 2590 | | 11000 | 1.0 U | 1.0 U | 1.0 U | 1.0 U | 1.0 U | 1.0 U |
| Benzo(a)anthracene | | 0.0296 | | 0.031 | 1.0 U | 1.0 U | 1.0 U | 1.0 U | 1.0 U | 1.0 U |
| Chrysene | | 0.0296 | | 0.031 | 1.0 U | 1.0 U | 1.0 U | 1.0 U | 1.0 U | 1.0 U |
| Benzo(b)fluoranthene | | 0.0296 | | 0.031 | 1.0 U | 1.0 U | 1.0 U | 1.0 U | 1.0 U | 1.0 U |
| Benzo(k)fluoranthene | | 0.0296 | | 0.031 | 1.0 U | 1.0 U | 1.0 U | 1.0 U | 1.0 U | 1.0 U |

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| | Applicable Criteria | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | Washington State (a) | | National Toxics Rule (b) | | | PZ-14 | | | | |
| | | | | | PZ-2 | (PZ-2-Dup) | PZ-2 | PZ-3 | PZ-3 | PZ-3 |
| | | Human | | Human | R652B | R652A | T609F | R661E | T609A | CU21A |
| | Ecological | Health | Ecological | Health | 2/13/1997 | 2/13/1997 | 8/27/1997 | 2/14/1997 | 8/28/1997 | 2/22/2001 |
| Benzo(a)pyrene | | 0.0296 | | 0.031 | 1.0 U | 1.0 U | 1.0 U | 1.0 U | 1.0 U | 1.0 U |
| Indeno(1,2,3-cd)pyrene | | 0.0296 | | 0.031 | 1.0 U | 1.0 U | 1.0 U | 1.0 U | 1.0 U | 1.0 U |
| Dibenz(a,h)anthracene | | 0.0296 | | 0.031 | 1.0 U | 1.0 U | 1.0 U | 1.0 U | 1.0 U | 1.0 U |
| Benzo(g,h,i)perylene | | | | | 1.0 U | 1.0 U | 1.0 U | 1.0 U | 1.0 U | 1.0 U |
| cPAH TEQ | | | | | ND | ND | ND | ND | ND | ND |
| **PETROLEUM HYDROCARBONS (mg/L)** | | | | | | | | | | |
| **NWTPH-D extended** | | | | | | | | | | |
| Diesel Range Hydrocarbons | | 0.5 | | | NA | NA | NA | NA | NA | 0.25 U |
| Motor Oil | | 0.5 | | | NA | NA | NA | NA | NA | 0.50 U |
| **TOTAL METALS (mg/L)** | | | | | | | | | | |
| Arsenic | | | | | 0.05 U | 0.05 U | NA | 0.05 U | NA | 0.001 U |
| Beryllium | | | | | 0.001 U | 0.001 U | NA | 0.001 U | NA | NA |
| Chromium (c) | | | | | 0.005 U | 0.005 U | NA | 0.005 U | NA | 0.005 U |
| Copper | | | | | 0.002 U | 0.002 U | NA | 0.002 U | NA | 0.003 J |
| Iron | | | | | 0.02 U | 0.02 U | NA | 0.47 | NA | 0.67 J |
| Lead | | | | | 0.02 U | 0.02 U | NA | 0.02 U | NA | 0.001 UJ |
| Nickel | | | | | 0.01 U | 0.01 U | NA | 0.01 U | NA | 0.01 U |
| Selenium | | | | | 0.05 U | 0.05 U | NA | 0.05 | NA | 0.05 |
| Zinc | | | | | 0.004 U | 0.004 U | NA | 0.004 U | NA | 0.006 U |
| **Major Ions (total)** | | | | | | | | | | |
| Calcium | | | | | NA | NA | NA | NA | NA | NA |
| Magnesium | | | | | NA | NA | NA | NA | NA | NA |
| Potassium | | | | | NA | NA | NA | NA | NA | NA |
| Sodium | | | | | NA | NA | NA | NA | NA | NA |

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| | Applicable Criteria | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | Washington State (a) | | National Toxics Rule (b) | | | PZ-14 | | | | |
| | | | | | PZ-2 | (PZ-2-Dup) | PZ-2 | PZ-3 | PZ-3 | PZ-3 |
| | | Human | | Human | R652B | R652A | T609F | R661E | T609A | CU21A |
| | Ecological | Health | Ecological | Health | 2/13/1997 | 2/13/1997 | 8/27/1997 | 2/14/1997 | 8/28/1997 | 2/22/2001 |
| **DISSOLVED METALS (mg/L)** | | | | | | | | | | |
| Arsenic | 0.036 | 0.0000982 | 0.036 | 0.00014 | NA | NA | 0.05 U | NA | 0.05 U | 0.001 U |
| Beryllium | | 0.27 | | | NA | NA | 0.001 U | NA | 0.001 U | NA |
| Chromium (c) | 0.05 | 0.49 | 0.05 | | NA | NA | 0.005 U | NA | 0.005 U | 0.005 U |
| Copper | 0.0031 | 2.66 | 0.0024 | | NA | NA | 0.002 | NA | 0.003 | 0.002 U |
| Lead | 0.0081 | | 0.0081 | | NA | NA | 0.02 U | NA | 0.02 U | 0.001 U |
| Nickel | 0.0082 | 1.1 | 0.0082 | 4.6 | NA | NA | 0.01 U | NA | 0.01 U | 0.01 U |
| Selenium | 0.071 | 2.7 | 0.071 | 11 | NA | NA | 0.05 U | NA | 0.05 U | 0.06 |
| Zinc | 0.081 | 16.5 | 0.081 | 69 | NA | NA | 0.006 J | NA | 0.005 J | 0.006 U |
| **PESTICIDES (µg/L)** | | | | | | | | | | |
| alpha-BHC | | 0.00791 | | 0.013 | NA | NA | NA | NA | NA | NA |
| beta-BHC | | 0.0277 | | 0.046 | NA | NA | NA | NA | NA | NA |
| delta-BHC | | | | | NA | NA | NA | NA | NA | NA |
| gamma-BHC (Lindane) | 0.16 | 0.0384 | 0.16 | 0.063 | NA | NA | NA | NA | NA | NA |
| Heptachlor | 0.0036 | 0.000129 | 0.0036 | 0.00021 | NA | NA | NA | NA | NA | NA |
| Aldrin | 0.0019 | 0.000082 | 1.3 | 0.00014 | NA | NA | NA | NA | NA | NA |
| Heptachlor Epoxide | | 0.000064 | 0.0036 | 0.00011 | NA | NA | NA | NA | NA | NA |
| Endosulfan I | 0.0087 | 57.6 | 0.0087 | 2 | NA | NA | NA | NA | NA | NA |
| Dieldrin | 0.0019 | 0.000087 | 0.0019 | 0.00014 | NA | NA | NA | NA | NA | NA |
| 4,4'-DDE | 0.001 | 0.000356 | | 0.00059 | NA | NA | NA | NA | NA | NA |
| Endrin | 0.0023 | 0.196 | 0.0023 | 0.81 | NA | NA | NA | NA | NA | NA |
| Endosulfan II | 0.0087 | 57.6 | 0.0087 | 2 | NA | NA | NA | NA | NA | NA |
| 4,4'-DDD | 0.001 | 0.000504 | | 0.00084 | NA | NA | NA | NA | NA | NA |
| Endosulfan Sulfate | | | | 2 | NA | NA | NA | NA | NA | NA |
| 4,4'-DDT | 0.001 | 0.000356 | 0.001 | 0.00059 | NA | NA | NA | NA | NA | NA |
| Methoxychlor | | 8.36 | | | NA | NA | NA | NA | NA | NA |
| Endrin Ketone | | | | | NA | NA | NA | NA | NA | NA |
| Endrin Aldehyde | | | | 0.81 | NA | NA | NA | NA | NA | NA |
| gamma Chlordane | 0.004 | 0.0013 | 0.004 | 0.00059 | NA | NA | NA | NA | NA | NA |
| alpha Chlordane | | | | | NA | NA | NA | NA | NA | NA |
| Toxaphene | 0.0002 | 0.00045 | 0.0002 | 0.00075 | NA | NA | NA | NA | NA | NA |
| **PCBs (ug/L)** | | | | | | | | | | |
| Aroclor 1016 | 0.03 | 0.00582 | 0.03 | 0.000045 | 1.0 U | 1.0 U | 1.0 U | 1.0 U | 1.0 U | NA |
| Aroclor 1242 | 0.03 | | 0.03 | 0.000045 | 1.0 U | 1.0 U | 1.0 U | 1.0 U | 1.0 U | NA |
| Aroclor 1248 | 0.03 | | 0.03 | 0.000045 | 1.0 U | 1.0 U | 1.0 U | 1.0 U | 1.0 U | NA |
| Aroclor 1254 | 0.03 | 0.00166 | 0.03 | 0.000045 | 1.0 U | 1.0 U | 1.0 U | 1.0 U | 1.0 U | NA |
| Aroclor 1260 | 0.03 | | 0.03 | 0.000045 | 1.0 U | 1.0 U | 1.0 U | 1.0 U | 1.0 U | NA |
| Aroclor 1221 | 0.03 | | 0.03 | 0.000045 | 2.0 U | 2.0 U | 2.0 U | 2.0 U | 2.0 U | NA |
| Aroclor 1232 | 0.03 | | 0.03 | 0.000045 | 1.0 U | 1.0 U | 1.0 U | 1.0 U | 1.0 U | NA |
| Total PCBs | | | | 0.00011 | ND | ND | ND | ND | ND | NA |

Appendix A. Rayonier Mill Site Historic Groundwater Monitoring Data.

| | Applicable Criteria | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | Washington State (a) | | National Toxics Rule (b) | | | | | | | |
| | Ecological | Human Health | Ecological | Human Health | PZ-2 R652B 2/13/1997 | PZ-14 (PZ-2-Dup) R652A 2/13/1997 | PZ-2 T609F 8/27/1997 | PZ-3 R661E 2/14/1997 | PZ-3 T609A 8/28/1997 | PZ-3 CU21A 2/22/2001 |
| **INDICATOR GEOCHEMICAL PARAMETERS (mg/L)** | | | | | | | | | | |
| Sodium, Dissolved | | | | | NA | NA | NA | NA | NA | NA |
| Potassium, Dissolved | | | | | NA | NA | NA | NA | NA | NA |
| Calcium, Dissolved | | | | | NA | NA | NA | NA | NA | NA |
| Magnesium, Dissolved | | | | | NA | NA | NA | NA | NA | NA |
| Chloride | | | | | 42 | 40 | 65 | 280 | 25 | 250 |
| Alkalinity | | | | | NA | NA | NA | NA | NA | NA |
| Carbonate (Alkalinity) | | | | | NA | NA | NA | NA | NA | NA |
| Bicarbonate (Alkalinity) | | | | | NA | NA | NA | NA | NA | NA |
| Sulfate | | | | | 87 | 87 | 120 | 360 | 25 | 1,100 |
| Iron, Dissolved | | | | | NA | NA | 0.02 U | NA | 0.89 | 0.51 J |
| **CONVENTIONAL PARAMETERS** | | | | | | | | | | |
| Total Dissolved Solids (mg/L) | | | | | NA | NA | NA | NA | NA | NA |
| Total Suspended Solids (mg/L) | | | | | NA | NA | NA | NA | NA | NA |
| Bromide (mg/L) | | | | | NA | NA | NA | NA | NA | NA |
| Fluoride (mg/L) | | | | | NA | NA | NA | NA | NA | NA |
| N-Ammonia (total) (mg-N/L) | | | | | 0.73 | 0.75 | 0.82 | 19 | 2.1 | 19 |
| N-Ammonia (un-ionized) (mg/L) | 0.035 | | | | 0.73 | 0.75 | 0.78 | 0.03 | 0.01 | 0.00 |
| N-Nitrate (mg-N/L) | | | | | 0.032 | 0.028 | NA | 0.036 | NA | NA |
| N-Nitrite (mg-N/L) | | | | | 0.010 U | 0.010 U | NA | 0.012 | NA | NA |
| Nitrate + Nitrite (NO2+NO3) (mg-N/L) | | | | | 0.032 | 0.028 | 0.010 U | 0.048 | 0.010 | 0.24 J |
| Ortho-Phosphorous (mg/L) | | | | | NA | NA | NA | NA | NA | NA |
| Chemical Oxygen Demand (mg/L) | | | | | 13 | 15 | NA | 28 | NA | NA |
| Total Organic Carbon (mg/L) | | | | | 2.7 | 2.5 U | 2.3 | 6.9 | 2.9 | 15 J |
| Tannins & Lignins (mg/L) | | | | | 0.450 | 0.449 | NA | 4.43 | NA | 5.72 |
| Field pH (avg) | | 7-8.5 | 6.5-8.5 | | 11.98 | 11.96 | 10.85 | 6.73 | 7.06 | 7.10 |
| Field Temperature (°C) (avg) | | | | | 15.2 | 15.3 | 16.7 | 15.3 | 14.8 | 11.9 |
| Field Conductivity (µS) (avg) | | | | | 638 | 636 | 773 | 1845 | 306 | 3610 |
| Field Dissolved Oxygen (mg/L) | | | | | NM | NM | NM | NM | NM | NM |
| Field Turbidity (NTU) | | | | | NM | NM | NM | NM | NM | NM |
| Turbidity (NTU) | | | | | 1.2 | 1.0 | 0.24 | 77 | 25 | NA |
| Field Redox (mV) | | | | | NM | NM | NM | NM | NM | NM |

Appendix A. Rayonier Mill Site Historic Groundwater Monitoring Data.

| | Applicable Criteria | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | Washington State (a) | | National Toxics Rule (b) | | FR-5 | | | | | |
| | | | | | Dup of PZ-3 | PZ-3 | PZ-3 | PZ-4 | PZ-4 | PZ-4 |
| | | Human | | Human | CU21B | DN18B | FB89D | R652E | T609G | CU22A |
| | Ecological | Health | Ecological | Health | 2/22/2001 | 8/21/2001 | 12/12/2002 | 2/13/1997 | 8/27/1997 | 2/22/2001 |
| **VOLATILE COMPOUNDS (ug/L)** | | | | | | | | | | |
| Chloromethane | | 133 | | | 1.0 U | 0.2 U | 0.2 U | 2.0 U | 2.0 U | 1.0 U |
| Vinyl Chloride | | 3.69 | | 525 | 1.0 U | 0.2 U | 0.2 U | 2.0 U | 2.0 U | 1.0 U |
| Chloroethane | | | | | 1.0 U | 0.2 U | 0.2 U | 2.0 U | 2.0 U | 1.0 U |
| Methylene Chloride | | 960 | | 1600 | 2.0 U | 0.3 U | 0.3 U | 2.0 U | 2.0 U | 2.0 U |
| Acetone | | | | | 5.0 U | 1.0 U | 1.4 U | 5.0 U | 5.7 | 7.4 |
| Carbon Disulfide | | | | | 1.0 U | 0.2 U | 0.2 U | 1.0 U | 1.0 U | 1.0 U |
| 1,1-Dichloroethene | | 1.93 | | 3.2 | 1.0 U | 0.2 U | 0.2 U | 1.0 U | 1.0 U | 1.0 U |
| 1,1-Dichloroethane | | | | | 1.0 U | 0.2 U | 0.2 U | 1.0 U | 1.0 U | 1.0 U |
| trans-1,2-Dichloroethene | | 32800 | | 140000 | 1.0 U | 0.2 U | 0.2 U | 1.0 U | 1.0 U | 1.0 U |
| cis-1,2-Dichloroethene | | | | | 1.0 U | 0.2 U | 0.2 U | 1.0 U | 1.0 U | 1.0 U |
| Chloroform | | 283 | | 470 | 1.0 U | 0.2 U | 0.2 U | 1.0 U | 1.0 U | 1.0 U |
| 1,2-Dichloroethane | | 59.4 | | 99 | 1.0 U | 0.2 U | 0.2 U | 1.0 U | 1.0 U | 1.0 U |
| 2-Butanone | | | | | 5.0 U | 1.0 U | 1.0 U | 5.0 U | 5.0 U | 5.0 U |
| 1,1,1-Trichloroethane | | 417000 | | | 1.0 U | 0.2 U | 0.2 U | 1.0 U | 1.0 U | 1.0 U |
| Carbon Tetrachloride | | 2.66 | | 4.4 | 1.0 U | 0.2 U | 0.2 U | 1.0 U | 1.0 U | 1.0 U |
| Vinyl Acetate | | | | | 5.0 U | 0.2 U | 0.2 U | 5.0 U | 5.0 U | 5.0 U |
| Bromodichloromethane | | 28 | | 22 | 1.0 U | 0.2 U | 0.2 U | 1.0 U | 1.0 U | 1.0 U |
| 1,2-Dichloropropane | | 23.2 | | 39 | 1.0 U | 0.2 U | 0.2 U | 1.0 U | 1.0 U | 1.0 U |
| cis-1,3-Dichloropropene | | | | | 1.0 U | 0.2 U | 0.2 U | 1.0 U | 1.0 U | 1.0 U |
| Trichloroethene | | 56 | | 81 | 1.0 U | 0.2 U | 0.2 U | 1.0 U | 1.0 U | 1.0 U |
| Dibromochloromethane | | 20.6 | | 34 | 1.0 U | 0.2 U | 0.2 U | 1.0 U | 1.0 U | 1.0 U |
| 1,1,2-Trichloroethane | | 25.3 | | 42 | 1.0 U | 0.2 U | 0.2 U | 1.0 U | 1.0 U | 1.0 U |
| Benzene | | 22.7 | | 71 | 1.0 U | 0.2 U | 0.2 U | 1.0 U | 1.0 U | 1.0 U |
| trans-1,3-Dichloropropene | | | | | 1.0 U | 0.2 U | 0.2 U | 1.0 U | 1.0 U | 1.0 U |
| Bromoform | | 219 | | 360 | 1.0 U | 0.5 U | 0.2 U | 1.0 U | 1.0 U | 1.0 U |
| 4-Methyl-2-Pentanone | | | | | 5.0 U | 1.0 U | 1.0 U | 5.0 U | 5.0 U | 5.0 U |
| 2-Hexanone | | | | | 5.0 U | 1.0 U | 1.0 U | 5.0 U | 5.0 U | 5.0 U |
| Tetrachloroethene | | 4.15 | | 8.85 | 1.0 U | 0.2 U | 0.2 U | 1.0 U | 1.0 U | 1.0 U |
| 1,1,2,2-Tetrachloroethane | | 6.48 | | 11 | 1.0 U | 0.2 U | 0.2 U | 1.0 U | 1.0 U | 1.0 U |
| Toluene | | 48500 | | 200000 | 1.0 U | 0.2 U | 0.2 U | 1.0 U | 1.0 U | 1.0 U |
| Chlorobenzene | | 5030 | | 21000 | 1.0 U | 0.2 U | 0.2 U | 1.0 U | 1.0 U | 1.0 U |
| Ethylbenzene | | 6910 | | 29000 | 1.0 U | 0.2 U | 0.2 U | 1.0 U | 1.0 U | 1.0 U |
| Styrene | | | | | 1.0 U | 0.2 U | 0.2 U | 1.0 U | 1.0 U | 1.0 U |
| m,p-Xylene | | | | | 1.0 U | 0.4 U | 0.4 U | 1.0 U | 1.0 U | 1.0 U |
| o-Xylene | | | | | 1.0 U | 0.2 U | 0.2 U | 1.0 U | 1.0 U | 1.0 U |
| Total Xylenes | | | | | NA | 0.6 U | 0.6 U | NA | NA | NA |
| 4-Isopropyltoluene | | | | | 1.0 U | 0.2 U | 0.2 U | 1.0 U | 1.0 U | 1.0 U |
| **SEMIVOLATILE COMPOUNDS (ug/L)** | | | | | | | | | | |
| Dibromochloropropane | | | | | NA | 5.0 U | 5.0 U | NA | NA | NA |

Appendix A. Rayonier Mill Site Historic Groundwater Monitoring Data.

| | Applicable Criteria | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | Washington State (a) | | National Toxics Rule (b) | | FR-5 | | | | | |
| | | | | | Dup of PZ-3 | PZ-3 | PZ-3 | PZ-4 | PZ-4 | PZ-4 |
| | | Human | | Human | CU21B | DN18B | FB89D | R652E | T609G | CU22A |
| | Ecological | Health | Ecological | Health | 2/22/2001 | 8/21/2001 | 12/12/2002 | 2/13/1997 | 8/27/1997 | 2/22/2001 |
| Phenol | | 1110000 | | 4600000 | 2.0 U | 2.0 U | 2.0 U | 2.0 U | 2.0 U | 2.0 U |
| Bis-(2-Chloroethyl) Ether | | 0.854 | | 1.4 | 2.0 U | 2.0 U | 2.0 U | 2.0 U | 2.0 U | 2.0 U |
| 2-Chlorophenol | | 96.7 | | 400 | 1.0 U | 1.0 U | 1.0 U | 1.0 U | 1.0 U | 1.0 U |
| 1,3-Dichlorobenzene | | | | 2600 | 1.0 U | 1.0 U | 1.0 U | 1.0 U | 1.0 U | 1.0 U |
| 1,4-Dichlorobenzene | | 4.86 | | 2600 | 1.0 U | 1.0 U | 1.0 U | 1.0 U | 1.0 U | 1.0 U |
| Benzyl Alcohol | | | | | 5.0 U | 5.0 U | 5.0 U | 5.0 U | 5.0 U | 5.0 U |
| 1,2-Dichlorobenzene | | 4200 | | 17000 | 1.0 U | 1.0 U | 1.0 U | 1.0 U | 1.0 U | 1.0 U |
| 2-Methylphenol | | | | | 2.0 U | 1.0 U | 1.0 U | 2.0 U | 2.0 U | 2.0 U |
| 2,2'-Oxybis(1-Chloropropane) | | 37.5 | | 170000 | 1.0 U | 1.0 U | 1.0 U | 1.0 U | 1.0 U | 1.0 U |
| N-Nitroso-Di-N-Propylamine | | 0.819 | | 1.4 | 2.0 U | 2.0 U | 2.0 U | 2.0 U | 2.0 U | 2.0 U |
| Hexachloroethane | | 5.33 | | 8.9 | 2.0 U | 2.0 U | 2.0 U | 2.0 U | 2.0 U | 2.0 U |
| Nitrobenzene | | 449 | | 1900 | 1.0 U | 1.0 U | 1.0 U | 1.0 U | 1.0 U | 1.0 U |
| Isophorone | | 1560 | | 600 | 1.0 U | 1.0 U | 1.0 U | 1.0 U | 1.0 U | 1.0 U |
| 2-Nitrophenol | | | | | 5.0 U | 5.0 U | 5.0 U | 5.0 U | 5.0 U | 5.0 U |
| 2,4-Dimethylphenol | | 553 | | 2300 | 3.0 U | 3.0 U | 3.0 U | 3.0 U | 3.0 U | 3.0 U |
| Benzoic Acid | | | | | 10 U | 10 U | 50 U | 10 U | 10 U | 10 U |
| bis(2-Chloroethoxy) Methane | | | | | 1.0 U | 1.0 U | 1.0 U | 1.0 U | 1.0 U | 1.0 U |
| 2,4-Dichlorophenol | | 191 | | 790 | 3.0 U | 3.0 U | 3.0 U | 3.0 U | 3.0 U | 3.0 U |
| 1,2,4-Trichlorobenzene | | 227 | | 940 | 1.0 U | 1.0 U | 1.0 U | 1.0 U | 1.0 U | 1.0 U |
| 4-Chloroaniline | | | | | 3.0 U | 3.0 U | 3.0 U | 3.0 U | 3.0 U | 3.0 U |
| Hexachlorobutadiene | | 29.9 | | 50 | 2.0 U | 2.0 U | 2.0 U | 2.0 U | 2.0 U | 2.0 U |
| 4-Chloro-3-methylphenol | | | | | 2.0 U | 2.0 U | 2.0 U | 2.0 U | 2.0 U | 2.0 U |
| 2-Methylnaphthalene | | | | | 1.0 U | 1.0 U | 1.0 U | 1.0 U | 1.0 U | 1.0 U |
| Hexachlorocyclopentadiene | | 3580 | | 17000 | 5.0 U | 5.0 U | 5.0 U | 5.0 U | 5.0 U | 5.0 U |
| 2,4,6-Trichlorophenol | | 3.93 | | 6.5 | 5.0 U | 5.0 U | 5.0 U | 5.0 U | 5.0 U | 5.0 U |
| 2,4,5-Trichlorophenol | | | | | 5.0 U | 5.0 U | 5.0 U | 5.0 U | 5.0 U | 5.0 U |
| 2-Chloronaphthalene | | | | 4300 | 1.0 U | 1.0 U | 1.0 U | 1.0 U | 1.0 U | 1.0 U |
| 2-Nitroaniline | | | | | 5.0 U | 5.0 U | 5.0 U | 5.0 U | 5.0 U | 5.0 U |
| Dimethylphthalate | | 72000 | | 2900000 | 1.0 U | 1.0 U | 1.0 U | 1.0 U | 1.0 U | 1.0 U |
| 3-Nitroaniline | | | | | 6.0 U | 6.0 U | 6.0 U | 6.0 U | 6.0 U | 6.0 U |
| 2,4-Dinitrophenol | | 3460 | | 14000 | 10 U | 10 U | 25 U | 10 U | 10 U | 10 U |
| 4-Nitrophenol | | | | | 5.0 U | 5.0 U | 5.0 U | 5.0 U | 5.0 U | 5.0 U |
| Dibenzofuran | | | | | 1.0 U | 1.0 U | 1.0 U | 1.0 U | 1.0 U | 1.0 U |
| 2,6-Dinitrotoluene | | | | | 5.0 U | 5.0 U | 5.0 U | 5.0 U | 5.0 U | 5.0 U |

Appendix A. Rayonier Mill Site Historic Groundwater Monitoring Data.

| | Applicable Criteria | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | Washington State (a) | | National Toxics Rule (b) | | FR-5 | | | | | |
| | | | | | Dup of PZ-3 | PZ-3 | PZ-3 | PZ-4 | PZ-4 | PZ-4 |
| | | Human | | Human | CU21B | DN18B | FB89D | R652E | T609G | CU22A |
| | Ecological | Health | Ecological | Health | 2/22/2001 | 8/21/2001 | 12/12/2002 | 2/13/1997 | 8/27/1997 | 2/22/2001 |
| 2,4-Dinitrotoluene | | 1360 | | 9.1 | 5.0 U | 5.0 U | 5.0 U | 5.0 U | 5.0 U | 5.0 U |
| Diethylphthalate | | 28400 | | 120000 | 1.0 U | 1.0 U | 1.0 U | 1.0 U | 1.0 U | 1.0 U |
| 4-Chlorophenyl-phenylether | | | | | 1.0 U | 1.0 U | 1.0 U | 1.0 U | 1.0 U | 1.0 U |
| 4-Nitroaniline | | | | | 5.0 U | 5.0 U | 5.0 U | 5.0 U | 5.0 U | 5.0 U |
| 4,6-Dinitro-2-Methylphenol | | | | 765 | 10 U | 10 U | 15 U | 10 U | 10 U | 10 U |
| N-Nitrosodiphenylamine | | 9.73 | | 16 | 1.0 U | 1.0 U | 1.0 U | 1.0 U | 1.0 U | 1.0 U |
| 4-Bromophenyl-phenylether | | | | | 1.0 U | 1.0 U | 1.0 U | 1.0 U | 1.0 U | 1.0 U |
| Hexachlorobenzene | | 0.000466 | | 0.00077 | 1.0 U | 1.0 U | 1.0 U | 1.0 U | 1.0 U | 1.0 U |
| Pentachlorophenol | 7.9 | 4.91 | 7.9 | 8.2 | 5.0 U | 5.0 U | 5.0 U | 5.0 U | 5.0 U | 5.0 U |
| Carbazole | | | | | 1.0 U | 1.0 U | 1.0 U | 1.0 U | 1.0 U | 1.0 U |
| Di-n-Butylphthalate | | 2910 | | 12000 | 1.2 | 1.0 U | 1.0 U | 1.0 U | 1.0 U | 1.0 U |
| Butylbenzylphthalate | | 1250 | | 5200 | 1.0 U | 1.0 U | 1.0 U | 1.0 U | 1.0 U | 1.0 U |
| 3,3'-Dichlorobenzidine | | 0.0462 | | 0.077 | 5.0 U | 5.0 U | 5.0 U | 5.0 U | 5.0 U | 5.0 U |
| bis(2-Ethylhexyl)phthalate | | 3.56 | | 5.9 | 1.0 U | 4.9 U | 1.0 U | 1.0 U | 1.0 U | 1.0 U |
| Di-n-Octyl phthalate | | | | | 1.0 U | 1.0 U | 1.0 U | 1.0 U | 1.0 U | 1.0 U |
| 3-,4-Methylphenol | | | | | NA | 1.0 U | 1.0 U | NA | NA | NA |
| Diallate A | | | | | NA | 2.0 U | 5.0 U | NA | NA | NA |
| Diallate B | | | | | NA | 2.0 U | 5.0 U | NA | NA | NA |
| Isodrin | | | | | NA | 5.0 U | 5.0 U | NA | NA | NA |
| Chlorobenzilate | | | | | NA | 2.0 U | 5.0 U | NA | NA | NA |
| **PAHs (µg/L) (d)** | | | | | | | | | | |
| Naphthalene | | 4940 | | | 1.0 U | 0.10 U | 0.10 U | 1.0 U | 1.0 U | 1.0 U |
| Acenaphthylene | | | | | 1.0 U | 0.10 U | 0.10 U | 1.0 U | 1.0 U | 1.0 U |
| Acenaphthene | | 643 | | 2700 | 30 | 21 | 15 | 1.0 U | 1.0 U | 1.0 U |
| Fluorene | | 3460 | | 14000 | 1.0 U | 0.10 U | 0.10 U | 1.0 U | 1.0 U | 1.0 U |
| Phenanthrene | | | | | 1.0 U | 0.10 U | 0.10 U | 1.0 U | 1.0 U | 1.0 U |
| Anthracene | | 25900 | | 110000 | 1.0 U | 0.26 | 0.15 | 1.0 U | 1.0 U | 1.0 U |
| Fluoranthene | | 90.2 | | 370 | 1.0 U | 0.82 | 0.56 | 1.0 U | 1.0 U | 1.0 U |
| Pyrene | | 2590 | | 11000 | 1.0 U | 0.38 | 0.31 | 1.0 U | 1.0 U | 1.0 U |
| Benzo(a)anthracene | | 0.0296 | | 0.031 | 1.0 U | 0.10 U | 0.10 U | 1.0 U | 1.0 U | 1.0 U |
| Chrysene | | 0.0296 | | 0.031 | 1.0 U | 0.10 U | 0.10 U | 1.0 U | 1.0 U | 1.0 U |
| Benzo(b)fluoranthene | | 0.0296 | | 0.031 | 1.0 U | 0.10 U | 0.10 U | 1.0 U | 1.0 U | 1.0 U |
| Benzo(k)fluoranthene | | 0.0296 | | 0.031 | 1.0 U | 0.10 U | 0.10 U | 1.0 U | 1.0 U | 1.0 U |

Appendix A. Rayonier Mill Site Historic Groundwater Monitoring Data.

| | Applicable Criteria | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | Washington State (a) | | National Toxics Rule (b) | | FR-5 | | | | | |
| | | | | | Dup of PZ-3 | PZ-3 | PZ-3 | PZ-4 | PZ-4 | PZ-4 |
| | | Human | | Human | CU21B | DN18B | FB89D | R652E | T609G | CU22A |
| | Ecological | Health | Ecological | Health | 2/22/2001 | 8/21/2001 | 12/12/2002 | 2/13/1997 | 8/27/1997 | 2/22/2001 |
| Benzo(a)pyrene | | 0.0296 | | 0.031 | 1.0 U | 0.10 U | 0.10 U | 1.0 U | 1.0 U | 1.0 U |
| Indeno(1,2,3-cd)pyrene | | 0.0296 | | 0.031 | 1.0 U | 0.10 U | 0.10 U | 1.0 U | 1.0 U | 1.0 U |
| Dibenz(a,h)anthracene | | 0.0296 | | 0.031 | 1.0 U | 0.10 U | 0.10 U | 1.0 U | 1.0 U | 1.0 U |
| Benzo(g,h,i)perylene | | | | | 1.0 U | 0.10 U | 0.10 U | 1.0 U | 1.0 U | 1.0 U |
| cPAH TEQ | | | | | ND | ND | ND | ND | ND | ND |
| **PETROLEUM HYDROCARBONS (mg/L)** | | | | | | | | | | |
| **NWTPH-D extended** | | | | | | | | | | |
| Diesel Range Hydrocarbons | | 0.5 | | | 0.25 U | 0.25 U | 0.25 U | NA | NA | 0.25 U |
| Motor Oil | | 0.5 | | | 0.50 U | 0.50 U | 0.50 U | NA | NA | 0.50 U |
| **TOTAL METALS (mg/L)** | | | | | | | | | | |
| Arsenic | | | | | 0.001 U | 0.0006 | 0.0007 | 0.05 U | NA | 0.004 |
| Beryllium | | | | | NA | 0.001 U | 0.001 U | 0.001 U | NA | NA |
| Chromium (c) | | | | | 0.005 U | 0.0018 | 0.0025 | 0.005 U | NA | 0.005 U |
| Copper | | | | | 0.010 J | 0.0053 | 0.0081 | 0.002 U | NA | 0.002 |
| Iron | | | | | 2.82 J | 1.38 | 2.99 | 30.1 | NA | 20.1 J |
| Lead | | | | | 0.005 J | 0.001 U | 0.002 | 0.02 U | NA | 0.003 |
| Nickel | | | | | 0.01 U | 0.0064 | 0.0084 | 0.01 U | NA | 0.01 U |
| Selenium | | | | | 0.05 U | 0.0013 | 0.0013 | 0.08 | NA | 0.05 U |
| Zinc | | | | | 0.006 U | 0.007 | 0.012 | 0.004 U | NA | 0.006 U |
| **Major Ions (total)** | | | | | | | | | | |
| Calcium | | | | | NA | 256 | 220 | NA | NA | NA |
| Magnesium | | | | | NA | 55.3 | 46.9 | NA | NA | NA |
| Potassium | | | | | NA | 51.8 | 48.3 | NA | NA | NA |
| Sodium | | | | | NA | 293 | 258 | NA | NA | NA |

Appendix A. Rayonier Mill Site Historic Groundwater Monitoring Data.

| | Applicable Criteria | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | Washington State (a) | | National Toxics Rule (b) | | FR-5 | | | | | |
| | | | | | Dup of PZ-3 | PZ-3 | PZ-3 | PZ-4 | PZ-4 | PZ-4 |
| | | Human | | Human | CU21B | DN18B | FB89D | R652E | T609G | CU22A |
| | Ecological | Health | Ecological | Health | 2/22/2001 | 8/21/2001 | 12/12/2002 | 2/13/1997 | 8/27/1997 | 2/22/2001 |
| **DISSOLVED METALS (mg/L)** | | | | | | | | | | |
| Arsenic | 0.036 | 0.0000982 | 0.036 | 0.00014 | 0.001 U | 0.0006 | 0.0006 | NA | 0.05 U | 0.003 |
| Beryllium | | 0.27 | | | NA | 0.001 U | 0.001 U | NA | 0.001 U | NA |
| Chromium (c) | 0.05 | 0.49 | 0.05 | | 0.005 U | 0.0021 | 0.0041 | NA | 0.005 U | 0.005 U |
| Copper | 0.0031 | 2.66 | 0.0024 | | 0.002 U | 0.0028 | 0.0022 | NA | 0.002 U | 0.002 U |
| Lead | 0.0081 | | 0.0081 | | 0.001 U | 0.001 U | 0.001 U | NA | 0.02 U | 0.001 U |
| Nickel | 0.0082 | 1.1 | 0.0082 | 4.6 | 0.01 U | 0.0064 | 0.0079 | NA | 0.01 U | 0.01 U |
| Selenium | 0.071 | 2.7 | 0.071 | 11 | 0.05 | 0.0015 | 0.0014 | NA | 0.05 | 0.05 U |
| Zinc | 0.081 | 16.5 | 0.081 | 69 | 0.006 U | 0.006 | 0.008 | NA | 0.004 UJ | 0.006 U |
| **PESTICIDES (µg/L)** | | | | | | | | | | |
| alpha-BHC | | 0.00791 | | 0.013 | NA | 0.050 UJ | 0.051 U | NA | NA | NA |
| beta-BHC | | 0.0277 | | 0.046 | NA | 0.050 UJ | 0.051 U | NA | NA | NA |
| delta-BHC | | | | | NA | 0.050 UJ | 0.051 U | NA | NA | NA |
| gamma-BHC (Lindane) | 0.16 | 0.0384 | 0.16 | 0.063 | NA | 0.050 UJ | 0.051 U | NA | NA | NA |
| Heptachlor | 0.0036 | 0.000129 | 0.0036 | 0.00021 | NA | 0.050 UJ | 0.051 U | NA | NA | NA |
| Aldrin | 0.0019 | 0.000082 | 1.3 | 0.00014 | NA | 0.050 UJ | 0.051 U | NA | NA | NA |
| Heptachlor Epoxide | | 0.000064 | 0.0036 | 0.00011 | NA | 0.050 UJ | 0.051 U | NA | NA | NA |
| Endosulfan I | 0.0087 | 57.6 | 0.0087 | 2 | NA | 0.050 UJ | 0.051 U | NA | NA | NA |
| Dieldrin | 0.0019 | 0.000087 | 0.0019 | 0.00014 | NA | 0.10 UJ | 0.10 U | NA | NA | NA |
| 4,4'-DDE | 0.001 | 0.000356 | | 0.00059 | NA | 0.10 UJ | 0.10 U | NA | NA | NA |
| Endrin | 0.0023 | 0.196 | 0.0023 | 0.81 | NA | 0.10 UJ | 0.10 U | NA | NA | NA |
| Endosulfan II | 0.0087 | 57.6 | 0.0087 | 2 | NA | 0.10 UJ | 0.10 U | NA | NA | NA |
| 4,4'-DDD | 0.001 | 0.000504 | | 0.00084 | NA | 0.10 UJ | 0.10 U | NA | NA | NA |
| Endosulfan Sulfate | | | | 2 | NA | 0.10 UJ | 0.10 U | NA | NA | NA |
| 4,4'-DDT | 0.001 | 0.000356 | 0.001 | 0.00059 | NA | 0.10 UJ | 0.10 U | NA | NA | NA |
| Methoxychlor | | 8.36 | | | NA | 0.50 UJ | 0.51 U | NA | NA | NA |
| Endrin Ketone | | | | | NA | 0.10 UJ | 0.10 U | NA | NA | NA |
| Endrin Aldehyde | | | | 0.81 | NA | 0.10 UJ | 0.10 U | NA | NA | NA |
| gamma Chlordane | 0.004 | 0.0013 | 0.004 | 0.00059 | NA | 0.050 UJ | 0.051 U | NA | NA | NA |
| alpha Chlordane | | | | | NA | 0.050 UJ | 0.051 U | NA | NA | NA |
| Toxaphene | 0.0002 | 0.00045 | 0.0002 | 0.00075 | NA | 5.0 UJ | 5.1 U | NA | NA | NA |
| **PCBs (ug/L)** | | | | | | | | | | |
| Aroclor 1016 | 0.03 | 0.00582 | 0.03 | 0.000045 | NA | NA | NA | 1.0 U | 1.0 U | NA |
| Aroclor 1242 | 0.03 | | 0.03 | 0.000045 | NA | NA | NA | 1.0 U | 1.0 U | NA |
| Aroclor 1248 | 0.03 | | 0.03 | 0.000045 | NA | NA | NA | 1.0 U | 1.0 U | NA |
| Aroclor 1254 | 0.03 | 0.00166 | 0.03 | 0.000045 | NA | NA | NA | 1.0 U | 1.0 U | NA |
| Aroclor 1260 | 0.03 | | 0.03 | 0.000045 | NA | NA | NA | 1.0 U | 1.0 U | NA |
| Aroclor 1221 | 0.03 | | 0.03 | 0.000045 | NA | NA | NA | 2.0 U | 2.0 U | NA |
| Aroclor 1232 | 0.03 | | 0.03 | 0.000045 | NA | NA | NA | 1.0 U | 1.0 U | NA |
| Total PCBs | | | | 0.00011 | NA | NA | NA | ND | ND | NA |

Appendix A. Rayonier Mill Site Historic Groundwater Monitoring Data.

| | Applicable Criteria | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | Washington State (a) | | National Toxics Rule (b) | | FR-5 | | | | | |
| | | | | | Dup of PZ-3 | PZ-3 | PZ-3 | PZ-4 | PZ-4 | PZ-4 |
| | | Human | | Human | CU21B | DN18B | FB89D | R652E | T609G | CU22A |
| | Ecological | Health | Ecological | Health | 2/22/2001 | 8/21/2001 | 12/12/2002 | 2/13/1997 | 8/27/1997 | 2/22/2001 |
| **INDICATOR GEOCHEMICAL PARAMETERS (mg/L)** | | | | | | | | | | |
| Sodium, Dissolved | | | | | NA | 313 | 264 | NA | NA | NA |
| Potassium, Dissolved | | | | | NA | 56.1 | 48.7 | NA | NA | NA |
| Calcium, Dissolved | | | | | NA | 275 | 230 | NA | NA | NA |
| Magnesium, Dissolved | | | | | NA | 60.4 | 49.6 | NA | NA | NA |
| Chloride | | | | | 260 | 150 | 110 | 360 | 350 | 40 |
| Alkalinity | | | | | NA | 460 | 440 | NA | NA | NA |
| Carbonate (Alkalinity) | | | | | NA | 1.0 U | 1.0 U | NA | NA | NA |
| Bicarbonate (Alkalinity) | | | | | NA | 460 | 440 | NA | NA | NA |
| Sulfate | | | | | 1,100 | 1000 | 810 | 120 | 63 | 360 |
| Iron, Dissolved | | | | | 0.85 J | 1.55 | 2.46 | NA | 34.7 | 13.2 J |
| **CONVENTIONAL PARAMETERS** | | | | | | | | | | |
| Total Dissolved Solids (mg/L) | | | | | NA | 2200 | 1700 | NA | NA | NA |
| Total Suspended Solids (mg/L) | | | | | NA | 2.7 | 6.3 | NA | NA | NA |
| Bromide (mg/L) | | | | | NA | 50 U | 10 U | NA | NA | NA |
| Fluoride (mg/L) | | | | | NA | 0.10 | 0.20 | NA | NA | NA |
| N-Ammonia (total) (mg-N/L) | | | | | 20 | 20 | 16 | 3.0 | 2.6 | 2.1 |
| N-Ammonia (un-ionized) (mg/L) | 0.035 | | | | 0.00 | 0.03 | 0.08 | 0.00 | 0.01 | 0.00 |
| N-Nitrate (mg-N/L) | | | | | NA | 1.0 | 0.073 | 0.033 | NA | NA |
| N-Nitrite (mg-N/L) | | | | | NA | 0.010 U | 0.015 | 0.010 U | NA | NA |
| Nitrate + Nitrite (NO2+NO3) (mg-N/L) | | | | | 0.43 J | 1.0 | 0.088 | 0.033 | 0.010 U | 0.010 U |
| Ortho-Phosphorous (mg/L) | | | | | NA | 0.72 | 0.45 | NA | NA | NA |
| Chemical Oxygen Demand (mg/L) | | | | | NA | 44 | 34 | 200 | NA | NA |
| Total Organic Carbon (mg/L) | | | | | 16 J | 14 | 13 | 66 | 56 | 22 J |
| Tannins & Lignins (mg/L) | | | | | 6.10 | 4.20 | 6.53 | 3.23 | NA | NA |
| Field pH (avg) | | 7-8.5 | 6.5-8.5 | | 7.10 | 6.84 | 7.29 | 6.87 | 6.89 | 7.03 |
| Field Temperature (°C) (avg) | | | | | 11.9 | 13.7 | 13.8 | 11.5 | 17.2 | 10.2 |
| Field Conductivity (µS) (avg) | | | | | 3610 | 3063 | 2503 | 240 | 1778 | 1616 |
| Field Dissolved Oxygen (mg/L) | | | | | NM | 0.31 | 0.00 | NM | NM | NM |
| Field Turbidity (NTU) | | | | | NM | 3 | 0 | NM | NM | NM |
| Turbidity (NTU) | | | | | NA | 5.9 | 3.0 J | 81 | 74 | NA |
| Field Redox (mV) | | | | | NM | -185.0 | -3.1 | NM | NM | NM |

Appendix A. Rayonier Mill Site Historic Groundwater Monitoring Data.

| | Applicable Criteria | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | Washington State (a) | | National Toxics Rule (b) | | | | | | | |
| | Ecological | Human Health | Ecological | Human Health | PZ-4 DN18F 8/21/2001 | PZ-4 FB89E 12/12/2002 | PZ-5 R652D 2/13/1997 | PZ-5 T609C 8/28/1997 | PZ-5 CU22D 2/22/2001 | PZ-5 DN18G 8/21/2001 |
| **VOLATILE COMPOUNDS (ug/L)** | | | | | | | | | | |
| Chloromethane | | 133 | | | 0.2 U | 0.2 U | 2.0 U | 2.0 U | 1.0 U | 0.2 U |
| Vinyl Chloride | | 3.69 | | 525 | 0.2 U | 0.2 U | 2.0 U | 2.0 U | 1.0 U | 0.2 U |
| Chloroethane | | | | | 0.2 U | 0.2 U | 2.0 U | 2.0 U | 1.0 U | 0.2 U |
| Methylene Chloride | | 960 | | 1600 | 0.3 U | 0.3 U | 2.0 U | 2.0 U | 2.0 U | 0.3 U |
| Acetone | | | | | 3.3 | 4.1 J | 5.0 U | 5.0 U | 5.0 U | 1.0 U |
| Carbon Disulfide | | | | | 0.2 U | 0.2 U | 1.0 U | 1.0 U | 1.0 U | 0.2 U |
| 1,1-Dichloroethene | | 1.93 | | 3.2 | 0.2 U | 0.2 U | 1.0 U | 1.0 U | 1.0 U | 0.2 U |
| 1,1-Dichloroethane | | | | | 0.2 U | 0.2 U | 1.9 | 3.2 | 1.0 U | 0.4 |
| trans-1,2-Dichloroethene | | 32800 | | 140000 | 0.2 U | 0.2 U | 1.0 U | 1.0 U | 1.0 U | 0.2 U |
| cis-1,2-Dichloroethene | | | | | 0.2 U | 0.2 U | 1.0 U | 1.0 U | 1.0 U | 0.2 U |
| Chloroform | | 283 | | 470 | 0.2 U | 0.2 U | 1.0 U | 1.0 U | 1.0 U | 0.2 U |
| 1,2-Dichloroethane | | 59.4 | | 99 | 0.2 U | 0.2 U | 1.0 U | 1.0 U | 1.0 U | 0.2 U |
| 2-Butanone | | | | | 1.0 U | 1.0 U | 5.0 U | 5.0 U | 5.0 U | 1.0 U |
| 1,1,1-Trichloroethane | | 417000 | | | 0.2 U | 0.2 U | 1.0 U | 1.0 U | 1.0 U | 0.2 U |
| Carbon Tetrachloride | | 2.66 | | 4.4 | 0.2 U | 0.2 U | 1.0 U | 1.0 U | 1.0 U | 0.2 U |
| Vinyl Acetate | | | | | 0.2 U | 0.2 U | 5.0 U | 5.0 U | 5.0 U | 0.2 U |
| Bromodichloromethane | | 28 | | 22 | 0.2 U | 0.2 U | 1.0 U | 1.0 U | 1.0 U | 0.2 U |
| 1,2-Dichloropropane | | 23.2 | | 39 | 0.2 U | 0.2 U | 1.0 U | 1.0 U | 1.0 U | 0.2 U |
| cis-1,3-Dichloropropene | | | | | 0.2 U | 0.2 U | 1.0 U | 1.0 U | 1.0 U | 0.2 U |
| Trichloroethene | | 56 | | 81 | 0.2 U | 0.2 U | 1.0 U | 1.0 U | 1.0 U | 0.2 U |
| Dibromochloromethane | | 20.6 | | 34 | 0.2 U | 0.2 U | 1.0 U | 1.0 U | 1.0 U | 0.2 U |
| 1,1,2-Trichloroethane | | 25.3 | | 42 | 0.2 U | 0.2 U | 1.0 U | 1.0 U | 1.0 U | 0.2 U |
| Benzene | | 22.7 | | 71 | 0.2 U | 0.2 U | 1.0 U | 1.0 U | 1.0 U | 0.2 U |
| trans-1,3-Dichloropropene | | | | | 0.2 U | 0.2 U | 1.0 U | 1.0 U | 1.0 U | 0.2 U |
| Bromoform | | 219 | | 360 | 0.5 U | 0.2 U | 1.0 U | 1.0 U | 1.0 U | 0.5 U |
| 4-Methyl-2-Pentanone | | | | | 1.0 U | 1.0 U | 5.0 U | 5.0 U | 5.0 U | 1.0 U |
| 2-Hexanone | | | | | 1.0 U | 1.0 U | 5.0 U | 5.0 U | 5.0 U | 1.0 U |
| Tetrachloroethene | | 4.15 | | 8.85 | 0.2 U | 0.2 U | 1.0 U | 1.0 U | 1.0 U | 0.2 U |
| 1,1,2,2-Tetrachloroethane | | 6.48 | | 11 | 0.2 U | 0.2 U | 1.0 U | 1.0 U | 1.0 U | 0.2 U |
| Toluene | | 48500 | | 200000 | 0.2 U | 0.2 U | 1.0 U | 1.0 U | 1.0 U | 0.2 U |
| Chlorobenzene | | 5030 | | 21000 | 0.2 U | 0.2 U | 1.0 U | 1.0 U | 1.0 U | 0.2 U |
| Ethylbenzene | | 6910 | | 29000 | 0.2 U | 0.2 U | 1.0 U | 1.0 U | 1.0 U | 0.2 U |
| Styrene | | | | | 0.2 U | 0.2 U | 1.0 U | 1.0 U | 1.0 U | 0.2 U |
| m,p-Xylene | | | | | 0.4 U | 0.4 U | 1.0 U | 1.0 U | 1.0 U | 0.4 U |
| o-Xylene | | | | | 0.2 U | 0.2 U | 1.0 U | 1.0 U | 1.0 U | 0.2 U |
| Total Xylenes | | | | | 0.6 U | 0.6 U | NA | NA | NA | 0.6 U |
| 4-Isopropyltoluene | | | | | 0.2 U | 0.2 U | 1.0 U | 1.0 U | 1.0 U | 0.2 U |
| **SEMIVOLATILE COMPOUNDS (ug/L)** | | | | | | | | | | |
| Dibromochloropropane | | | | | 5.0 U | 6.2 U | NA | NA | NA | 5.0 U |

Appendix A. Rayonier Mill Site Historic Groundwater Monitoring Data.

| | Applicable Criteria | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | Washington State (a) | | National Toxics Rule (b) | | | | | | | |
| | Ecological | Human Health | Ecological | Human Health | PZ-4 DN18F 8/21/2001 | PZ-4 FB89E 12/12/2002 | PZ-5 R652D 2/13/1997 | PZ-5 T609C 8/28/1997 | PZ-5 CU22D 2/22/2001 | PZ-5 DN18G 8/21/2001 |
| Phenol | | 1110000 | | 4600000 | 2.0 U | 2.5 U | 2.0 U | 2.0 U | 2.0 U | 2.0 U |
| Bis-(2-Chloroethyl) Ether | | 0.854 | | 1.4 | 2.0 U | 2.5 U | 2.0 U | 2.0 U | 2.0 U | 2.0 U |
| 2-Chlorophenol | | 96.7 | | 400 | 1.0 U | 1.2 U | 1.0 U | 1.0 U | 1.0 U | 1.0 U |
| 1,3-Dichlorobenzene | | | | 2600 | 1.0 U | 1.2 U | 1.0 U | 1.0 U | 1.0 U | 1.0 U |
| 1,4-Dichlorobenzene | | 4.86 | | 2600 | 1.0 U | 1.2 U | 1.0 U | 1.0 U | 1.0 U | 1.0 U |
| Benzyl Alcohol | | | | | 5.0 U | 6.2 U | 5.0 U | 5.0 U | 5.0 U | 5.0 U |
| 1,2-Dichlorobenzene | | 4200 | | 17000 | 1.0 U | 1.2 U | 1.0 U | 1.0 U | 1.0 U | 1.0 U |
| 2-Methylphenol | | | | | 1.0 U | 1.2 U | 2.0 U | 2.0 U | 2.0 U | 1.0 U |
| 2,2'-Oxybis(1-Chloropropane) | | 37.5 | | 170000 | 1.0 U | 1.2 U | 1.0 U | 1.0 U | 1.0 U | 1.0 U |
| N-Nitroso-Di-N-Propylamine | | 0.819 | | 1.4 | 2.0 U | 2.5 U | 2.0 U | 2.0 U | 2.0 U | 2.0 U |
| Hexachloroethane | | 5.33 | | 8.9 | 2.0 U | 2.5 U | 2.0 U | 2.0 U | 2.0 U | 2.0 U |
| Nitrobenzene | | 449 | | 1900 | 1.0 U | 1.2 U | 1.0 U | 1.0 U | 1.0 U | 1.0 U |
| Isophorone | | 1560 | | 600 | 1.0 U | 1.2 U | 1.0 U | 1.0 U | 1.0 U | 1.0 U |
| 2-Nitrophenol | | | | | 5.0 U | 6.2 U | 5.0 U | 5.0 U | 5.0 U | 5.0 U |
| 2,4-Dimethylphenol | | 553 | | 2300 | 3.0 U | 3.8 U | 3.0 U | 3.0 U | 3.0 U | 3.0 U |
| Benzoic Acid | | | | | 10 U | 62 U | 10 U | 10 U | 10 U | 10 U |
| bis(2-Chloroethoxy) Methane | | | | | 1.0 U | 1.2 U | 1.0 U | 1.0 U | 1.0 U | 1.0 U |
| 2,4-Dichlorophenol | | 191 | | 790 | 3.0 U | 3.8 U | 3.0 U | 3.0 U | 3.0 U | 3.0 U |
| 1,2,4-Trichlorobenzene | | 227 | | 940 | 1.0 U | 1.2 U | 1.0 U | 1.0 U | 1.0 U | 1.0 U |
| 4-Chloroaniline | | | | | 3.0 U | 3.8 U | 3.0 U | 3.0 U | 3.0 U | 3.0 U |
| Hexachlorobutadiene | | 29.9 | | 50 | 2.0 U | 2.5 U | 2.0 U | 2.0 U | 2.0 U | 2.0 U |
| 4-Chloro-3-methylphenol | | | | | 2.0 U | 2.5 U | 2.0 U | 2.0 U | 2.0 U | 2.0 U |
| 2-Methylnaphthalene | | | | | 1.0 U | 1.2 U | 1.0 U | 1.0 U | 1.0 U | 1.0 U |
| Hexachlorocyclopentadiene | | 3580 | | 17000 | 5.0 U | 6.2 U | 5.0 U | 5.0 U | 5.0 U | 5.0 U |
| 2,4,6-Trichlorophenol | | 3.93 | | 6.5 | 5.0 U | 6.2 U | 5.0 U | 5.0 U | 5.0 U | 5.0 U |
| 2,4,5-Trichlorophenol | | | | | 5.0 U | 6.2 U | 5.0 U | 5.0 U | 5.0 U | 5.0 U |
| 2-Chloronaphthalene | | | | 4300 | 1.0 U | 1.2 U | 1.0 U | 1.0 U | 1.0 U | 1.0 U |
| 2-Nitroaniline | | | | | 5.0 U | 6.2 U | 5.0 U | 5.0 U | 5.0 U | 5.0 U |
| Dimethylphthalate | | 72000 | | 2900000 | 1.0 U | 1.2 U | 1.0 U | 1.0 U | 1.0 U | 1.0 U |
| 3-Nitroaniline | | | | | 6.0 U | 7.5 U | 6.0 U | 6.0 U | 6.0 U | 6.0 U |
| 2,4-Dinitrophenol | | 3460 | | 14000 | 10 U | 31 U | 10 U | 10 U | 10 U | 10 U |
| 4-Nitrophenol | | | | | 5.0 U | 6.2 U | 5.0 U | 5.0 U | 5.0 U | 5.0 U |
| Dibenzofuran | | | | | 1.0 U | 1.2 U | 1.0 U | 1.0 U | 1.0 U | 1.0 U |
| 2,6-Dinitrotoluene | | | | | 5.0 U | 6.2 U | 5.0 U | 5.0 U | 5.0 U | 5.0 U |

Appendix A. Rayonier Mill Site Historic Groundwater Monitoring Data.

| | Applicable Criteria | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | Washington State (a) | | National Toxics Rule (b) | | | | | | | |
| | Ecological | Human Health | Ecological | Human Health | PZ-4 DN18F 8/21/2001 | PZ-4 FB89E 12/12/2002 | PZ-5 R652D 2/13/1997 | PZ-5 T609C 8/28/1997 | PZ-5 CU22D 2/22/2001 | PZ-5 DN18G 8/21/2001 |
| 2,4-Dinitrotoluene | | 1360 | | 9.1 | 5.0 U | 6.2 U | 5.0 U | 5.0 U | 5.0 U | 5.0 U |
| Diethylphthalate | | 28400 | | 120000 | 1.0 U | 1.2 U | 1.0 U | 1.0 U | 1.0 U | 1.0 U |
| 4-Chlorophenyl-phenylether | | | | | 1.0 U | 1.2 U | 1.0 U | 1.0 U | 1.0 U | 1.0 U |
| 4-Nitroaniline | | | | | 5.0 U | 6.2 U | 5.0 U | 5.0 U | 5.0 U | 5.0 U |
| 4,6-Dinitro-2-Methylphenol | | | | 765 | 10 U | 19 U | 10 U | 10 U | 10 U | 10 U |
| N-Nitrosodiphenylamine | | 9.73 | | 16 | 1.0 U | 1.2 U | 1.0 U | 1.0 U | 1.0 U | 1.0 U |
| 4-Bromophenyl-phenylether | | | | | 1.0 U | 1.2 U | 1.0 U | 1.0 U | 1.0 U | 1.0 U |
| Hexachlorobenzene | | 0.000466 | | 0.00077 | 1.0 U | 1.2 U | 1.0 U | 1.0 U | 1.0 U | 1.0 U |
| Pentachlorophenol | 7.9 | 4.91 | 7.9 | 8.2 | 5.0 U | 6.2 U | 5.0 U | 5.0 U | 5.0 U | 5.0 U |
| Carbazole | | | | | 1.0 U | 1.2 U | 1.0 U | 1.0 U | 1.0 U | 1.0 U |
| Di-n-Butylphthalate | | 2910 | | 12000 | 1.0 U | 1.2 U | 1.0 U | 1.0 U | 1.0 U | 1.0 U |
| Butylbenzylphthalate | | 1250 | | 5200 | 1.0 U | 1.2 U | 1.0 U | 1.0 U | 1.0 U | 1.0 U |
| 3,3'-Dichlorobenzidine | | 0.0462 | | 0.077 | 5.0 U | 6.2 U | 5.0 U | 5.0 U | 5.0 U | 5.0 U |
| bis(2-Ethylhexyl)phthalate | | 3.56 | | 5.9 | 1.1 U | 1.2 U | 2.2 B | 1.0 U | 1.0 U | 3.4 U |
| Di-n-Octyl phthalate | | | | | 1.0 U | 1.2 U | 1.0 U | 1.0 U | 1.0 U | 1.0 U |
| 3-,4-Methylphenol | | | | | 1.0 U | 1.2 U | NA | NA | NA | 1.0 U |
| Diallate A | | | | | 2.0 U | 6.2 U | NA | NA | NA | 2.0 U |
| Diallate B | | | | | 2.0 U | 6.2 U | NA | NA | NA | 2.0 U |
| Isodrin | | | | | 5.0 U | 6.2 U | NA | NA | NA | 5.0 U |
| Chlorobenzilate | | | | | 2.0 U | 6.2 U | NA | NA | NA | 2.0 U |
| **PAHs (µg/L) (d)** | | | | | | | | | | |
| Naphthalene | | 4940 | | | 0.10 U | 0.12 U | 1.0 U | 1.0 U | 1.0 U | 0.10 U |
| Acenaphthylene | | | | | 0.10 U | 0.12 U | 1.0 U | 1.0 U | 1.0 U | 0.10 U |
| Acenaphthene | | 643 | | 2700 | 0.10 U | 0.12 U | 1.0 U | 1.0 U | 1.0 U | 0.10 U |
| Fluorene | | 3460 | | 14000 | 0.10 U | 0.12 U | 1.0 U | 1.0 U | 1.0 U | 0.10 U |
| Phenanthrene | | | | | 0.10 U | 0.12 U | 1.0 U | 1.0 U | 1.0 U | 0.10 U |
| Anthracene | | 25900 | | 110000 | 0.10 U | 0.12 U | 1.0 U | 1.0 U | 1.0 U | 0.10 U |
| Fluoranthene | | 90.2 | | 370 | 0.10 U | 0.12 U | 1.0 U | 1.0 U | 1.0 U | 0.10 U |
| Pyrene | | 2590 | | 11000 | 0.10 U | 0.12 U | 1.0 U | 1.0 U | 1.0 U | 0.10 U |
| Benzo(a)anthracene | | 0.0296 | | 0.031 | 0.10 U | 0.12 U | 1.0 U | 1.0 U | 1.0 U | 0.10 U |
| Chrysene | | 0.0296 | | 0.031 | 0.10 U | 0.12 U | 1.0 U | 1.0 U | 1.0 U | 0.10 U |
| Benzo(b)fluoranthene | | 0.0296 | | 0.031 | 0.10 U | 0.12 U | 1.0 U | 1.0 U | 1.0 U | 0.10 U |
| Benzo(k)fluoranthene | | 0.0296 | | 0.031 | 0.10 U | 0.12 U | 1.0 U | 1.0 U | 1.0 U | 0.10 U |

Appendix A. Rayonier Mill Site Historic Groundwater Monitoring Data.

| | Applicable Criteria | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | Washington State (a) | | National Toxics Rule (b) | | | | | | | |
| | Ecological | Human Health | Ecological | Human Health | PZ-4 DN18F 8/21/2001 | PZ-4 FB89E 12/12/2002 | PZ-5 R652D 2/13/1997 | PZ-5 T609C 8/28/1997 | PZ-5 CU22D 2/22/2001 | PZ-5 DN18G 8/21/2001 |
| Benzo(a)pyrene | | 0.0296 | | 0.031 | 0.10 U | 0.12 U | 1.0 U | 1.0 U | 1.0 U | 0.10 U |
| Indeno(1,2,3-cd)pyrene | | 0.0296 | | 0.031 | 0.10 U | 0.12 U | 1.0 U | 1.0 U | 1.0 U | 0.10 U |
| Dibenz(a,h)anthracene | | 0.0296 | | 0.031 | 0.10 U | 0.12 U | 1.0 U | 1.0 U | 1.0 U | 0.10 U |
| Benzo(g,h,i)perylene | | | | | 0.10 U | 0.12 U | 1.0 U | 1.0 U | 1.0 U | 0.10 U |
| cPAH TEQ | | | | | ND | ND | ND | ND | ND | ND |
| **PETROLEUM HYDROCARBONS (mg/L)** | | | | | | | | | | |
| **NWTPH-D extended** | | | | | | | | | | |
| Diesel Range Hydrocarbons | | 0.5 | | | 0.25 U | 0.25 U | NA | NA | 0.25 U | 0.25 U |
| Motor Oil | | 0.5 | | | 0.50 U | 0.50 U | NA | NA | 0.50 U | 0.50 U |
| **TOTAL METALS (mg/L)** | | | | | | | | | | |
| Arsenic | | | | | 0.0035 | 0.0041 | 0.05 U | NA | 0.005 | 0.0033 |
| Beryllium | | | | | 0.001 U | 0.001 U | 0.001 U | NA | NA | 0.001 U |
| Chromium (c) | | | | | 0.0036 | 0.0026 | 0.005 U | NA | 0.038 | 0.0005 U |
| Copper | | | | | 0.0046 | 0.0028 | 0.002 U | NA | 0.078 | 0.0006 |
| Iron | | | | | 17.7 | 20.4 | 3.51 | NA | 43.5 J | 1.81 |
| Lead | | | | | 0.003 | 0.001 U | 0.02 U | NA | 0.020 | 0.001 U |
| Nickel | | | | | 0.0053 | 0.0099 | 0.01 U | NA | 0.05 | 0.001 |
| Selenium | | | | | 0.0006 | 0.0009 | 0.05 | NA | 0.05 U | 0.0005 U |
| Zinc | | | | | 0.008 | 0.004 U | 0.004 U | NA | 0.092 | 0.004 U |
| **Major Ions (total)** | | | | | | | | | | |
| Calcium | | | | | 154 | 268 | NA | NA | NA | 30.8 |
| Magnesium | | | | | 39.5 | 63.9 | NA | NA | NA | 10.9 |
| Potassium | | | | | 36.3 | 41.7 | NA | NA | NA | 3 |
| Sodium | | | | | 168 | 174 | NA | NA | NA | 19.5 |

Appendix A. Rayonier Mill Site Historic Groundwater Monitoring Data.

| | Applicable Criteria | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | Washington State (a) | | National Toxics Rule (b) | | | | | | | |
| | Ecological | Human Health | Ecological | Human Health | PZ-4 DN18F 8/21/2001 | PZ-4 FB89E 12/12/2002 | PZ-5 R652D 2/13/1997 | PZ-5 T609C 8/28/1997 | PZ-5 CU22D 2/22/2001 | PZ-5 DN18G 8/21/2001 |
| **DISSOLVED METALS (mg/L)** | | | | | | | | | | |
| Arsenic | 0.036 | 0.0000982 | 0.036 | 0.00014 | 0.0014 | 0.0043 | NA | 0.05 U | 0.002 | 0.0035 |
| Beryllium | | 0.27 | | | 0.001 U | 0.001 U | NA | 0.001 U | NA | 0.001 U |
| Chromium (c) | 0.05 | 0.49 | 0.05 | | 0.0027 | 0.0033 | NA | 0.005 U | 0.005 U | 0.0005 U |
| Copper | 0.0031 | 2.66 | 0.0024 | | 0.0014 | 0.0018 | NA | 0.002 U | 0.002 U | 0.0005 U |
| Lead | 0.0081 | | 0.0081 | | 0.001 U | 0.001 U | NA | 0.02 U | 0.001 U | 0.001 U |
| Nickel | 0.0082 | 1.1 | 0.0082 | 4.6 | 0.003 | 0.0081 | NA | 0.01 U | 0.01 U | 0.0009 |
| Selenium | 0.071 | 2.7 | 0.071 | 11 | 0.0007 | 0.0008 | NA | 0.05 U | 0.05 U | 0.0005 U |
| Zinc | 0.081 | 16.5 | 0.081 | 69 | 0.006 | 0.004 | NA | 0.004 UJ | 0.006 U | 0.004 U |
| **PESTICIDES (µg/L)** | | | | | | | | | | |
| alpha-BHC | | 0.00791 | | 0.013 | 0.050 U | 0.062 U | NA | NA | NA | 0.050 U |
| beta-BHC | | 0.0277 | | 0.046 | 0.050 U | 0.062 U | NA | NA | NA | 0.050 U |
| delta-BHC | | | | | 0.050 U | 0.062 U | NA | NA | NA | 0.050 U |
| gamma-BHC (Lindane) | 0.16 | 0.0384 | 0.16 | 0.063 | 0.050 U | 0.062 U | NA | NA | NA | 0.050 U |
| Heptachlor | 0.0036 | 0.000129 | 0.0036 | 0.00021 | 0.050 U | 0.062 U | NA | NA | NA | 0.050 U |
| Aldrin | 0.0019 | 0.000082 | 1.3 | 0.00014 | 0.050 U | 0.062 U | NA | NA | NA | 0.050 U |
| Heptachlor Epoxide | | 0.000064 | 0.0036 | 0.00011 | 0.050 U | 0.062 U | NA | NA | NA | 0.050 U |
| Endosulfan I | 0.0087 | 57.6 | 0.0087 | 2 | 0.050 U | 0.062 U | NA | NA | NA | 0.050 U |
| Dieldrin | 0.0019 | 0.000087 | 0.0019 | 0.00014 | 0.10 U | 0.12 U | NA | NA | NA | 0.10 U |
| 4,4'-DDE | 0.001 | 0.000356 | | 0.00059 | 0.10 U | 0.12 U | NA | NA | NA | 0.10 U |
| Endrin | 0.0023 | 0.196 | 0.0023 | 0.81 | 0.10 U | 0.12 U | NA | NA | NA | 0.10 U |
| Endosulfan II | 0.0087 | 57.6 | 0.0087 | 2 | 0.10 U | 0.12 U | NA | NA | NA | 0.10 U |
| 4,4'-DDD | 0.001 | 0.000504 | | 0.00084 | 0.10 U | 0.12 U | NA | NA | NA | 0.10 U |
| Endosulfan Sulfate | | | | 2 | 0.10 U | 0.12 U | NA | NA | NA | 0.10 U |
| 4,4'-DDT | 0.001 | 0.000356 | 0.001 | 0.00059 | 0.10 U | 0.12 U | NA | NA | NA | 0.10 U |
| Methoxychlor | | 8.36 | | | 0.50 U | 0.62 U | NA | NA | NA | 0.50 U |
| Endrin Ketone | | | | | 0.10 U | 0.12 U | NA | NA | NA | 0.10 U |
| Endrin Aldehyde | | | | 0.81 | 0.10 U | 0.12 U | NA | NA | NA | 0.10 U |
| gamma Chlordane | 0.004 | 0.0013 | 0.004 | 0.00059 | 0.050 U | 0.062 U | NA | NA | NA | 0.050 U |
| alpha Chlordane | | | | | 0.050 U | 0.062 U | NA | NA | NA | 0.050 U |
| Toxaphene | 0.0002 | 0.00045 | 0.0002 | 0.00075 | 5.0 U | 6.2 U | NA | NA | NA | 5.0 U |
| **PCBs (ug/L)** | | | | | | | | | | |
| Aroclor 1016 | 0.03 | 0.00582 | 0.03 | 0.000045 | NA | 0.14 U | 1.0 U | 1.0 U | NA | NA |
| Aroclor 1242 | 0.03 | | 0.03 | 0.000045 | NA | 0.14 U | 1.0 U | 1.0 U | NA | NA |
| Aroclor 1248 | 0.03 | | 0.03 | 0.000045 | NA | 0.14 U | 1.0 U | 1.0 U | NA | NA |
| Aroclor 1254 | 0.03 | 0.00166 | 0.03 | 0.000045 | NA | 0.14 U | 1.0 U | 1.0 U | NA | NA |
| Aroclor 1260 | 0.03 | | 0.03 | 0.000045 | NA | 0.14 U | 1.0 U | 1.0 U | NA | NA |
| Aroclor 1221 | 0.03 | | 0.03 | 0.000045 | NA | 0.28 U | 2.0 U | 2.0 U | NA | NA |
| Aroclor 1232 | 0.03 | | 0.03 | 0.000045 | NA | 0.14 U | 1.0 U | 1.0 U | NA | NA |
| Total PCBs | | | | 0.00011 | NA | ND | ND | ND | NA | NA |

Appendix A. Rayonier Mill Site Historic Groundwater Monitoring Data.

| | Applicable Criteria | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | Washington State (a) | | National Toxics Rule (b) | | | | | | | |
| | Ecological | Human Health | Ecological | Human Health | PZ-4 DN18F 8/21/2001 | PZ-4 FB89E 12/12/2002 | PZ-5 R652D 2/13/1997 | PZ-5 T609C 8/28/1997 | PZ-5 CU22D 2/22/2001 | PZ-5 DN18G 8/21/2001 |
| **INDICATOR GEOCHEMICAL PARAMETERS (mg/L)** | | | | | | | | | | |
| Sodium, Dissolved | | | | | 187 | 178 | NA | NA | NA | 21.1 |
| Potassium, Dissolved | | | | | 39.7 | 41.4 | NA | NA | NA | 3.36 |
| Calcium, Dissolved | | | | | 167 | 280 | NA | NA | NA | 33.7 |
| Magnesium, Dissolved | | | | | 43.5 | 66.5 | NA | NA | NA | 11.9 |
| Chloride | | | | | 45 | 30 | 200 | 46 | 9.6 | 8.4 |
| Alkalinity | | | | | 580 | 540 | NA | NA | NA | 140 |
| Carbonate (Alkalinity) | | | | | 1.0 U | 1.0 U | NA | NA | NA | 1.0 U |
| Bicarbonate (Alkalinity) | | | | | 580 | 540 | NA | NA | NA | 140 |
| Sulfate | | | | | 350 | 770 | 67 | 60 | 29 | 51 |
| Iron, Dissolved | | | | | 15.4 | 18.9 | NA | 2.28 | 2.09 J | 1.92 |
| **CONVENTIONAL PARAMETERS** | | | | | | | | | | |
| Total Dissolved Solids (mg/L) | | | | | 1100 | 1800 | NA | NA | NA | 210 |
| Total Suspended Solids (mg/L) | | | | | 70 | 89 | NA | NA | NA | 6.7 |
| Bromide (mg/L) | | | | | 10 U | 2.5 U | NA | NA | NA | 0.50 U |
| Fluoride (mg/L) | | | | | 0.20 | 0.20 | NA | NA | NA | 0.10 U |
| N-Ammonia (total) (mg-N/L) | | | | | 2.9 | 2.8 | 0.17 | 0.20 | 0.16 | 0.14 |
| N-Ammonia (un-ionized) (mg/L) | 0.035 | | | | 0.00 | 0.01 | 0.00 | 0.00 | 0.00 | 0.00 |
| N-Nitrate (mg-N/L) | | | | | 0.011 | 0.010 U | 0.014 | NA | NA | 0.010 |
| N-Nitrite (mg-N/L) | | | | | 0.010 U | 0.010 U | 0.010 U | NA | NA | 0.010 U |
| Nitrate + Nitrite (NO2+NO3) (mg-N/L) | | | | | 0.011 | 0.010 U | 0.014 | 0.010 U | 0.022 J | 0.010 |
| Ortho-Phosphorous (mg/L) | | | | | 0.036 | 0.004 U | NA | NA | NA | 0.008 |
| Chemical Oxygen Demand (mg/L) | | | | | 76 | 55 | 11 | NA | NA | 14 |
| Total Organic Carbon (mg/L) | | | | | 30 | 20 | 2.5 | 4.9 | 4.5 J | 4.8 |
| Tannins & Lignins (mg/L) | | | | | 5.97 | 6.00 | 0.556 | NA | NA | 0.497 |
| Field pH (avg) | | 7-8.5 | 6.5-8.5 | | 6.76 | 7.13 | 6.99 | 6.94 | 7.05 | 6.60 |
| Field Temperature (°C) (avg) | | | | | 15.2 | 12.3 | 6.2 | 16.6 | 7.8 | 15.4 |
| Field Conductivity (µS) (avg) | | | | | 1770 | 2130 | 1005 | 584 | 362 | 3380 |
| Field Dissolved Oxygen (mg/L) | | | | | 0.89 | 5.32 | NM | NM | NM | 0.21 |
| Field Turbidity (NTU) | | | | | 137 | 0 | NM | NM | NM | 4 |
| Turbidity (NTU) | | | | | 81 | 11 J | 8.9 | 7.7 | NA | 10 |
| Field Redox (mV) | | | | | 117.2 | -16.1 | NM | NM | NM | 132.2 |

Appendix A. Rayonier Mill Site Historic Groundwater Monitoring Data.

| | Applicable Criteria | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | Washington State (a) | | National Toxics Rule (b) | | | | | | | |
| | Ecological | Human Health | Ecological | Human Health | PZ-5 FB89F 12/12/2002 | PZ-6 R652C 2/13/1997 | PZ-6 T609B 8/28/1997 | PZ-6 CU21D 2/22/2001 | PZ-6 DN28B 8/23/2001 | PZ-6 FB89A 12/11/2002 |
| **VOLATILE COMPOUNDS (ug/L)** | | | | | | | | | | |
| Chloromethane | | 133 | | | 0.2 U | 2.0 U | 2.0 U | 1.0 U | 0.2 U | 0.2 U |
| Vinyl Chloride | | 3.69 | | 525 | 0.2 U | 2.0 U | 2.0 U | 1.0 U | 0.2 U | 0.2 U |
| Chloroethane | | | | | 0.2 U | 2.0 U | 2.0 U | 1.0 U | 0.2 U | 0.2 U |
| Methylene Chloride | | 960 | | 1600 | 0.3 U | 2.0 U | 2.0 U | 2.0 U | 0.3 U | 0.3 U |
| Acetone | | | | | 1.4 J | 5.0 U | 5.0 U | 5.0 U | 1.0 U | 1.0 J |
| Carbon Disulfide | | | | | 0.2 U | 1.0 U | 1.0 U | 1.0 U | 0.2 U | 0.2 U |
| 1,1-Dichloroethene | | 1.93 | | 3.2 | 0.2 U | 1.0 U | 1.0 U | 1.0 U | 0.2 U | 0.2 U |
| 1,1-Dichloroethane | | | | | 0.3 | 1.0 U | 1.0 U | 1.0 U | 0.2 U | 0.2 U |
| trans-1,2-Dichloroethene | | 32800 | | 140000 | 0.2 U | 1.0 U | 1.0 U | 1.0 U | 0.2 U | 0.2 U |
| cis-1,2-Dichloroethene | | | | | 0.2 U | 1.0 U | 1.0 U | 1.0 U | 0.2 U | 0.2 U |
| Chloroform | | 283 | | 470 | 0.2 U | 1.0 U | 1.0 U | 1.0 U | 0.2 U | 0.2 U |
| 1,2-Dichloroethane | | 59.4 | | 99 | 0.2 U | 1.0 U | 1.0 U | 1.0 U | 0.2 U | 0.2 U |
| 2-Butanone | | | | | 1.0 U | 5.0 U | 5.0 U | 5.0 U | 1.0 U | 1.0 U |
| 1,1,1-Trichloroethane | | 417000 | | | 0.2 U | 1.0 U | 1.0 U | 1.0 U | 0.2 U | 0.2 U |
| Carbon Tetrachloride | | 2.66 | | 4.4 | 0.2 U | 1.0 U | 1.0 U | 1.0 U | 0.2 U | 0.2 U |
| Vinyl Acetate | | | | | 0.2 U | 5.0 U | 5.0 U | 5.0 U | 0.2 U | 0.2 U |
| Bromodichloromethane | | 28 | | 22 | 0.2 U | 1.0 U | 1.0 U | 1.0 U | 0.2 U | 0.2 U |
| 1,2-Dichloropropane | | 23.2 | | 39 | 0.2 U | 1.0 U | 1.0 U | 1.0 U | 0.2 U | 0.2 U |
| cis-1,3-Dichloropropene | | | | | 0.2 U | 1.0 U | 1.0 U | 1.0 U | 0.2 U | 0.2 U |
| Trichloroethene | | 56 | | 81 | 0.2 U | 1.0 U | 1.0 U | 1.0 U | 0.2 U | 0.2 U |
| Dibromochloromethane | | 20.6 | | 34 | 0.2 U | 1.0 U | 1.0 U | 1.0 U | 0.2 U | 0.2 U |
| 1,1,2-Trichloroethane | | 25.3 | | 42 | 0.2 U | 1.0 U | 1.0 U | 1.0 U | 0.2 U | 0.2 U |
| Benzene | | 22.7 | | 71 | 0.2 U | 1.0 U | 1.0 U | 1.0 U | 0.2 U | 0.2 U |
| trans-1,3-Dichloropropene | | | | | 0.2 U | 1.0 U | 1.0 U | 1.0 U | 0.2 U | 0.2 U |
| Bromoform | | 219 | | 360 | 0.2 U | 1.0 U | 1.0 U | 1.0 U | 0.5 U | 0.2 U |
| 4-Methyl-2-Pentanone | | | | | 1.0 U | 5.0 U | 5.0 U | 5.0 U | 1.0 U | 1.0 U |
| 2-Hexanone | | | | | 1.0 U | 5.0 U | 5.0 U | 5.0 U | 1.0 U | 1.0 U |
| Tetrachloroethene | | 4.15 | | 8.85 | 0.2 U | 1.0 U | 1.0 U | 1.0 U | 0.2 U | 0.2 U |
| 1,1,2,2-Tetrachloroethane | | 6.48 | | 11 | 0.2 U | 1.0 U | 1.0 U | 1.0 U | 0.2 U | 0.2 U |
| Toluene | | 48500 | | 200000 | 0.2 U | 1.0 U | 1.0 U | 1.0 U | 0.2 U | 0.2 U |
| Chlorobenzene | | 5030 | | 21000 | 0.2 U | 1.0 U | 1.0 U | 1.0 U | 0.2 U | 0.2 U |
| Ethylbenzene | | 6910 | | 29000 | 0.2 U | 1.0 U | 1.0 U | 1.0 U | 0.2 U | 0.2 U |
| Styrene | | | | | 0.2 U | 1.0 U | 1.0 U | 1.0 U | 0.2 U | 0.2 U |
| m,p-Xylene | | | | | 0.4 U | 1.0 U | 1.0 U | 1.0 U | 0.4 U | 0.4 U |
| o-Xylene | | | | | 0.2 U | 1.0 U | 1.0 U | 1.0 U | 0.2 U | 0.2 U |
| Total Xylenes | | | | | 0.6 U | NA | NA | NA | 0.6 U | 0.6 U |
| 4-Isopropyltoluene | | | | | 0.2 U | 1.0 U | 1.0 U | 1.0 U | 0.2 U | 0.2 U |
| **SEMIVOLATILE COMPOUNDS (ug/L)** | | | | | | | | | | |
| Dibromochloropropane | | | | | 5.0 U | NA | NA | NA | 5.0 U | 5.0 U |

Appendix A. Rayonier Mill Site Historic Groundwater Monitoring Data.

| | Applicable Criteria | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | Washington State (a) | | National Toxics Rule (b) | | | | | | | |
| | Ecological | Human Health | Ecological | Human Health | PZ-5 FB89F 12/12/2002 | PZ-6 R652C 2/13/1997 | PZ-6 T609B 8/28/1997 | PZ-6 CU21D 2/22/2001 | PZ-6 DN28B 8/23/2001 | PZ-6 FB89A 12/11/2002 |
| Phenol | | 1110000 | | 4600000 | 2.0 U | 2.0 U | 2.0 U | 2.0 U | 2.0 U | 2.0 U |
| Bis-(2-Chloroethyl) Ether | | 0.854 | | 1.4 | 2.0 U | 2.0 U | 2.0 U | 2.0 U | 2.0 U | 2.0 U |
| 2-Chlorophenol | | 96.7 | | 400 | 1.0 U | 1.0 U | 1.0 U | 1.0 U | 1.0 U | 1.0 U |
| 1,3-Dichlorobenzene | | | | 2600 | 1.0 U | 1.0 U | 1.0 U | 1.0 U | 1.0 U | 1.0 U |
| 1,4-Dichlorobenzene | | 4.86 | | 2600 | 1.0 U | 1.0 U | 1.0 U | 1.0 U | 1.0 U | 1.0 U |
| Benzyl Alcohol | | | | | 5.0 U | 5.0 U | 5.0 U | 5.0 U | 5.0 U | 5.0 U |
| 1,2-Dichlorobenzene | | 4200 | | 17000 | 1.0 U | 1.0 U | 1.0 U | 1.0 U | 1.0 U | 1.0 U |
| 2-Methylphenol | | | | | 1.0 U | 2.0 U | 2.0 U | 2.0 U | 1.0 U | 1.0 U |
| 2,2'-Oxybis(1-Chloropropane) | | 37.5 | | 170000 | 1.0 U | 1.0 U | 1.0 U | 1.0 U | 1.0 U | 1.0 U |
| N-Nitroso-Di-N-Propylamine | | 0.819 | | 1.4 | 2.0 U | 2.0 U | 2.0 U | 2.0 U | 2.0 U | 2.0 U |
| Hexachloroethane | | 5.33 | | 8.9 | 2.0 U | 2.0 U | 2.0 U | 2.0 U | 2.0 U | 2.0 U |
| Nitrobenzene | | 449 | | 1900 | 1.0 U | 1.0 U | 1.0 U | 1.0 U | 1.0 U | 1.0 U |
| Isophorone | | 1560 | | 600 | 1.0 U | 1.0 U | 1.0 U | 1.0 U | 1.0 U | 1.0 U |
| 2-Nitrophenol | | | | | 5.0 U | 5.0 U | 5.0 U | 5.0 U | 5.0 U | 5.0 U |
| 2,4-Dimethylphenol | | 553 | | 2300 | 3.0 U | 3.0 U | 3.0 U | 3.0 U | 3.0 U | 3.0 U |
| Benzoic Acid | | | | | 50 U | 10 U | 10 U | 10 U | 10 U | 50 U |
| bis(2-Chloroethoxy) Methane | | | | | 1.0 U | 1.0 U | 1.0 U | 1.0 U | 1.0 U | 1.0 U |
| 2,4-Dichlorophenol | | 191 | | 790 | 3.0 U | 3.0 U | 3.0 U | 3.0 U | 3.0 U | 3.0 U |
| 1,2,4-Trichlorobenzene | | 227 | | 940 | 1.0 U | 1.0 U | 1.0 U | 1.0 U | 1.0 U | 1.0 U |
| 4-Chloroaniline | | | | | 3.0 U | 3.0 U | 3.0 U | 3.0 U | 3.0 U | 3.0 U |
| Hexachlorobutadiene | | 29.9 | | 50 | 2.0 U | 2.0 U | 2.0 U | 2.0 U | 2.0 U | 2.0 U |
| 4-Chloro-3-methylphenol | | | | | 2.0 U | 2.0 U | 2.0 U | 2.0 U | 2.0 U | 2.0 U |
| 2-Methylnaphthalene | | | | | 1.0 U | 1.0 U | 1.0 U | 1.0 U | 1.0 U | 1.0 U |
| Hexachlorocyclopentadiene | | 3580 | | 17000 | 5.0 U | 5.0 U | 5.0 U | 5.0 U | 5.0 U | 5.0 U |
| 2,4,6-Trichlorophenol | | 3.93 | | 6.5 | 5.0 U | 5.0 U | 5.0 U | 5.0 U | 5.0 U | 5.0 U |
| 2,4,5-Trichlorophenol | | | | | 5.0 U | 5.0 U | 5.0 U | 5.0 U | 5.0 U | 5.0 U |
| 2-Chloronaphthalene | | | | 4300 | 1.0 U | 1.0 U | 1.0 U | 1.0 U | 1.0 U | 1.0 U |
| 2-Nitroaniline | | | | | 5.0 U | 5.0 U | 5.0 U | 5.0 U | 5.0 U | 5.0 U |
| Dimethylphthalate | | 72000 | | 2900000 | 1.0 U | 1.0 U | 1.0 U | 1.0 U | 1.0 U | 1.0 U |
| 3-Nitroaniline | | | | | 6.0 U | 6.0 U | 6.0 U | 6.0 U | 6.0 U | 6.0 U |
| 2,4-Dinitrophenol | | 3460 | | 14000 | 25 U | 10 U | 10 U | 10 U | 10 U | 25 U |
| 4-Nitrophenol | | | | | 5.0 U | 5.0 U | 5.0 U | 5.0 U | 5.0 U | 5.0 U |
| Dibenzofuran | | | | | 1.0 U | 1.0 U | 1.0 U | 1.0 U | 1.0 U | 1.0 U |
| 2,6-Dinitrotoluene | | | | | 5.0 U | 5.0 U | 5.0 U | 5.0 U | 5.0 U | 5.0 U |

Appendix A. Rayonier Mill Site Historic Groundwater Monitoring Data.

| | Applicable Criteria | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | Washington State (a) | | National Toxics Rule (b) | | | | | | | |
| | Ecological | Human Health | Ecological | Human Health | PZ-5 FB89F 12/12/2002 | PZ-6 R652C 2/13/1997 | PZ-6 T609B 8/28/1997 | PZ-6 CU21D 2/22/2001 | PZ-6 DN28B 8/23/2001 | PZ-6 FB89A 12/11/2002 |
| 2,4-Dinitrotoluene | | 1360 | | 9.1 | 5.0 U | 5.0 U | 5.0 U | 5.0 U | 5.0 U | 5.0 U |
| Diethylphthalate | | 28400 | | 120000 | 1.0 U | 1.0 U | 1.0 U | 1.0 U | 1.0 U | 1.0 U |
| 4-Chlorophenyl-phenylether | | | | | 1.0 U | 1.0 U | 1.0 U | 1.0 U | 1.0 U | 1.0 U |
| 4-Nitroaniline | | | | | 5.0 U | 5.0 U | 5.0 U | 5.0 U | 5.0 U | 5.0 U |
| 4,6-Dinitro-2-Methylphenol | | | | 765 | 15 U | 10 U | 10 U | 10 U | 10 U | 15 U |
| N-Nitrosodiphenylamine | | 9.73 | | 16 | 1.0 U | 1.0 U | 1.0 U | 1.0 U | 1.0 U | 1.0 U |
| 4-Bromophenyl-phenylether | | | | | 1.0 U | 1.0 U | 1.0 U | 1.0 U | 1.0 U | 1.0 U |
| Hexachlorobenzene | | 0.000466 | | 0.00077 | 1.0 U | 1.0 U | 1.0 U | 1.0 U | 1.0 U | 1.0 U |
| Pentachlorophenol | 7.9 | 4.91 | 7.9 | 8.2 | 5.0 U | 5.0 U | 5.0 U | 5.0 U | 5.0 U | 5.0 U |
| Carbazole | | | | | 1.0 U | 1.0 U | 1.0 U | 1.0 U | 1.0 U | 1.0 U |
| Di-n-Butylphthalate | | 2910 | | 12000 | 1.0 U | 1.0 U | 1.0 U | 1.0 U | 1.0 U | 1.0 U |
| Butylbenzylphthalate | | 1250 | | 5200 | 1.0 U | 1.0 U | 1.0 U | 1.0 U | 1.0 U | 1.0 U |
| 3,3'-Dichlorobenzidine | | 0.0462 | | 0.077 | 5.0 U | 5.0 U | 5.0 U | 5.0 U | 5.0 U | 5.0 U |
| bis(2-Ethylhexyl)phthalate | | 3.56 | | 5.9 | 1.0 U | 1.7 B | 1.0 U | 1.0 U | 1.9 U | 1.0 U |
| Di-n-Octyl phthalate | | | | | 1.0 U | 1.0 U | 1.0 U | 1.0 U | 1.0 U | 1.0 U |
| 3-,4-Methylphenol | | | | | 1.0 U | NA | NA | NA | 1.0 U | 1.0 U |
| Diallate A | | | | | 5.0 U | NA | NA | NA | 2.0 U | 5.0 U |
| Diallate B | | | | | 5.0 U | NA | NA | NA | 2.0 U | 5.0 U |
| Isodrin | | | | | 5.0 U | NA | NA | NA | 5.0 U | 5.0 U |
| Chlorobenzilate | | | | | 5.0 U | NA | NA | NA | 2.0 U | 5.0 U |
| **PAHs (µg/L) (d)** | | | | | | | | | | |
| Naphthalene | | 4940 | | | 0.10 U | 1.0 U | 1.0 U | 1.0 U | 0.10 U | 0.10 U |
| Acenaphthylene | | | | | 0.10 U | 1.0 U | 1.0 U | 1.0 U | 0.10 U | 0.10 U |
| Acenaphthene | | 643 | | 2700 | 0.10 U | 1.0 U | 1.0 U | 1.0 U | 0.10 U | 0.10 U |
| Fluorene | | 3460 | | 14000 | 0.10 U | 1.0 U | 1.0 U | 1.0 U | 0.10 U | 0.10 U |
| Phenanthrene | | | | | 0.10 U | 1.0 U | 1.0 U | 1.0 U | 0.10 U | 0.10 U |
| Anthracene | | 25900 | | 110000 | 0.10 U | 1.0 U | 1.0 U | 1.0 U | 0.10 U | 0.10 U |
| Fluoranthene | | 90.2 | | 370 | 0.10 U | 1.0 U | 1.0 U | 1.0 U | 0.10 U | 0.10 U |
| Pyrene | | 2590 | | 11000 | 0.10 U | 1.0 U | 1.0 U | 1.0 U | 0.10 U | 0.10 U |
| Benzo(a)anthracene | | 0.0296 | | 0.031 | 0.10 U | 1.0 U | 1.0 U | 1.0 U | 0.10 U | 0.10 U |
| Chrysene | | 0.0296 | | 0.031 | 0.10 U | 1.0 U | 1.0 U | 1.0 U | 0.10 U | 0.10 U |
| Benzo(b)fluoranthene | | 0.0296 | | 0.031 | 0.10 U | 1.0 U | 1.0 U | 1.0 U | 0.10 U | 0.10 U |
| Benzo(k)fluoranthene | | 0.0296 | | 0.031 | 0.10 U | 1.0 U | 1.0 U | 1.0 U | 0.10 U | 0.10 U |

Appendix A. Rayonier Mill Site Historic Groundwater Monitoring Data.

| | Applicable Criteria | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | Washington State (a) | | National Toxics Rule (b) | | | | | | | |
| | Ecological | Human Health | Ecological | Human Health | PZ-5 FB89F 12/12/2002 | PZ-6 R652C 2/13/1997 | PZ-6 T609B 8/28/1997 | PZ-6 CU21D 2/22/2001 | PZ-6 DN28B 8/23/2001 | PZ-6 FB89A 12/11/2002 |
| Benzo(a)pyrene | | 0.0296 | | 0.031 | 0.10 U | 1.0 U | 1.0 U | 1.0 U | 0.10 U | 0.10 U |
| Indeno(1,2,3-cd)pyrene | | 0.0296 | | 0.031 | 0.10 U | 1.0 U | 1.0 U | 1.0 U | 0.10 U | 0.10 U |
| Dibenz(a,h)anthracene | | 0.0296 | | 0.031 | 0.10 U | 1.0 U | 1.0 U | 1.0 U | 0.10 U | 0.10 U |
| Benzo(g,h,i)perylene | | | | | 0.10 U | 1.0 U | 1.0 U | 1.0 U | 0.10 U | 0.10 U |
| cPAH TEQ | | | | | ND | ND | ND | ND | ND | ND |
| **PETROLEUM HYDROCARBONS (mg/L)** | | | | | | | | | | |
| **NWTPH-D extended** | | | | | | | | | | |
| Diesel Range Hydrocarbons | | 0.5 | | | 0.25 U | NA | NA | 0.25 U | 0.25 U | 0.25 U |
| Motor Oil | | 0.5 | | | 0.50 U | NA | NA | 0.50 U | 0.50 U | 0.50 U |
| **TOTAL METALS (mg/L)** | | | | | | | | | | |
| Arsenic | | | | | 0.0024 | 0.05 U | NA | 0.001 | 0.0002 U | 0.0002 U |
| Beryllium | | | | | 0.001 U | 0.001 U | NA | NA | 0.001 U | 0.001 U |
| Chromium (c) | | | | | 0.0005 U | 0.005 U | NA | 0.009 | 0.0005 U | 0.0005 U |
| Copper | | | | | 0.001 | 0.002 U | NA | 0.028 | 0.0018 | 0.0017 |
| Iron | | | | | 2.17 | 0.02 U | NA | 7.09 J | 0.1 J | 0.05 U |
| Lead | | | | | 0.001 U | 0.02 U | NA | 0.002 | 0.001 U | 0.001 U |
| Nickel | | | | | 0.0013 | 0.01 U | NA | 0.01 | 0.0029 | 0.0023 |
| Selenium | | | | | 0.0005 U | 0.05 | NA | 0.05 U | 0.0005 U | 0.0005 U |
| Zinc | | | | | 0.004 U | 0.004 U | NA | 0.022 | 0.004 U | 0.004 U |
| **Major Ions (total)** | | | | | | | | | | |
| Calcium | | | | | 33.1 | NA | NA | NA | 40.2 | 33 |
| Magnesium | | | | | 12.2 | NA | NA | NA | 20.7 | 18 |
| Potassium | | | | | 2.69 | NA | NA | NA | 1.05 | 0.68 |
| Sodium | | | | | 17.4 | NA | NA | NA | 24 | 21.5 |

Appendix A. Rayonier Mill Site Historic Groundwater Monitoring Data.

| | Applicable Criteria | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | Washington State (a) | | National Toxics Rule (b) | | | | | | | |
| | Ecological | Human Health | Ecological | Human Health | PZ-5 FB89F 12/12/2002 | PZ-6 R652C 2/13/1997 | PZ-6 T609B 8/28/1997 | PZ-6 CU21D 2/22/2001 | PZ-6 DN28B 8/23/2001 | PZ-6 FB89A 12/11/2002 |
| **DISSOLVED METALS (mg/L)** | | | | | | | | | | |
| Arsenic | 0.036 | 0.0000982 | 0.036 | 0.00014 | 0.0027 | NA | 0.05 U | 0.001 U | 0.0002 U | 0.0004 U |
| Beryllium | | 0.27 | | | 0.001 U | NA | 0.001 U | NA | 0.001 U | 0.001 U |
| Chromium (c) | 0.05 | 0.49 | 0.05 | | 0.0006 | NA | 0.005 U | 0.005 U | 0.0005 U | 0.001 |
| Copper | 0.0031 | 2.66 | 0.0024 | | 0.0008 | NA | 0.002 U | 0.002 U | 0.0015 | 0.0016 |
| Lead | 0.0081 | | 0.0081 | | 0.001 U | NA | 0.02 U | 0.001 U | 0.001 U | 0.001 U |
| Nickel | 0.0082 | 1.1 | 0.0082 | 4.6 | 0.0011 | NA | 0.01 U | 0.01 U | 0.0031 | 0.0022 |
| Selenium | 0.071 | 2.7 | 0.071 | 11 | 0.0005 U | NA | 0.05 U | 0.05 U | 0.0005 U | 0.001 U |
| Zinc | 0.081 | 16.5 | 0.081 | 69 | 0.004 U | NA | 0.024 J | 0.006 U | 0.004 U | 0.004 U |
| **PESTICIDES (µg/L)** | | | | | | | | | | |
| alpha-BHC | | 0.00791 | | 0.013 | 0.051 U | NA | NA | NA | 0.050 U | 0.050 U |
| beta-BHC | | 0.0277 | | 0.046 | 0.051 U | NA | NA | NA | 0.050 U | 0.050 U |
| delta-BHC | | | | | 0.051 U | NA | NA | NA | 0.050 U | 0.050 U |
| gamma-BHC (Lindane) | 0.16 | 0.0384 | 0.16 | 0.063 | 0.051 U | NA | NA | NA | 0.050 U | 0.050 U |
| Heptachlor | 0.0036 | 0.000129 | 0.0036 | 0.00021 | 0.051 U | NA | NA | NA | 0.050 U | 0.050 U |
| Aldrin | 0.0019 | 0.000082 | 1.3 | 0.00014 | 0.051 U | NA | NA | NA | 0.050 U | 0.050 U |
| Heptachlor Epoxide | | 0.000064 | 0.0036 | 0.00011 | 0.051 U | NA | NA | NA | 0.050 U | 0.050 U |
| Endosulfan I | 0.0087 | 57.6 | 0.0087 | 2 | 0.051 U | NA | NA | NA | 0.050 U | 0.050 U |
| Dieldrin | 0.0019 | 0.000087 | 0.0019 | 0.00014 | 0.10 U | NA | NA | NA | 0.10 U | 0.10 U |
| 4,4'-DDE | 0.001 | 0.000356 | | 0.00059 | 0.10 U | NA | NA | NA | 0.10 U | 0.10 U |
| Endrin | 0.0023 | 0.196 | 0.0023 | 0.81 | 0.10 U | NA | NA | NA | 0.10 U | 0.10 U |
| Endosulfan II | 0.0087 | 57.6 | 0.0087 | 2 | 0.10 U | NA | NA | NA | 0.10 U | 0.10 U |
| 4,4'-DDD | 0.001 | 0.000504 | | 0.00084 | 0.10 U | NA | NA | NA | 0.10 U | 0.10 U |
| Endosulfan Sulfate | | | | 2 | 0.10 U | NA | NA | NA | 0.10 U | 0.10 U |
| 4,4'-DDT | 0.001 | 0.000356 | 0.001 | 0.00059 | 0.10 U | NA | NA | NA | 0.10 U | 0.10 U |
| Methoxychlor | | 8.36 | | | 0.51 U | NA | NA | NA | 0.50 U | 0.50 U |
| Endrin Ketone | | | | | 0.10 U | NA | NA | NA | 0.10 U | 0.10 U |
| Endrin Aldehyde | | | | 0.81 | 0.10 U | NA | NA | NA | 0.10 U | 0.10 U |
| gamma Chlordane | 0.004 | 0.0013 | 0.004 | 0.00059 | 0.051 U | NA | NA | NA | 0.050 U | 0.050 U |
| alpha Chlordane | | | | | 0.051 U | NA | NA | NA | 0.050 U | 0.050 U |
| Toxaphene | 0.0002 | 0.00045 | 0.0002 | 0.00075 | 5.1 U | NA | NA | NA | 5.0 U | 5.0 U |
| **PCBs (ug/L)** | | | | | | | | | | |
| Aroclor 1016 | 0.03 | 0.00582 | 0.03 | 0.000045 | NA | 1.0 U | 1.0 U | NA | NA | NA |
| Aroclor 1242 | 0.03 | | 0.03 | 0.000045 | NA | 1.0 U | 1.0 U | NA | NA | NA |
| Aroclor 1248 | 0.03 | | 0.03 | 0.000045 | NA | 1.0 U | 1.0 U | NA | NA | NA |
| Aroclor 1254 | 0.03 | 0.00166 | 0.03 | 0.000045 | NA | 1.0 U | 1.0 U | NA | NA | NA |
| Aroclor 1260 | 0.03 | | 0.03 | 0.000045 | NA | 1.0 U | 1.0 U | NA | NA | NA |
| Aroclor 1221 | 0.03 | | 0.03 | 0.000045 | NA | 2.0 U | 2.0 U | NA | NA | NA |
| Aroclor 1232 | 0.03 | | 0.03 | 0.000045 | NA | 1.0 U | 1.0 U | NA | NA | NA |
| Total PCBs | | | | 0.00011 | NA | ND | ND | NA | NA | NA |

Appendix A. Rayonier Mill Site Historic Groundwater Monitoring Data.

| | Applicable Criteria | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | Washington State (a) | | National Toxics Rule (b) | | | | | | | |
| | Ecological | Human Health | Ecological | Human Health | PZ-5 FB89F 12/12/2002 | PZ-6 R652C 2/13/1997 | PZ-6 T609B 8/28/1997 | PZ-6 CU21D 2/22/2001 | PZ-6 DN28B 8/23/2001 | PZ-6 FB89A 12/11/2002 |
| **INDICATOR GEOCHEMICAL PARAMETERS (mg/L)** | | | | | | | | | | |
| Sodium, Dissolved | | | | | 18.7 | NA | NA | NA | 25.6 | 21.3 |
| Potassium, Dissolved | | | | | 2.84 | NA | NA | NA | 1.3 | 0.87 |
| Calcium, Dissolved | | | | | 33 | NA | NA | NA | 41.4 | 32.4 |
| Magnesium, Dissolved | | | | | 12.4 | NA | NA | NA | 21.8 | 17.4 |
| Chloride | | | | | 8.7 | 42 | 48 | 21 | 14 | 14 |
| Alkalinity | | | | | 140 | NA | NA | NA | 180 | 140 |
| Carbonate (Alkalinity) | | | | | 1.0 U | NA | NA | NA | 1.0 U | 1.0 U |
| Bicarbonate (Alkalinity) | | | | | 140 | NA | NA | NA | 180 | 140 |
| Sulfate | | | | | 61 | 84 | 200 | 46 | 41 | 36 |
| Iron, Dissolved | | | | | 2.08 | NA | 0.02 U | 0.02 U | 0.02 U | 0.05 U |
| **CONVENTIONAL PARAMETERS** | | | | | | | | | | |
| Total Dissolved Solids (mg/L) | | | | | 200 | NA | NA | NA | 260 J | 240 |
| Total Suspended Solids (mg/L) | | | | | 5.4 | NA | NA | NA | 6.2 J | 3.2 |
| Bromide (mg/L) | | | | | 0.27 | NA | NA | NA | 0.23 | 0.29 |
| Fluoride (mg/L) | | | | | 0.10 U | NA | NA | NA | 0.10 U | 0.10 |
| N-Ammonia (total) (mg-N/L) | | | | | 0.13 | 0.15 | 0.051 | 0.010 U | 0.010 U | 0.010 U |
| N-Ammonia (un-ionized) (mg/L) | 0.035 | | | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| N-Nitrate (mg-N/L) | | | | | 0.010 U | 2.3 | NA | NA | 0.12 | 0.43 J |
| N-Nitrite (mg-N/L) | | | | | 0.010 U | 0.010 U | NA | NA | 0.010 U | 0.010 UJ |
| Nitrate + Nitrite (NO2+NO3) (mg-N/L) | | | | | 0.010 U | 2.3 | 1.4 | 1.5 J | 0.12 | 0.43 J |
| Ortho-Phosphorous (mg/L) | | | | | 0.058 | NA | NA | NA | 0.011 | 0.013 |
| Chemical Oxygen Demand (mg/L) | | | | | 13 | 6.1 | NA | NA | 5.0 U | 8.1 |
| Total Organic Carbon (mg/L) | | | | | 2.6 | 2.2 | 1.5 U | 4.2 J | 2.4 J | 1.5 U |
| Tannins & Lignins (mg/L) | | | | | 0.307 | 0.076 | NA | NA | 0.111 | 0.068 J |
| Field pH (avg) | | 7-8.5 | 6.5-8.5 | | 6.97 | 6.76 | 6.49 | 6.46 | 6.55 | 6.34 |
| Field Temperature (°C) (avg) | | | | | 9.8 | 9.1 | 14.2 | 9.0 | 13.8 | 10.6 |
| Field Conductivity (µS) (avg) | | | | | 282 | 546 | 735 | 381 | 3960 | 316 |
| Field Dissolved Oxygen (mg/L) | | | | | 1.01 | NM | NM | NM | 0.30 | 0.00 |
| Field Turbidity (NTU) | | | | | 0 | NM | NM | NM | 33 | 0 |
| Turbidity (NTU) | | | | | 7.1 J | 56 | 1.3 | NA | 2.2 | 0.53 J |
| Field Redox (mV) | | | | | -10.3 | NM | NM | NM | 119.6 | 30.3 |

Appendix A. Rayonier Mill Site Historic Groundwater Monitoring Data.

| | Applicable Criteria | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | Washington State (a) | | National Toxics Rule (b) | | | | | | | |
| | Ecological | Human Health | Ecological | Human Health | PZ-7 R661C 2/14/1997 | PZ-7 T609K 8/27/1997 | PZ-7 CU21E 2/22/2001 | PZ-7 FB89G 12/12/2002 | PZ-9 R661B 2/14/1997 | PZ-9 T609J 8/27/1997 |
| **VOLATILE COMPOUNDS (ug/L)** | | | | | | | | | | |
| Chloromethane | | 133 | | | 2.0 U | 2.0 U | 1.0 U | 0.2 U | 2.0 U | 18 U |
| Vinyl Chloride | | 3.69 | | 525 | 2.0 U | 2.0 U | 1.0 U | 0.2 U | 2.0 U | 18 U |
| Chloroethane | | | | | 2.0 U | 2.0 U | 1.0 U | 0.2 U | 2.0 U | 18 U |
| Methylene Chloride | | 960 | | 1600 | 2.0 U | 2.0 U | 2.0 U | 0.3 U | 2.0 U | 18 U |
| Acetone | | | | | 5.0 U | 5.0 U | 5.0 U | 1.8 J | 5.0 U | 45 U |
| Carbon Disulfide | | | | | 1.0 U | 1.0 U | 1.0 U | 0.2 U | 1.0 U | 9.0 U |
| 1,1-Dichloroethene | | 1.93 | | 3.2 | 1.0 U | 1.0 U | 1.0 U | 0.2 U | 1.0 U | 9.0 U |
| 1,1-Dichloroethane | | | | | 1.0 U | 1.0 U | 1.0 U | 0.2 U | 1.0 U | 9.0 U |
| trans-1,2-Dichloroethene | | 32800 | | 140000 | 1.0 U | 1.0 U | 1.0 U | 0.2 U | 1.0 U | 9.0 U |
| cis-1,2-Dichloroethene | | | | | 1.0 U | 1.0 U | 1.0 U | 0.2 U | 1.0 U | 9.0 U |
| Chloroform | | 283 | | 470 | 1.0 U | 1.0 U | 1.0 U | 0.2 U | 1.0 U | 9.0 U |
| 1,2-Dichloroethane | | 59.4 | | 99 | 1.0 U | 1.0 U | 1.0 U | 0.2 U | 1.0 U | 9.0 U |
| 2-Butanone | | | | | 5.0 U | 5.0 U | 5.0 U | 1.0 U | 5.0 U | 45 U |
| 1,1,1-Trichloroethane | | 417000 | | | 1.0 U | 1.0 U | 1.0 U | 0.2 U | 1.0 U | 9.0 U |
| Carbon Tetrachloride | | 2.66 | | 4.4 | 1.0 U | 1.0 U | 1.0 U | 0.2 U | 1.0 U | 9.0 U |
| Vinyl Acetate | | | | | 5.0 U | 5.0 U | 5.0 U | 0.2 U | 5.0 U | 45 U |
| Bromodichloromethane | | 28 | | 22 | 1.0 U | 1.0 U | 1.0 U | 0.2 U | 1.0 U | 9.0 U |
| 1,2-Dichloropropane | | 23.2 | | 39 | 1.0 U | 1.0 U | 1.0 U | 0.2 U | 1.0 U | 9.0 U |
| cis-1,3-Dichloropropene | | | | | 1.0 U | 1.0 U | 1.0 U | 0.2 U | 1.0 U | 9.0 U |
| Trichloroethene | | 56 | | 81 | 1.0 U | 1.0 U | 1.0 U | 0.2 U | 1.0 U | 9.0 U |
| Dibromochloromethane | | 20.6 | | 34 | 1.0 U | 1.0 U | 1.0 U | 0.2 U | 1.0 U | 9.0 U |
| 1,1,2-Trichloroethane | | 25.3 | | 42 | 1.0 U | 1.0 U | 1.0 U | 0.2 U | 1.0 U | 9.0 U |
| Benzene | | 22.7 | | 71 | 1.0 U | 1.0 U | 1.0 U | 0.2 U | 1.0 U | 9.0 U |
| trans-1,3-Dichloropropene | | | | | 1.0 U | 1.0 U | 1.0 U | 0.2 U | 1.0 U | 9.0 U |
| Bromoform | | 219 | | 360 | 1.0 U | 1.0 U | 1.0 U | 0.2 U | 1.0 U | 9.0 U |
| 4-Methyl-2-Pentanone | | | | | 5.0 U | 5.0 U | 5.0 U | 1.0 U | 5.0 U | 45 U |
| 2-Hexanone | | | | | 5.0 U | 5.0 U | 5.0 U | 1.0 U | 5.0 U | 45 U |
| Tetrachloroethene | | 4.15 | | 8.85 | 1.0 U | 1.0 U | 1.0 U | 0.2 U | 1.0 U | 9.0 U |
| 1,1,2,2-Tetrachloroethane | | 6.48 | | 11 | 1.0 U | 1.0 U | 1.0 U | 0.2 U | 1.0 U | 9.0 U |
| Toluene | | 48500 | | 200000 | 1.0 U | 1.0 U | 1.0 U | 0.2 U | 14 | 49 J |
| Chlorobenzene | | 5030 | | 21000 | 1.0 U | 1.0 U | 1.0 U | 0.2 U | 1.0 U | 9.0 U |
| Ethylbenzene | | 6910 | | 29000 | 1.0 U | 1.0 U | 1.0 U | 0.2 U | 1.0 U | 9.0 U |
| Styrene | | | | | 1.0 U | 1.0 U | 1.0 U | 0.2 U | 1.0 U | 9.0 U |
| m,p-Xylene | | | | | 1.0 U | 1.0 U | 1.0 U | 0.4 U | 1.0 U | 9.0 U |
| o-Xylene | | | | | 1.0 U | 1.0 U | 1.0 U | 0.2 U | 1.0 U | 9.0 U |
| Total Xylenes | | | | | NA | NA | NA | 0.6 U | NA | NA |
| 4-Isopropyltoluene | | | | | 1.0 U | 1.0 U | 1.0 U | 0.2 U | 1.0 U | 9.0 U |
| **SEMIVOLATILE COMPOUNDS (ug/L)** | | | | | | | | | | |
| Dibromochloropropane | | | | | NA | NA | NA | 6.4 U | NA | NA |

Appendix A. Rayonier Mill Site Historic Groundwater Monitoring Data.

| | Applicable Criteria | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Washington State (a) | | National Toxics Rule (b) | | | | | | | | | | | | | |
| | Ecological | Human Health | Ecological | Human Health | PZ-7 R661C 2/14/1997 | | PZ-7 T609K 8/27/1997 | | PZ-7 CU21E 2/22/2001 | | PZ-7 FB89G 12/12/2002 | | PZ-9 R661B 2/14/1997 | | PZ-9 T609J 8/27/1997 | |
| Phenol | | 1110000 | | 4600000 | 2.0 | U | 2.0 | U | 2.0 | U | 2.6 | U | 2.0 | U | 2.0 | U |
| Bis-(2-Chloroethyl) Ether | | 0.854 | | 1.4 | 2.0 | U | 2.0 | U | 2.0 | U | 2.6 | U | 2.0 | U | 2.0 | U |
| 2-Chlorophenol | | 96.7 | | 400 | 1.0 | U | 1.0 | U | 1.0 | U | 1.3 | U | 1.0 | U | 1.0 | U |
| 1,3-Dichlorobenzene | | | | 2600 | 1.0 | U | 1.0 | U | 1.0 | U | 1.3 | U | 1.0 | U | 1.0 | U |
| 1,4-Dichlorobenzene | | 4.86 | | 2600 | 1.0 | U | 1.0 | U | 1.0 | U | 1.3 | U | 1.0 | U | 1.0 | U |
| Benzyl Alcohol | | | | | 5.0 | U | 5.0 | U | 5.0 | U | 6.4 | U | 5.0 | U | 5.0 | U |
| 1,2-Dichlorobenzene | | 4200 | | 17000 | 1.0 | U | 1.0 | U | 1.0 | U | 1.3 | U | 1.0 | U | 1.0 | U |
| 2-Methylphenol | | | | | 2.0 | U | 2.0 | U | 2.0 | U | 1.3 | U | 2.0 | U | 2.0 | U |
| 2,2'-Oxybis(1-Chloropropane) | | 37.5 | | 170000 | 1.0 | U | 1.0 | U | 1.0 | U | 1.3 | U | 1.0 | U | 1.0 | U |
| N-Nitroso-Di-N-Propylamine | | 0.819 | | 1.4 | 2.0 | U | 2.0 | U | 2.0 | U | 2.6 | U | 2.0 | U | 2.0 | U |
| Hexachloroethane | | 5.33 | | 8.9 | 2.0 | U | 2.0 | U | 2.0 | U | 2.6 | U | 2.0 | U | 2.0 | U |
| Nitrobenzene | | 449 | | 1900 | 1.0 | U | 1.0 | U | 1.0 | U | 1.3 | U | 1.0 | U | 1.0 | U |
| Isophorone | | 1560 | | 600 | 1.0 | U | 1.0 | U | 1.0 | U | 1.3 | U | 1.0 | U | 1.0 | U |
| 2-Nitrophenol | | | | | 5.0 | U | 5.0 | U | 5.0 | U | 6.4 | U | 5.0 | U | 5.0 | U |
| 2,4-Dimethylphenol | | 553 | | 2300 | 3.0 | U | 3.0 | U | 3.0 | U | 3.8 | U | 3.0 | U | 3.0 | U |
| Benzoic Acid | | | | | 10 | U | 10 | U | 10 | U | 64 | U | 10 | U | 10 | U |
| bis(2-Chloroethoxy) Methane | | | | | 1.0 | U | 1.0 | U | 1.0 | U | 1.3 | U | 1.0 | U | 1.0 | U |
| 2,4-Dichlorophenol | | 191 | | 790 | 3.0 | U | 3.0 | U | 3.0 | U | 3.8 | U | 3.0 | U | 3.0 | U |
| 1,2,4-Trichlorobenzene | | 227 | | 940 | 1.0 | U | 1.0 | U | 1.0 | U | 1.3 | U | 1.0 | U | 1.0 | U |
| 4-Chloroaniline | | | | | 3.0 | U | 3.0 | U | 3.0 | U | 3.8 | U | 3.0 | U | 3.0 | U |
| Hexachlorobutadiene | | 29.9 | | 50 | 2.0 | U | 2.0 | U | 2.0 | U | 2.6 | U | 2.0 | U | 2.0 | U |
| 4-Chloro-3-methylphenol | | | | | 2.0 | U | 2.0 | U | 2.0 | U | 2.6 | U | 2.0 | U | 2.0 | U |
| 2-Methylnaphthalene | | | | | 1.0 | U | 1.0 | U | 1.0 | U | 1.3 | U | 1.0 | U | 1.0 | U |
| Hexachlorocyclopentadiene | | 3580 | | 17000 | 5.0 | U | 5.0 | U | 5.0 | U | 6.4 | U | 5.0 | U | 5.0 | U |
| 2,4,6-Trichlorophenol | | 3.93 | | 6.5 | 5.0 | U | 5.0 | U | 5.0 | U | 6.4 | U | 5.0 | U | 5.0 | U |
| 2,4,5-Trichlorophenol | | | | | 5.0 | U | 5.0 | U | 5.0 | U | 6.4 | U | 5.0 | U | 5.0 | U |
| 2-Chloronaphthalene | | | | 4300 | 1.0 | U | 1.0 | U | 1.0 | U | 1.3 | U | 1.0 | U | 1.0 | U |
| 2-Nitroaniline | | | | | 5.0 | U | 5.0 | U | 5.0 | U | 6.4 | U | 5.0 | U | 5.0 | U |
| Dimethylphthalate | | 72000 | | 2900000 | 1.0 | U | 1.0 | U | 1.0 | U | 1.3 | U | 1.0 | U | 1.0 | U |
| 3-Nitroaniline | | | | | 6.0 | U | 6.0 | U | 6.0 | U | 7.7 | U | 6.0 | U | 6.0 | U |
| 2,4-Dinitrophenol | | 3460 | | 14000 | 10 | U | 10 | U | 10 | U | 32 | U | 10 | U | 10 | U |
| 4-Nitrophenol | | | | | 5.0 | U | 5.0 | U | 5.0 | U | 6.4 | U | 5.0 | U | 5.0 | U |
| Dibenzofuran | | | | | 1.0 | U | 1.0 | U | 1.0 | U | 1.3 | U | 1.0 | U | 1.0 | U |
| 2,6-Dinitrotoluene | | | | | 5.0 | U | 5.0 | U | 5.0 | U | 6.4 | U | 5.0 | U | 5.0 | U |

Appendix A. Rayonier Mill Site Historic Groundwater Monitoring Data.

| | Applicable Criteria | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | Washington State (a) | | National Toxics Rule (b) | | | | | | | |
| | Ecological | Human Health | Ecological | Human Health | PZ-7 R661C 2/14/1997 | PZ-7 T609K 8/27/1997 | PZ-7 CU21E 2/22/2001 | PZ-7 FB89G 12/12/2002 | PZ-9 R661B 2/14/1997 | PZ-9 T609J 8/27/1997 |
| 2,4-Dinitrotoluene | | 1360 | | 9.1 | 5.0 U | 5.0 U | 5.0 U | 6.4 U | 5.0 U | 5.0 U |
| Diethylphthalate | | 28400 | | 120000 | 1.0 U | 1.0 U | 1.0 U | 1.3 U | 1.0 U | 1.0 U |
| 4-Chlorophenyl-phenylether | | | | | 1.0 U | 1.0 U | 1.0 U | 1.3 U | 1.0 U | 1.0 U |
| 4-Nitroaniline | | | | | 5.0 U | 5.0 U | 5.0 U | 6.4 U | 5.0 U | 5.0 U |
| 4,6-Dinitro-2-Methylphenol | | | | 765 | 10 U | 10 U | 10 U | 19 U | 10 U | 10 U |
| N-Nitrosodiphenylamine | | 9.73 | | 16 | 1.0 U | 1.0 U | 1.0 U | 1.3 U | 1.0 U | 1.0 U |
| 4-Bromophenyl-phenylether | | | | | 1.0 U | 1.0 U | 1.0 U | 1.3 U | 1.0 U | 1.0 U |
| Hexachlorobenzene | | 0.000466 | | 0.00077 | 1.0 U | 1.0 U | 1.0 U | 1.3 U | 1.0 U | 1.0 U |
| Pentachlorophenol | 7.9 | 4.91 | 7.9 | 8.2 | 5.0 U | 5.0 U | 5.0 U | 6.4 U | 5.0 U | 5.0 U |
| Carbazole | | | | | 1.0 U | 1.0 U | 1.0 U | 1.3 U | 1.0 U | 1.0 U |
| Di-n-Butylphthalate | | 2910 | | 12000 | 1.0 U | 1.0 U | 1.0 | 1.3 U | 1.0 U | 1.0 U |
| Butylbenzylphthalate | | 1250 | | 5200 | 1.0 U | 1.0 U | 1.0 U | 1.3 U | 1.0 U | 1.0 U |
| 3,3'-Dichlorobenzidine | | 0.0462 | | 0.077 | 5.0 U | 5.0 U | 5.0 U | 6.4 U | 5.0 U | 5.0 U |
| bis(2-Ethylhexyl)phthalate | | 3.56 | | 5.9 | 3.4 B | 1.0 U | 1.0 U | 1.3 U | 2.2 B | 1.0 U |
| Di-n-Octyl phthalate | | | | | 1.0 U | 1.0 U | 1.0 U | 1.3 U | 1.0 U | 1.0 U |
| 3-,4-Methylphenol | | | | | NA | NA | NA | 1.3 U | NA | NA |
| Diallate A | | | | | NA | NA | NA | 6.4 U | NA | NA |
| Diallate B | | | | | NA | NA | NA | 6.4 U | NA | NA |
| Isodrin | | | | | NA | NA | NA | 6.4 U | NA | NA |
| Chlorobenzilate | | | | | NA | NA | NA | 6.4 U | NA | NA |
| **PAHs (µg/L) (d)** | | | | | | | | | | |
| Naphthalene | | 4940 | | | 1.0 U | 1.0 U | 1.0 U | 0.13 U | 1.2 | 1.5 |
| Acenaphthylene | | | | | 1.0 U | 1.0 U | 1.0 U | 0.13 U | 1.0 U | 1.0 U |
| Acenaphthene | | 643 | | 2700 | 1.0 U | 1.0 U | 1.0 U | 0.13 U | 1.0 U | 1.0 U |
| Fluorene | | 3460 | | 14000 | 1.0 U | 1.0 U | 1.0 U | 0.13 U | 1.0 U | 1.0 U |
| Phenanthrene | | | | | 1.0 U | 1.0 U | 1.0 U | 0.13 U | 1.0 U | 1.0 U |
| Anthracene | | 25900 | | 110000 | 1.0 U | 1.0 U | 1.0 U | 0.13 U | 1.0 U | 1.0 U |
| Fluoranthene | | 90.2 | | 370 | 1.0 U | 1.0 U | 1.0 U | 0.13 U | 1.0 U | 1.0 U |
| Pyrene | | 2590 | | 11000 | 1.0 U | 1.0 U | 1.0 U | 0.13 U | 1.0 U | 1.0 U |
| Benzo(a)anthracene | | 0.0296 | | 0.031 | 1.0 U | 1.0 U | 1.0 U | 0.13 U | 1.0 U | 1.0 U |
| Chrysene | | 0.0296 | | 0.031 | 1.0 U | 1.0 U | 1.0 U | 0.13 U | 1.0 U | 1.0 U |
| Benzo(b)fluoranthene | | 0.0296 | | 0.031 | 1.0 U | 1.0 U | 1.0 U | 0.13 U | 1.0 U | 1.0 U |
| Benzo(k)fluoranthene | | 0.0296 | | 0.031 | 1.0 U | 1.0 U | 1.0 U | 0.13 U | 1.0 U | 1.0 U |

Appendix A. Rayonier Mill Site Historic Groundwater Monitoring Data.

| | Applicable Criteria | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | Washington State (a) | | National Toxics Rule (b) | | | | | | | |
| | Ecological | Human Health | Ecological | Human Health | PZ-7 R661C 2/14/1997 | PZ-7 T609K 8/27/1997 | PZ-7 CU21E 2/22/2001 | PZ-7 FB89G 12/12/2002 | PZ-9 R661B 2/14/1997 | PZ-9 T609J 8/27/1997 |
| Benzo(a)pyrene | | 0.0296 | | 0.031 | 1.0 U | 1.0 U | 1.0 U | 0.13 U | 1.0 U | 1.0 U |
| Indeno(1,2,3-cd)pyrene | | 0.0296 | | 0.031 | 1.0 U | 1.0 U | 1.0 U | 0.13 U | 1.0 U | 1.0 U |
| Dibenz(a,h)anthracene | | 0.0296 | | 0.031 | 1.0 U | 1.0 U | 1.0 U | 0.13 U | 1.0 U | 1.0 U |
| Benzo(g,h,i)perylene | | | | | 1.0 U | 1.0 U | 1.0 U | 0.13 U | 1.0 U | 1.0 U |
| cPAH TEQ | | | | | ND | ND | ND | ND | ND | ND |
| **PETROLEUM HYDROCARBONS (mg/L)** | | | | | | | | | | |
| **NWTPH-D extended** | | | | | | | | | | |
| Diesel Range Hydrocarbons | | 0.5 | | | NA | NA | 0.25 U | 0.25 U | NA | NA |
| Motor Oil | | 0.5 | | | NA | NA | 0.50 U | 0.50 U | NA | NA |
| **TOTAL METALS (mg/L)** | | | | | | | | | | |
| Arsenic | | | | | 0.05 U | NA | 0.003 | 0.0013 | 0.10 | NA |
| Beryllium | | | | | 0.001 U | NA | NA | 0.001 U | 0.001 U | NA |
| Chromium (c) | | | | | 0.005 U | NA | 0.018 | 0.0037 | 0.485 | NA |
| Copper | | | | | 0.005 | NA | 0.048 | 0.0138 | 0.020 | NA |
| Iron | | | | | 0.05 | NA | 15.0 J | 3.39 | 35.3 | NA |
| Lead | | | | | 0.02 U | NA | 0.001 U | 0.001 U | 0.02 U | NA |
| Nickel | | | | | 0.01 U | NA | 0.03 | 0.0088 | 0.01 U | NA |
| Selenium | | | | | 0.05 | NA | 0.06 | 0.0006 | 0.08 | NA |
| Zinc | | | | | 0.010 | NA | 0.041 | 0.008 | 0.007 | NA |
| **Major Ions (total)** | | | | | | | | | | |
| Calcium | | | | | NA | NA | NA | 65.5 | NA | NA |
| Magnesium | | | | | NA | NA | NA | 36 | NA | NA |
| Potassium | | | | | NA | NA | NA | 4.37 | NA | NA |
| Sodium | | | | | NA | NA | NA | 58.6 | NA | NA |

Appendix A. Rayonier Mill Site Historic Groundwater Monitoring Data.

| | Applicable Criteria | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | Washington State (a) | | National Toxics Rule (b) | | | | | | | |
| | Ecological | Human Health | Ecological | Human Health | PZ-7 R661C 2/14/1997 | PZ-7 T609K 8/27/1997 | PZ-7 CU21E 2/22/2001 | PZ-7 FB89G 12/12/2002 | PZ-9 R661B 2/14/1997 | PZ-9 T609J 8/27/1997 |
| **DISSOLVED METALS (mg/L)** | | | | | | | | | | |
| Arsenic | 0.036 | 0.0000982 | 0.036 | 0.00014 | NA | 0.05 U | 0.001 U | 0.0014 | NA | 0.2 U |
| Beryllium | | 0.27 | | | NA | 0.001 U | NA | 0.001 U | NA | 0.005 U |
| Chromium (c) | 0.05 | 0.49 | 0.05 | | NA | 0.005 U | 0.005 U | 0.0017 | NA | 1.15 |
| Copper | 0.0031 | 2.66 | 0.0024 | | NA | 0.014 | 0.003 | 0.0065 | NA | 0.03 |
| Lead | 0.0081 | | 0.0081 | | NA | 0.02 U | 0.001 U | 0.001 U | NA | 0.1 U |
| Nickel | 0.0082 | 1.1 | 0.0082 | 4.6 | NA | 0.01 U | 0.01 U | 0.0037 | NA | 0.05 U |
| Selenium | 0.071 | 2.7 | 0.071 | 11 | NA | 0.05 U | 0.05 U | 0.0009 | NA | 0.3 |
| Zinc | 0.081 | 16.5 | 0.081 | 69 | NA | 0.006 J | 0.006 U | 0.004 | NA | 0.02 UJ |
| **PESTICIDES (µg/L)** | | | | | | | | | | |
| alpha-BHC | | 0.00791 | | 0.013 | NA | NA | NA | 0.057 U | NA | NA |
| beta-BHC | | 0.0277 | | 0.046 | NA | NA | NA | 0.057 U | NA | NA |
| delta-BHC | | | | | NA | NA | NA | 0.057 U | NA | NA |
| gamma-BHC (Lindane) | 0.16 | 0.0384 | 0.16 | 0.063 | NA | NA | NA | 0.057 U | NA | NA |
| Heptachlor | 0.0036 | 0.000129 | 0.0036 | 0.00021 | NA | NA | NA | 0.057 U | NA | NA |
| Aldrin | 0.0019 | 0.000082 | 1.3 | 0.00014 | NA | NA | NA | 0.057 U | NA | NA |
| Heptachlor Epoxide | | 0.000064 | 0.0036 | 0.00011 | NA | NA | NA | 0.057 U | NA | NA |
| Endosulfan I | 0.0087 | 57.6 | 0.0087 | 2 | NA | NA | NA | 0.057 U | NA | NA |
| Dieldrin | 0.0019 | 0.000087 | 0.0019 | 0.00014 | NA | NA | NA | 0.11 U | NA | NA |
| 4,4'-DDE | 0.001 | 0.000356 | | 0.00059 | NA | NA | NA | 0.11 U | NA | NA |
| Endrin | 0.0023 | 0.196 | 0.0023 | 0.81 | NA | NA | NA | 0.11 U | NA | NA |
| Endosulfan II | 0.0087 | 57.6 | 0.0087 | 2 | NA | NA | NA | 0.11 U | NA | NA |
| 4,4'-DDD | 0.001 | 0.000504 | | 0.00084 | NA | NA | NA | 0.11 U | NA | NA |
| Endosulfan Sulfate | | | | 2 | NA | NA | NA | 0.11 U | NA | NA |
| 4,4'-DDT | 0.001 | 0.000356 | 0.001 | 0.00059 | NA | NA | NA | 0.11 U | NA | NA |
| Methoxychlor | | 8.36 | | | NA | NA | NA | 0.57 U | NA | NA |
| Endrin Ketone | | | | | NA | NA | NA | 0.11 U | NA | NA |
| Endrin Aldehyde | | | | 0.81 | NA | NA | NA | 0.11 U | NA | NA |
| gamma Chlordane | 0.004 | 0.0013 | 0.004 | 0.00059 | NA | NA | NA | 0.057 U | NA | NA |
| alpha Chlordane | | | | | NA | NA | NA | 0.057 U | NA | NA |
| Toxaphene | 0.0002 | 0.00045 | 0.0002 | 0.00075 | NA | NA | NA | 5.7 U | NA | NA |
| **PCBs (ug/L)** | | | | | | | | | | |
| Aroclor 1016 | 0.03 | 0.00582 | 0.03 | 0.000045 | 1.0 U | 1.0 U | NA | 0.12 U | 1.0 U | 1.0 U |
| Aroclor 1242 | 0.03 | | 0.03 | 0.000045 | 1.0 U | 1.0 U | NA | 0.12 U | 1.0 U | 1.0 U |
| Aroclor 1248 | 0.03 | | 0.03 | 0.000045 | 1.0 U | 1.0 U | NA | 0.12 U | 1.0 U | 1.0 U |
| Aroclor 1254 | 0.03 | 0.00166 | 0.03 | 0.000045 | 1.0 U | 1.0 U | NA | 0.12 U | 1.0 U | 1.0 U |
| Aroclor 1260 | 0.03 | | 0.03 | 0.000045 | 1.0 U | 1.0 U | NA | 0.12 U | 1.0 U | 1.0 U |
| Aroclor 1221 | 0.03 | | 0.03 | 0.000045 | 2.0 U | 2.0 U | NA | 0.23 U | 2.0 U | 2.0 U |
| Aroclor 1232 | 0.03 | | 0.03 | 0.000045 | 1.0 U | 1.0 U | NA | 0.12 U | 1.0 U | 1.0 U |
| Total PCBs | | | | 0.00011 | ND | ND | NA | ND | ND | ND |

Appendix A. Rayonier Mill Site Historic Groundwater Monitoring Data.

| | Applicable Criteria | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | Washington State (a) | | National Toxics Rule (b) | | | | | | | |
| | Ecological | Human Health | Ecological | Human Health | PZ-7 R661C 2/14/1997 | PZ-7 T609K 8/27/1997 | PZ-7 CU21E 2/22/2001 | PZ-7 FB89G 12/12/2002 | PZ-9 R661B 2/14/1997 | PZ-9 T609J 8/27/1997 |
| **INDICATOR GEOCHEMICAL PARAMETERS (mg/L)** | | | | | | | | | | |
| Sodium, Dissolved | | | | | NA | NA | NA | 58.9 | NA | NA |
| Potassium, Dissolved | | | | | NA | NA | NA | 4.23 | NA | NA |
| Calcium, Dissolved | | | | | NA | NA | NA | 67.2 | NA | NA |
| Magnesium, Dissolved | | | | | NA | NA | NA | 36.9 | NA | NA |
| Chloride | | | | | 76 | 37 | 25 | 20 | 120 | 170 |
| Alkalinity | | | | | NA | NA | NA | 300 | NA | NA |
| Carbonate (Alkalinity) | | | | | NA | NA | NA | 1.0 U | NA | NA |
| Bicarbonate (Alkalinity) | | | | | NA | NA | NA | 300 | NA | NA |
| Sulfate | | | | | 190 | 77 | 170 | 130 | 640 | 1000 |
| Iron, Dissolved | | | | | NA | 0.46 | 0.02 U | 0.62 | NA | 102 |
| **CONVENTIONAL PARAMETERS** | | | | | | | | | | |
| Total Dissolved Solids (mg/L) | | | | | NA | NA | NA | 490 | NA | NA |
| Total Suspended Solids (mg/L) | | | | | NA | NA | NA | 150 | NA | NA |
| Bromide (mg/L) | | | | | NA | NA | NA | 0.62 | NA | NA |
| Fluoride (mg/L) | | | | | NA | NA | NA | 0.10 | NA | NA |
| N-Ammonia (total) (mg-N/L) | | | | | 0.16 | 0.27 | 0.090 | 0.066 | 56 | 55 |
| N-Ammonia (un-ionized) (mg/L) | 0.035 | | | | 0.00 | 0.00 | 0.00 | 0.00 | 0.03 | 0.08 |
| N-Nitrate (mg-N/L) | | | | | 2.2 | NA | NA | 0.92 | 0.010 U | NA |
| N-Nitrite (mg-N/L) | | | | | 0.031 | NA | NA | 0.013 | 0.36 | NA |
| Nitrate + Nitrite (NO2+NO3) (mg-N/L) | | | | | 2.3 | 0.18 | 1.1 J | 0.93 | 0.010 U | 0.45 |
| Ortho-Phosphorous (mg/L) | | | | | NA | NA | NA | 0.006 | NA | NA |
| Chemical Oxygen Demand (mg/L) | | | | | 26 | NA | NA | 23 | 7600 | NA |
| Total Organic Carbon (mg/L) | | | | | 8.3 | 14 | 9.0 J | 7.6 | 1900 | 3100 |
| Tannins & Lignins (mg/L) | | | | | 13.28 | NA | 0.819 | 0.176 | 20.92 | NA |
| Field pH (avg) | | 7-8.5 | 6.5-8.5 | | 6.43 | 6.83 | 6.83 | 7.44 | 6.45 | 6.75 |
| Field Temperature (°C) (avg) | | | | | 11.8 | 17.6 | 10.9 | 11.5 | 10.4 | 13.9 |
| Field Conductivity (µS) (avg) | | | | | 876 | 555 | 653 | 529 | 2273 | 1984 |
| Field Dissolved Oxygen (mg/L) | | | | | NM | NM | NM | 1.96 | NM | NM |
| Field Turbidity (NTU) | | | | | NM | NM | NM | 0 | NM | NM |
| Turbidity (NTU) | | | | | 240 | 54 | NA | 9.6 J | 780 | 190 |
| Field Redox (mV) | | | | | NM | NM | NM | 15.7 | NM | NM |

Appendix A. Rayonier Mill Site Historic Groundwater Monitoring Data.

| | Applicable Criteria | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | Washington State (a) | | National Toxics Rule (b) | | PZ-14 | | | | | |
| | | | | | (PZ-9-Dup) | PZ-9 | PZ-9 | PZ-9 | PZ-10 | PZ-10 |
| | | Human | | Human | T609L | CU22G | DN18D | FB89N | R796A | T609I |
| | Ecological | Health | Ecological | Health | 8/27/1997 | 2/22/2001 | 8/21/2001 | 12/13/2002 | 2/28/1997 | 8/27/1997 |
| **VOLATILE COMPOUNDS (ug/L)** | | | | | | | | | | |
| Chloromethane | | 133 | | | 30 | 1.0 U | 0.2 U | 0.2 U | 2.0 U | 2.0 U |
| Vinyl Chloride | | 3.69 | | 525 | 2.0 U | 1.0 U | 0.2 U | 0.2 U | 2.0 U | 2.0 U |
| Chloroethane | | | | | 2.0 U | 1.0 U | 0.2 U | 0.2 U | 2.0 U | 2.0 U |
| Methylene Chloride | | 960 | | 1600 | 2.0 U | 2.0 U | 0.3 U | 0.3 U | 2.0 U | 2.0 U |
| Acetone | | | | | 5.0 U | 5.0 U | 1.0 U | 2.2 U | 5.0 U | 5.0 U |
| Carbon Disulfide | | | | | 1.0 | 1.3 | 0.3 | 0.3 | 1.0 U | 1.0 U |
| 1,1-Dichloroethene | | 1.93 | | 3.2 | 1.0 U | 1.0 U | 0.2 U | 0.2 U | 1.0 U | 1.0 U |
| 1,1-Dichloroethane | | | | | 1.0 U | 1.0 U | 0.2 U | 0.2 U | 1.0 U | 1.0 U |
| trans-1,2-Dichloroethene | | 32800 | | 140000 | 1.0 U | 1.0 U | 0.2 U | 0.2 U | 1.0 U | 1.0 U |
| cis-1,2-Dichloroethene | | | | | 1.0 U | 1.0 U | 0.2 U | 0.2 U | 1.0 U | 1.0 U |
| Chloroform | | 283 | | 470 | 1.0 U | 1.0 U | 0.2 U | 0.2 U | 1.0 U | 1.0 U |
| 1,2-Dichloroethane | | 59.4 | | 99 | 1.0 U | 1.0 U | 0.2 U | 0.2 U | 1.0 U | 1.0 U |
| 2-Butanone | | | | | 5.0 U | 5.0 U | 1.0 U | 1.0 U | 5.0 U | 5.0 U |
| 1,1,1-Trichloroethane | | 417000 | | | 1.0 U | 1.0 U | 0.2 U | 0.2 U | 1.0 U | 1.0 U |
| Carbon Tetrachloride | | 2.66 | | 4.4 | 1.0 U | 1.0 U | 0.2 U | 0.2 U | 1.0 U | 1.0 U |
| Vinyl Acetate | | | | | 5.0 U | 5.0 U | 0.2 U | 0.2 U | 5.0 U | 5.0 U |
| Bromodichloromethane | | 28 | | 22 | 1.0 U | 1.0 U | 0.2 U | 0.2 U | 1.0 U | 1.0 U |
| 1,2-Dichloropropane | | 23.2 | | 39 | 1.0 U | 1.0 U | 0.2 U | 0.2 U | 1.0 U | 1.0 U |
| cis-1,3-Dichloropropene | | | | | 1.0 U | 1.0 U | 0.2 U | 0.2 U | 1.0 U | 1.0 U |
| Trichloroethene | | 56 | | 81 | 1.0 U | 1.0 U | 9.6 | 0.2 U | 1.0 U | 1.0 U |
| Dibromochloromethane | | 20.6 | | 34 | 1.0 U | 1.0 U | 0.2 U | 0.2 U | 1.0 U | 1.0 U |
| 1,1,2-Trichloroethane | | 25.3 | | 42 | 1.0 U | 1.0 U | 0.2 U | 0.2 U | 1.0 U | 1.0 U |
| Benzene | | 22.7 | | 71 | 1.0 U | 1.0 U | 0.2 U | 0.2 U | 1.0 U | 1.0 U |
| trans-1,3-Dichloropropene | | | | | 1.0 U | 1.0 U | 0.2 U | 0.2 U | 1.0 U | 1.0 U |
| Bromoform | | 219 | | 360 | 1.0 U | 1.0 U | 0.5 U | 0.2 U | 1.0 U | 1.0 U |
| 4-Methyl-2-Pentanone | | | | | 5.0 U | 5.0 U | 1.0 U | 1.0 U | 5.0 U | 5.0 U |
| 2-Hexanone | | | | | 5.0 U | 5.0 U | 1.0 U | 1.0 U | 5.0 U | 5.0 U |
| Tetrachloroethene | | 4.15 | | 8.85 | 1.0 U | 1.0 U | 0.2 U | 0.2 U | 1.0 U | 1.0 U |
| 1,1,2,2-Tetrachloroethane | | 6.48 | | 11 | 1.0 U | 1.0 U | 0.2 U | 0.2 U | 1.0 U | 1.0 U |
| Toluene | | 48500 | | 200000 | 22 J | 1.9 | 0.9 | 3.4 | 1.0 U | 1.0 U |
| Chlorobenzene | | 5030 | | 21000 | 1.0 U | 1.0 U | 0.2 U | 0.2 U | 1.0 U | 1.0 U |
| Ethylbenzene | | 6910 | | 29000 | 1.0 U | 1.0 U | 0.2 U | 0.2 U | 1.0 U | 1.0 U |
| Styrene | | | | | 1.0 U | 1.0 U | 0.2 U | 0.2 U | 1.0 U | 1.0 U |
| m,p-Xylene | | | | | 1.0 U | 1.0 U | 0.4 U | 0.4 U | 1.0 U | 1.0 U |
| o-Xylene | | | | | 1.0 U | 1.0 U | 0.2 U | 0.2 U | 1.0 U | 1.0 U |
| Total Xylenes | | | | | NA | NA | 0.6 U | 0.6 U | NA | NA |
| 4-Isopropyltoluene | | | | | 1.0 U | 1.0 U | 0.2 U | 0.2 U | 1.0 U | 1.0 U |
| **SEMIVOLATILE COMPOUNDS (ug/L)** | | | | | | | | | | |
| Dibromochloropropane | | | | | NA | NA | 5.0 U | 5.3 U | NA | NA |

Appendix A. Rayonier Mill Site Historic Groundwater Monitoring Data.

| | Applicable Criteria | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Washington State (a) | | National Toxics Rule (b) | | PZ-14 (PZ-9-Dup) T609L 8/27/1997 | | PZ-9 CU22G 2/22/2001 | | PZ-9 DN18D 8/21/2001 | | PZ-9 FB89N 12/13/2002 | | PZ-10 R796A 2/28/1997 | | PZ-10 T609I 8/27/1997 | |
| | Ecological | Human Health | Ecological | Human Health | | | | | | | | | | | | |
| Phenol | | 1110000 | | 4600000 | 2.0 | U | 2.0 | U | 2.0 | U | 2.1 | U | 2.0 | U | 2.0 | U |
| Bis-(2-Chloroethyl) Ether | | 0.854 | | 1.4 | 2.0 | U | 2.0 | U | 2.0 | U | 2.1 | U | 2.0 | U | 2.0 | U |
| 2-Chlorophenol | | 96.7 | | 400 | 1.0 | U | 1.0 | U | 1.0 | U | 1.1 | U | 1.0 | U | 1.0 | U |
| 1,3-Dichlorobenzene | | | | 2600 | 1.0 | U | 1.0 | U | 1.0 | U | 1.1 | U | 1.0 | U | 1.0 | U |
| 1,4-Dichlorobenzene | | 4.86 | | 2600 | 1.0 | U | 1.0 | U | 1.0 | U | 1.1 | U | 1.0 | U | 1.0 | U |
| Benzyl Alcohol | | | | | 5.0 | U | 5.0 | U | 5.0 | U | 5.3 | U | 5.0 | U | 5.0 | U |
| 1,2-Dichlorobenzene | | 4200 | | 17000 | 1.0 | U | 1.0 | U | 1.0 | U | 1.1 | U | 1.0 | U | 1.0 | U |
| 2-Methylphenol | | | | | 2.0 | U | 2.0 | U | 1.0 | U | 1.1 | U | 2.0 | U | 2.0 | U |
| 2,2'-Oxybis(1-Chloropropane) | | 37.5 | | 170000 | 1.0 | U | 1.0 | U | 1.0 | U | 1.1 | U | 1.0 | U | 1.0 | U |
| N-Nitroso-Di-N-Propylamine | | 0.819 | | 1.4 | 2.0 | U | 2.0 | U | 2.0 | U | 2.1 | U | 2.0 | U | 2.0 | U |
| Hexachloroethane | | 5.33 | | 8.9 | 2.0 | U | 2.0 | U | 2.0 | U | 2.1 | U | 2.0 | U | 2.0 | U |
| Nitrobenzene | | 449 | | 1900 | 1.0 | U | 1.0 | U | 1.0 | U | 1.1 | U | 1.0 | U | 1.0 | U |
| Isophorone | | 1560 | | 600 | 1.0 | U | 1.0 | U | 1.0 | U | 1.1 | U | 1.0 | U | 1.0 | U |
| 2-Nitrophenol | | | | | 5.0 | U | 5.0 | U | 5.0 | U | 5.3 | U | 5.0 | U | 5.0 | U |
| 2,4-Dimethylphenol | | 553 | | 2300 | 3.0 | U | 3.0 | U | 3.0 | U | 3.2 | U | 3.0 | U | 3.0 | U |
| Benzoic Acid | | | | | 10 | U | 10 | U | 10 | U | 53 | U | 10 | U | 10 | U |
| bis(2-Chloroethoxy) Methane | | | | | 1.0 | U | 1.0 | U | 1.0 | U | 1.1 | U | 1.0 | U | 1.0 | U |
| 2,4-Dichlorophenol | | 191 | | 790 | 3.0 | U | 3.0 | U | 3.0 | U | 3.2 | U | 3.0 | U | 3.0 | U |
| 1,2,4-Trichlorobenzene | | 227 | | 940 | 1.0 | U | 1.0 | U | 1.0 | U | 1.1 | U | 1.0 | U | 1.0 | U |
| 4-Chloroaniline | | | | | 3.0 | U | 3.0 | U | 3.0 | U | 3.2 | U | 3.0 | U | 3.0 | U |
| Hexachlorobutadiene | | 29.9 | | 50 | 2.0 | U | 2.0 | U | 2.0 | U | 2.1 | U | 2.0 | U | 2.0 | U |
| 4-Chloro-3-methylphenol | | | | | 2.0 | U | 2.0 | U | 2.0 | U | 2.1 | U | 2.0 | U | 2.0 | U |
| 2-Methylnaphthalene | | | | | 1.0 | U | 1.0 | U | 1.0 | U | 1.1 | U | 1.0 | U | 1.0 | U |
| Hexachlorocyclopentadiene | | 3580 | | 17000 | 5.0 | U | 5.0 | U | 5.0 | U | 5.3 | U | 5.0 | U | 5.0 | U |
| 2,4,6-Trichlorophenol | | 3.93 | | 6.5 | 5.0 | U | 5.0 | U | 5.0 | U | 5.3 | U | 5.0 | U | 5.0 | U |
| 2,4,5-Trichlorophenol | | | | | 5.0 | U | 5.0 | U | 5.0 | U | 5.3 | U | 5.0 | U | 5.0 | U |
| 2-Chloronaphthalene | | | | 4300 | 1.0 | U | 1.0 | U | 1.0 | U | 1.1 | U | 1.0 | U | 1.0 | U |
| 2-Nitroaniline | | | | | 5.0 | U | 5.0 | U | 5.0 | U | 5.3 | U | 5.0 | U | 5.0 | U |
| Dimethylphthalate | | 72000 | | 2900000 | 1.0 | U | 1.0 | U | 1.0 | U | 1.1 | U | 1.0 | U | 1.0 | U |
| 3-Nitroaniline | | | | | 6.0 | U | 6.0 | U | 6.0 | U | 6.4 | U | 6.0 | U | 6.0 | U |
| 2,4-Dinitrophenol | | 3460 | | 14000 | 10 | U | 10 | U | 10 | U | 27 | U | 10 | U | 10 | U |
| 4-Nitrophenol | | | | | 5.0 | U | 5.0 | U | 5.0 | U | 5.3 | U | 5.0 | U | 5.0 | U |
| Dibenzofuran | | | | | 1.0 | U | 1.0 | U | 1.0 | U | 1.1 | U | 1.0 | U | 1.0 | U |
| 2,6-Dinitrotoluene | | | | | 5.0 | U | 5.0 | U | 5.0 | U | 5.3 | U | 5.0 | U | 5.0 | U |

Appendix A. Rayonier Mill Site Historic Groundwater Monitoring Data.

| | Applicable Criteria | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | Washington State (a) | | National Toxics Rule (b) | | PZ-14 | | | | | |
| | | | | | (PZ-9-Dup) | PZ-9 | PZ-9 | PZ-9 | PZ-10 | PZ-10 |
| | | Human | | Human | T609L | CU22G | DN18D | FB89N | R796A | T609I |
| | Ecological | Health | Ecological | Health | 8/27/1997 | 2/22/2001 | 8/21/2001 | 12/13/2002 | 2/28/1997 | 8/27/1997 |
| 2,4-Dinitrotoluene | | 1360 | | 9.1 | 5.0 U | 5.0 U | 5.0 U | 5.3 U | 5.0 U | 5.0 U |
| Diethylphthalate | | 28400 | | 120000 | 1.0 U | 1.0 U | 1.0 U | 1.1 U | 1.0 U | 1.0 U |
| 4-Chlorophenyl-phenylether | | | | | 1.0 U | 1.0 U | 1.0 U | 1.1 U | 1.0 U | 1.0 U |
| 4-Nitroaniline | | | | | 5.0 U | 5.0 U | 5.0 U | 5.3 U | 5.0 U | 5.0 U |
| 4,6-Dinitro-2-Methylphenol | | | | 765 | 10 U | 10 U | 10 U | 16 U | 10 U | 10 U |
| N-Nitrosodiphenylamine | | 9.73 | | 16 | 1.0 U | 1.0 U | 1.0 U | 1.1 U | 1.0 U | 1.0 U |
| 4-Bromophenyl-phenylether | | | | | 1.0 U | 1.0 U | 1.0 U | 1.1 U | 1.0 U | 1.0 U |
| Hexachlorobenzene | | 0.000466 | | 0.00077 | 1.0 U | 1.0 U | 1.0 U | 1.1 U | 1.0 U | 1.0 U |
| Pentachlorophenol | 7.9 | 4.91 | 7.9 | 8.2 | 5.0 U | 5.0 U | 5.0 U | 5.3 U | 5.0 U | 5.0 U |
| Carbazole | | | | | 1.0 U | 1.0 U | 1.0 U | 1.1 U | 1.0 U | 1.0 U |
| Di-n-Butylphthalate | | 2910 | | 12000 | 1.0 U | 1.0 U | 1.0 U | 1.1 U | 1.0 U | 1.0 U |
| Butylbenzylphthalate | | 1250 | | 5200 | 1.0 U | 1.0 U | 1.0 U | 1.1 U | 1.0 U | 1.0 U |
| 3,3'-Dichlorobenzidine | | 0.0462 | | 0.077 | 5.0 U | 5.0 U | 5.0 U | 5.3 U | 5.0 U | 5.0 U |
| bis(2-Ethylhexyl)phthalate | | 3.56 | | 5.9 | 1.0 U | 1.0 U | 35 | 1.1 U | 1.0 U | 1.0 U |
| Di-n-Octyl phthalate | | | | | 1.0 U | 1.0 U | 1.0 U | 1.1 U | 1.0 U | 1.0 U |
| 3-,4-Methylphenol | | | | | NA | NA | 1.0 U | 1.1 U | NA | NA |
| Diallate A | | | | | NA | NA | 2.0 U | 5.3 U | NA | NA |
| Diallate B | | | | | NA | NA | 2.0 U | 5.3 U | NA | NA |
| Isodrin | | | | | NA | NA | 5.0 U | 5.3 U | NA | NA |
| Chlorobenzilate | | | | | NA | NA | 2.0 U | 5.3 U | NA | NA |
| **PAHs (µg/L) (d)** | | | | | | | | | | |
| Naphthalene | | 4940 | | | 1.9 | 1.0 U | 0.44 | 0.27 | 1.0 U | 1.0 U |
| Acenaphthylene | | | | | 1.0 U | 1.0 U | 0.10 U | 0.11 U | 1.0 U | 1.0 U |
| Acenaphthene | | 643 | | 2700 | 1.0 U | 1.0 U | 0.12 | 0.11 U | 1.0 U | 1.0 U |
| Fluorene | | 3460 | | 14000 | 1.0 U | 1.0 U | 0.10 U | 0.11 U | 1.0 U | 1.0 U |
| Phenanthrene | | | | | 1.0 U | 1.0 U | 0.10 U | 0.11 U | 1.0 U | 1.0 U |
| Anthracene | | 25900 | | 110000 | 1.0 U | 1.0 U | 0.10 U | 0.11 U | 1.0 U | 1.0 U |
| Fluoranthene | | 90.2 | | 370 | 1.0 U | 1.0 U | 0.10 U | 0.11 U | 1.0 U | 1.0 U |
| Pyrene | | 2590 | | 11000 | 1.0 U | 1.0 U | 0.10 U | 0.11 U | 1.0 U | 1.0 U |
| Benzo(a)anthracene | | 0.0296 | | 0.031 | 1.0 U | 1.0 U | 0.10 U | 0.11 U | 1.0 U | 1.0 U |
| Chrysene | | 0.0296 | | 0.031 | 1.0 U | 1.0 U | 0.10 U | 0.11 U | 1.0 U | 1.0 U |
| Benzo(b)fluoranthene | | 0.0296 | | 0.031 | 1.0 U | 1.0 U | 0.10 U | 0.11 U | 1.0 U | 1.0 U |
| Benzo(k)fluoranthene | | 0.0296 | | 0.031 | 1.0 U | 1.0 U | 0.10 U | 0.11 U | 1.0 U | 1.0 U |

Appendix A. Rayonier Mill Site Historic Groundwater Monitoring Data.

| | Applicable Criteria | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | Washington State (a) | | National Toxics Rule (b) | | PZ-14 | | | | | |
| | | | | | (PZ-9-Dup) | PZ-9 | PZ-9 | PZ-9 | PZ-10 | PZ-10 |
| | | Human | | Human | T609L | CU22G | DN18D | FB89N | R796A | T609I |
| | Ecological | Health | Ecological | Health | 8/27/1997 | 2/22/2001 | 8/21/2001 | 12/13/2002 | 2/28/1997 | 8/27/1997 |
| Benzo(a)pyrene | | 0.0296 | | 0.031 | 1.0 U | 1.0 U | 0.10 U | 0.11 U | 1.0 U | 1.0 U |
| Indeno(1,2,3-cd)pyrene | | 0.0296 | | 0.031 | 1.0 U | 1.0 U | 0.10 U | 0.11 U | 1.0 U | 1.0 U |
| Dibenz(a,h)anthracene | | 0.0296 | | 0.031 | 1.0 U | 1.0 U | 0.10 U | 0.11 U | 1.0 U | 1.0 U |
| Benzo(g,h,i)perylene | | | | | 1.0 U | 1.0 U | 0.10 U | 0.11 U | 1.0 U | 1.0 U |
| cPAH TEQ | | | | | ND | ND | ND | ND | ND | ND |
| **PETROLEUM HYDROCARBONS (mg/L)** | | | | | | | | | | |
| **NWTPH-D extended** | | | | | | | | | | |
| Diesel Range Hydrocarbons | | 0.5 | | | NA | 0.25 U | 0.25 UJ | 0.25 U | NA | NA |
| Motor Oil | | 0.5 | | | NA | 0.50 U | 0.50 UJ | 0.50 U | NA | NA |
| **TOTAL METALS (mg/L)** | | | | | | | | | | |
| Arsenic | | | | | NA | 0.023 | 0.078 | 0.0269 | 0.05 U | NA |
| Beryllium | | | | | NA | NA | 0.001 U | 0.001 U | 0.001 U | NA |
| Chromium (c) | | | | | NA | 0.067 | 0.16 | 0.0977 | 0.005 U | NA |
| Copper | | | | | NA | 0.019 | 0.0403 | 0.0247 | 0.002 U | NA |
| Iron | | | | | NA | 72.4 J | 21.7 | 12.4 | 1.00 | NA |
| Lead | | | | | NA | 0.003 | 0.004 | 0.003 | 0.02 U | NA |
| Nickel | | | | | NA | 0.01 | 0.0062 | 0.0056 | 0.01 U | NA |
| Selenium | | | | | NA | 0.05 U | 0.0009 | 0.0006 | 0.05 U | NA |
| Zinc | | | | | NA | 0.032 | 0.009 | 0.008 | 0.004 U | NA |
| **Major Ions (total)** | | | | | | | | | | |
| Calcium | | | | | NA | NA | 121 | 113 | NA | NA |
| Magnesium | | | | | NA | NA | 35.7 | 30.4 | NA | NA |
| Potassium | | | | | NA | NA | 21 | 25.1 | NA | NA |
| Sodium | | | | | NA | NA | 80.5 | 90.6 | NA | NA |

Appendix A. Rayonier Mill Site Historic Groundwater Monitoring Data.

| | Applicable Criteria | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | Washington State (a) | | National Toxics Rule (b) | | PZ-14 | | | | | |
| | | | | | (PZ-9-Dup) | PZ-9 | PZ-9 | PZ-9 | PZ-10 | PZ-10 |
| | | Human | | Human | T609L | CU22G | DN18D | FB89N | R796A | T609I |
| | Ecological | Health | Ecological | Health | 8/27/1997 | 2/22/2001 | 8/21/2001 | 12/13/2002 | 2/28/1997 | 8/27/1997 |
| **DISSOLVED METALS (mg/L)** | | | | | | | | | | |
| Arsenic | 0.036 | 0.0000982 | 0.036 | 0.00014 | 0.30 | 0.088 | 0.049 | 0.0399 | NA | 0.05 U |
| Beryllium | | 0.27 | | | 0.005 U | NA | 0.001 U | 0.001 U | NA | 0.001 U |
| Chromium (c) | 0.05 | 0.49 | 0.05 | | 1.26 | 0.171 | 0.094 | 0.141 | NA | 0.005 U |
| Copper | 0.0031 | 2.66 | 0.0024 | | 0.03 | 0.016 | 0.03 | 0.022 | NA | 0.002 U |
| Lead | 0.0081 | | 0.0081 | | 0.1 U | 0.001 U | 0.005 U | 0.002 U | NA | 0.02 U |
| Nickel | 0.0082 | 1.1 | 0.0082 | 4.6 | 0.05 U | 0.01 U | 0.004 | 0.005 | NA | 0.01 U |
| Selenium | 0.071 | 2.7 | 0.071 | 11 | 0.3 | 0.05 U | 0.002 U | 0.001 | NA | 0.05 U |
| Zinc | 0.081 | 16.5 | 0.081 | 69 | 0.02 UJ | 0.007 | 0.02 U | 0.008 U | NA | 0.007 J |
| **PESTICIDES (µg/L)** | | | | | | | | | | |
| alpha-BHC | | 0.00791 | | 0.013 | NA | NA | 0.050 UJ | 0.053 UJ | NA | NA |
| beta-BHC | | 0.0277 | | 0.046 | NA | NA | 0.050 UJ | 0.053 UJ | NA | NA |
| delta-BHC | | | | | NA | NA | 0.050 UJ | 0.053 UJ | NA | NA |
| gamma-BHC (Lindane) | 0.16 | 0.0384 | 0.16 | 0.063 | NA | NA | 0.050 UJ | 0.053 UJ | NA | NA |
| Heptachlor | 0.0036 | 0.000129 | 0.0036 | 0.00021 | NA | NA | 0.050 UJ | 0.053 UJ | NA | NA |
| Aldrin | 0.0019 | 0.000082 | 1.3 | 0.00014 | NA | NA | 0.050 UJ | 0.053 UJ | NA | NA |
| Heptachlor Epoxide | | 0.000064 | 0.0036 | 0.00011 | NA | NA | 0.050 UJ | 0.053 UJ | NA | NA |
| Endosulfan I | 0.0087 | 57.6 | 0.0087 | 2 | NA | NA | 0.050 UJ | 0.053 UJ | NA | NA |
| Dieldrin | 0.0019 | 0.000087 | 0.0019 | 0.00014 | NA | NA | 0.10 UJ | 0.11 UJ | NA | NA |
| 4,4'-DDE | 0.001 | 0.000356 | | 0.00059 | NA | NA | 0.10 UJ | 0.11 UJ | NA | NA |
| Endrin | 0.0023 | 0.196 | 0.0023 | 0.81 | NA | NA | 0.10 UJ | 0.11 UJ | NA | NA |
| Endosulfan II | 0.0087 | 57.6 | 0.0087 | 2 | NA | NA | 0.10 UJ | 0.11 UJ | NA | NA |
| 4,4'-DDD | 0.001 | 0.000504 | | 0.00084 | NA | NA | 0.10 UJ | 0.11 UJ | NA | NA |
| Endosulfan Sulfate | | | | 2 | NA | NA | 0.10 UJ | 0.11 UJ | NA | NA |
| 4,4'-DDT | 0.001 | 0.000356 | 0.001 | 0.00059 | NA | NA | 0.10 UJ | 0.11 UJ | NA | NA |
| Methoxychlor | | 8.36 | | | NA | NA | 0.50 UJ | 0.53 UJ | NA | NA |
| Endrin Ketone | | | | | NA | NA | 0.10 UJ | 0.11 UJ | NA | NA |
| Endrin Aldehyde | | | | 0.81 | NA | NA | 0.10 UJ | 0.11 UJ | NA | NA |
| gamma Chlordane | 0.004 | 0.0013 | 0.004 | 0.00059 | NA | NA | 0.050 UJ | 0.053 UJ | NA | NA |
| alpha Chlordane | | | | | NA | NA | 0.050 UJ | 0.053 UJ | NA | NA |
| Toxaphene | 0.0002 | 0.00045 | 0.0002 | 0.00075 | NA | NA | 5.0 UJ | 5.3 UJ | NA | NA |
| **PCBs (ug/L)** | | | | | | | | | | |
| Aroclor 1016 | 0.03 | 0.00582 | 0.03 | 0.000045 | 1.0 U | NA | 0.10 U | 0.12 U | 1.0 U | 1.0 U |
| Aroclor 1242 | 0.03 | | 0.03 | 0.000045 | 1.0 U | NA | 0.10 U | 0.12 U | 1.0 U | 1.0 U |
| Aroclor 1248 | 0.03 | | 0.03 | 0.000045 | 1.0 U | NA | 0.10 U | 0.12 U | 1.0 U | 1.0 U |
| Aroclor 1254 | 0.03 | 0.00166 | 0.03 | 0.000045 | 1.0 U | NA | 0.10 U | 0.12 U | 1.0 U | 1.0 U |
| Aroclor 1260 | 0.03 | | 0.03 | 0.000045 | 1.0 U | NA | 0.10 U | 0.12 U | 1.0 U | 1.0 U |
| Aroclor 1221 | 0.03 | | 0.03 | 0.000045 | 2.0 U | NA | 0.20 U | 0.23 U | 2.0 U | 2.0 U |
| Aroclor 1232 | 0.03 | | 0.03 | 0.000045 | 1.0 U | NA | 0.10 U | 0.12 U | 1.0 U | 1.0 U |
| Total PCBs | | | | 0.00011 | ND | NA | ND | ND | ND | ND |

Appendix A. Rayonier Mill Site Historic Groundwater Monitoring Data.

| | Applicable Criteria | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | Washington State (a) | | National Toxics Rule (b) | | PZ-14 (PZ-9-Dup) | PZ-9 | PZ-9 | PZ-9 | PZ-10 | PZ-10 |
| | Ecological | Human Health | Ecological | Human Health | T609L 8/27/1997 | CU22G 2/22/2001 | DN18D 8/21/2001 | FB89N 12/13/2002 | R796A 2/28/1997 | T609I 8/27/1997 |
| **INDICATOR GEOCHEMICAL PARAMETERS (mg/L)** | | | | | | | | | | |
| Sodium, Dissolved | | | | | NA | NA | 88.8 | 101 | NA | NA |
| Potassium, Dissolved | | | | | NA | NA | 27.8 | 26.3 | NA | NA |
| Calcium, Dissolved | | | | | NA | NA | 103 | 133 | NA | NA |
| Magnesium, Dissolved | | | | | NA | NA | 28.8 | 38.4 | NA | NA |
| Chloride | | | | | 180 | 21 | 55 | 70 | 39 | 25 |
| Alkalinity | | | | | NA | NA | 780 | 640 | NA | NA |
| Carbonate (Alkalinity) | | | | | NA | NA | 1.0 U | 1.0 U | NA | NA |
| Bicarbonate (Alkalinity) | | | | | NA | NA | 780 | 640 | NA | NA |
| Sulfate | | | | | 990 | 160 | 330 | 99 | 130 | 140 |
| Iron, Dissolved | | | | | 109 | 19.9 J | 16.8 | 13 | NA | 0.10 |
| **CONVENTIONAL PARAMETERS** | | | | | | | | | | |
| Total Dissolved Solids (mg/L) | | | | | NA | NA | 2400 | 1700 | NA | NA |
| Total Suspended Solids (mg/L) | | | | | NA | NA | 36 | 34 | NA | NA |
| Bromide (mg/L) | | | | | NA | NA | 200 U | 40 U | NA | NA |
| Fluoride (mg/L) | | | | | NA | NA | 0.10 | 0.20 | NA | NA |
| N-Ammonia (total) (mg-N/L) | | | | | 50 | 43 | 43 | 47 | 0.58 | 0.18 |
| N-Ammonia (un-ionized) (mg/L) | 0.035 | | | | 0.07 | 0.00 | 0.08 | 0.03 | 0.00 | 0.00 |
| N-Nitrate (mg-N/L) | | | | | NA | NA | 0.23 | 0.010 U | 0.010 U | NA |
| N-Nitrite (mg-N/L) | | | | | NA | NA | 0.25 | 0.010 U | 0.010 U | NA |
| Nitrate + Nitrite (NO2+NO3) (mg-N/L) | | | | | 0.44 | 0.086 J | 0.48 | 0.010 U | 0.010 U | 0.53 |
| Ortho-Phosphorous (mg/L) | | | | | NA | NA | 4.4 | 6.0 | NA | NA |
| Chemical Oxygen Demand (mg/L) | | | | | NA | NA | 2700 | 1500 | 8.2 | NA |
| Total Organic Carbon (mg/L) | | | | | 3600 | 230 | 910 | 490 | 4.1 | 3.7 |
| Tannins & Lignins (mg/L) | | | | | NA | 169 | 792 | 484 | 0.698 | NA |
| Field pH (avg) | | 7-8.5 | 6.5-8.5 | | 6.75 | 6.93 | 6.86 | 6.45 | 7.06 | 7.13 |
| Field Temperature (°C) (avg) | | | | | 13.9 | 11.5 | 14.0 | 13.2 | 8.1 | 13.9 |
| Field Conductivity (µS) (avg) | | | | | 1984 | 1185 | 1580 | 1798 | 768 | 673 |
| Field Dissolved Oxygen (mg/L) | | | | | NM | NM | 0.67 | 0.42 | NM | NM |
| Field Turbidity (NTU) | | | | | NM | NM | 123 | 312 | NM | NM |
| Turbidity (NTU) | | | | | 160 | NA | 13 | 11 J | NA | 37 |
| Field Redox (mV) | | | | | NM | NM | -117.0 | 5.6 | NM | NM |

Appendix A. Rayonier Mill Site Historic Groundwater Monitoring Data.

| | Applicable Criteria | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | Washington State (a) | | National Toxics Rule (b) | | | | PZ-1 | | PZ-20 | |
| | | | | | PZ-10 | PZ-10 | Dup of PZ-10 | PZ-10 | Dup of PZ-10 | PZ-11 |
| | | Human | | Human | CU21H | DN25D | DN25C | FB89O | FB89P | R661D |
| | Ecological | Health | Ecological | Health | 2/22/2001 | 8/22/2001 | 8/22/2001 | 12/13/2002 | 12/13/2002 | 2/14/1997 |
| **VOLATILE COMPOUNDS (ug/L)** | | | | | | | | | | |
| Chloromethane | | 133 | | | 1.0 U | 0.2 U | 0.2 U | 0.2 U | 0.2 U | 2.0 U |
| Vinyl Chloride | | 3.69 | | 525 | 1.0 U | 0.2 U | 0.2 U | 0.2 U | 0.2 U | 2.0 U |
| Chloroethane | | | | | 1.0 U | 0.2 U | 0.2 U | 0.2 U | 0.2 U | 2.0 U |
| Methylene Chloride | | 960 | | 1600 | 2.0 U | 0.3 U | 0.3 U | 0.3 U | 0.3 U | 2.0 U |
| Acetone | | | | | 5.0 U | 1.0 U | 1.0 U | 1.0 U | 1.0 U | 5.0 U |
| Carbon Disulfide | | | | | 1.0 U | 0.2 U | 0.2 U | 0.2 U | 0.2 U | 1.0 U |
| 1,1-Dichloroethene | | 1.93 | | 3.2 | 1.0 U | 0.2 U | 0.2 U | 0.2 U | 0.2 U | 1.0 U |
| 1,1-Dichloroethane | | | | | 1.0 U | 0.2 U | 0.2 U | 0.2 U | 0.2 U | 1.0 U |
| trans-1,2-Dichloroethene | | 32800 | | 140000 | 1.0 U | 0.2 U | 0.2 U | 0.2 U | 0.2 U | 1.0 U |
| cis-1,2-Dichloroethene | | | | | 1.0 U | 0.2 U | 0.2 U | 0.2 U | 0.2 U | 1.0 U |
| Chloroform | | 283 | | 470 | 1.0 U | 0.2 U | 0.2 U | 0.2 U | 0.2 U | 1.0 U |
| 1,2-Dichloroethane | | 59.4 | | 99 | 1.0 U | 0.2 U | 0.2 U | 0.2 U | 0.2 U | 1.0 U |
| 2-Butanone | | | | | 5.0 U | 1.0 U | 1.0 U | 1.0 U | 1.0 U | 5.0 U |
| 1,1,1-Trichloroethane | | 417000 | | | 1.0 U | 0.2 U | 0.2 U | 0.2 U | 0.2 U | 1.0 U |
| Carbon Tetrachloride | | 2.66 | | 4.4 | 1.0 U | 0.2 U | 0.2 U | 0.2 U | 0.2 U | 1.0 U |
| Vinyl Acetate | | | | | 5.0 U | 0.2 U | 0.2 U | 0.2 U | 0.2 U | 5.0 U |
| Bromodichloromethane | | 28 | | 22 | 1.0 U | 0.2 U | 0.2 U | 0.2 U | 0.2 U | 1.0 U |
| 1,2-Dichloropropane | | 23.2 | | 39 | 1.0 U | 0.2 U | 0.2 U | 0.2 U | 0.2 U | 1.0 U |
| cis-1,3-Dichloropropene | | | | | 1.0 U | 0.2 U | 0.2 U | 0.2 U | 0.2 U | 1.0 U |
| Trichloroethene | | 56 | | 81 | 1.0 U | 0.2 U | 0.2 U | 0.2 U | 0.2 U | 1.0 U |
| Dibromochloromethane | | 20.6 | | 34 | 1.0 U | 0.2 U | 0.2 U | 0.2 U | 0.2 U | 1.0 U |
| 1,1,2-Trichloroethane | | 25.3 | | 42 | 1.0 U | 0.2 U | 0.2 U | 0.2 U | 0.2 U | 1.0 U |
| Benzene | | 22.7 | | 71 | 1.0 U | 0.2 U | 0.2 U | 0.2 U | 0.2 U | 1.0 U |
| trans-1,3-Dichloropropene | | | | | 1.0 U | 0.2 U | 0.2 U | 0.2 U | 0.2 U | 1.0 U |
| Bromoform | | 219 | | 360 | 1.0 U | 0.5 U | 0.5 U | 0.2 U | 0.2 U | 1.0 U |
| 4-Methyl-2-Pentanone | | | | | 5.0 U | 1.0 U | 1.0 U | 1.0 U | 1.0 U | 5.0 U |
| 2-Hexanone | | | | | 5.0 U | 1.0 U | 1.0 U | 1.0 U | 1.0 U | 5.0 U |
| Tetrachloroethene | | 4.15 | | 8.85 | 1.0 U | 0.2 U | 0.2 U | 0.2 U | 0.2 U | 1.0 U |
| 1,1,2,2-Tetrachloroethane | | 6.48 | | 11 | 1.0 U | 0.2 U | 0.2 U | 0.2 U | 0.2 U | 1.0 U |
| Toluene | | 48500 | | 200000 | 1.0 U | 0.2 U | 0.2 U | 0.2 U | 0.2 U | 1.0 U |
| Chlorobenzene | | 5030 | | 21000 | 1.0 U | 0.2 U | 0.2 U | 0.2 U | 0.2 U | 1.0 U |
| Ethylbenzene | | 6910 | | 29000 | 1.0 U | 0.2 U | 0.2 U | 0.2 U | 0.2 U | 1.0 U |
| Styrene | | | | | 1.0 U | 0.2 U | 0.2 U | 0.2 U | 0.2 U | 1.0 U |
| m,p-Xylene | | | | | 1.0 U | 0.4 U | 0.4 U | 0.4 U | 0.4 U | 1.0 U |
| o-Xylene | | | | | 1.0 U | 0.2 U | 0.2 U | 0.2 U | 0.2 U | 1.0 U |
| Total Xylenes | | | | | NA | 0.6 U | 0.6 U | 0.6 U | 0.6 U | NA |
| 4-Isopropyltoluene | | | | | 1.0 U | 0.2 U | 0.2 U | 0.2 U | 0.2 U | 1.0 U |
| **SEMIVOLATILE COMPOUNDS (ug/L)** | | | | | | | | | | |
| Dibromochloropropane | | | | | NA | 5.0 U | 5.0 U | 5.6 U | 5.4 U | NA |

Appendix A. Rayonier Mill Site Historic Groundwater Monitoring Data.

| | Applicable Criteria | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | Washington State (a) | | National Toxics Rule (b) | | | | PZ-1 | | PZ-20 | |
| | | | | | PZ-10 | PZ-10 | Dup of PZ-10 | PZ-10 | Dup of PZ-10 | PZ-11 |
| | | Human | | Human | CU21H | DN25D | DN25C | FB89O | FB89P | R661D |
| | Ecological | Health | Ecological | Health | 2/22/2001 | 8/22/2001 | 8/22/2001 | 12/13/2002 | 12/13/2002 | 2/14/1997 |
| Phenol | | 1110000 | | 4600000 | 2.0 U | 2.0 U | 2.0 U | 2.2 U | 2.2 U | 2.0 U |
| Bis-(2-Chloroethyl) Ether | | 0.854 | | 1.4 | 2.0 U | 2.0 U | 2.0 U | 2.2 U | 2.2 U | 2.0 U |
| 2-Chlorophenol | | 96.7 | | 400 | 1.0 U | 1.0 U | 1.0 U | 1.1 U | 1.1 U | 1.0 U |
| 1,3-Dichlorobenzene | | | | 2600 | 1.0 U | 1.0 U | 1.0 U | 1.1 U | 1.1 U | 1.0 U |
| 1,4-Dichlorobenzene | | 4.86 | | 2600 | 1.0 U | 1.0 U | 1.0 U | 1.1 U | 1.1 U | 1.0 U |
| Benzyl Alcohol | | | | | 5.0 U | 5.0 U | 5.0 U | 5.6 U | 5.4 U | 5.0 U |
| 1,2-Dichlorobenzene | | 4200 | | 17000 | 1.0 U | 1.0 U | 1.0 U | 1.1 U | 1.1 U | 1.0 U |
| 2-Methylphenol | | | | | 2.0 U | 1.0 U | 1.0 U | 1.1 U | 1.1 U | 2.0 U |
| 2,2'-Oxybis(1-Chloropropane) | | 37.5 | | 170000 | 1.0 U | 1.0 U | 1.0 U | 1.1 U | 1.1 U | 1.0 U |
| N-Nitroso-Di-N-Propylamine | | 0.819 | | 1.4 | 2.0 U | 2.0 U | 2.0 U | 2.2 U | 2.2 U | 2.0 U |
| Hexachloroethane | | 5.33 | | 8.9 | 2.0 U | 2.0 U | 2.0 U | 2.2 U | 2.2 U | 2.0 U |
| Nitrobenzene | | 449 | | 1900 | 1.0 U | 1.0 U | 1.0 U | 1.1 U | 1.1 U | 1.0 U |
| Isophorone | | 1560 | | 600 | 1.0 U | 1.0 U | 1.0 U | 1.1 U | 1.1 U | 1.0 U |
| 2-Nitrophenol | | | | | 5.0 U | 5.0 U | 5.0 U | 5.6 U | 5.4 U | 5.0 U |
| 2,4-Dimethylphenol | | 553 | | 2300 | 3.0 U | 3.0 U | 3.0 U | 3.3 U | 3.3 U | 3.0 U |
| Benzoic Acid | | | | | 10 U | 10 U | 10 U | 56 U | 54 U | 10 U |
| bis(2-Chloroethoxy) Methane | | | | | 1.0 U | 1.0 U | 1.0 U | 1.1 U | 1.1 U | 1.0 U |
| 2,4-Dichlorophenol | | 191 | | 790 | 3.0 U | 3.0 U | 3.0 U | 3.3 U | 3.3 U | 3.0 U |
| 1,2,4-Trichlorobenzene | | 227 | | 940 | 1.0 U | 1.0 U | 1.0 U | 1.1 U | 1.1 U | 1.0 U |
| 4-Chloroaniline | | | | | 3.0 U | 3.0 U | 3.0 U | 3.3 U | 3.3 U | 3.0 U |
| Hexachlorobutadiene | | 29.9 | | 50 | 2.0 U | 2.0 U | 2.0 U | 2.2 U | 2.2 U | 2.0 U |
| 4-Chloro-3-methylphenol | | | | | 2.0 U | 2.0 U | 2.0 U | 2.2 U | 2.2 U | 2.0 U |
| 2-Methylnaphthalene | | | | | 1.0 U | 1.0 U | 1.0 U | 1.1 U | 1.1 U | 1.0 U |
| Hexachlorocyclopentadiene | | 3580 | | 17000 | 5.0 U | 5.0 U | 5.0 U | 5.6 U | 5.4 U | 5.0 U |
| 2,4,6-Trichlorophenol | | 3.93 | | 6.5 | 5.0 U | 5.0 U | 5.0 U | 5.6 U | 5.4 U | 5.0 U |
| 2,4,5-Trichlorophenol | | | | | 5.0 U | 5.0 U | 5.0 U | 5.6 U | 5.4 U | 5.0 U |
| 2-Chloronaphthalene | | | | 4300 | 1.0 U | 1.0 U | 1.0 U | 1.1 U | 1.1 U | 1.0 U |
| 2-Nitroaniline | | | | | 5.0 U | 5.0 U | 5.0 U | 5.6 U | 5.4 U | 5.0 U |
| Dimethylphthalate | | 72000 | | 2900000 | 1.0 U | 1.0 U | 1.0 U | 1.1 U | 1.1 U | 1.0 U |
| 3-Nitroaniline | | | | | 6.0 U | 6.0 U | 6.0 U | 6.7 U | 6.5 U | 6.0 U |
| 2,4-Dinitrophenol | | 3460 | | 14000 | 10 U | 10 U | 10 U | 28 U | 27 U | 10 U |
| 4-Nitrophenol | | | | | 5.0 U | 5.0 U | 5.0 U | 5.6 U | 5.4 U | 5.0 U |
| Dibenzofuran | | | | | 1.0 U | 1.0 U | 1.0 U | 1.1 U | 1.1 U | 1.0 U |
| 2,6-Dinitrotoluene | | | | | 5.0 U | 5.0 U | 5.0 U | 5.6 U | 5.4 U | 5.0 U |

Appendix A. Rayonier Mill Site Historic Groundwater Monitoring Data.

| | Applicable Criteria | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | Washington State (a) | | National Toxics Rule (b) | | | | PZ-1 | | PZ-20 | |
| | | | | | PZ-10 | PZ-10 | Dup of PZ-10 | PZ-10 | Dup of PZ-10 | PZ-11 |
| | | Human | | Human | CU21H | DN25D | DN25C | FB89O | FB89P | R661D |
| | Ecological | Health | Ecological | Health | 2/22/2001 | 8/22/2001 | 8/22/2001 | 12/13/2002 | 12/13/2002 | 2/14/1997 |
| 2,4-Dinitrotoluene | | 1360 | | 9.1 | 5.0 U | 5.0 U | 5.0 U | 5.6 U | 5.4 U | 5.0 U |
| Diethylphthalate | | 28400 | | 120000 | 1.0 U | 1.0 U | 1.0 U | 1.1 U | 1.1 U | 1.0 U |
| 4-Chlorophenyl-phenylether | | | | | 1.0 U | 1.0 U | 1.0 U | 1.1 U | 1.1 U | 1.0 U |
| 4-Nitroaniline | | | | | 5.0 U | 5.0 U | 5.0 U | 5.6 U | 5.4 U | 5.0 U |
| 4,6-Dinitro-2-Methylphenol | | | | 765 | 10 U | 10 U | 10 U | 17 U | 16 U | 10 U |
| N-Nitrosodiphenylamine | | 9.73 | | 16 | 1.0 U | 1.0 U | 1.0 U | 1.1 U | 1.1 U | 1.0 U |
| 4-Bromophenyl-phenylether | | | | | 1.0 U | 1.0 U | 1.0 U | 1.1 U | 1.1 U | 1.0 U |
| Hexachlorobenzene | | 0.000466 | | 0.00077 | 1.0 U | 1.0 U | 1.0 U | 1.1 U | 1.1 U | 1.0 U |
| Pentachlorophenol | 7.9 | 4.91 | 7.9 | 8.2 | 5.0 U | 5.0 U | 5.0 U | 5.6 U | 5.4 U | 5.0 U |
| Carbazole | | | | | 1.0 U | 1.0 U | 1.0 U | 1.1 U | 1.1 U | 1.0 U |
| Di-n-Butylphthalate | | 2910 | | 12000 | 1.0 U | 1.0 U | 1.0 U | 1.1 U | 1.1 U | 1.0 U |
| Butylbenzylphthalate | | 1250 | | 5200 | 1.0 U | 1.0 U | 1.0 U | 1.1 U | 1.1 U | 1.0 U |
| 3,3'-Dichlorobenzidine | | 0.0462 | | 0.077 | 5.0 U | 5.0 U | 5.0 U | 5.6 U | 5.4 U | 5.0 U |
| bis(2-Ethylhexyl)phthalate | | 3.56 | | 5.9 | 1.0 U | 5.8 U | 1.0 U | 1.1 U | 1.1 U | 3.5 B |
| Di-n-Octyl phthalate | | | | | 1.0 U | 1.0 U | 1.0 U | 1.1 U | 1.1 U | 1.0 U |
| 3-,4-Methylphenol | | | | | NA | 1.0 U | 1.0 U | 1.1 U | 1.1 U | NA |
| Diallate A | | | | | NA | 2.0 U | 2.0 U | 5.6 U | 5.4 U | NA |
| Diallate B | | | | | NA | 2.0 U | 2.0 U | 5.6 U | 5.4 U | NA |
| Isodrin | | | | | NA | 5.0 U | 5.0 U | 5.6 U | 5.4 U | NA |
| Chlorobenzilate | | | | | NA | 2.0 U | 2.0 U | 5.6 U | 5.4 U | NA |
| **PAHs (µg/L) (d)** | | | | | | | | | | |
| Naphthalene | | 4940 | | | 1.0 U | 0.10 U | 0.10 U | 0.11 U | 0.11 U | 1.0 U |
| Acenaphthylene | | | | | 1.0 U | 0.10 U | 0.10 U | 0.11 U | 0.11 U | 1.0 U |
| Acenaphthene | | 643 | | 2700 | 1.0 U | 0.10 U | 0.10 U | 0.11 U | 0.11 U | 1.0 U |
| Fluorene | | 3460 | | 14000 | 1.0 U | 0.10 U | 0.10 U | 0.11 U | 0.11 U | 1.0 U |
| Phenanthrene | | | | | 1.0 U | 0.10 U | 0.10 U | 0.11 U | 0.11 U | 1.0 U |
| Anthracene | | 25900 | | 110000 | 1.0 U | 0.10 U | 0.10 U | 0.11 U | 0.11 U | 1.0 U |
| Fluoranthene | | 90.2 | | 370 | 1.0 U | 0.10 U | 0.10 U | 0.11 U | 0.11 U | 1.0 U |
| Pyrene | | 2590 | | 11000 | 1.0 U | 0.10 U | 0.10 U | 0.11 U | 0.11 U | 1.0 U |
| Benzo(a)anthracene | | 0.0296 | | 0.031 | 1.0 U | 0.10 U | 0.10 U | 0.11 U | 0.11 U | 1.0 U |
| Chrysene | | 0.0296 | | 0.031 | 1.0 U | 0.10 U | 0.10 U | 0.11 U | 0.11 U | 1.0 U |
| Benzo(b)fluoranthene | | 0.0296 | | 0.031 | 1.0 U | 0.10 U | 0.10 U | 0.11 U | 0.11 U | 1.0 U |
| Benzo(k)fluoranthene | | 0.0296 | | 0.031 | 1.0 U | 0.10 U | 0.10 U | 0.11 U | 0.11 U | 1.0 U |

Appendix A. Rayonier Mill Site Historic Groundwater Monitoring Data.

| | Applicable Criteria | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | Washington State (a) | | National Toxics Rule (b) | | | | PZ-1 | | PZ-20 | |
| | | | | | PZ-10 | PZ-10 | Dup of PZ-10 | PZ-10 | Dup of PZ-10 | PZ-11 |
| | | Human | | Human | CU21H | DN25D | DN25C | FB89O | FB89P | R661D |
| | Ecological | Health | Ecological | Health | 2/22/2001 | 8/22/2001 | 8/22/2001 | 12/13/2002 | 12/13/2002 | 2/14/1997 |
| Benzo(a)pyrene | | 0.0296 | | 0.031 | 1.0 U | 0.10 U | 0.10 U | 0.11 U | 0.11 U | 1.0 U |
| Indeno(1,2,3-cd)pyrene | | 0.0296 | | 0.031 | 1.0 U | 0.10 U | 0.10 U | 0.11 U | 0.11 U | 1.0 U |
| Dibenz(a,h)anthracene | | 0.0296 | | 0.031 | 1.0 U | 0.10 U | 0.10 U | 0.11 U | 0.11 U | 1.0 U |
| Benzo(g,h,i)perylene | | | | | 1.0 U | 0.10 U | 0.10 U | 0.11 U | 0.11 U | 1.0 U |
| cPAH TEQ | | | | | ND | ND | ND | ND | ND | ND |
| **PETROLEUM HYDROCARBONS (mg/L)** | | | | | | | | | | |
| **NWTPH-D extended** | | | | | | | | | | |
| Diesel Range Hydrocarbons | | 0.5 | | | 0.25 U | 0.25 U | 0.25 U | 0.25 U | 0.25 U | NA |
| Motor Oil | | 0.5 | | | 0.50 U | 0.50 U | 0.50 U | 0.50 U | 0.50 U | NA |
| **TOTAL METALS (mg/L)** | | | | | | | | | | |
| Arsenic | | | | | 0.004 | 0.0029 | 0.0029 | 0.0028 | 0.0027 | 0.05 U |
| Beryllium | | | | | NA | 0.001 U | 0.001 U | 0.001 U | 0.001 U | 0.001 U |
| Chromium (c) | | | | | 0.018 | 0.0005 U | 0.0005 U | 0.0005 | 0.0006 | 0.005 U |
| Copper | | | | | 0.127 | 0.0013 | 0.001 | 0.0021 | 0.0026 | 0.002 U |
| Iron | | | | | 11.1 J | 0.02 J | 0.03 J | 0.17 | 0.19 | 3.67 |
| Lead | | | | | 0.013 | 0.001 J | 0.003 J | 0.001 U | 0.001 U | 0.02 U |
| Nickel | | | | | 0.04 | 0.0027 | 0.003 | 0.0036 | 0.0031 | 0.01 U |
| Selenium | | | | | 0.05 | 0.0007 | 0.0005 U | 0.0005 U | 0.0005 U | 0.08 |
| Zinc | | | | | 0.064 | 0.005 J | R | 0.004 U | 0.004 U | 0.004 U |
| **Major Ions (total)** | | | | | | | | | | |
| Calcium | | | | | NA | 90.8 | 90.8 | 85.8 | 85.9 | NA |
| Magnesium | | | | | NA | 41.8 | 41.7 | 39 | 39.9 | NA |
| Potassium | | | | | NA | 3.2 | 3.6 | 4.02 | 3.98 | NA |
| Sodium | | | | | NA | 24.2 | 24.1 | 28.1 | 27.8 | NA |

Appendix A. Rayonier Mill Site Historic Groundwater Monitoring Data.

| | Applicable Criteria | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | Washington State (a) | | National Toxics Rule (b) | | | | PZ-1 | | PZ-20 | |
| | | | | | PZ-10 | PZ-10 | Dup of PZ-10 | PZ-10 | Dup of PZ-10 | PZ-11 |
| | | Human | | Human | CU21H | DN25D | DN25C | FB89O | FB89P | R661D |
| | Ecological | Health | Ecological | Health | 2/22/2001 | 8/22/2001 | 8/22/2001 | 12/13/2002 | 12/13/2002 | 2/14/1997 |
| **DISSOLVED METALS (mg/L)** | | | | | | | | | | |
| Arsenic | 0.036 | 0.0000982 | 0.036 | 0.00014 | 0.003 | 0.0029 | 0.0029 | 0.0028 | 0.0032 | NA |
| Beryllium | | 0.27 | | | NA | 0.001 U | 0.001 U | 0.001 U | 0.001 U | NA |
| Chromium (c) | 0.05 | 0.49 | 0.05 | | 0.005 U | 0.0005 U | 0.0005 U | 0.0009 | 0.0012 | NA |
| Copper | 0.0031 | 2.66 | 0.0024 | | 0.002 U | 0.001 | 0.0009 | 0.0013 | 0.0013 | NA |
| Lead | 0.0081 | | 0.0081 | | 0.001 U | 0.001 U | 0.001 U | 0.001 U | 0.001 U | NA |
| Nickel | 0.0082 | 1.1 | 0.0082 | 4.6 | 0.01 U | 0.0034 | 0.0033 | 0.0033 | 0.0025 | NA |
| Selenium | 0.071 | 2.7 | 0.071 | 11 | 0.05 U | 0.0006 | 0.0006 | 0.0006 | 0.0006 | NA |
| Zinc | 0.081 | 16.5 | 0.081 | 69 | 0.006 U | 0.004 U | R | 0.004 U | 0.004 U | NA |
| **PESTICIDES (µg/L)** | | | | | | | | | | |
| alpha-BHC | | 0.00791 | | 0.013 | NA | 0.050 U | 0.050 U | 0.051 U | 0.051 U | NA |
| beta-BHC | | 0.0277 | | 0.046 | NA | 0.050 U | 0.050 U | 0.051 U | 0.051 U | NA |
| delta-BHC | | | | | NA | 0.050 U | 0.050 U | 0.051 U | 0.051 U | NA |
| gamma-BHC (Lindane) | 0.16 | 0.0384 | 0.16 | 0.063 | NA | 0.050 U | 0.050 U | 0.051 U | 0.051 U | NA |
| Heptachlor | 0.0036 | 0.000129 | 0.0036 | 0.00021 | NA | 0.050 U | 0.050 U | 0.051 U | 0.051 U | NA |
| Aldrin | 0.0019 | 0.000082 | 1.3 | 0.00014 | NA | 0.050 U | 0.050 U | 0.051 U | 0.051 U | NA |
| Heptachlor Epoxide | | 0.000064 | 0.0036 | 0.00011 | NA | 0.050 U | 0.050 U | 0.051 U | 0.051 U | NA |
| Endosulfan I | 0.0087 | 57.6 | 0.0087 | 2 | NA | 0.050 U | 0.050 U | 0.051 U | 0.051 U | NA |
| Dieldrin | 0.0019 | 0.000087 | 0.0019 | 0.00014 | NA | 0.10 U | 0.10 U | 0.10 U | 0.10 U | NA |
| 4,4'-DDE | 0.001 | 0.000356 | | 0.00059 | NA | 0.10 U | 0.10 U | 0.10 U | 0.10 U | NA |
| Endrin | 0.0023 | 0.196 | 0.0023 | 0.81 | NA | 0.10 U | 0.10 U | 0.10 U | 0.10 U | NA |
| Endosulfan II | 0.0087 | 57.6 | 0.0087 | 2 | NA | 0.10 U | 0.10 U | 0.10 U | 0.10 U | NA |
| 4,4'-DDD | 0.001 | 0.000504 | | 0.00084 | NA | 0.10 U | 0.10 U | 0.10 U | 0.10 U | NA |
| Endosulfan Sulfate | | | | 2 | NA | 0.10 U | 0.10 U | 0.10 U | 0.10 U | NA |
| 4,4'-DDT | 0.001 | 0.000356 | 0.001 | 0.00059 | NA | 0.10 U | 0.10 U | 0.10 U | 0.10 U | NA |
| Methoxychlor | | 8.36 | | | NA | 0.50 U | 0.50 U | 0.51 U | 0.51 U | NA |
| Endrin Ketone | | | | | NA | 0.10 U | 0.10 U | 0.10 U | 0.10 U | NA |
| Endrin Aldehyde | | | | 0.81 | NA | 0.10 U | 0.10 U | 0.10 U | 0.10 U | NA |
| gamma Chlordane | 0.004 | 0.0013 | 0.004 | 0.00059 | NA | 0.050 U | 0.050 U | 0.051 U | 0.051 U | NA |
| alpha Chlordane | | | | | NA | 0.050 U | 0.050 U | 0.051 U | 0.051 U | NA |
| Toxaphene | 0.0002 | 0.00045 | 0.0002 | 0.00075 | NA | 5.0 U | 5.0 U | 5.1 U | 5.1 U | NA |
| **PCBs (ug/L)** | | | | | | | | | | |
| Aroclor 1016 | 0.03 | 0.00582 | 0.03 | 0.000045 | NA | NA | NA | NA | NA | 1.0 U |
| Aroclor 1242 | 0.03 | | 0.03 | 0.000045 | NA | NA | NA | NA | NA | 1.0 U |
| Aroclor 1248 | 0.03 | | 0.03 | 0.000045 | NA | NA | NA | NA | NA | 1.0 U |
| Aroclor 1254 | 0.03 | 0.00166 | 0.03 | 0.000045 | NA | NA | NA | NA | NA | 1.0 U |
| Aroclor 1260 | 0.03 | | 0.03 | 0.000045 | NA | NA | NA | NA | NA | 1.0 U |
| Aroclor 1221 | 0.03 | | 0.03 | 0.000045 | NA | NA | NA | NA | NA | 2.0 U |
| Aroclor 1232 | 0.03 | | 0.03 | 0.000045 | NA | NA | NA | NA | NA | 1.0 U |
| Total PCBs | | | | 0.00011 | NA | NA | NA | NA | NA | ND |

Appendix A. Rayonier Mill Site Historic Groundwater Monitoring Data.

| | Applicable Criteria | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | Washington State (a) | | National Toxics Rule (b) | | | | PZ-1 | | PZ-20 | |
| | | | | | PZ-10 | PZ-10 | Dup of PZ-10 | PZ-10 | Dup of PZ-10 | PZ-11 |
| | | Human | | Human | CU21H | DN25D | DN25C | FB89O | FB89P | R661D |
| | Ecological | Health | Ecological | Health | 2/22/2001 | 8/22/2001 | 8/22/2001 | 12/13/2002 | 12/13/2002 | 2/14/1997 |
| **INDICATOR GEOCHEMICAL PARAMETERS (mg/L)** | | | | | | | | | | |
| Sodium, Dissolved | | | | | NA | 25.2 | 24.8 | 24.3 | 25.3 | NA |
| Potassium, Dissolved | | | | | NA | 3.35 | 3.34 | 3.62 | 3.61 | NA |
| Calcium, Dissolved | | | | | NA | 92.3 | 90.5 | 89.1 | 88.8 | NA |
| Magnesium, Dissolved | | | | | NA | 43.1 | 41.8 | 40.4 | 41.8 | NA |
| Chloride | | | | | 29 | 25 | 25 | 30 | 29 | 17 |
| Alkalinity | | | | | NA | 320 | 310 | 290 | 290 | NA |
| Carbonate (Alkalinity) | | | | | NA | 1.0 U | 1.0 U | 1.0 U | 1.0 U | NA |
| Bicarbonate (Alkalinity) | | | | | NA | 320 | 310 | 290 | 290 | NA |
| Sulfate | | | | | 120 | 120 | 120 | 98 | 99 | 600 |
| Iron, Dissolved | | | | | 0.16 J | 0.02 U | 0.02 U | 0.17 | 0.17 | NA |
| **CONVENTIONAL PARAMETERS** | | | | | | | | | | |
| Total Dissolved Solids (mg/L) | | | | | NA | 560 | 550 | 510 | 520 | NA |
| Total Suspended Solids (mg/L) | | | | | NA | 2.9 | 2.5 | 6.6 | 6.5 | NA |
| Bromide (mg/L) | | | | | NA | 2.0 U | 0.10 U | 0.63 | 0.64 | NA |
| Fluoride (mg/L) | | | | | NA | 0.10 U | 0.10 U | 0.10 U | 0.10 U | NA |
| N-Ammonia (total) (mg-N/L) | | | | | 0.13 | 0.14 J | 0.93 J | 0.20 | 0.14 | 0.57 |
| N-Ammonia (un-ionized) (mg/L) | 0.035 | | | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| N-Nitrate (mg-N/L) | | | | | NA | 0.10 U | 0.10 U | 0.010 U | 0.010 U | 0.015 |
| N-Nitrite (mg-N/L) | | | | | NA | 0.10 U | 0.10 U | 0.010 U | 0.010 U | 0.013 |
| Nitrate + Nitrite (NO2+NO3) (mg-N/L) | | | | | 0.014 J | 0.10 U | 0.10 U | 0.010 U | 0.010 U | 0.028 |
| Ortho-Phosphorous (mg/L) | | | | | NA | 0.082 | 0.082 | 0.090 | 0.090 | NA |
| Chemical Oxygen Demand (mg/L) | | | | | NA | 14 | 12 | 5.4 | 7.4 | 140 |
| Total Organic Carbon (mg/L) | | | | | 6.3 J | 4.0 | 3.9 | 3.4 | 2.8 | 42 |
| Tannins & Lignins (mg/L) | | | | | NA | 0.600 | 0.615 | 0.743 | 0.795 | 3.97 |
| Field pH (avg) | | 7-8.5 | 6.5-8.5 | | 7.10 | 7.10 | 7.07 | 7.08 | 7.14 | 6.36 |
| Field Temperature (°C) (avg) | | | | | 10.0 | 12.8 | 12.8 | 12.2 | 12.2 | 10.3 |
| Field Conductivity (µS) (avg) | | | | | 694 | 7670 | 767 | 647 | 646 | 198 |
| Field Dissolved Oxygen (mg/L) | | | | | NM | 0.51 | 0.62 | 0.23 | 0.35 | NM |
| Field Turbidity (NTU) | | | | | NM | 10 | 10 | 0 | 0 | NM |
| Turbidity (NTU) | | | | | NA | 0.27 J | 0.45 J | 1.3 J | 1.2 J | 480 |
| Field Redox (mV) | | | | | NM | 184.8 | 184.9 | -7.2 | -7.2 | NM |

Appendix A. Rayonier Mill Site Historic Groundwater Monitoring Data.

| | Applicable Criteria | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | Washington State (a) | | National Toxics Rule (b) | | | | | | | |
| | Ecological | Human Health | Ecological | Human Health | PZ-11 T609D 8/28/1997 | PZ-11 CU21G 2/22/2001 | PZ-11 DN28A 8/23/2001 | PZ-11 FB89B 12/11/2002 | PZ-12 R796B 2/28/1997 | PZ-12 T609E 8/28/1997 |
| **VOLATILE COMPOUNDS (ug/L)** | | | | | | | | | | |
| Chloromethane | | 133 | | | 2.0 U | 1.0 U | 0.2 U | 0.2 U | 2.0 U | 2.0 U |
| Vinyl Chloride | | 3.69 | | 525 | 2.0 U | 1.0 U | 0.2 U | 0.2 U | 2.0 U | 2.0 U |
| Chloroethane | | | | | 2.0 U | 1.0 U | 0.2 U | 0.2 U | 2.0 U | 2.0 U |
| Methylene Chloride | | 960 | | 1600 | 2.0 U | 2.0 U | 0.3 U | 0.3 U | 2.0 U | 2.0 U |
| Acetone | | | | | 5.0 U | 5.0 U | 1.6 | 3.0 J | 5.0 U | 5.0 U |
| Carbon Disulfide | | | | | 1.0 U | 1.0 U | 0.2 U | 0.2 U | 1.0 U | 1.0 U |
| 1,1-Dichloroethene | | 1.93 | | 3.2 | 1.0 U | 1.0 U | 0.2 U | 0.2 U | 1.0 U | 1.0 U |
| 1,1-Dichloroethane | | | | | 1.0 U | 1.0 U | 0.2 U | 0.2 U | 1.0 U | 1.0 U |
| trans-1,2-Dichloroethene | | 32800 | | 140000 | 1.0 U | 1.0 U | 0.2 U | 0.2 U | 1.0 U | 1.0 U |
| cis-1,2-Dichloroethene | | | | | 1.0 U | 1.0 U | 0.2 U | 0.2 U | 1.0 U | 1.0 U |
| Chloroform | | 283 | | 470 | 1.0 U | 1.0 U | 0.2 U | 0.2 U | 1.0 U | 1.0 U |
| 1,2-Dichloroethane | | 59.4 | | 99 | 1.0 U | 1.0 U | 0.2 U | 0.2 U | 1.0 U | 1.0 U |
| 2-Butanone | | | | | 5.0 U | 5.0 U | 1.0 U | 1.0 U | 5.0 U | 5.0 U |
| 1,1,1-Trichloroethane | | 417000 | | | 1.0 U | 1.0 U | 0.2 U | 0.2 U | 1.0 U | 1.0 U |
| Carbon Tetrachloride | | 2.66 | | 4.4 | 1.0 U | 1.0 U | 0.2 U | 0.2 U | 1.0 U | 1.0 U |
| Vinyl Acetate | | | | | 5.0 U | 5.0 U | 0.2 U | 0.2 U | 5.0 U | 5.0 U |
| Bromodichloromethane | | 28 | | 22 | 1.0 U | 1.0 U | 0.2 U | 0.2 U | 1.0 U | 1.0 U |
| 1,2-Dichloropropane | | 23.2 | | 39 | 1.0 U | 1.0 U | 0.2 U | 0.2 U | 1.0 U | 1.0 U |
| cis-1,3-Dichloropropene | | | | | 1.0 U | 1.0 U | 0.2 U | 0.2 U | 1.0 U | 1.0 U |
| Trichloroethene | | 56 | | 81 | 1.0 U | 1.0 U | 0.2 U | 0.2 U | 1.0 U | 1.0 U |
| Dibromochloromethane | | 20.6 | | 34 | 1.0 U | 1.0 U | 0.2 U | 0.2 U | 1.0 U | 1.0 U |
| 1,1,2-Trichloroethane | | 25.3 | | 42 | 1.0 U | 1.0 U | 0.2 U | 0.2 U | 1.0 U | 1.0 U |
| Benzene | | 22.7 | | 71 | 1.0 U | 1.0 U | 0.2 U | 0.2 U | 1.0 U | 1.0 U |
| trans-1,3-Dichloropropene | | | | | 1.0 U | 1.0 U | 0.2 U | 0.2 U | 1.0 U | 1.0 U |
| Bromoform | | 219 | | 360 | 1.0 U | 1.0 U | 0.5 U | 0.2 U | 1.0 U | 1.0 U |
| 4-Methyl-2-Pentanone | | | | | 5.0 U | 5.0 U | 1.0 U | 1.0 U | 5.0 U | 5.0 U |
| 2-Hexanone | | | | | 5.0 U | 5.0 U | 1.0 U | 1.0 U | 5.0 U | 5.0 U |
| Tetrachloroethene | | 4.15 | | 8.85 | 1.0 U | 1.0 U | 0.2 U | 0.2 U | 1.0 U | 1.0 U |
| 1,1,2,2-Tetrachloroethane | | 6.48 | | 11 | 1.0 U | 1.0 U | 0.2 U | 0.2 U | 1.0 U | 1.0 U |
| Toluene | | 48500 | | 200000 | 1.0 U | 1.0 U | 0.2 U | 0.2 U | 1.0 U | 1.0 U |
| Chlorobenzene | | 5030 | | 21000 | 1.0 U | 1.0 U | 0.2 U | 0.2 U | 1.0 U | 1.0 U |
| Ethylbenzene | | 6910 | | 29000 | 1.0 U | 1.0 U | 0.2 U | 0.2 U | 1.0 U | 1.0 U |
| Styrene | | | | | 1.0 U | 1.0 U | 0.2 U | 0.2 U | 1.0 U | 1.0 U |
| m,p-Xylene | | | | | 1.0 U | 1.0 U | 0.4 U | 0.4 U | 1.0 U | 1.0 U |
| o-Xylene | | | | | 1.0 U | 1.0 U | 0.2 U | 0.2 U | 1.0 U | 1.0 U |
| Total Xylenes | | | | | NA | NA | 0.6 U | 0.6 U | NA | NA |
| 4-Isopropyltoluene | | | | | 1.0 U | 1.0 U | 0.2 U | 0.2 U | 1.0 U | 1.0 U |
| **SEMIVOLATILE COMPOUNDS (ug/L)** | | | | | | | | | | |
| Dibromochloropropane | | | | | NA | NA | 5.0 U | 5.0 U | NA | NA |

Appendix A. Rayonier Mill Site Historic Groundwater Monitoring Data.

| | Applicable Criteria | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | Washington State (a) | | National Toxics Rule (b) | | | | | | | |
| | Ecological | Human Health | Ecological | Human Health | PZ-11 T609D 8/28/1997 | PZ-11 CU21G 2/22/2001 | PZ-11 DN28A 8/23/2001 | PZ-11 FB89B 12/11/2002 | PZ-12 R796B 2/28/1997 | PZ-12 T609E 8/28/1997 |
| Phenol | | 1110000 | | 4600000 | 2.0 U | 2.0 U | 2.0 U | 2.0 U | 2.0 U | 2.0 U |
| Bis-(2-Chloroethyl) Ether | | 0.854 | | 1.4 | 2.0 U | 2.0 U | 2.0 U | 2.0 U | 2.0 U | 2.0 U |
| 2-Chlorophenol | | 96.7 | | 400 | 1.0 U | 1.0 U | 1.0 U | 1.0 U | 1.0 U | 1.0 U |
| 1,3-Dichlorobenzene | | | | 2600 | 1.0 U | 1.0 U | 1.0 U | 1.0 U | 1.0 U | 1.0 U |
| 1,4-Dichlorobenzene | | 4.86 | | 2600 | 1.0 U | 1.0 U | 1.0 U | 1.0 U | 1.0 U | 1.0 U |
| Benzyl Alcohol | | | | | 5.0 U | 5.0 U | 5.0 U | 5.0 U | 5.0 U | 5.0 U |
| 1,2-Dichlorobenzene | | 4200 | | 17000 | 1.0 U | 1.0 U | 1.0 U | 1.0 U | 1.0 U | 1.0 U |
| 2-Methylphenol | | | | | 2.0 U | 2.0 U | 1.0 U | 1.0 U | 2.0 U | 2.0 U |
| 2,2'-Oxybis(1-Chloropropane) | | 37.5 | | 170000 | 1.0 U | 1.0 U | 1.0 U | 1.0 U | 1.0 U | 1.0 U |
| N-Nitroso-Di-N-Propylamine | | 0.819 | | 1.4 | 2.0 U | 2.0 U | 2.0 U | 2.0 U | 2.0 U | 2.0 U |
| Hexachloroethane | | 5.33 | | 8.9 | 2.0 U | 2.0 U | 2.0 U | 2.0 U | 2.0 U | 2.0 U |
| Nitrobenzene | | 449 | | 1900 | 1.0 U | 1.0 U | 1.0 U | 1.0 U | 1.0 U | 1.0 U |
| Isophorone | | 1560 | | 600 | 1.0 U | 1.0 U | 1.0 U | 1.0 U | 1.0 U | 1.0 U |
| 2-Nitrophenol | | | | | 5.0 U | 5.0 U | 5.0 U | 5.0 U | 5.0 U | 5.0 U |
| 2,4-Dimethylphenol | | 553 | | 2300 | 3.0 U | 3.0 U | 3.0 U | 3.0 U | 3.0 U | 3.0 U |
| Benzoic Acid | | | | | 10 U | 10 U | 10 U | 50 U | 10 U | 10 U |
| bis(2-Chloroethoxy) Methane | | | | | 1.0 U | 1.0 U | 1.0 U | 1.0 U | 1.0 U | 1.0 U |
| 2,4-Dichlorophenol | | 191 | | 790 | 3.0 U | 3.0 U | 3.0 U | 3.0 U | 3.0 U | 3.0 U |
| 1,2,4-Trichlorobenzene | | 227 | | 940 | 1.0 U | 1.0 U | 1.0 U | 1.0 U | 1.0 U | 1.0 U |
| 4-Chloroaniline | | | | | 3.0 U | 3.0 U | 3.0 U | 3.0 U | 3.0 U | 3.0 U |
| Hexachlorobutadiene | | 29.9 | | 50 | 2.0 U | 2.0 U | 2.0 U | 2.0 U | 2.0 U | 2.0 U |
| 4-Chloro-3-methylphenol | | | | | 2.0 U | 2.0 U | 2.0 U | 2.0 U | 2.0 U | 2.0 U |
| 2-Methylnaphthalene | | | | | 1.0 U | 1.0 U | 1.0 U | 1.0 U | 1.0 U | 1.0 U |
| Hexachlorocyclopentadiene | | 3580 | | 17000 | 5.0 U | 5.0 U | 5.0 U | 5.0 U | 5.0 U | 5.0 U |
| 2,4,6-Trichlorophenol | | 3.93 | | 6.5 | 5.0 U | 5.0 U | 5.0 U | 5.0 U | 5.0 U | 5.0 U |
| 2,4,5-Trichlorophenol | | | | | 5.0 U | 5.0 U | 5.0 U | 5.0 U | 5.0 U | 5.0 U |
| 2-Chloronaphthalene | | | | 4300 | 1.0 U | 1.0 U | 1.0 U | 1.0 U | 1.0 U | 1.0 U |
| 2-Nitroaniline | | | | | 5.0 U | 5.0 U | 5.0 U | 5.0 U | 5.0 U | 5.0 U |
| Dimethylphthalate | | 72000 | | 2900000 | 1.0 U | 1.0 U | 1.0 U | 1.0 U | 1.0 U | 1.0 U |
| 3-Nitroaniline | | | | | 6.0 U | 6.0 U | 6.0 U | 6.0 U | 6.0 U | 6.0 U |
| 2,4-Dinitrophenol | | 3460 | | 14000 | 10 U | 10 U | 10 U | 25 U | 10 U | 10 U |
| 4-Nitrophenol | | | | | 5.0 U | 5.0 U | 5.0 U | 5.0 U | 5.0 U | 5.0 U |
| Dibenzofuran | | | | | 1.0 U | 1.0 U | 1.0 U | 1.0 U | 1.0 U | 1.0 U |
| 2,6-Dinitrotoluene | | | | | 5.0 U | 5.0 U | 5.0 U | 5.0 U | 5.0 U | 5.0 U |

Appendix A. Rayonier Mill Site Historic Groundwater Monitoring Data.

| | Applicable Criteria | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | Washington State (a) | | National Toxics Rule (b) | | | | | | | |
| | Ecological | Human Health | Ecological | Human Health | PZ-11 T609D 8/28/1997 | PZ-11 CU21G 2/22/2001 | PZ-11 DN28A 8/23/2001 | PZ-11 FB89B 12/11/2002 | PZ-12 R796B 2/28/1997 | PZ-12 T609E 8/28/1997 |
| 2,4-Dinitrotoluene | | 1360 | | 9.1 | 5.0 U | 5.0 U | 5.0 U | 5.0 U | 5.0 U | 5.0 U |
| Diethylphthalate | | 28400 | | 120000 | 1.0 U | 1.0 U | 1.0 U | 1.0 U | 1.0 U | 1.0 U |
| 4-Chlorophenyl-phenylether | | | | | 1.0 U | 1.0 U | 1.0 U | 1.0 U | 1.0 U | 1.0 U |
| 4-Nitroaniline | | | | | 5.0 U | 5.0 U | 5.0 U | 5.0 U | 5.0 U | 5.0 U |
| 4,6-Dinitro-2-Methylphenol | | | | 765 | 10 U | 10 U | 10 U | 15 U | 10 U | 10 U |
| N-Nitrosodiphenylamine | | 9.73 | | 16 | 1.0 U | 1.0 U | 1.0 U | 1.0 U | 1.0 U | 1.0 U |
| 4-Bromophenyl-phenylether | | | | | 1.0 U | 1.0 U | 1.0 U | 1.0 U | 1.0 U | 1.0 U |
| Hexachlorobenzene | | 0.000466 | | 0.00077 | 1.0 U | 1.0 U | 1.0 U | 1.0 U | 1.0 U | 1.0 U |
| Pentachlorophenol | 7.9 | 4.91 | 7.9 | 8.2 | 5.0 U | 5.0 U | 5.0 U | 5.0 U | 5.0 U | 5.0 U |
| Carbazole | | | | | 1.0 U | 1.0 U | 1.0 U | 1.0 U | 1.0 U | 1.0 U |
| Di-n-Butylphthalate | | 2910 | | 12000 | 1.0 U | 1.0 | 1.0 U | 1.0 U | 1.0 U | 1.0 U |
| Butylbenzylphthalate | | 1250 | | 5200 | 1.0 U | 1.0 U | 1.0 U | 1.0 U | 1.0 U | 1.0 U |
| 3,3'-Dichlorobenzidine | | 0.0462 | | 0.077 | 5.0 U | 5.0 U | 5.0 U | 5.0 U | 5.0 U | 5.0 U |
| bis(2-Ethylhexyl)phthalate | | 3.56 | | 5.9 | 1.0 U | 1.0 U | 5.0 U | 1.0 U | 1.0 U | 1.0 U |
| Di-n-Octyl phthalate | | | | | 1.0 U | 1.0 U | 1.0 U | 1.0 U | 1.0 U | 1.0 U |
| 3-,4-Methylphenol | | | | | NA | NA | 1.0 U | 1.0 U | NA | NA |
| Diallate A | | | | | NA | NA | 2.0 U | 5.0 U | NA | NA |
| Diallate B | | | | | NA | NA | 2.0 U | 5.0 U | NA | NA |
| Isodrin | | | | | NA | NA | 5.0 U | 5.0 U | NA | NA |
| Chlorobenzilate | | | | | NA | NA | 2.0 U | 5.0 U | NA | NA |
| **PAHs (µg/L) (d)** | | | | | | | | | | |
| Naphthalene | | 4940 | | | 1.0 U | 1.0 U | 0.10 U | 0.10 U | 1.0 U | 1.0 U |
| Acenaphthylene | | | | | 1.0 U | 1.0 U | 0.10 U | 0.10 U | 1.0 U | 1.0 U |
| Acenaphthene | | 643 | | 2700 | 1.0 U | 1.0 U | 0.15 | 0.10 U | 1.0 U | 1.0 U |
| Fluorene | | 3460 | | 14000 | 1.0 U | 1.0 U | 0.10 U | 0.10 U | 1.0 U | 1.0 U |
| Phenanthrene | | | | | 1.0 U | 1.0 U | 0.10 U | 0.10 U | 1.0 U | 1.0 U |
| Anthracene | | 25900 | | 110000 | 1.0 U | 1.0 U | 0.10 U | 0.10 U | 1.0 U | 1.0 U |
| Fluoranthene | | 90.2 | | 370 | 1.0 U | 1.0 U | 0.10 U | 0.10 U | 1.0 U | 1.0 U |
| Pyrene | | 2590 | | 11000 | 1.0 U | 1.0 U | 0.10 U | 0.10 U | 1.0 U | 1.0 U |
| Benzo(a)anthracene | | 0.0296 | | 0.031 | 1.0 U | 1.0 U | 0.10 U | 0.10 U | 1.0 U | 1.0 U |
| Chrysene | | 0.0296 | | 0.031 | 1.0 U | 1.0 U | 0.10 U | 0.10 U | 1.0 U | 1.0 U |
| Benzo(b)fluoranthene | | 0.0296 | | 0.031 | 1.0 U | 1.0 U | 0.10 U | 0.10 U | 1.0 U | 1.0 U |
| Benzo(k)fluoranthene | | 0.0296 | | 0.031 | 1.0 U | 1.0 U | 0.10 U | 0.10 U | 1.0 U | 1.0 U |

Appendix A. Rayonier Mill Site Historic Groundwater Monitoring Data.

| | Applicable Criteria | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | Washington State (a) | | National Toxics Rule (b) | | | | | | | |
| | Ecological | Human Health | Ecological | Human Health | PZ-11 T609D 8/28/1997 | PZ-11 CU21G 2/22/2001 | PZ-11 DN28A 8/23/2001 | PZ-11 FB89B 12/11/2002 | PZ-12 R796B 2/28/1997 | PZ-12 T609E 8/28/1997 |
| Benzo(a)pyrene | | 0.0296 | | 0.031 | 1.0 U | 1.0 U | 0.10 U | 0.10 U | 1.0 U | 1.0 U |
| Indeno(1,2,3-cd)pyrene | | 0.0296 | | 0.031 | 1.0 U | 1.0 U | 0.10 U | 0.10 U | 1.0 U | 1.0 U |
| Dibenz(a,h)anthracene | | 0.0296 | | 0.031 | 1.0 U | 1.0 U | 0.10 U | 0.10 U | 1.0 U | 1.0 U |
| Benzo(g,h,i)perylene | | | | | 1.0 U | 1.0 U | 0.10 U | 0.10 U | 1.0 U | 1.0 U |
| cPAH TEQ | | | | | ND | ND | ND | ND | ND | ND |
| **PETROLEUM HYDROCARBONS (mg/L)** | | | | | | | | | | |
| **NWTPH-D extended** | | | | | | | | | | |
| Diesel Range Hydrocarbons | | 0.5 | | | NA | 0.25 U | 0.25 U | 0.25 U | NA | NA |
| Motor Oil | | 0.5 | | | NA | 0.50 U | 0.50 U | 0.50 U | NA | NA |
| **TOTAL METALS (mg/L)** | | | | | | | | | | |
| Arsenic | | | | | NA | 0.007 | 0.0038 | 0.0031 | 0.05 U | NA |
| Beryllium | | | | | NA | NA | 0.001 U | 0.001 U | 0.001 U | NA |
| Chromium (c) | | | | | NA | 0.020 | 0.006 | 0.0074 | 0.005 U | NA |
| Copper | | | | | NA | 0.134 | 0.0265 | 0.0239 | 0.002 U | NA |
| Iron | | | | | NA | 38.4 J | 6.98 | 8.41 | 2.10 | NA |
| Lead | | | | | NA | 0.004 | 0.002 | 0.002 | 0.02 U | NA |
| Nickel | | | | | NA | 0.03 | 0.0116 | 0.0136 | 0.01 U | NA |
| Selenium | | | | | NA | 0.05 U | 0.0016 | 0.0013 | 0.05 U | NA |
| Zinc | | | | | NA | 0.067 | 0.016 | 0.016 | 0.004 U | NA |
| **Major Ions (total)** | | | | | | | | | | |
| Calcium | | | | | NA | NA | 76.2 | 72.2 | NA | NA |
| Magnesium | | | | | NA | NA | 55.9 | 53.9 | NA | NA |
| Potassium | | | | | NA | NA | 20 | 18 | NA | NA |
| Sodium | | | | | NA | NA | 160 | 162 | NA | NA |

Appendix A. Rayonier Mill Site Historic Groundwater Monitoring Data.

| | Applicable Criteria | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | Washington State (a) | | National Toxics Rule (b) | | | | | | | |
| | Ecological | Human Health | Ecological | Human Health | PZ-11 T609D 8/28/1997 | PZ-11 CU21G 2/22/2001 | PZ-11 DN28A 8/23/2001 | PZ-11 FB89B 12/11/2002 | PZ-12 R796B 2/28/1997 | PZ-12 T609E 8/28/1997 |
| **DISSOLVED METALS (mg/L)** | | | | | | | | | | |
| Arsenic | 0.036 | 0.0000982 | 0.036 | 0.00014 | 0.05 U | 0.005 | 0.0034 | 0.004 | NA | 0.05 U |
| Beryllium | | 0.27 | | | 0.001 U | NA | 0.001 U | 0.001 U | NA | 0.001 U |
| Chromium (c) | 0.05 | 0.49 | 0.05 | | 0.005 U | 0.005 U | 0.0021 | 0.0044 | NA | 0.005 U |
| Copper | 0.0031 | 2.66 | 0.0024 | | 0.002 U | 0.002 U | 0.002 | 0.0022 | NA | 0.002 U |
| Lead | 0.0081 | | 0.0081 | | 0.02 U | 0.001 U | 0.001 U | 0.001 U | NA | 0.02 U |
| Nickel | 0.0082 | 1.1 | 0.0082 | 4.6 | 0.01 U | 0.01 U | 0.0052 | 0.0058 | NA | 0.01 U |
| Selenium | 0.071 | 2.7 | 0.071 | 11 | 0.06 | 0.05 U | 0.002 U | 0.0018 | NA | 0.05 U |
| Zinc | 0.081 | 16.5 | 0.081 | 69 | 0.005 J | 0.006 U | 0.004 U | 0.004 U | NA | 0.006 J |
| **PESTICIDES (µg/L)** | | | | | | | | | | |
| alpha-BHC | | 0.00791 | | 0.013 | NA | NA | 0.050 U | 0.051 U | NA | NA |
| beta-BHC | | 0.0277 | | 0.046 | NA | NA | 0.050 U | 0.051 U | NA | NA |
| delta-BHC | | | | | NA | NA | 0.050 U | 0.051 U | NA | NA |
| gamma-BHC (Lindane) | 0.16 | 0.0384 | 0.16 | 0.063 | NA | NA | 0.050 U | 0.051 U | NA | NA |
| Heptachlor | 0.0036 | 0.000129 | 0.0036 | 0.00021 | NA | NA | 0.050 U | 0.051 U | NA | NA |
| Aldrin | 0.0019 | 0.000082 | 1.3 | 0.00014 | NA | NA | 0.050 U | 0.051 U | NA | NA |
| Heptachlor Epoxide | | 0.000064 | 0.0036 | 0.00011 | NA | NA | 0.050 U | 0.051 U | NA | NA |
| Endosulfan I | 0.0087 | 57.6 | 0.0087 | 2 | NA | NA | 0.050 U | 0.051 U | NA | NA |
| Dieldrin | 0.0019 | 0.000087 | 0.0019 | 0.00014 | NA | NA | 0.10 U | 0.10 U | NA | NA |
| 4,4'-DDE | 0.001 | 0.000356 | | 0.00059 | NA | NA | 0.10 U | 0.10 U | NA | NA |
| Endrin | 0.0023 | 0.196 | 0.0023 | 0.81 | NA | NA | 0.10 U | 0.10 U | NA | NA |
| Endosulfan II | 0.0087 | 57.6 | 0.0087 | 2 | NA | NA | 0.10 U | 0.10 U | NA | NA |
| 4,4'-DDD | 0.001 | 0.000504 | | 0.00084 | NA | NA | 0.10 U | 0.10 U | NA | NA |
| Endosulfan Sulfate | | | | 2 | NA | NA | 0.10 U | 0.10 U | NA | NA |
| 4,4'-DDT | 0.001 | 0.000356 | 0.001 | 0.00059 | NA | NA | 0.10 U | 0.10 U | NA | NA |
| Methoxychlor | | 8.36 | | | NA | NA | 0.50 U | 0.51 U | NA | NA |
| Endrin Ketone | | | | | NA | NA | 0.10 U | 0.10 U | NA | NA |
| Endrin Aldehyde | | | | 0.81 | NA | NA | 0.10 U | 0.10 U | NA | NA |
| gamma Chlordane | 0.004 | 0.0013 | 0.004 | 0.00059 | NA | NA | 0.050 U | 0.051 U | NA | NA |
| alpha Chlordane | | | | | NA | NA | 0.050 U | 0.051 U | NA | NA |
| Toxaphene | 0.0002 | 0.00045 | 0.0002 | 0.00075 | NA | NA | 5.0 U | 5.1 U | NA | NA |
| **PCBs (ug/L)** | | | | | | | | | | |
| Aroclor 1016 | 0.03 | 0.00582 | 0.03 | 0.000045 | 1.0 U | NA | NA | NA | 1.0 U | 1.0 U |
| Aroclor 1242 | 0.03 | | 0.03 | 0.000045 | 1.0 U | NA | NA | NA | 1.0 U | 1.0 U |
| Aroclor 1248 | 0.03 | | 0.03 | 0.000045 | 1.0 U | NA | NA | NA | 1.0 U | 1.0 U |
| Aroclor 1254 | 0.03 | 0.00166 | 0.03 | 0.000045 | 1.0 U | NA | NA | NA | 1.0 U | 1.0 U |
| Aroclor 1260 | 0.03 | | 0.03 | 0.000045 | 1.0 U | NA | NA | NA | 1.0 U | 1.0 U |
| Aroclor 1221 | 0.03 | | 0.03 | 0.000045 | 2.0 U | NA | NA | NA | 2.0 U | 2.0 U |
| Aroclor 1232 | 0.03 | | 0.03 | 0.000045 | 1.0 U | NA | NA | NA | 1.0 U | 1.0 U |
| Total PCBs | | | | 0.00011 | ND | NA | NA | NA | ND | ND |

Appendix A. Rayonier Mill Site Historic Groundwater Monitoring Data.

| | Applicable Criteria | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | Washington State (a) | | National Toxics Rule (b) | | | | | | | |
| | Ecological | Human Health | Ecological | Human Health | PZ-11 T609D 8/28/1997 | PZ-11 CU21G 2/22/2001 | PZ-11 DN28A 8/23/2001 | PZ-11 FB89B 12/11/2002 | PZ-12 R796B 2/28/1997 | PZ-12 T609E 8/28/1997 |
| **INDICATOR GEOCHEMICAL PARAMETERS (mg/L)** | | | | | | | | | | |
| Sodium, Dissolved | | | | | NA | NA | 170 | 158 | NA | NA |
| Potassium, Dissolved | | | | | NA | NA | 20.9 | 15.2 | NA | NA |
| Calcium, Dissolved | | | | | NA | NA | 78.1 | 72.8 | NA | NA |
| Magnesium, Dissolved | | | | | NA | NA | 57.2 | 52.1 | NA | NA |
| Chloride | | | | | 14 | 18 | 13 | 15 | 160 | 120 |
| Alkalinity | | | | | NA | NA | 610 | 590 | NA | NA |
| Carbonate (Alkalinity) | | | | | NA | NA | 1.0 U | 1.0 U | NA | NA |
| Bicarbonate (Alkalinity) | | | | | NA | NA | 610 | 590 | NA | NA |
| Sulfate | | | | | 400 | 320 | 170 | 120 | 57 | 98 |
| Iron, Dissolved | | | | | 3.53 | 5.94 J | 2.82 | 3.03 | NA | 4.76 |
| **CONVENTIONAL PARAMETERS** | | | | | | | | | | |
| Total Dissolved Solids (mg/L) | | | | | NA | NA | 940 | 840 | NA | NA |
| Total Suspended Solids (mg/L) | | | | | NA | NA | 56 | 350 | NA | NA |
| Bromide (mg/L) | | | | | NA | NA | 2.0 U | 1.9 | NA | NA |
| Fluoride (mg/L) | | | | | NA | NA | 0.15 | 0.20 | NA | NA |
| N-Ammonia (total) (mg-N/L) | | | | | 0.76 | 0.97 | 0.61 | 0.54 | 0.043 | 0.18 |
| N-Ammonia (un-ionized) (mg/L) | 0.035 | | | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| N-Nitrate (mg-N/L) | | | | | NA | NA | 0.010 U | 0.010 UJ | 0.010 U | NA |
| N-Nitrite (mg-N/L) | | | | | NA | NA | 0.010 U | 0.017 J | 0.010 U | NA |
| Nitrate + Nitrite (NO2+NO3) (mg-N/L) | | | | | 0.010 U | 0.010 U | 0.010 U | 0.018 J | 0.010 U | 0.035 |
| Ortho-Phosphorous (mg/L) | | | | | NA | NA | 0.010 | 0.016 | NA | NA |
| Chemical Oxygen Demand (mg/L) | | | | | NA | NA | 63 | 78 | 14 | NA |
| Total Organic Carbon (mg/L) | | | | | 32 | 34 J | 30 | 26 | 4.4 | 7.4 |
| Tannins & Lignins (mg/L) | | | | | NA | NA | 0.102 | 4.12 | 0.451 | NA |
| Field pH (avg) | | 7-8.5 | 6.5-8.5 | | 6.81 | 6.84 | 6.74 | 6.76 | 6.57 | 6.64 |
| Field Temperature (°C) (avg) | | | | | 15.5 | 11.2 | 15.7 | 13.6 | 9.2 | 12.2 |
| Field Conductivity (µS) (avg) | | | | | 1543 | 1635 | 1320 | 1220 | 966 | 943 |
| Field Dissolved Oxygen (mg/L) | | | | | NM | NM | 0.00 | 0.29 | NM | NM |
| Field Turbidity (NTU) | | | | | NM | NM | 96 | 167 | NM | NM |
| Turbidity (NTU) | | | | | 46 | NA | 21 | 25 J | NA | 27 |
| Field Redox (mV) | | | | | NM | NM | 138.3 | 7.8 | NM | NM |

Appendix A. Rayonier Mill Site Historic Groundwater Monitoring Data.

| | Applicable Criteria | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | Washington State (a) | | National Toxics Rule (b) | | | | | | | |
| | Ecological | Human Health | Ecological | Human Health | PZ-12 CU21F 2/22/2001 | PZ-12 DN18H 8/21/2001 | PZ-12 FB89C 12/11/2002 | PZ-13 R661A 2/14/1997 | PZ-13 T609H 8/27/1997 | MW-11 CU22P 2/22/2001 |
| **VOLATILE COMPOUNDS (ug/L)** | | | | | | | | | | |
| Chloromethane | | 133 | | | 1.0 U | 0.2 U | 0.2 U | 2.0 U | 2.0 U | NA |
| Vinyl Chloride | | 3.69 | | 525 | 1.0 U | 0.2 U | 0.2 U | 2.0 U | 2.0 U | NA |
| Chloroethane | | | | | 1.0 U | 0.2 U | 0.2 U | 2.0 U | 2.0 U | NA |
| Methylene Chloride | | 960 | | 1600 | 2.0 U | 0.3 U | 0.3 | 2.0 U | 2.0 U | NA |
| Acetone | | | | | 5.0 U | 1.0 U | 1.1 J | 5.0 U | 5.0 U | NA |
| Carbon Disulfide | | | | | 1.0 U | 0.2 U | 0.2 U | 1.0 U | 1.0 U | NA |
| 1,1-Dichloroethene | | 1.93 | | 3.2 | 1.0 U | 0.2 U | 0.2 U | 1.0 U | 1.0 U | NA |
| 1,1-Dichloroethane | | | | | 1.0 U | 0.2 U | 0.2 U | 1.0 U | 1.0 U | NA |
| trans-1,2-Dichloroethene | | 32800 | | 140000 | 1.0 U | 0.2 U | 0.2 U | 1.0 U | 1.0 U | NA |
| cis-1,2-Dichloroethene | | | | | 1.0 U | 0.2 U | 0.2 U | 1.0 U | 1.0 U | NA |
| Chloroform | | 283 | | 470 | 1.0 U | 0.2 U | 0.2 U | 1.0 U | 1.0 U | NA |
| 1,2-Dichloroethane | | 59.4 | | 99 | 1.0 U | 0.2 U | 0.2 U | 1.0 U | 1.0 U | NA |
| 2-Butanone | | | | | 5.0 U | 1.0 U | 1.0 U | 5.0 U | 5.0 U | NA |
| 1,1,1-Trichloroethane | | 417000 | | | 1.0 U | 0.2 U | 0.2 U | 1.0 U | 1.0 U | NA |
| Carbon Tetrachloride | | 2.66 | | 4.4 | 1.0 U | 0.2 U | 0.2 U | 1.0 U | 1.0 U | NA |
| Vinyl Acetate | | | | | 5.0 U | 0.2 U | 0.2 U | 5.0 U | 5.0 U | NA |
| Bromodichloromethane | | 28 | | 22 | 1.0 U | 0.2 U | 0.2 U | 1.0 U | 1.0 U | NA |
| 1,2-Dichloropropane | | 23.2 | | 39 | 1.0 U | 0.2 U | 0.2 U | 1.0 U | 1.0 U | NA |
| cis-1,3-Dichloropropene | | | | | 1.0 U | 0.2 U | 0.2 U | 1.0 U | 1.0 U | NA |
| Trichloroethene | | 56 | | 81 | 1.0 U | 0.2 U | 0.2 U | 1.0 U | 1.0 U | NA |
| Dibromochloromethane | | 20.6 | | 34 | 1.0 U | 0.2 U | 0.2 U | 1.0 U | 1.0 U | NA |
| 1,1,2-Trichloroethane | | 25.3 | | 42 | 1.0 U | 0.2 U | 0.2 U | 1.0 U | 1.0 U | NA |
| Benzene | | 22.7 | | 71 | 1.0 U | 0.2 U | 0.2 U | 1.0 U | 1.0 U | NA |
| trans-1,3-Dichloropropene | | | | | 1.0 U | 0.2 U | 0.2 U | 1.0 U | 1.0 U | NA |
| Bromoform | | 219 | | 360 | 1.0 U | 0.5 U | 0.2 U | 1.0 U | 1.0 U | NA |
| 4-Methyl-2-Pentanone | | | | | 5.0 U | 1.0 U | 1.0 U | 5.0 U | 5.0 U | NA |
| 2-Hexanone | | | | | 5.0 U | 1.0 U | 1.0 U | 5.0 U | 5.0 U | NA |
| Tetrachloroethene | | 4.15 | | 8.85 | 1.0 U | 0.2 U | 0.2 U | 1.0 U | 1.0 U | NA |
| 1,1,2,2-Tetrachloroethane | | 6.48 | | 11 | 1.0 U | 0.2 U | 0.2 U | 1.0 U | 1.0 U | NA |
| Toluene | | 48500 | | 200000 | 1.0 U | 0.2 U | 0.2 U | 1.0 U | 1.0 U | NA |
| Chlorobenzene | | 5030 | | 21000 | 1.0 U | 0.2 U | 0.2 U | 1.0 U | 1.0 U | NA |
| Ethylbenzene | | 6910 | | 29000 | 1.0 U | 0.2 U | 0.2 U | 1.0 U | 1.0 U | NA |
| Styrene | | | | | 1.0 U | 0.2 U | 0.2 U | 1.0 U | 1.0 U | NA |
| m,p-Xylene | | | | | 1.0 U | 0.4 U | 0.4 U | 1.0 U | 1.0 U | NA |
| o-Xylene | | | | | 1.0 U | 0.2 U | 0.2 U | 1.0 U | 1.0 U | NA |
| Total Xylenes | | | | | NA | 0.6 U | 0.6 U | NA | NA | NA |
| 4-Isopropyltoluene | | | | | 1.0 U | 0.2 U | 0.2 U | 1.0 U | 1.0 U | NA |
| **SEMIVOLATILE COMPOUNDS (ug/L)** | | | | | | | | | | |
| Dibromochloropropane | | | | | NA | 5.0 U | 5.1 U | NA | NA | NA |

Appendix A. Rayonier Mill Site Historic Groundwater Monitoring Data.

| | Applicable Criteria | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | Washington State (a) | | National Toxics Rule (b) | | | | | | | |
| | Ecological | Human Health | Ecological | Human Health | PZ-12 CU21F 2/22/2001 | PZ-12 DN18H 8/21/2001 | PZ-12 FB89C 12/11/2002 | PZ-13 R661A 2/14/1997 | PZ-13 T609H 8/27/1997 | MW-11 CU22P 2/22/2001 |
| Phenol | | 1110000 | | 4600000 | 2.0 U | 2.0 U | 2.0 U | 2.0 U | 2.0 U | NA |
| Bis-(2-Chloroethyl) Ether | | 0.854 | | 1.4 | 2.0 U | 2.0 U | 2.0 U | 2.0 U | 2.0 U | NA |
| 2-Chlorophenol | | 96.7 | | 400 | 1.0 U | 1.0 U | 1.0 U | 1.0 U | 1.0 U | NA |
| 1,3-Dichlorobenzene | | | | 2600 | 1.0 U | 1.0 U | 1.0 U | 1.0 U | 1.0 U | NA |
| 1,4-Dichlorobenzene | | 4.86 | | 2600 | 1.0 U | 1.0 U | 1.0 U | 1.0 U | 1.0 U | NA |
| Benzyl Alcohol | | | | | 5.0 U | 5.0 U | 5.1 U | 5.0 U | 5.0 U | NA |
| 1,2-Dichlorobenzene | | 4200 | | 17000 | 1.0 U | 1.0 U | 1.0 U | 1.0 U | 1.0 U | NA |
| 2-Methylphenol | | | | | 2.0 U | 1.0 U | 1.0 U | 2.0 U | 2.0 U | NA |
| 2,2'-Oxybis(1-Chloropropane) | | 37.5 | | 170000 | 1.0 U | 1.0 U | 1.0 U | 1.0 U | 1.0 U | NA |
| N-Nitroso-Di-N-Propylamine | | 0.819 | | 1.4 | 2.0 U | 2.0 U | 2.0 U | 2.0 U | 2.0 U | NA |
| Hexachloroethane | | 5.33 | | 8.9 | 2.0 U | 2.0 U | 2.0 U | 2.0 U | 2.0 U | NA |
| Nitrobenzene | | 449 | | 1900 | 1.0 U | 1.0 U | 1.0 U | 1.0 U | 1.0 U | NA |
| Isophorone | | 1560 | | 600 | 1.0 U | 1.0 U | 1.0 U | 1.0 U | 1.0 U | NA |
| 2-Nitrophenol | | | | | 5.0 U | 5.0 U | 5.1 U | 5.0 U | 5.0 U | NA |
| 2,4-Dimethylphenol | | 553 | | 2300 | 3.0 U | 3.0 U | 3.1 U | 3.0 U | 3.0 U | NA |
| Benzoic Acid | | | | | 10 U | 10 U | 51 U | 10 U | 10 U | NA |
| bis(2-Chloroethoxy) Methane | | | | | 1.0 U | 1.0 U | 1.0 U | 1.0 U | 1.0 U | NA |
| 2,4-Dichlorophenol | | 191 | | 790 | 3.0 U | 3.0 U | 3.1 U | 3.0 U | 3.0 U | NA |
| 1,2,4-Trichlorobenzene | | 227 | | 940 | 1.0 U | 1.0 U | 1.0 U | 1.0 U | 1.0 U | NA |
| 4-Chloroaniline | | | | | 3.0 U | 3.0 U | 3.1 U | 3.0 U | 3.0 U | NA |
| Hexachlorobutadiene | | 29.9 | | 50 | 2.0 U | 2.0 U | 2.0 U | 2.0 U | 2.0 U | NA |
| 4-Chloro-3-methylphenol | | | | | 2.0 U | 2.0 U | 2.0 U | 2.0 U | 2.0 U | NA |
| 2-Methylnaphthalene | | | | | 1.0 U | 1.0 U | 1.0 U | 1.0 U | 1.0 U | NA |
| Hexachlorocyclopentadiene | | 3580 | | 17000 | 5.0 U | 5.0 U | 5.1 U | 5.0 U | 5.0 U | NA |
| 2,4,6-Trichlorophenol | | 3.93 | | 6.5 | 5.0 U | 5.0 U | 5.1 U | 5.0 U | 5.0 U | NA |
| 2,4,5-Trichlorophenol | | | | | 5.0 U | 5.0 U | 5.1 U | 5.0 U | 5.0 U | NA |
| 2-Chloronaphthalene | | | | 4300 | 1.0 U | 1.0 U | 1.0 U | 1.0 U | 1.0 U | NA |
| 2-Nitroaniline | | | | | 5.0 U | 5.0 U | 5.1 U | 5.0 U | 5.0 U | NA |
| Dimethylphthalate | | 72000 | | 2900000 | 1.0 U | 1.0 U | 1.0 U | 1.0 U | 1.0 U | NA |
| 3-Nitroaniline | | | | | 6.0 U | 6.0 U | 6.1 U | 6.0 U | 6.0 U | NA |
| 2,4-Dinitrophenol | | 3460 | | 14000 | 10 U | 10 U | 26 U | 10 U | 10 U | NA |
| 4-Nitrophenol | | | | | 5.0 U | 5.0 U | 5.1 U | 5.0 U | 5.0 U | NA |
| Dibenzofuran | | | | | 1.0 U | 1.0 U | 1.0 U | 1.0 U | 1.0 U | NA |
| 2,6-Dinitrotoluene | | | | | 5.0 U | 5.0 U | 5.1 U | 5.0 U | 5.0 U | NA |

Appendix A. Rayonier Mill Site Historic Groundwater Monitoring Data.

| | Applicable Criteria | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | Washington State (a) | | National Toxics Rule (b) | | | | | | | |
| | Ecological | Human Health | Ecological | Human Health | PZ-12 CU21F 2/22/2001 | PZ-12 DN18H 8/21/2001 | PZ-12 FB89C 12/11/2002 | PZ-13 R661A 2/14/1997 | PZ-13 T609H 8/27/1997 | MW-11 CU22P 2/22/2001 |
| 2,4-Dinitrotoluene | | 1360 | | 9.1 | 5.0 U | 5.0 U | 5.1 U | 5.0 U | 5.0 U | NA |
| Diethylphthalate | | 28400 | | 120000 | 1.0 U | 1.0 U | 1.0 U | 1.0 U | 1.0 U | NA |
| 4-Chlorophenyl-phenylether | | | | | 1.0 U | 1.0 U | 1.0 U | 1.0 U | 1.0 U | NA |
| 4-Nitroaniline | | | | | 5.0 U | 5.0 U | 5.1 U | 5.0 U | 5.0 U | NA |
| 4,6-Dinitro-2-Methylphenol | | | | 765 | 10 U | 10 U | 15 U | 10 U | 10 U | NA |
| N-Nitrosodiphenylamine | | 9.73 | | 16 | 1.0 U | 1.0 U | 1.0 U | 1.0 U | 1.0 U | NA |
| 4-Bromophenyl-phenylether | | | | | 1.0 U | 1.0 U | 1.0 U | 1.0 U | 1.0 U | NA |
| Hexachlorobenzene | | 0.000466 | | 0.00077 | 1.0 U | 1.0 U | 1.0 U | 1.0 U | 1.0 U | NA |
| Pentachlorophenol | 7.9 | 4.91 | 7.9 | 8.2 | 5.0 U | 5.0 U | 5.1 U | 5.0 U | 5.0 U | NA |
| Carbazole | | | | | 1.0 U | 1.0 U | 1.0 U | 1.0 U | 1.0 U | NA |
| Di-n-Butylphthalate | | 2910 | | 12000 | 1.0 U | 1.0 U | 1.0 U | 1.0 U | 1.0 U | NA |
| Butylbenzylphthalate | | 1250 | | 5200 | 1.0 U | 1.0 U | 1.0 U | 1.0 U | 1.0 U | NA |
| 3,3'-Dichlorobenzidine | | 0.0462 | | 0.077 | 5.0 U | 5.0 U | 5.1 U | 5.0 U | 5.0 U | NA |
| bis(2-Ethylhexyl)phthalate | | 3.56 | | 5.9 | 1.0 U | 1.8 U | 1.0 U | 1.0 U | 4.0 | NA |
| Di-n-Octyl phthalate | | | | | 1.0 U | 1.0 U | 1.0 U | 1.0 U | 1.0 U | NA |
| 3-,4-Methylphenol | | | | | NA | 1.0 U | 1.0 U | NA | NA | NA |
| Diallate A | | | | | NA | 2.0 U | 5.1 U | NA | NA | NA |
| Diallate B | | | | | NA | 2.0 U | 5.1 U | NA | NA | NA |
| Isodrin | | | | | NA | 5.0 U | 5.1 U | NA | NA | NA |
| Chlorobenzilate | | | | | NA | 2.0 U | 5.1 U | NA | NA | NA |
| **PAHs (µg/L) (d)** | | | | | | | | | | |
| Naphthalene | | 4940 | | | 1.0 U | 0.10 U | 0.10 U | 1.0 U | 1.0 U | NA |
| Acenaphthylene | | | | | 1.0 U | 0.10 U | 0.10 U | 1.0 U | 1.0 U | NA |
| Acenaphthene | | 643 | | 2700 | 1.0 U | 0.10 U | 0.10 U | 1.0 U | 1.0 U | NA |
| Fluorene | | 3460 | | 14000 | 1.0 U | 0.10 U | 0.10 U | 1.0 U | 1.0 U | NA |
| Phenanthrene | | | | | 1.0 U | 0.10 U | 0.10 U | 1.0 U | 1.0 U | NA |
| Anthracene | | 25900 | | 110000 | 1.0 U | 0.10 U | 0.10 U | 1.0 U | 1.0 U | NA |
| Fluoranthene | | 90.2 | | 370 | 1.0 U | 0.10 U | 0.10 U | 1.0 U | 1.0 U | NA |
| Pyrene | | 2590 | | 11000 | 1.0 U | 0.10 U | 0.10 U | 1.0 U | 1.0 U | NA |
| Benzo(a)anthracene | | 0.0296 | | 0.031 | 1.0 U | 0.10 U | 0.10 U | 1.0 U | 1.0 U | NA |
| Chrysene | | 0.0296 | | 0.031 | 1.0 U | 0.10 U | 0.10 U | 1.0 U | 1.0 U | NA |
| Benzo(b)fluoranthene | | 0.0296 | | 0.031 | 1.0 U | 0.10 U | 0.10 U | 1.0 U | 1.0 U | NA |
| Benzo(k)fluoranthene | | 0.0296 | | 0.031 | 1.0 U | 0.10 U | 0.10 U | 1.0 U | 1.0 U | NA |

Appendix A. Rayonier Mill Site Historic Groundwater Monitoring Data.

| | Applicable Criteria | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | Washington State (a) | | National Toxics Rule (b) | | | | | | | |
| | Ecological | Human Health | Ecological | Human Health | PZ-12 CU21F 2/22/2001 | PZ-12 DN18H 8/21/2001 | PZ-12 FB89C 12/11/2002 | PZ-13 R661A 2/14/1997 | PZ-13 T609H 8/27/1997 | MW-11 CU22P 2/22/2001 |
| Benzo(a)pyrene | | 0.0296 | | 0.031 | 1.0 U | 0.10 U | 0.10 U | 1.0 U | 1.0 U | NA |
| Indeno(1,2,3-cd)pyrene | | 0.0296 | | 0.031 | 1.0 U | 0.10 U | 0.10 U | 1.0 U | 1.0 U | NA |
| Dibenz(a,h)anthracene | | 0.0296 | | 0.031 | 1.0 U | 0.10 U | 0.10 U | 1.0 U | 1.0 U | NA |
| Benzo(g,h,i)perylene | | | | | 1.0 U | 0.10 U | 0.10 U | 1.0 U | 1.0 U | NA |
| cPAH TEQ | | | | | ND | ND | ND | ND | ND | NA |
| **PETROLEUM HYDROCARBONS (mg/L)** | | | | | | | | | | |
| **NWTPH-D extended** | | | | | | | | | | |
| Diesel Range Hydrocarbons | | 0.5 | | | 0.25 U | 0.25 U | 0.25 U | NA | NA | NA |
| Motor Oil | | 0.5 | | | 0.50 U | 0.50 U | 0.50 U | NA | NA | NA |
| **TOTAL METALS (mg/L)** | | | | | | | | | | |
| Arsenic | | | | | 0.005 | 0.0018 | 0.0022 | 0.05 U | NA | NA |
| Beryllium | | | | | NA | 0.001 U | 0.001 U | 0.001 U | NA | NA |
| Chromium (c) | | | | | 0.007 | 0.0006 | 0.0013 | 0.005 U | NA | NA |
| Copper | | | | | 0.072 | 0.0019 | 0.0037 | 0.005 | NA | NA |
| Iron | | | | | 22.4 J | 6.72 | 9.13 | 0.17 | NA | NA |
| Lead | | | | | 0.003 | 0.001 U | 0.001 U | 0.02 U | NA | NA |
| Nickel | | | | | 0.01 | 0.0023 | 0.0026 | 0.01 U | NA | NA |
| Selenium | | | | | 0.05 | 0.0009 | 0.0008 | 0.05 U | NA | NA |
| Zinc | | | | | 0.030 | 0.007 | 0.004 U | 0.005 | NA | NA |
| **Major Ions (total)** | | | | | | | | | | |
| Calcium | | | | | NA | 108 | 114 | NA | NA | NA |
| Magnesium | | | | | NA | 55.9 | 58.5 | NA | NA | NA |
| Potassium | | | | | NA | 1.48 | 2 | NA | NA | NA |
| Sodium | | | | | NA | 25.3 | 28.9 | NA | NA | NA |

Appendix A. Rayonier Mill Site Historic Groundwater Monitoring Data.

| | Applicable Criteria | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | Washington State (a) | | National Toxics Rule (b) | | | | | | | |
| | Ecological | Human Health | Ecological | Human Health | PZ-12 CU21F 2/22/2001 | PZ-12 DN18H 8/21/2001 | PZ-12 FB89C 12/11/2002 | PZ-13 R661A 2/14/1997 | PZ-13 T609H 8/27/1997 | MW-11 CU22P 2/22/2001 |
| **DISSOLVED METALS (mg/L)** | | | | | | | | | | |
| Arsenic | 0.036 | 0.0000982 | 0.036 | 0.00014 | 0.002 | 0.0021 | 0.0025 | NA | 0.05 U | NA |
| Beryllium | | 0.27 | | | NA | 0.001 U | 0.001 U | NA | 0.001 U | NA |
| Chromium (c) | 0.05 | 0.49 | 0.05 | | 0.005 U | 0.0005 U | 0.0022 | NA | 0.005 U | NA |
| Copper | 0.0031 | 2.66 | 0.0024 | | 0.002 U | 0.0005 U | 0.0011 | NA | 0.008 | NA |
| Lead | 0.0081 | | 0.0081 | | 0.001 U | 0.001 U | 0.001 U | NA | 0.02 U | NA |
| Nickel | 0.0082 | 1.1 | 0.0082 | 4.6 | 0.01 U | 0.0013 | 0.0016 | NA | 0.01 | NA |
| Selenium | 0.071 | 2.7 | 0.071 | 11 | 0.05 U | 0.001 | 0.0011 | NA | 0.05 U | NA |
| Zinc | 0.081 | 16.5 | 0.081 | 69 | 0.006 U | 0.004 U | 0.004 U | NA | 0.005 J | NA |
| **PESTICIDES (µg/L)** | | | | | | | | | | |
| alpha-BHC | | 0.00791 | | 0.013 | NA | 0.050 U | 0.052 U | NA | NA | NA |
| beta-BHC | | 0.0277 | | 0.046 | NA | 0.050 U | 0.052 U | NA | NA | NA |
| delta-BHC | | | | | NA | 0.050 U | 0.052 U | NA | NA | NA |
| gamma-BHC (Lindane) | 0.16 | 0.0384 | 0.16 | 0.063 | NA | 0.050 U | 0.052 U | NA | NA | NA |
| Heptachlor | 0.0036 | 0.000129 | 0.0036 | 0.00021 | NA | 0.050 U | 0.052 U | NA | NA | NA |
| Aldrin | 0.0019 | 0.000082 | 1.3 | 0.00014 | NA | 0.050 U | 0.052 U | NA | NA | NA |
| Heptachlor Epoxide | | 0.000064 | 0.0036 | 0.00011 | NA | 0.050 U | 0.052 U | NA | NA | NA |
| Endosulfan I | 0.0087 | 57.6 | 0.0087 | 2 | NA | 0.050 U | 0.052 U | NA | NA | NA |
| Dieldrin | 0.0019 | 0.000087 | 0.0019 | 0.00014 | NA | 0.10 U | 0.10 U | NA | NA | NA |
| 4,4'-DDE | 0.001 | 0.000356 | | 0.00059 | NA | 0.10 U | 0.10 U | NA | NA | NA |
| Endrin | 0.0023 | 0.196 | 0.0023 | 0.81 | NA | 0.10 U | 0.10 U | NA | NA | NA |
| Endosulfan II | 0.0087 | 57.6 | 0.0087 | 2 | NA | 0.10 U | 0.10 U | NA | NA | NA |
| 4,4'-DDD | 0.001 | 0.000504 | | 0.00084 | NA | 0.10 U | 0.10 U | NA | NA | NA |
| Endosulfan Sulfate | | | | 2 | NA | 0.10 U | 0.10 U | NA | NA | NA |
| 4,4'-DDT | 0.001 | 0.000356 | 0.001 | 0.00059 | NA | 0.10 U | 0.10 U | NA | NA | NA |
| Methoxychlor | | 8.36 | | | NA | 0.50 U | 0.52 U | NA | NA | NA |
| Endrin Ketone | | | | | NA | 0.10 U | 0.10 U | NA | NA | NA |
| Endrin Aldehyde | | | | 0.81 | NA | 0.10 U | 0.10 U | NA | NA | NA |
| gamma Chlordane | 0.004 | 0.0013 | 0.004 | 0.00059 | NA | 0.050 U | 0.052 U | NA | NA | NA |
| alpha Chlordane | | | | | NA | 0.050 U | 0.052 U | NA | NA | NA |
| Toxaphene | 0.0002 | 0.00045 | 0.0002 | 0.00075 | NA | 5.0 U | 5.2 U | NA | NA | NA |
| **PCBs (ug/L)** | | | | | | | | | | |
| Aroclor 1016 | 0.03 | 0.00582 | 0.03 | 0.000045 | NA | NA | NA | 1.0 U | 1.0 U | NA |
| Aroclor 1242 | 0.03 | | 0.03 | 0.000045 | NA | NA | NA | 1.0 U | 1.0 U | NA |
| Aroclor 1248 | 0.03 | | 0.03 | 0.000045 | NA | NA | NA | 1.0 U | 1.0 U | NA |
| Aroclor 1254 | 0.03 | 0.00166 | 0.03 | 0.000045 | NA | NA | NA | 1.0 U | 1.0 U | NA |
| Aroclor 1260 | 0.03 | | 0.03 | 0.000045 | NA | NA | NA | 1.0 U | 1.0 U | NA |
| Aroclor 1221 | 0.03 | | 0.03 | 0.000045 | NA | NA | NA | 2.0 U | 2.0 U | NA |
| Aroclor 1232 | 0.03 | | 0.03 | 0.000045 | NA | NA | NA | 1.0 U | 1.0 U | NA |
| Total PCBs | | | | 0.00011 | NA | NA | NA | ND | ND | NA |

Appendix A. Rayonier Mill Site Historic Groundwater Monitoring Data.

| | Applicable Criteria | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | Washington State (a) | | National Toxics Rule (b) | | | | | | | |
| | Ecological | Human Health | Ecological | Human Health | PZ-12 CU21F 2/22/2001 | PZ-12 DN18H 8/21/2001 | PZ-12 FB89C 12/11/2002 | PZ-13 R661A 2/14/1997 | PZ-13 T609H 8/27/1997 | MW-11 CU22P 2/22/2001 |
| **INDICATOR GEOCHEMICAL PARAMETERS (mg/L)** | | | | | | | | | | |
| Sodium, Dissolved | | | | | NA | 29.1 | 29.1 | NA | NA | NA |
| Potassium, Dissolved | | | | | NA | 1.66 | 2.08 | NA | NA | NA |
| Calcium, Dissolved | | | | | NA | 123 | 115 | NA | NA | NA |
| Magnesium, Dissolved | | | | | NA | 63.8 | 60 | NA | NA | NA |
| Chloride | | | | | 52 | 48 | 38 | 11 | 16 | 13 |
| Alkalinity | | | | | NA | 420 | 370 | NA | NA | NA |
| Carbonate (Alkalinity) | | | | | NA | 1.0 U | 1.0 U | NA | NA | NA |
| Bicarbonate (Alkalinity) | | | | | NA | 420 | 370 | NA | NA | NA |
| Sulfate | | | | | 100 | 120 | 130 | 31 | 36 | 230 |
| Iron, Dissolved | | | | | 4.05 J | 7.2 | 7.86 | NA | 0.17 | NA |
| **CONVENTIONAL PARAMETERS** | | | | | | | | | | |
| Total Dissolved Solids (mg/L) | | | | | NA | 650 | 700 | NA | NA | NA |
| Total Suspended Solids (mg/L) | | | | | NA | 26 | 47 | NA | NA | NA |
| Bromide (mg/L) | | | | | NA | 0.50 U | 1.5 | NA | NA | NA |
| Fluoride (mg/L) | | | | | NA | 0.10 U | 0.10 U | NA | NA | NA |
| N-Ammonia (total) (mg-N/L) | | | | | 0.11 | 0.19 | 0.19 | 0.010 U | 0.045 | 0.98 |
| N-Ammonia (un-ionized) (mg/L) | 0.035 | | | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| N-Nitrate (mg-N/L) | | | | | NA | 0.012 | 0.010 UJ | 8.4 | NA | NA |
| N-Nitrite (mg-N/L) | | | | | NA | 0.010 U | 0.014 J | 0.011 | NA | NA |
| Nitrate + Nitrite (NO2+NO3) (mg-N/L) | | | | | 0.083 J | 0.012 | 0.010 UJ | 8.4 | 1.8 | 0.012 J |
| Ortho-Phosphorous (mg/L) | | | | | NA | 0.004 U | 0.048 | NA | NA | NA |
| Chemical Oxygen Demand (mg/L) | | | | | NA | 39 | 35 | 28 | NA | NA |
| Total Organic Carbon (mg/L) | | | | | 13 J | 11 | 14 | 11 | 8.7 | NA |
| Tannins & Lignins (mg/L) | | | | | NA | 2.05 | 4.10 | 0.819 | NA | NA |
| Field pH (avg) | | 7-8.5 | 6.5-8.5 | | 6.65 | 6.76 | 6.75 | 5.99 | 6.54 | 8.07 |
| Field Temperature (°C) (avg) | | | | | 11.6 | 12.8 | 12.0 | 5.3 | 12.1 | 11.5 |
| Field Conductivity (µS) (avg) | | | | | 737 | 7060 | 656 | 242 | 326 | 1194 |
| Field Dissolved Oxygen (mg/L) | | | | | NM | 0.79 | 0.02 | NM | NM | NM |
| Field Turbidity (NTU) | | | | | NM | 46 | 26 | NM | NM | NM |
| Turbidity (NTU) | | | | | NA | 29 | 20 J | 210 | 44 | NA |
| Field Redox (mV) | | | | | NM | -69.3 | 11.1 | NM | NM | NM |

Appendix A. Rayonier Mill Site Historic Groundwater Monitoring Data.

| | Applicable Criteria | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | Washington State (a) | | National Toxics Rule (b) | | | | | | | |
| | Ecological | Human Health | Ecological | Human Health | MW-11 DN25A 8/22/2001 | MW-19 CU21C 2/22/2001 | MW-19 DN25I 8/22/2001 | MW-20 T609N 9/2/1997 | MW-23 U167A 10/15/1997 | MW-23 CU22B 2/22/2001 |
| **VOLATILE COMPOUNDS (ug/L)** | | | | | | | | | | |
| Chloromethane | | 133 | | | NA | 1.0 U | 0.2 U | 2.0 U | 2.0 U | 1.0 U |
| Vinyl Chloride | | 3.69 | | 525 | NA | 1.0 U | 0.2 U | 2.0 U | 2.0 U | 1.0 U |
| Chloroethane | | | | | NA | 1.0 U | 0.2 U | 2.0 U | 2.0 U | 1.0 U |
| Methylene Chloride | | 960 | | 1600 | NA | 2.0 U | 0.3 U | 2.0 U | 2.0 U | 2.0 U |
| Acetone | | | | | NA | 5.0 U | 1.0 U | 5.0 U | 5.0 U | 5.0 U |
| Carbon Disulfide | | | | | NA | 1.0 U | 0.2 U | 1.0 U | 1.0 U | 1.0 U |
| 1,1-Dichloroethene | | 1.93 | | 3.2 | NA | 1.0 U | 0.2 U | 1.0 U | 1.0 U | 1.0 U |
| 1,1-Dichloroethane | | | | | NA | 1.0 U | 0.2 U | 1.0 U | 1.0 U | 1.0 U |
| trans-1,2-Dichloroethene | | 32800 | | 140000 | NA | 1.0 U | 0.2 U | 1.0 U | 1.0 U | 1.0 U |
| cis-1,2-Dichloroethene | | | | | NA | 1.0 U | 0.2 U | 1.0 U | 1.0 U | 1.0 U |
| Chloroform | | 283 | | 470 | NA | 1.0 U | 0.2 U | 1.0 U | 1.0 U | 1.0 U |
| 1,2-Dichloroethane | | 59.4 | | 99 | NA | 1.0 U | 0.2 U | 1.0 U | 1.0 U | 1.0 U |
| 2-Butanone | | | | | NA | 5.0 U | 1.0 U | 5.0 U | 5.0 U | 5.0 U |
| 1,1,1-Trichloroethane | | 417000 | | | NA | 1.0 U | 0.2 U | 1.0 U | 1.0 U | 1.0 U |
| Carbon Tetrachloride | | 2.66 | | 4.4 | NA | 1.0 U | 0.2 U | 1.0 U | 1.0 U | 1.0 U |
| Vinyl Acetate | | | | | NA | 5.0 U | 0.2 U | 5.0 U | 5.0 U | 5.0 U |
| Bromodichloromethane | | 28 | | 22 | NA | 1.0 U | 0.2 U | 1.0 U | 1.0 U | 1.0 U |
| 1,2-Dichloropropane | | 23.2 | | 39 | NA | 1.0 U | 0.2 U | 1.0 U | 1.0 U | 1.0 U |
| cis-1,3-Dichloropropene | | | | | NA | 1.0 U | 0.2 U | 1.0 U | 1.0 U | 1.0 U |
| Trichloroethene | | 56 | | 81 | NA | 1.0 U | 0.2 | 1.0 U | 1.0 U | 1.0 U |
| Dibromochloromethane | | 20.6 | | 34 | NA | 1.0 U | 0.2 U | 1.0 U | 1.0 U | 1.0 U |
| 1,1,2-Trichloroethane | | 25.3 | | 42 | NA | 1.0 U | 0.2 U | 1.0 U | 1.0 U | 1.0 U |
| Benzene | | 22.7 | | 71 | NA | 1.0 U | 0.2 U | 1.0 U | 1.0 U | 1.5 |
| trans-1,3-Dichloropropene | | | | | NA | 1.0 U | 0.2 U | 1.0 U | 1.0 U | 1.0 U |
| Bromoform | | 219 | | 360 | NA | 1.0 U | 0.5 U | 1.0 U | 1.0 U | 1.0 U |
| 4-Methyl-2-Pentanone | | | | | NA | 5.0 U | 1.0 U | 5.0 U | 5.0 U | 5.0 U |
| 2-Hexanone | | | | | NA | 5.0 U | 1.0 U | 5.0 U | 5.0 U | 5.0 U |
| Tetrachloroethene | | 4.15 | | 8.85 | NA | 1.0 U | 0.2 U | 1.0 U | 1.0 U | 1.0 U |
| 1,1,2,2-Tetrachloroethane | | 6.48 | | 11 | NA | 1.0 U | 0.2 U | 1.0 U | 1.0 U | 1.0 U |
| Toluene | | 48500 | | 200000 | NA | 1.0 U | 0.2 U | 1.0 U | 1.0 U | 1.0 U |
| Chlorobenzene | | 5030 | | 21000 | NA | 1.0 U | 0.2 U | 1.0 U | 1.0 U | 1.0 U |
| Ethylbenzene | | 6910 | | 29000 | NA | 1.0 U | 0.2 U | 1.0 U | 1.0 U | 1.0 U |
| Styrene | | | | | NA | 1.0 U | 0.2 U | 1.0 U | 1.0 U | 1.0 U |
| m,p-Xylene | | | | | NA | 1.0 U | 0.4 U | 1.0 U | 1.0 U | 1.0 U |
| o-Xylene | | | | | NA | 1.0 U | 0.2 U | 1.0 U | 1.0 U | 1.0 U |
| Total Xylenes | | | | | NA | NA | 0.6 U | NA | NA | NA |
| 4-Isopropyltoluene | | | | | NA | 1.0 U | 0.2 U | 1.0 U | 1.0 U | 1.0 U |
| **SEMIVOLATILE COMPOUNDS (ug/L)** | | | | | | | | | | |
| Dibromochloropropane | | | | | NA | NA | 5.0 U | NA | NA | NA |

Appendix A. Rayonier Mill Site Historic Groundwater Monitoring Data.

| | Applicable Criteria | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | Washington State (a) | | National Toxics Rule (b) | | | | | | | |
| | Ecological | Human Health | Ecological | Human Health | MW-11 DN25A 8/22/2001 | MW-19 CU21C 2/22/2001 | MW-19 DN25I 8/22/2001 | MW-20 T609N 9/2/1997 | MW-23 U167A 10/15/1997 | MW-23 CU22B 2/22/2001 |
| Phenol | | 1110000 | | 4600000 | NA | 2.0 U | 2.0 U | 2.0 U | 2.0 U | 2.0 U |
| Bis-(2-Chloroethyl) Ether | | 0.854 | | 1.4 | NA | 2.0 U | 2.0 U | 2.0 U | 2.0 U | 2.0 U |
| 2-Chlorophenol | | 96.7 | | 400 | NA | 1.0 U | 1.0 U | 1.0 U | 1.0 U | 1.0 U |
| 1,3-Dichlorobenzene | | | | 2600 | NA | 1.0 U | 1.0 U | 1.0 U | 1.0 U | 1.0 U |
| 1,4-Dichlorobenzene | | 4.86 | | 2600 | NA | 1.0 U | 1.0 U | 1.0 U | 1.0 U | 1.0 U |
| Benzyl Alcohol | | | | | NA | 5.0 U | 5.0 U | 5.0 U | 5.0 U | 5.0 U |
| 1,2-Dichlorobenzene | | 4200 | | 17000 | NA | 1.0 U | 1.0 U | 1.0 U | 1.0 U | 1.0 U |
| 2-Methylphenol | | | | | NA | 2.0 U | 1.0 U | 2.0 U | 2.0 U | 2.0 U |
| 2,2'-Oxybis(1-Chloropropane) | | 37.5 | | 170000 | NA | 1.0 U | 1.0 U | 1.0 U | 1.0 U | 1.0 U |
| N-Nitroso-Di-N-Propylamine | | 0.819 | | 1.4 | NA | 2.0 U | 2.0 U | 2.0 U | 2.0 U | 2.0 U |
| Hexachloroethane | | 5.33 | | 8.9 | NA | 2.0 U | 2.0 U | 2.0 U | 2.0 U | 2.0 U |
| Nitrobenzene | | 449 | | 1900 | NA | 1.0 U | 1.0 U | 1.0 U | 1.0 U | 1.0 U |
| Isophorone | | 1560 | | 600 | NA | 1.0 U | 1.0 U | 1.0 U | 1.0 U | 1.0 U |
| 2-Nitrophenol | | | | | NA | 5.0 U | 5.0 U | 5.0 U | 5.0 U | 5.0 U |
| 2,4-Dimethylphenol | | 553 | | 2300 | NA | 3.0 U | 3.0 U | 3.0 U | 3.0 U | 3.0 U |
| Benzoic Acid | | | | | NA | 10 U | 10 U | 10 U | 10 U | 10 U |
| bis(2-Chloroethoxy) Methane | | | | | NA | 1.0 U | 1.0 U | 1.0 U | 1.0 U | 1.0 U |
| 2,4-Dichlorophenol | | 191 | | 790 | NA | 3.0 U | 3.0 U | 3.0 U | 3.0 U | 3.0 U |
| 1,2,4-Trichlorobenzene | | 227 | | 940 | NA | 1.0 U | 1.0 U | 1.0 U | 1.0 U | 1.0 U |
| 4-Chloroaniline | | | | | NA | 3.0 U | 3.0 U | 3.0 U | 3.0 U | 3.0 U |
| Hexachlorobutadiene | | 29.9 | | 50 | NA | 2.0 U | 2.0 U | 2.0 U | 2.0 U | 2.0 U |
| 4-Chloro-3-methylphenol | | | | | NA | 2.0 U | 2.0 U | 2.0 U | 2.0 U | 2.0 U |
| 2-Methylnaphthalene | | | | | NA | 1.0 U | 1.0 U | 1.0 U | 1.0 U | 1.0 U |
| Hexachlorocyclopentadiene | | 3580 | | 17000 | NA | 5.0 U | 5.0 U | 5.0 U | 5.0 U | 5.0 U |
| 2,4,6-Trichlorophenol | | 3.93 | | 6.5 | NA | 5.0 U | 5.0 U | 5.0 U | 5.0 U | 5.0 U |
| 2,4,5-Trichlorophenol | | | | | NA | 5.0 U | 5.0 U | 5.0 U | 5.0 U | 5.0 U |
| 2-Chloronaphthalene | | | | 4300 | NA | 1.0 U | 1.0 U | 1.0 U | 1.0 U | 1.0 U |
| 2-Nitroaniline | | | | | NA | 5.0 U | 5.0 U | 5.0 U | 5.0 U | 5.0 U |
| Dimethylphthalate | | 72000 | | 2900000 | NA | 1.0 U | 1.0 U | 1.0 U | 1.0 U | 1.0 U |
| 3-Nitroaniline | | | | | NA | 6.0 U | 6.0 U | 6.0 U | 6.0 U | 6.0 U |
| 2,4-Dinitrophenol | | 3460 | | 14000 | NA | 10 U | 10 U | 10 U | 10 U | 10 U |
| 4-Nitrophenol | | | | | NA | 5.0 U | 5.0 U | 5.0 U | 5.0 U | 5.0 U |
| Dibenzofuran | | | | | NA | 1.0 U | 1.0 U | 1.0 U | 2.0 | 1.4 |
| 2,6-Dinitrotoluene | | | | | NA | 5.0 U | 5.0 U | 5.0 U | 5.0 U | 5.0 U |

Appendix A. Rayonier Mill Site Historic Groundwater Monitoring Data.

| | Applicable Criteria | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | Washington State (a) | | National Toxics Rule (b) | | | | | | | |
| | Ecological | Human Health | Ecological | Human Health | MW-11 DN25A 8/22/2001 | MW-19 CU21C 2/22/2001 | MW-19 DN25I 8/22/2001 | MW-20 T609N 9/2/1997 | MW-23 U167A 10/15/1997 | MW-23 CU22B 2/22/2001 |
| 2,4-Dinitrotoluene | | 1360 | | 9.1 | NA | 5.0 U | 5.0 U | 5.0 U | 5.0 U | 5.0 U |
| Diethylphthalate | | 28400 | | 120000 | NA | 1.0 U | 1.0 U | 1.0 U | 1.0 U | 1.0 U |
| 4-Chlorophenyl-phenylether | | | | | NA | 1.0 U | 1.0 U | 1.0 U | 1.0 U | 1.0 U |
| 4-Nitroaniline | | | | | NA | 5.0 U | 5.0 U | 5.0 U | 5.0 U | 5.0 U |
| 4,6-Dinitro-2-Methylphenol | | | | 765 | NA | 10 U | 10 U | 10 U | 10 U | 10 U |
| N-Nitrosodiphenylamine | | 9.73 | | 16 | NA | 1.0 U | 1.0 U | 1.0 U | 1.0 U | 1.0 U |
| 4-Bromophenyl-phenylether | | | | | NA | 1.0 U | 1.0 U | 1.0 U | 1.0 U | 1.0 U |
| Hexachlorobenzene | | 0.000466 | | 0.00077 | NA | 1.0 U | 1.0 U | 1.0 U | 1.0 U | 1.0 U |
| Pentachlorophenol | 7.9 | 4.91 | 7.9 | 8.2 | NA | 5.0 U | 5.0 U | 5.0 U | 5.0 U | 5.0 U |
| Carbazole | | | | | NA | 1.0 U | 1.0 U | 1.0 U | 1.8 | 4.6 |
| Di-n-Butylphthalate | | 2910 | | 12000 | NA | 1.0 U | 1.0 U | 1.0 U | 1.0 U | 1.0 U |
| Butylbenzylphthalate | | 1250 | | 5200 | NA | 1.0 U | 1.0 U | 1.0 U | 1.0 U | 1.0 U |
| 3,3'-Dichlorobenzidine | | 0.0462 | | 0.077 | NA | 5.0 U | 5.0 U | 5.0 U | 5.0 U | 5.0 U |
| bis(2-Ethylhexyl)phthalate | | 3.56 | | 5.9 | NA | 1.0 U | 1.5 U | 1.0 U | 1.0 U | 1.0 U |
| Di-n-Octyl phthalate | | | | | NA | 1.0 U | 1.0 U | 1.0 U | 1.0 U | 1.0 U |
| 3-,4-Methylphenol | | | | | NA | NA | 1.0 U | NA | NA | NA |
| Diallate A | | | | | NA | NA | 2.0 U | NA | NA | NA |
| Diallate B | | | | | NA | NA | 2.0 U | NA | NA | NA |
| Isodrin | | | | | NA | NA | 5.0 U | NA | NA | NA |
| Chlorobenzilate | | | | | NA | NA | 2.0 U | NA | NA | NA |
| **PAHs (µg/L) (d)** | | | | | | | | | | |
| Naphthalene | | 4940 | | | NA | 1.0 U | 0.10 U | 1.0 U | 1.0 U | 1.0 U |
| Acenaphthylene | | | | | NA | 1.0 U | 0.39 | 1.0 U | 1.0 U | 1.0 U |
| Acenaphthene | | 643 | | 2700 | NA | 46 | 44 | 3.7 | 27 | 9.8 |
| Fluorene | | 3460 | | 14000 | NA | 1.0 U | 0.10 U | 1.0 U | 1.3 | 1.0 U |
| Phenanthrene | | | | | NA | 1.0 U | 0.10 U | 1.0 U | 1.0 | 1.0 U |
| Anthracene | | 25900 | | 110000 | NA | 1.0 U | 0.10 U | 1.0 U | 1.0 U | 1.0 U |
| Fluoranthene | | 90.2 | | 370 | NA | 1.0 U | 0.91 | 1.0 U | 1.0 U | 1.0 U |
| Pyrene | | 2590 | | 11000 | NA | 1.0 U | 0.53 | 1.0 U | 1.0 U | 1.0 U |
| Benzo(a)anthracene | | 0.0296 | | 0.031 | NA | 1.0 U | 0.10 U | 1.0 U | 1.0 U | 1.0 U |
| Chrysene | | 0.0296 | | 0.031 | NA | 1.0 U | 0.10 U | 1.0 U | 1.0 U | 1.0 U |
| Benzo(b)fluoranthene | | 0.0296 | | 0.031 | NA | 1.0 U | 0.10 U | 1.0 U | 1.0 U | 1.0 U |
| Benzo(k)fluoranthene | | 0.0296 | | 0.031 | NA | 1.0 U | 0.10 U | 1.0 U | 1.0 U | 1.0 U |

Appendix A. Rayonier Mill Site Historic Groundwater Monitoring Data.

| | Applicable Criteria | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | Washington State (a) | | National Toxics Rule (b) | | | | | | | |
| | Ecological | Human Health | Ecological | Human Health | MW-11 DN25A 8/22/2001 | MW-19 CU21C 2/22/2001 | MW-19 DN25I 8/22/2001 | MW-20 T609N 9/2/1997 | MW-23 U167A 10/15/1997 | MW-23 CU22B 2/22/2001 |
| Benzo(a)pyrene | | 0.0296 | | 0.031 | NA | 1.0 U | 0.10 U | 1.0 U | 1.0 U | 1.0 U |
| Indeno(1,2,3-cd)pyrene | | 0.0296 | | 0.031 | NA | 1.0 U | 0.10 U | 1.0 U | 1.0 U | 1.0 U |
| Dibenz(a,h)anthracene | | 0.0296 | | 0.031 | NA | 1.0 U | 0.10 U | 1.0 U | 1.0 U | 1.0 U |
| Benzo(g,h,i)perylene | | | | | NA | 1.0 U | 0.10 U | 1.0 U | 1.0 U | 1.0 U |
| cPAH TEQ | | | | | NA | ND | ND | ND | ND | ND |
| **PETROLEUM HYDROCARBONS (mg/L)** | | | | | | | | | | |
| **NWTPH-D extended** | | | | | | | | | | |
| Diesel Range Hydrocarbons | | 0.5 | | | 12 J | 0.25 U | 0.25 U | NA | NA | 0.25 U |
| Motor Oil | | 0.5 | | | 6.3 | 0.50 U | 0.50 U | NA | NA | 0.50 U |
| **TOTAL METALS (mg/L)** | | | | | | | | | | |
| Arsenic | | | | | NA | 0.002 | 0.0028 | NA | NA | 0.001 U |
| Beryllium | | | | | NA | NA | 0.001 U | NA | NA | NA |
| Chromium (c) | | | | | NA | 0.005 U | 0.0062 | NA | NA | 0.005 U |
| Copper | | | | | NA | 0.002 U | 0.0134 | NA | NA | 0.002 U |
| Iron | | | | | NA | 5.20 J | 3.12 J | NA | NA | 0.09 J |
| Lead | | | | | NA | 0.001 U | 0.004 | NA | NA | 0.001 U |
| Nickel | | | | | NA | 0.01 U | 0.0028 | NA | NA | 0.01 U |
| Selenium | | | | | NA | 0.05 | 0.0005 | NA | NA | 0.05 |
| Zinc | | | | | NA | 0.006 U | 0.038 J | NA | NA | 0.006 U |
| **Major Ions (total)** | | | | | | | | | | |
| Calcium | | | | | NA | NA | 70 | NA | NA | NA |
| Magnesium | | | | | NA | NA | 34.4 | NA | NA | NA |
| Potassium | | | | | NA | NA | 9.69 | NA | NA | NA |
| Sodium | | | | | NA | NA | 206 | NA | NA | NA |

Appendix A. Rayonier Mill Site Historic Groundwater Monitoring Data.

| | Applicable Criteria | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | Washington State (a) | | National Toxics Rule (b) | | | | | | | |
| | Ecological | Human Health | Ecological | Human Health | MW-11 DN25A 8/22/2001 | MW-19 CU21C 2/22/2001 | MW-19 DN25I 8/22/2001 | MW-20 T609N 9/2/1997 | MW-23 U167A 10/15/1997 | MW-23 CU22B 2/22/2001 |
| **DISSOLVED METALS (mg/L)** | | | | | | | | | | |
| Arsenic | 0.036 | 0.0000982 | 0.036 | 0.00014 | NA | 0.002 | 0.0027 | 0.05 U | 0.05 U | 0.001 U |
| Beryllium | | 0.27 | | | NA | NA | 0.001 U | 0.001 U | 0.001 U | NA |
| Chromium (c) | 0.05 | 0.49 | 0.05 | | NA | 0.005 U | 0.0019 | 0.005 U | 0.005 U | 0.005 U |
| Copper | 0.0031 | 2.66 | 0.0024 | | NA | 0.002 U | 0.002 | 0.002 U | 0.002 U | 0.002 U |
| Lead | 0.0081 | | 0.0081 | | NA | 0.001 U | 0.001 U | 0.02 U | 0.02 U | 0.001 U |
| Nickel | 0.0082 | 1.1 | 0.0082 | 4.6 | NA | 0.01 U | 0.0015 | 0.01 U | 0.01 U | 0.01 U |
| Selenium | 0.071 | 2.7 | 0.071 | 11 | NA | 0.05 U | 0.0006 | 0.05 U | 0.05 U | 0.07 |
| Zinc | 0.081 | 16.5 | 0.081 | 69 | NA | 0.006 U | 0.004 | 0.004 UJ | 0.004 U | 0.006 U |
| **PESTICIDES (µg/L)** | | | | | | | | | | |
| alpha-BHC | | 0.00791 | | 0.013 | NA | NA | 0.050 U | NA | NA | NA |
| beta-BHC | | 0.0277 | | 0.046 | NA | NA | 0.050 U | NA | NA | NA |
| delta-BHC | | | | | NA | NA | 0.050 U | NA | NA | NA |
| gamma-BHC (Lindane) | 0.16 | 0.0384 | 0.16 | 0.063 | NA | NA | 0.050 U | NA | NA | NA |
| Heptachlor | 0.0036 | 0.000129 | 0.0036 | 0.00021 | NA | NA | 0.050 U | NA | NA | NA |
| Aldrin | 0.0019 | 0.000082 | 1.3 | 0.00014 | NA | NA | 0.050 U | NA | NA | NA |
| Heptachlor Epoxide | | 0.000064 | 0.0036 | 0.00011 | NA | NA | 0.050 U | NA | NA | NA |
| Endosulfan I | 0.0087 | 57.6 | 0.0087 | 2 | NA | NA | 0.050 U | NA | NA | NA |
| Dieldrin | 0.0019 | 0.000087 | 0.0019 | 0.00014 | NA | NA | 0.10 U | NA | NA | NA |
| 4,4'-DDE | 0.001 | 0.000356 | | 0.00059 | NA | NA | 0.10 U | NA | NA | NA |
| Endrin | 0.0023 | 0.196 | 0.0023 | 0.81 | NA | NA | 0.10 U | NA | NA | NA |
| Endosulfan II | 0.0087 | 57.6 | 0.0087 | 2 | NA | NA | 0.10 U | NA | NA | NA |
| 4,4'-DDD | 0.001 | 0.000504 | | 0.00084 | NA | NA | 0.10 U | NA | NA | NA |
| Endosulfan Sulfate | | | | 2 | NA | NA | 0.10 U | NA | NA | NA |
| 4,4'-DDT | 0.001 | 0.000356 | 0.001 | 0.00059 | NA | NA | 0.10 U | NA | NA | NA |
| Methoxychlor | | 8.36 | | | NA | NA | 0.50 U | NA | NA | NA |
| Endrin Ketone | | | | | NA | NA | 0.10 U | NA | NA | NA |
| Endrin Aldehyde | | | | 0.81 | NA | NA | 0.10 U | NA | NA | NA |
| gamma Chlordane | 0.004 | 0.0013 | 0.004 | 0.00059 | NA | NA | 0.050 U | NA | NA | NA |
| alpha Chlordane | | | | | NA | NA | 0.050 U | NA | NA | NA |
| Toxaphene | 0.0002 | 0.00045 | 0.0002 | 0.00075 | NA | NA | 5.0 U | NA | NA | NA |
| **PCBs (ug/L)** | | | | | | | | | | |
| Aroclor 1016 | 0.03 | 0.00582 | 0.03 | 0.000045 | NA | NA | 0.10 U | 1.0 U | 1.0 U | NA |
| Aroclor 1242 | 0.03 | | 0.03 | 0.000045 | NA | NA | 0.10 U | 1.0 U | 1.0 U | NA |
| Aroclor 1248 | 0.03 | | 0.03 | 0.000045 | NA | NA | 0.10 U | 1.0 U | 1.0 U | NA |
| Aroclor 1254 | 0.03 | 0.00166 | 0.03 | 0.000045 | NA | NA | 0.10 U | 1.0 U | 1.0 U | NA |
| Aroclor 1260 | 0.03 | | 0.03 | 0.000045 | NA | NA | 0.10 U | 1.0 U | 1.0 U | NA |
| Aroclor 1221 | 0.03 | | 0.03 | 0.000045 | NA | NA | 0.20 U | 2.0 U | 2.0 U | NA |
| Aroclor 1232 | 0.03 | | 0.03 | 0.000045 | NA | NA | 0.10 U | 1.0 U | 1.0 U | NA |
| Total PCBs | | | | 0.00011 | NA | NA | ND | ND | ND | NA |

Appendix A. Rayonier Mill Site Historic Groundwater Monitoring Data.

| | Applicable Criteria | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | Washington State (a) | | National Toxics Rule (b) | | | | | | | |
| | Ecological | Human Health | Ecological | Human Health | MW-11 DN25A 8/22/2001 | MW-19 CU21C 2/22/2001 | MW-19 DN25I 8/22/2001 | MW-20 T609N 9/2/1997 | MW-23 U167A 10/15/1997 | MW-23 CU22B 2/22/2001 |
| **INDICATOR GEOCHEMICAL PARAMETERS (mg/L)** | | | | | | | | | | |
| Sodium, Dissolved | | | | | NA | NA | 256 | NA | NA | NA |
| Potassium, Dissolved | | | | | NA | NA | 11.7 | NA | NA | NA |
| Calcium, Dissolved | | | | | NA | NA | 84.7 | NA | NA | NA |
| Magnesium, Dissolved | | | | | NA | NA | 42.4 | NA | NA | NA |
| Chloride | | | | | NA | 66 | 49 | 96 | 8.2 | 32 |
| Alkalinity | | | | | NA | NA | 280 | NA | NA | NA |
| Carbonate (Alkalinity) | | | | | NA | NA | 1.0 U | NA | NA | NA |
| Bicarbonate (Alkalinity) | | | | | NA | NA | 280 | NA | NA | NA |
| Sulfate | | | | | NA | 660 | 540 | 240 | 23 | 350 |
| Iron, Dissolved | | | | | NA | 5.20 J | 3.29 J | 0.09 | 0.02 U | 0.16 J |
| **CONVENTIONAL PARAMETERS** | | | | | | | | | | |
| Total Dissolved Solids (mg/L) | | | | | NA | NA | 1100 | NA | NA | NA |
| Total Suspended Solids (mg/L) | | | | | NA | NA | 11 | NA | NA | NA |
| Bromide (mg/L) | | | | | NA | NA | 2.0 U | NA | NA | NA |
| Fluoride (mg/L) | | | | | NA | NA | 0.10 U | NA | NA | NA |
| N-Ammonia (total) (mg-N/L) | | | | | NA | 2.4 | 1.4 J | 1.9 | 1.1 | 3.2 |
| N-Ammonia (un-ionized) (mg/L) | 0.035 | | | | 0.00 | 0.00 | 0.02 | 0.09 | 0.04 | 0.00 |
| N-Nitrate (mg-N/L) | | | | | NA | NA | 0.010 U | 0.011 | 0.024 | NA |
| N-Nitrite (mg-N/L) | | | | | NA | NA | 0.015 U | 0.010 U | 0.012 | NA |
| Nitrate + Nitrite (NO2+NO3) (mg-N/L) | | | | | NA | 0.010 U | 0.014 | 0.011 | 0.036 | 0.010 U |
| Ortho-Phosphorous (mg/L) | | | | | NA | NA | 0.075 | NA | NA | NA |
| Chemical Oxygen Demand (mg/L) | | | | | NA | NA | 21 | NA | NA | NA |
| Total Organic Carbon (mg/L) | | | | | NA | 6.9 J | 6.2 | 8.5 | 30 | 18 J |
| Tannins & Lignins (mg/L) | | | | | NA | 1.16 | 0.908 | NA | NA | NA |
| Field pH (avg) | | 7-8.5 | 6.5-8.5 | | NM | 7.32 | 7.69 | 8.26 | 8.14 | 8.28 |
| Field Temperature (°C) (avg) | | | | | NM | 11.8 | 14.3 | 14.7 | 14.2 | 11.9 |
| Field Conductivity (µS) (avg) | | | | | NM | 1567 | 1810 | 1262 | 404 | 1601 |
| Field Dissolved Oxygen (mg/L) | | | | | NM | NM | 1.85 | NM | NM | NM |
| Field Turbidity (NTU) | | | | | NM | NM | 27 | NM | NM | NM |
| Turbidity (NTU) | | | | | NA | NA | 7.6 | 0.11 | 300 | NA |
| Field Redox (mV) | | | | | NM | NM | -163.0 | NM | NM | NM |

Appendix A. Rayonier Mill Site Historic Groundwater Monitoring Data.

| | Applicable Criteria | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | Washington State (a) | | National Toxics Rule (b) | | | | | | | | |
| | Ecological | Human Health | Ecological | Human Health | MW-23 DN18E 8/21/2001 | MW-23 FB89Q 12/13/2002 | MW-29 T609O 9/2/1997 | MW-51 Y129C 8/4/1998 | MW-51 CU21I 2/22/2001 | MW-51 DN18C 8/21/2001 | MW-51 FB89H 12/12/2002 |
| **VOLATILE COMPOUNDS (ug/L)** | | | | | | | | | | | |
| Chloromethane | | 133 | | | 0.2 U | 0.2 U | 2.0 U | 2.0 U | 1.0 U | 0.2 U | 0.2 U |
| Vinyl Chloride | | 3.69 | | 525 | 0.2 U | 0.2 U | 2.0 U | 2.0 U | 1.0 U | 0.2 U | 0.2 U |
| Chloroethane | | | | | 0.2 U | 1.7 U | 2.0 U | 2.0 U | 1.0 U | 0.2 U | 0.2 U |
| Methylene Chloride | | 960 | | 1600 | 0.3 U | 0.4 | 2.0 U | 2.0 U | 2.0 U | 0.3 U | 0.3 |
| Acetone | | | | | 1.0 U | 1.5 M | 5.0 U | 28 M | 5.0 U | 1.0 U | 1.2 U |
| Carbon Disulfide | | | | | 0.2 U | 0.2 U | 1.0 U | 1.0 U | 1.0 U | 0.2 U | 0.2 U |
| 1,1-Dichloroethene | | 1.93 | | 3.2 | 0.2 U | 0.2 U | 1.0 U | 1.0 U | 1.0 U | 0.2 U | 0.2 U |
| 1,1-Dichloroethane | | | | | 0.2 U | 0.2 U | 1.0 U | 1.0 U | 1.0 U | 0.2 U | 0.2 U |
| trans-1,2-Dichloroethene | | 32800 | | 140000 | 0.2 U | 0.2 U | 1.0 U | 1.0 U | 1.0 U | 0.2 U | 0.2 U |
| cis-1,2-Dichloroethene | | | | | 0.2 U | 0.2 U | 1.0 U | 1.0 U | 1.0 U | 0.2 | 0.2 U |
| Chloroform | | 283 | | 470 | 0.2 U | 0.2 U | 1.0 U | 1.0 U | 1.0 U | 0.2 U | 0.2 U |
| 1,2-Dichloroethane | | 59.4 | | 99 | 0.2 U | 0.2 U | 1.0 U | 1.0 U | 1.0 U | 0.2 U | 0.2 U |
| 2-Butanone | | | | | 1.0 U | 1.0 U | 5.0 U | 10 | 5.0 U | 1.0 U | 1.0 U |
| 1,1,1-Trichloroethane | | 417000 | | | 0.2 U | 0.2 U | 1.0 U | 1.0 U | 1.0 U | 0.2 U | 0.2 U |
| Carbon Tetrachloride | | 2.66 | | 4.4 | 0.2 U | 0.2 U | 1.0 U | 1.0 U | 1.0 U | 0.2 U | 0.2 U |
| Vinyl Acetate | | | | | 0.2 U | 0.2 U | 5.0 U | 5.0 U | 5.0 U | 0.2 U | 0.2 U |
| Bromodichloromethane | | 28 | | 22 | 0.2 U | 0.2 U | 1.0 U | 1.0 U | 1.0 U | 0.2 U | 0.2 U |
| 1,2-Dichloropropane | | 23.2 | | 39 | 0.2 U | 0.2 U | 1.0 U | 1.0 U | 1.0 U | 0.2 U | 0.2 U |
| cis-1,3-Dichloropropene | | | | | 0.2 U | 0.2 U | 1.0 U | 1.0 U | 1.0 U | 0.2 U | 0.2 U |
| Trichloroethene | | 56 | | 81 | 0.2 U | 0.2 U | 1.0 U | 1.0 U | 1.0 U | 0.2 U | 0.2 U |
| Dibromochloromethane | | 20.6 | | 34 | 0.2 U | 0.2 U | 1.0 U | 1.0 U | 1.0 U | 0.2 U | 0.2 U |
| 1,1,2-Trichloroethane | | 25.3 | | 42 | 0.2 U | 0.2 U | 1.0 U | 1.0 U | 1.0 U | 0.2 U | 0.2 U |
| Benzene | | 22.7 | | 71 | 0.6 | 0.2 U | 1.0 U | 1.0 U | 1.0 U | 0.2 | 0.2 U |
| trans-1,3-Dichloropropene | | | | | 0.2 U | 0.2 U | 1.0 U | 1.0 U | 1.0 U | 0.2 U | 0.2 U |
| Bromoform | | 219 | | 360 | 0.5 U | 0.2 U | 1.0 U | 1.0 U | 1.0 U | 0.5 U | 0.2 U |
| 4-Methyl-2-Pentanone | | | | | 1.0 U | 1.0 U | 5.0 U | 5.0 U | 5.0 U | 1.0 U | 1.0 U |
| 2-Hexanone | | | | | 1.0 U | 1.0 U | 5.0 U | 5.0 U | 5.0 U | 1.0 U | 1.0 U |
| Tetrachloroethene | | 4.15 | | 8.85 | 0.2 U | 0.2 U | 1.0 U | 1.0 U | 1.0 U | 0.2 U | 0.2 U |
| 1,1,2,2-Tetrachloroethane | | 6.48 | | 11 | 0.2 U | 0.2 U | 1.0 U | 1.0 U | 1.0 U | 0.2 U | 0.2 U |
| Toluene | | 48500 | | 200000 | 0.2 U | 0.2 | 1.0 U | 1.0 U | 1.0 U | 0.2 U | 0.2 U |
| Chlorobenzene | | 5030 | | 21000 | 0.2 U | 0.2 U | 1.0 U | 1.0 U | 1.0 U | 0.2 U | 0.2 U |
| Ethylbenzene | | 6910 | | 29000 | 0.2 U | 0.3 | 1.0 U | 1.0 U | 1.0 U | 0.2 U | 0.2 U |
| Styrene | | | | | 0.2 U | 0.2 U | 1.0 U | 1.0 U | 1.0 U | 0.2 U | 0.2 U |
| m,p-Xylene | | | | | 0.4 U | 0.4 U | 1.0 U | 1.0 U | 1.0 U | 0.4 U | 0.4 U |
| o-Xylene | | | | | 0.2 U | 0.2 U | 1.0 U | 1.0 U | 1.0 U | 0.2 U | 0.2 U |
| Total Xylenes | | | | | 0.6 U | 0.6 U | NA | NA | NA | 0.6 U | 0.6 U |
| 4-Isopropyltoluene | | | | | 0.2 U | 0.2 U | 1.0 U | 1.0 U | 1.0 U | 0.2 U | 0.2 U |
| **SEMIVOLATILE COMPOUNDS (ug/L)** | | | | | | | | | | | |
| Dibromochloropropane | | | | | 5.0 U | 5.0 U | NA | NA | NA | 5.0 U | 5.4 U |

Appendix A. Rayonier Mill Site Historic Groundwater Monitoring Data.

| | Applicable Criteria | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | Washington State (a) | | National Toxics Rule (b) | | | | | | | | |
| | Ecological | Human Health | Ecological | Human Health | MW-23 DN18E 8/21/2001 | MW-23 FB89Q 12/13/2002 | MW-29 T609O 9/2/1997 | MW-51 Y129C 8/4/1998 | MW-51 CU21I 2/22/2001 | MW-51 DN18C 8/21/2001 | MW-51 FB89H 12/12/2002 |
| Phenol | | 1110000 | | 4600000 | 2.0 U | 2.0 U | 2.0 U | 2.0 U | 2.0 U | 2.0 U | 2.2 U |
| Bis-(2-Chloroethyl) Ether | | 0.854 | | 1.4 | 2.0 U | 2.0 U | 2.0 U | 2.0 U | 2.0 U | 2.0 U | 2.2 U |
| 2-Chlorophenol | | 96.7 | | 400 | 1.0 U | 1.0 U | 1.0 U | 1.0 U | 1.0 U | 1.0 U | 1.1 U |
| 1,3-Dichlorobenzene | | | | 2600 | 1.0 U | 1.0 U | 1.0 U | 1.0 U | 1.0 U | 1.0 U | 1.1 U |
| 1,4-Dichlorobenzene | | 4.86 | | 2600 | 1.0 U | 1.0 U | 1.0 U | 1.0 U | 1.0 U | 1.0 U | 1.1 U |
| Benzyl Alcohol | | | | | 5.0 U | 5.0 U | 5.0 U | 5.0 U | 5.0 U | 5.0 U | 5.4 U |
| 1,2-Dichlorobenzene | | 4200 | | 17000 | 1.0 U | 1.0 U | 1.0 U | 1.0 U | 1.0 U | 1.0 U | 1.1 U |
| 2-Methylphenol | | | | | 1.0 U | 1.0 U | 2.0 U | 2.0 U | 2.0 U | 1.0 U | 1.1 U |
| 2,2'-Oxybis(1-Chloropropane) | | 37.5 | | 170000 | 1.0 U | 1.0 U | 1.0 U | 1.0 U | 1.0 U | 1.0 U | 1.1 U |
| N-Nitroso-Di-N-Propylamine | | 0.819 | | 1.4 | 2.0 U | 2.0 U | 2.0 U | 2.0 U | 2.0 U | 2.0 U | 2.2 U |
| Hexachloroethane | | 5.33 | | 8.9 | 2.0 U | 2.0 U | 2.0 U | 2.0 U | 2.0 U | 2.0 U | 2.2 U |
| Nitrobenzene | | 449 | | 1900 | 1.0 U | 1.0 U | 1.0 U | 1.0 U | 1.0 U | 1.0 U | 1.1 U |
| Isophorone | | 1560 | | 600 | 1.0 U | 1.0 U | 1.0 U | 1.0 U | 1.0 U | 1.0 U | 1.1 U |
| 2-Nitrophenol | | | | | 5.0 U | 5.0 U | 5.0 U | 5.0 U | 5.0 U | 5.0 U | 5.4 U |
| 2,4-Dimethylphenol | | 553 | | 2300 | 3.0 U | 3.0 U | 3.0 U | 3.0 U | 3.0 U | 3.0 U | 3.3 U |
| Benzoic Acid | | | | | 10 U | 50 U | 10 U | 10 U | 10 U | 10 U | 54 U |
| bis(2-Chloroethoxy) Methane | | | | | 1.0 U | 1.0 U | 1.0 U | 1.0 U | 1.0 U | 1.0 U | 1.1 U |
| 2,4-Dichlorophenol | | 191 | | 790 | 3.0 U | 3.0 U | 3.0 U | 3.0 U | 3.0 U | 3.0 U | 3.3 U |
| 1,2,4-Trichlorobenzene | | 227 | | 940 | 1.0 U | 1.0 U | 1.0 U | 1.0 U | 1.0 U | 1.0 U | 1.1 U |
| 4-Chloroaniline | | | | | 3.0 U | 3.0 U | 3.0 U | 3.0 U | 3.0 U | 3.0 U | 3.3 U |
| Hexachlorobutadiene | | 29.9 | | 50 | 2.0 U | 2.0 U | 2.0 U | 2.0 U | 2.0 U | 2.0 U | 2.2 U |
| 4-Chloro-3-methylphenol | | | | | 2.0 U | 2.0 U | 2.0 U | 2.0 U | 2.0 U | 2.0 U | 2.2 U |
| 2-Methylnaphthalene | | | | | 1.0 U | 1.0 U | 1.0 U | 1.0 U | 1.0 U | 1.0 U | 1.1 U |
| Hexachlorocyclopentadiene | | 3580 | | 17000 | 5.0 U | 5.0 U | 5.0 U | 5.0 U | 5.0 U | 5.0 U | 5.4 U |
| 2,4,6-Trichlorophenol | | 3.93 | | 6.5 | 5.0 U | 5.0 U | 5.0 U | 5.0 U | 5.0 U | 5.0 U | 5.4 U |
| 2,4,5-Trichlorophenol | | | | | 5.0 U | 5.0 U | 5.0 U | 5.0 U | 5.0 U | 5.0 U | 5.4 U |
| 2-Chloronaphthalene | | | | 4300 | 1.0 U | 1.0 U | 1.0 U | 1.0 U | 1.0 U | 1.0 U | 1.1 U |
| 2-Nitroaniline | | | | | 5.0 U | 5.0 U | 5.0 U | 5.0 U | 5.0 U | 5.0 U | 5.4 U |
| Dimethylphthalate | | 72000 | | 2900000 | 1.0 U | 1.0 U | 1.0 U | 1.0 U | 1.0 U | 1.0 U | 1.1 U |
| 3-Nitroaniline | | | | | 6.0 U | 6.0 U | 6.0 U | 6.0 U | 6.0 U | 6.0 U | 6.5 U |
| 2,4-Dinitrophenol | | 3460 | | 14000 | 10 U | 25 U | 10 U | 10 U | 10 U | 10 U | 27 U |
| 4-Nitrophenol | | | | | 5.0 U | 5.0 U | 5.0 U | 5.0 U | 5.0 U | 5.0 U | 5.4 U |
| Dibenzofuran | | | | | 1.3 | 1.0 U | 1.0 U | 1.0 U | 1.0 U | 1.0 U | 1.1 U |
| 2,6-Dinitrotoluene | | | | | 5.0 U | 5.0 U | 5.0 U | 5.0 U | 5.0 U | 5.0 U | 5.4 U |

Appendix A. Rayonier Mill Site Historic Groundwater Monitoring Data.

| | Applicable Criteria | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | Washington State (a) | | National Toxics Rule (b) | | | | | | | | |
| | Ecological | Human Health | Ecological | Human Health | MW-23 DN18E 8/21/2001 | MW-23 FB89Q 12/13/2002 | MW-29 T609O 9/2/1997 | MW-51 Y129C 8/4/1998 | MW-51 CU21I 2/22/2001 | MW-51 DN18C 8/21/2001 | MW-51 FB89H 12/12/2002 |
| 2,4-Dinitrotoluene | | 1360 | | 9.1 | 5.0 U | 5.0 U | 5.0 U | 5.0 U | 5.0 U | 5.0 U | 5.4 U |
| Diethylphthalate | | 28400 | | 120000 | 1.0 U | 1.0 U | 1.0 U | 1.0 U | 1.0 U | 1.0 U | 1.1 U |
| 4-Chlorophenyl-phenylether | | | | | 1.0 U | 1.0 U | 1.0 U | 1.0 U | 1.0 U | 1.0 U | 1.1 U |
| 4-Nitroaniline | | | | | 5.0 U | 5.0 U | 5.0 U | 5.0 U | 5.0 U | 5.0 U | 5.4 U |
| 4,6-Dinitro-2-Methylphenol | | | | 765 | 10 U | 15 U | 10 U | 10 U | 10 U | 10 U | 16 U |
| N-Nitrosodiphenylamine | | 9.73 | | 16 | 1.0 U | 1.0 U | 1.0 U | 1.0 U | 1.0 U | 1.0 U | 1.1 U |
| 4-Bromophenyl-phenylether | | | | | 1.0 U | 1.0 U | 1.0 U | 1.0 U | 1.0 U | 1.0 U | 1.1 U |
| Hexachlorobenzene | | 0.000466 | | 0.00077 | 1.0 U | 1.0 U | 1.0 U | 1.0 U | 1.0 U | 1.0 U | 1.1 U |
| Pentachlorophenol | 7.9 | 4.91 | 7.9 | 8.2 | 5.0 U | 83 | 5.0 U | 5.0 U | 5.0 U | 5.0 U | 5.4 U |
| Carbazole | | | | | 1.0 U | 1.0 U | 1.0 U | 1.0 U | 1.0 U | 1.0 U | 1.1 U |
| Di-n-Butylphthalate | | 2910 | | 12000 | 1.0 U | 1.0 U | 1.0 U | 1.0 U | 1.0 U | 1.0 U | 1.1 U |
| Butylbenzylphthalate | | 1250 | | 5200 | 1.0 U | 1.0 U | 1.0 U | 1.0 U | 1.0 U | 1.0 U | 1.1 U |
| 3,3'-Dichlorobenzidine | | 0.0462 | | 0.077 | 5.0 U | 5.0 U | 5.0 U | 5.0 U | 5.0 U | 5.0 U | 5.4 U |
| bis(2-Ethylhexyl)phthalate | | 3.56 | | 5.9 | 1.8 U | 1.0 U | 1.0 U | 2.6 | 1.0 U | 15 U | 1.1 U |
| Di-n-Octyl phthalate | | | | | 1.0 U | 1.0 U | 1.0 U | 1.0 U | 1.0 U | 1.0 U | 1.1 U |
| 3-,4-Methylphenol | | | | | 1.0 U | 1.0 U | NA | NA | NA | 1.0 U | 1.1 U |
| Diallate A | | | | | 2.0 U | 5.0 U | NA | NA | NA | 2.0 U | 5.4 U |
| Diallate B | | | | | 2.0 U | 5.0 U | NA | NA | NA | 2.0 U | 5.4 U |
| Isodrin | | | | | 5.0 U | 5.0 U | NA | NA | NA | 5.0 U | 5.4 U |
| Chlorobenzilate | | | | | 2.0 U | 5.0 U | NA | NA | NA | 2.0 U | 5.4 U |
| **PAHs (µg/L) (d)** | | | | | | | | | | | |
| Naphthalene | | 4940 | | | 0.10 U | 0.78 | 1.0 U | 1.0 U | 1.0 U | 0.10 U | 0.11 U |
| Acenaphthylene | | | | | 0.10 U | 0.12 M | 1.0 U | 1.0 U | 1.0 U | 0.10 U | 0.11 U |
| Acenaphthene | | 643 | | 2700 | 9.8 | 2.4 | 1.0 U | 4.0 | 4.8 | 5.7 | 5.4 |
| Fluorene | | 3460 | | 14000 | 0.24 | 0.22 | 1.0 U | 1.1 | 1.0 U | 0.57 | 0.17 |
| Phenanthrene | | | | | 0.10 U | 0.12 | 1.0 U | 1.0 U | 1.0 U | 0.10 U | 0.11 U |
| Anthracene | | 25900 | | 110000 | 0.21 | 0.27 | 1.0 U | 1.0 U | 1.0 U | 0.10 | 0.11 |
| Fluoranthene | | 90.2 | | 370 | 0.11 | 0.10 U | 1.0 U | 1.3 | 1.0 U | 1.0 | 1.0 |
| Pyrene | | 2590 | | 11000 | 0.10 | 0.10 U | 1.0 U | 1.0 | 1.0 U | 0.94 | 0.91 |
| Benzo(a)anthracene | | 0.0296 | | 0.031 | 0.10 U | 0.10 U | 1.0 U | 1.0 U | 1.0 U | 0.12 | 0.12 |
| Chrysene | | 0.0296 | | 0.031 | 0.10 U | 0.10 U | 1.0 U | 1.0 U | 1.0 U | 0.10 U | 0.11 |
| Benzo(b)fluoranthene | | 0.0296 | | 0.031 | 0.10 U | 0.10 U | 1.0 U | 1.0 U | 1.0 U | 0.10 U | 0.11 U |
| Benzo(k)fluoranthene | | 0.0296 | | 0.031 | 0.10 U | 0.10 U | 1.0 U | 1.0 U | 1.0 U | 0.10 U | 0.11 U |

Appendix A. Rayonier Mill Site Historic Groundwater Monitoring Data.

| | Applicable Criteria | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | Washington State (a) | | National Toxics Rule (b) | | | | | | | | |
| | Ecological | Human Health | Ecological | Human Health | MW-23 DN18E 8/21/2001 | MW-23 FB89Q 12/13/2002 | MW-29 T609O 9/2/1997 | MW-51 Y129C 8/4/1998 | MW-51 CU21I 2/22/2001 | MW-51 DN18C 8/21/2001 | MW-51 FB89H 12/12/2002 |
| Benzo(a)pyrene | | 0.0296 | | 0.031 | 0.10 U | 0.10 U | 1.0 U | 1.0 U | 1.0 U | 0.10 U | 0.11 U |
| Indeno(1,2,3-cd)pyrene | | 0.0296 | | 0.031 | 0.10 U | 0.10 U | 1.0 U | 1.0 U | 1.0 U | 0.10 U | 0.11 U |
| Dibenz(a,h)anthracene | | 0.0296 | | 0.031 | 0.10 U | 0.10 U | 1.0 U | 1.0 U | 1.0 U | 0.10 U | 0.11 U |
| Benzo(g,h,i)perylene | | | | | 0.10 U | 0.10 U | 1.0 U | 1.0 U | 1.0 U | 0.10 U | 0.11 U |
| cPAH TEQ | | | | | ND | ND | ND | ND | ND | 0.012 | 0.013 |
| **PETROLEUM HYDROCARBONS (mg/L)** | | | | | | | | | | | |
| **NWTPH-D extended** | | | | | | | | | | | |
| Diesel Range Hydrocarbons | | 0.5 | | | 0.25 U | 0.25 | NA | NA | 0.25 U | 0.25 U | 0.25 U |
| Motor Oil | | 0.5 | | | 0.50 U | 0.50 U | NA | NA | 0.50 U | 0.50 U | 0.50 U |
| **TOTAL METALS (mg/L)** | | | | | | | | | | | |
| Arsenic | | | | | 0.0005 | 0.002 | NA | NA | 0.005 | 0.0045 | 0.004 |
| Beryllium | | | | | 0.001 U | 0.001 U | NA | NA | NA | 0.001 U | 0.001 U |
| Chromium (c) | | | | | 0.0068 | 0.014 | NA | NA | 0.061 | 0.0492 | 0.0529 |
| Copper | | | | | 0.0015 | 0.0025 | NA | NA | 0.004 | 0.0038 | 0.0048 |
| Iron | | | | | 0.16 | 0.05 U | NA | NA | 4.50 J | 0.86 | 0.65 |
| Lead | | | | | 0.001 U | 0.001 | NA | NA | 0.036 | 0.008 | 0.013 |
| Nickel | | | | | 0.0022 | 0.0188 | NA | NA | 0.01 U | 0.0049 | 0.0056 |
| Selenium | | | | | 0.0005 U | 0.0006 | NA | NA | 0.06 | 0.002 U | 0.002 U |
| Zinc | | | | | 0.004 U | 0.033 | NA | NA | 0.008 | 0.009 | 0.006 |
| **Major Ions (total)** | | | | | | | | | | | |
| Calcium | | | | | 78.4 | 38.2 | NA | NA | NA | 174 | 118 |
| Magnesium | | | | | 101 | 40.8 | NA | NA | NA | 42.5 | 29.4 |
| Potassium | | | | | 24.5 | 23.8 | NA | NA | NA | 21.6 | 17.6 |
| Sodium | | | | | 84.3 | 127 | NA | NA | NA | 191 | 175 |

Appendix A. Rayonier Mill Site Historic Groundwater Monitoring Data.

| | Applicable Criteria | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | Washington State (a) | | National Toxics Rule (b) | | | | | | | | |
| | Ecological | Human Health | Ecological | Human Health | MW-23 DN18E 8/21/2001 | MW-23 FB89Q 12/13/2002 | MW-29 T609O 9/2/1997 | MW-51 Y129C 8/4/1998 | MW-51 CU21I 2/22/2001 | MW-51 DN18C 8/21/2001 | MW-51 FB89H 12/12/2002 |
| **DISSOLVED METALS (mg/L)** | | | | | | | | | | | |
| Arsenic | 0.036 | 0.0000982 | 0.036 | 0.00014 | 0.0004 | 0.0021 | 0.05 U | 0.05 U | 0.003 | 0.004 | 0.0049 |
| Beryllium | | 0.27 | | | 0.001 U | 0.001 U | 0.001 U | 0.001 U | NA | 0.001 U | 0.001 U |
| Chromium (c) | 0.05 | 0.49 | 0.05 | | 0.0027 | 0.0084 | 0.005 U | 0.081 | 0.066 | 0.058 | 0.061 |
| Copper | 0.0031 | 2.66 | 0.0024 | | 0.0008 | 0.0016 | 0.002 U | 0.002 U | 0.002 U | 0.003 | 0.004 |
| Lead | 0.0081 | | 0.0081 | | 0.001 U | 0.001 U | 0.02 U | 0.02 U | 0.002 | 0.005 U | 0.007 |
| Nickel | 0.0082 | 1.1 | 0.0082 | 4.6 | 0.0018 | 0.002 | 0.01 U | 0.01 U | 0.01 U | 0.005 | 0.005 |
| Selenium | 0.071 | 2.7 | 0.071 | 11 | 0.0005 U | 0.0008 | 0.05 U | 0.06 | 0.05 U | 0.002 U | 0.001 |
| Zinc | 0.081 | 16.5 | 0.081 | 69 | 0.004 U | 0.004 U | 0.006 J | 0.005 | 0.006 U | 0.02 U | 0.008 U |
| **PESTICIDES (µg/L)** | | | | | | | | | | | |
| alpha-BHC | | 0.00791 | | 0.013 | 0.050 U | 0.054 U | NA | NA | NA | 0.050 U | 0.053 U |
| beta-BHC | | 0.0277 | | 0.046 | 0.050 U | 0.054 U | NA | NA | NA | 0.050 U | 0.053 U |
| delta-BHC | | | | | 0.050 U | 0.054 U | NA | NA | NA | 0.050 U | 0.053 U |
| gamma-BHC (Lindane) | 0.16 | 0.0384 | 0.16 | 0.063 | 0.050 U | 0.054 U | NA | NA | NA | 0.050 U | 0.053 U |
| Heptachlor | 0.0036 | 0.000129 | 0.0036 | 0.00021 | 0.050 U | 0.054 U | NA | NA | NA | 0.050 U | 0.053 U |
| Aldrin | 0.0019 | 0.000082 | 1.3 | 0.00014 | 0.050 U | 0.054 U | NA | NA | NA | 0.050 U | 0.053 U |
| Heptachlor Epoxide | | 0.000064 | 0.0036 | 0.00011 | 0.050 U | 0.054 U | NA | NA | NA | 0.050 U | 0.053 U |
| Endosulfan I | 0.0087 | 57.6 | 0.0087 | 2 | 0.050 U | 0.054 U | NA | NA | NA | 0.050 U | 0.053 U |
| Dieldrin | 0.0019 | 0.000087 | 0.0019 | 0.00014 | 0.10 U | 0.11 U | NA | NA | NA | 0.10 U | 0.11 U |
| 4,4'-DDE | 0.001 | 0.000356 | | 0.00059 | 0.10 U | 0.11 U | NA | NA | NA | 0.10 U | 0.11 U |
| Endrin | 0.0023 | 0.196 | 0.0023 | 0.81 | 0.10 U | 0.11 U | NA | NA | NA | 0.10 U | 0.11 U |
| Endosulfan II | 0.0087 | 57.6 | 0.0087 | 2 | 0.10 U | 0.11 U | NA | NA | NA | 0.10 U | 0.11 U |
| 4,4'-DDD | 0.001 | 0.000504 | | 0.00084 | 0.10 U | 0.11 U | NA | NA | NA | 0.10 U | 0.11 U |
| Endosulfan Sulfate | | | | 2 | 0.10 U | 0.11 U | NA | NA | NA | 0.10 U | 0.11 U |
| 4,4'-DDT | 0.001 | 0.000356 | 0.001 | 0.00059 | 0.10 U | 0.11 U | NA | NA | NA | 0.10 U | 0.11 U |
| Methoxychlor | | 8.36 | | | 0.50 U | 0.54 U | NA | NA | NA | 0.50 U | 0.53 U |
| Endrin Ketone | | | | | 0.10 U | 0.11 U | NA | NA | NA | 0.10 U | 0.11 U |
| Endrin Aldehyde | | | | 0.81 | 0.10 U | 0.11 U | NA | NA | NA | 0.10 U | 0.11 U |
| gamma Chlordane | 0.004 | 0.0013 | 0.004 | 0.00059 | 0.050 U | 0.054 U | NA | NA | NA | 0.050 U | 0.053 U |
| alpha Chlordane | | | | | 0.050 U | 0.054 U | NA | NA | NA | 0.050 U | 0.053 U |
| Toxaphene | 0.0002 | 0.00045 | 0.0002 | 0.00075 | 5.0 U | 5.4 U | NA | NA | NA | 5.0 U | 5.3 U |
| **PCBs (ug/L)** | | | | | | | | | | | |
| Aroclor 1016 | 0.03 | 0.00582 | 0.03 | 0.000045 | NA | NA | 1.0 U | 1.0 U | NA | NA | 0.10 U |
| Aroclor 1242 | 0.03 | | 0.03 | 0.000045 | NA | NA | 1.0 U | 1.0 U | NA | NA | 0.10 U |
| Aroclor 1248 | 0.03 | | 0.03 | 0.000045 | NA | NA | 1.0 U | 1.0 U | NA | NA | 0.10 U |
| Aroclor 1254 | 0.03 | 0.00166 | 0.03 | 0.000045 | NA | NA | 1.0 U | 1.0 U | NA | NA | 0.10 U |
| Aroclor 1260 | 0.03 | | 0.03 | 0.000045 | NA | NA | 1.0 U | 1.0 U | NA | NA | 0.10 U |
| Aroclor 1221 | 0.03 | | 0.03 | 0.000045 | NA | NA | 2.0 U | 2.0 U | NA | NA | 0.21 U |
| Aroclor 1232 | 0.03 | | 0.03 | 0.000045 | NA | NA | 1.0 U | 1.0 U | NA | NA | 0.10 U |
| Total PCBs | | | | 0.00011 | NA | NA | ND | ND | NA | NA | ND |

Appendix A. Rayonier Mill Site Historic Groundwater Monitoring Data.

| | Applicable Criteria | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | Washington State (a) | | National Toxics Rule (b) | | | | | | | | |
| | Ecological | Human Health | Ecological | Human Health | MW-23 DN18E 8/21/2001 | MW-23 FB89Q 12/13/2002 | MW-29 T609O 9/2/1997 | MW-51 Y129C 8/4/1998 | MW-51 CU21I 2/22/2001 | MW-51 DN18C 8/21/2001 | MW-51 FB89H 12/12/2002 |
| **INDICATOR GEOCHEMICAL PARAMETERS (mg/L)** | | | | | | | | | | | |
| Sodium, Dissolved | | | | | 88.6 | 123 | NA | NA | NA | 207 | 182 |
| Potassium, Dissolved | | | | | 26.5 | 21.6 | NA | NA | NA | 23.8 | 19.8 |
| Calcium, Dissolved | | | | | 82.5 | 37.6 | NA | NA | NA | 187 | 135 |
| Magnesium, Dissolved | | | | | 108 | 39.7 | NA | NA | NA | 46.4 | 34.1 |
| Chloride | | | | | 18 | 42 | 82 | 84 | 180 | 110 | 93 |
| Alkalinity | | | | | 530 | 130 | NA | NA | NA | 710 | 610 |
| Carbonate (Alkalinity) | | | | | 1.0 U | 1.0 U | NA | NA | NA | 1.0 U | 1.0 U |
| Bicarbonate (Alkalinity) | | | | | 530 | 130 | NA | NA | NA | 710 | 610 |
| Sulfate | | | | | 310 | 75 | 170 | 220 | 290 | 400 | 160 |
| Iron, Dissolved | | | | | 0.07 | 0.05 U | 0.02 U | 2.99 | 1.54 J | 0.65 | 0.43 |
| **CONVENTIONAL PARAMETERS** | | | | | | | | | | | |
| Total Dissolved Solids (mg/L) | | | | | 900 | 690 | NA | NA | NA | 1800 | 1400 |
| Total Suspended Solids (mg/L) | | | | | 7.1 | 1.2 | NA | NA | NA | 10 | 1.7 |
| Bromide (mg/L) | | | | | 10 U | 2.0 U | NA | NA | NA | 200 U | 25 U |
| Fluoride (mg/L) | | | | | 0.10 U | 0.10 U | NA | NA | NA | 0.20 | 0.20 |
| N-Ammonia (total) (mg-N/L) | | | | | 2.7 | 1.3 | 1.2 | 29 | 35 | 31 | 28 |
| N-Ammonia (un-ionized) (mg/L) | 0.035 | | | | 0.10 | 0.01 | 1.19 | 0.02 | 0.00 | 0.04 | 0.08 |
| N-Nitrate (mg-N/L) | | | | | 0.016 | 0.26 | 0.017 | 0.20 U | NA | 0.15 | 0.010 U |
| N-Nitrite (mg-N/L) | | | | | 0.010 U | 0.010 U | 0.010 U | 0.10 U | NA | 0.10 | 0.042 |
| Nitrate + Nitrite (NO2+NO3) (mg-N/L) | | | | | 0.016 | 0.26 | 0.017 | 0.20 U | 0.010 U | 0.25 | 0.010 U |
| Ortho-Phosphorous (mg/L) | | | | | 0.75 | 0.48 | NA | NA | NA | 1.5 | 1.7 |
| Chemical Oxygen Demand (mg/L) | | | | | 29 | 33 | NA | NA | NA | 710 | 810 |
| Total Organic Carbon (mg/L) | | | | | 20 J | 9.6 | 7.1 | 7300 | 280 J | 270 | 300 |
| Tannins & Lignins (mg/L) | | | | | 0.877 | 1.05 | NA | NA | 130 | 210 | 200 |
| Field pH (avg) | | 7-8.5 | 6.5-8.5 | | 8.14 | 7.56 | 11.64 | 6.62 | 7.17 | 6.77 | 7.09 |
| Field Temperature (°C) (avg) | | | | | 15.0 | 13.7 | 15.7 | 11.0 | 12.2 | 13.0 | 12.3 |
| Field Conductivity (µS) (avg) | | | | | 1460 | 1100 | 1561 | 1772 | 2050 | 2180 | 1505 |
| Field Dissolved Oxygen (mg/L) | | | | | 1.61 | 0.35 | NM | NM | NM | 0.73 | 0.00 |
| Field Turbidity (NTU) | | | | | 2 | 0 | NM | NM | NM | 20 | 0 |
| Turbidity (NTU) | | | | | 3.5 | 0.55 J | 2.8 | 6.7 | NA | 13 | 10 J |
| Field Redox (mV) | | | | | -172.0 | -7.2 | NM | NM | NM | 152.0 | -1.2 |

Appendix A. Rayonier Mill Site Historic Groundwater Monitoring Data.

| | Applicable Criteria | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | Washington State (a) | | National Toxics Rule (b) | | | | | | | | |
| | Ecological | Human Health | Ecological | Human Health | MW-52 Y129A 8/4/1998 | MW-52 CU22F 2/22/2001 | MW-52 DN25G 8/22/2001 | MW-52 FB89I 12/12/2002 | MW-53 CU06A 2/21/2001 | MW-53 DN18A 8/21/2001 | MW-53 FB89J 12/12/2002 |
| **VOLATILE COMPOUNDS (ug/L)** | | | | | | | | | | | |
| Chloromethane | | 133 | | | 2.0 U | 1.0 U | 0.2 U | 0.2 U | 1.0 U | 0.2 U | 0.2 U |
| Vinyl Chloride | | 3.69 | | 525 | 2.0 U | 1.0 U | 0.2 U | 0.2 U | 1.0 U | 0.2 U | 0.2 U |
| Chloroethane | | | | | 2.0 U | 1.0 U | 0.2 U | 0.2 U | 1.0 U | 0.2 U | 0.2 U |
| Methylene Chloride | | 960 | | 1600 | 2.0 U | 2.0 U | 0.3 U | 0.3 | 2.0 U | 0.3 U | 0.3 U |
| Acetone | | | | | 5.0 U | 5.0 U | 1.0 U | 1.2 U | 5.0 U | 1.0 U | 1.0 U |
| Carbon Disulfide | | | | | 1.0 U | 1.0 U | 0.2 U | 0.2 U | 1.0 U | 0.2 U | 0.2 U |
| 1,1-Dichloroethene | | 1.93 | | 3.2 | 1.0 U | 1.0 U | 0.2 U | 0.2 U | 1.0 U | 0.2 U | 0.2 U |
| 1,1-Dichloroethane | | | | | 1.0 U | 1.0 U | 0.2 U | 0.2 U | 1.0 U | 0.2 U | 0.2 U |
| trans-1,2-Dichloroethene | | 32800 | | 140000 | 1.0 U | 1.0 U | 0.2 U | 0.2 U | 1.0 U | 0.2 U | 0.2 U |
| cis-1,2-Dichloroethene | | | | | 1.0 U | 1.0 U | 0.2 U | 0.2 U | 2.0 | 2.0 | 1.7 |
| Chloroform | | 283 | | 470 | 1.0 U | 1.0 U | 0.2 U | 0.2 U | 1.0 U | 0.2 U | 0.2 U |
| 1,2-Dichloroethane | | 59.4 | | 99 | 1.0 U | 1.0 U | 0.2 U | 0.2 U | 1.0 U | 0.2 U | 0.2 U |
| 2-Butanone | | | | | 5.0 U | 5.0 U | 1.0 U | 1.0 U | 5.0 U | 1.0 U | 1.0 U |
| 1,1,1-Trichloroethane | | 417000 | | | 1.0 U | 1.0 U | 0.2 U | 0.2 U | 1.0 U | 0.2 U | 0.2 U |
| Carbon Tetrachloride | | 2.66 | | 4.4 | 1.0 U | 1.0 U | 0.2 U | 0.2 U | 1.0 U | 0.2 U | 0.2 U |
| Vinyl Acetate | | | | | 5.0 U | 5.0 U | 0.2 U | 0.2 U | 5.0 U | 0.2 U | 0.2 U |
| Bromodichloromethane | | 28 | | 22 | 1.0 U | 1.0 U | 0.2 U | 0.2 U | 1.0 U | 0.2 U | 0.2 U |
| 1,2-Dichloropropane | | 23.2 | | 39 | 1.0 U | 1.0 U | 0.2 U | 0.2 U | 1.0 U | 0.2 U | 0.2 U |
| cis-1,3-Dichloropropene | | | | | 1.0 U | 1.0 U | 0.2 U | 0.2 U | 1.0 U | 0.2 U | 0.2 U |
| Trichloroethene | | 56 | | 81 | 1.0 U | 1.0 U | 0.2 | 0.2 U | 1.0 U | 0.2 U | 0.2 U |
| Dibromochloromethane | | 20.6 | | 34 | 1.0 U | 1.0 U | 0.2 U | 0.2 U | 1.0 U | 0.2 U | 0.2 U |
| 1,1,2-Trichloroethane | | 25.3 | | 42 | 1.0 U | 1.0 U | 0.2 U | 0.2 U | 1.0 U | 0.2 U | 0.2 U |
| Benzene | | 22.7 | | 71 | 1.0 U | 1.0 U | 0.2 U | 0.2 U | 1.0 U | 0.2 U | 0.2 U |
| trans-1,3-Dichloropropene | | | | | 1.0 U | 1.0 U | 0.2 U | 0.2 U | 1.0 U | 0.2 U | 0.2 U |
| Bromoform | | 219 | | 360 | 1.0 U | 1.0 U | 0.5 U | 0.2 U | 1.0 U | 0.5 U | 0.2 U |
| 4-Methyl-2-Pentanone | | | | | 5.0 U | 5.0 U | 1.0 U | 1.0 U | 5.0 U | 1.0 U | 1.0 U |
| 2-Hexanone | | | | | 5.0 U | 5.0 U | 1.0 U | 1.0 U | 5.0 U | 1.0 U | 1.0 U |
| Tetrachloroethene | | 4.15 | | 8.85 | 1.0 U | 1.0 U | 0.2 U | 0.2 U | 1.0 U | 0.2 U | 0.2 U |
| 1,1,2,2-Tetrachloroethane | | 6.48 | | 11 | 1.0 U | 1.0 U | 0.2 U | 0.2 U | 1.0 U | 0.2 U | 0.2 U |
| Toluene | | 48500 | | 200000 | 1.0 U | 1.0 U | 0.2 U | 0.2 U | 1.0 U | 0.2 U | 0.2 U |
| Chlorobenzene | | 5030 | | 21000 | 1.0 U | 1.0 U | 0.2 U | 0.2 U | 1.0 U | 0.2 U | 0.2 U |
| Ethylbenzene | | 6910 | | 29000 | 1.0 U | 1.0 U | 0.2 U | 0.2 U | 1.0 U | 0.2 U | 0.2 U |
| Styrene | | | | | 1.0 U | 1.0 U | 0.2 U | 0.2 U | 1.0 U | 0.2 U | 0.2 U |
| m,p-Xylene | | | | | 1.0 U | 1.0 U | 0.4 U | 0.4 U | 1.0 U | 0.4 U | 0.4 U |
| o-Xylene | | | | | 1.0 U | 1.0 U | 0.2 U | 0.2 U | 1.0 U | 0.2 U | 0.2 U |
| Total Xylenes | | | | | NA | NA | 0.6 U | 0.6 U | NA | 0.6 U | 0.6 U |
| 4-Isopropyltoluene | | | | | 1.0 U | 1.0 U | 0.2 U | 0.2 U | 1.0 U | 0.2 U | 0.2 U |
| **SEMIVOLATILE COMPOUNDS (ug/L)** | | | | | | | | | | | |
| Dibromochloropropane | | | | | NA | NA | 5.0 U | 5.6 U | NA | 5.0 U | 5.6 U |

Appendix A. Rayonier Mill Site Historic Groundwater Monitoring Data.

| | Applicable Criteria | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | Washington State (a) | | National Toxics Rule (b) | | | | | | | | |
| | Ecological | Human Health | Ecological | Human Health | MW-52 Y129A 8/4/1998 | MW-52 CU22F 2/22/2001 | MW-52 DN25G 8/22/2001 | MW-52 FB89I 12/12/2002 | MW-53 CU06A 2/21/2001 | MW-53 DN18A 8/21/2001 | MW-53 FB89J 12/12/2002 |
| Phenol | | 1110000 | | 4600000 | 2.0 U | 2.0 U | 2.0 U | 2.2 U | 2.0 U | 2.0 U | 2.2 U |
| Bis-(2-Chloroethyl) Ether | | 0.854 | | 1.4 | 2.0 U | 2.0 U | 2.0 U | 2.2 U | 2.0 U | 2.0 U | 2.2 U |
| 2-Chlorophenol | | 96.7 | | 400 | 1.0 U | 1.0 U | 1.0 U | 1.1 U | 1.0 U | 1.0 U | 1.1 U |
| 1,3-Dichlorobenzene | | | | 2600 | 1.0 U | 1.0 U | 1.0 U | 1.1 U | 1.0 U | 1.0 U | 1.1 U |
| 1,4-Dichlorobenzene | | 4.86 | | 2600 | 1.0 U | 1.0 U | 1.0 U | 1.1 U | 1.0 U | 1.0 U | 1.1 U |
| Benzyl Alcohol | | | | | 5.0 U | 5.0 U | 5.0 U | 5.6 U | 5.0 U | 5.0 U | 5.6 U |
| 1,2-Dichlorobenzene | | 4200 | | 17000 | 1.0 U | 1.0 U | 1.0 U | 1.1 U | 1.0 U | 1.0 U | 1.1 U |
| 2-Methylphenol | | | | | 2.0 U | 2.0 U | 1.0 U | 1.1 U | 2.0 U | 1.0 U | 1.1 U |
| 2,2'-Oxybis(1-Chloropropane) | | 37.5 | | 170000 | 1.0 U | 1.0 U | 1.0 U | 1.1 U | 1.0 U | 1.0 U | 1.1 U |
| N-Nitroso-Di-N-Propylamine | | 0.819 | | 1.4 | 2.0 U | 2.0 U | 2.0 U | 2.2 U | 2.0 U | 2.0 U | 2.2 U |
| Hexachloroethane | | 5.33 | | 8.9 | 2.0 U | 2.0 U | 2.0 U | 2.2 U | 2.0 U | 2.0 U | 2.2 U |
| Nitrobenzene | | 449 | | 1900 | 1.0 U | 1.0 U | 1.0 U | 1.1 U | 1.0 U | 1.0 U | 1.1 U |
| Isophorone | | 1560 | | 600 | 1.0 U | 1.0 U | 1.0 U | 1.1 U | 1.0 U | 1.0 U | 1.1 U |
| 2-Nitrophenol | | | | | 5.0 U | 5.0 U | 5.0 U | 5.6 U | 5.0 U | 5.0 U | 5.6 U |
| 2,4-Dimethylphenol | | 553 | | 2300 | 3.0 U | 3.0 U | 3.0 U | 3.3 U | 3.0 U | 3.0 U | 3.3 U |
| Benzoic Acid | | | | | 10 U | 10 U | 10 U | 56 U | 10 U | 10 U | 56 U |
| bis(2-Chloroethoxy) Methane | | | | | 1.0 U | 1.0 U | 1.0 U | 1.1 U | 1.0 U | 1.0 U | 1.1 U |
| 2,4-Dichlorophenol | | 191 | | 790 | 3.0 U | 3.0 U | 3.0 U | 3.3 U | 3.0 U | 3.0 U | 3.3 U |
| 1,2,4-Trichlorobenzene | | 227 | | 940 | 1.0 U | 1.0 U | 1.0 U | 1.1 U | 1.0 U | 1.0 U | 1.1 U |
| 4-Chloroaniline | | | | | 3.0 U | 3.0 U | 3.0 U | 3.3 U | 3.0 U | 3.0 U | 3.3 U |
| Hexachlorobutadiene | | 29.9 | | 50 | 2.0 U | 2.0 U | 2.0 U | 2.2 U | 2.0 U | 2.0 U | 2.2 U |
| 4-Chloro-3-methylphenol | | | | | 2.0 U | 2.0 U | 2.0 U | 2.2 U | 2.0 U | 2.0 U | 2.2 U |
| 2-Methylnaphthalene | | | | | 1.0 U | 1.0 U | 1.0 U | 1.1 U | 1.0 U | 1.0 U | 1.1 U |
| Hexachlorocyclopentadiene | | 3580 | | 17000 | 5.0 U | 5.0 U | 5.0 U | 5.6 U | 5.0 U | 5.0 U | 5.6 U |
| 2,4,6-Trichlorophenol | | 3.93 | | 6.5 | 5.0 U | 5.0 U | 5.0 U | 5.6 U | 5.0 U | 5.0 U | 5.6 U |
| 2,4,5-Trichlorophenol | | | | | 5.0 U | 5.0 U | 5.0 U | 5.6 U | 5.0 U | 5.0 U | 5.6 U |
| 2-Chloronaphthalene | | | | 4300 | 1.0 U | 1.0 U | 1.0 U | 1.1 U | 1.0 U | 1.0 U | 1.1 U |
| 2-Nitroaniline | | | | | 5.0 U | 5.0 U | 5.0 U | 5.6 U | 5.0 U | 5.0 U | 5.6 U |
| Dimethylphthalate | | 72000 | | 2900000 | 1.0 U | 1.0 U | 1.0 U | 1.1 U | 1.0 U | 1.0 U | 1.1 U |
| 3-Nitroaniline | | | | | 6.0 U | 6.0 U | 6.0 U | 6.7 U | 6.0 U | 6.0 U | 6.7 U |
| 2,4-Dinitrophenol | | 3460 | | 14000 | 10 U | 10 U | 10 U | 28 U | 10 U | 10 U | 28 U |
| 4-Nitrophenol | | | | | 5.0 U | 5.0 U | 5.0 U | 5.6 U | 5.0 U | 5.0 U | 5.6 U |
| Dibenzofuran | | | | | 1.0 U | 1.0 U | 1.0 U | 1.1 U | 1.0 U | 1.0 U | 1.1 U |
| 2,6-Dinitrotoluene | | | | | 5.0 U | 5.0 U | 5.0 U | 5.6 U | 5.0 U | 5.0 U | 5.6 U |

Appendix A. Rayonier Mill Site Historic Groundwater Monitoring Data.

| | Applicable Criteria | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | Washington State (a) | | National Toxics Rule (b) | | | | | | | | |
| | Ecological | Human Health | Ecological | Human Health | MW-52 Y129A 8/4/1998 | MW-52 CU22F 2/22/2001 | MW-52 DN25G 8/22/2001 | MW-52 FB89I 12/12/2002 | MW-53 CU06A 2/21/2001 | MW-53 DN18A 8/21/2001 | MW-53 FB89J 12/12/2002 |
| 2,4-Dinitrotoluene | | 1360 | | 9.1 | 5.0 U | 5.0 U | 5.0 U | 5.6 U | 5.0 U | 5.0 U | 5.6 U |
| Diethylphthalate | | 28400 | | 120000 | 1.0 U | 1.0 U | 1.0 U | 1.1 U | 1.0 U | 1.0 U | 1.1 U |
| 4-Chlorophenyl-phenylether | | | | | 1.0 U | 1.0 U | 1.0 U | 1.1 U | 1.0 U | 1.0 U | 1.1 U |
| 4-Nitroaniline | | | | | 5.0 U | 5.0 U | 5.0 U | 5.6 U | 5.0 U | 5.0 U | 5.6 U |
| 4,6-Dinitro-2-Methylphenol | | | | 765 | 10 U | 10 U | 10 U | 17 U | 10 U | 10 U | 17 U |
| N-Nitrosodiphenylamine | | 9.73 | | 16 | 1.0 U | 1.0 U | 1.0 U | 1.1 U | 1.0 U | 1.0 U | 1.1 U |
| 4-Bromophenyl-phenylether | | | | | 1.0 U | 1.0 U | 1.0 U | 1.1 U | 1.0 U | 1.0 U | 1.1 U |
| Hexachlorobenzene | | 0.000466 | | 0.00077 | 1.0 U | 1.0 U | 1.0 U | 1.1 U | 1.0 U | 1.0 U | 1.1 U |
| Pentachlorophenol | 7.9 | 4.91 | 7.9 | 8.2 | 5.0 U | 5.0 U | 5.0 U | 5.6 U | 5.0 U | 5.0 U | 5.6 U |
| Carbazole | | | | | 1.0 U | 1.0 U | 1.0 U | 1.1 U | 1.0 U | 1.0 U | 1.1 U |
| Di-n-Butylphthalate | | 2910 | | 12000 | 1.3 | 1.0 U | 1.0 U | 1.1 U | 1.0 U | 1.0 U | 1.1 U |
| Butylbenzylphthalate | | 1250 | | 5200 | 1.0 U | 1.0 U | 1.0 U | 1.1 U | 1.0 U | 1.0 U | 1.1 U |
| 3,3'-Dichlorobenzidine | | 0.0462 | | 0.077 | 5.0 U | 5.0 U | 5.0 U | 5.6 U | 5.0 U | 5.0 U | 5.6 U |
| bis(2-Ethylhexyl)phthalate | | 3.56 | | 5.9 | 4.5 | 1.0 U | 2.2 U | 1.1 U | 1.0 U | 3.9 U | 1.1 U |
| Di-n-Octyl phthalate | | | | | 1.0 U | 1.0 U | 1.0 U | 1.1 U | 1.0 U | 1.0 U | 1.1 U |
| 3-,4-Methylphenol | | | | | NA | NA | 1.0 U | 1.1 U | NA | 1.0 U | 1.1 U |
| Diallate A | | | | | NA | NA | 2.0 U | 5.6 U | NA | 2.0 U | 5.6 U |
| Diallate B | | | | | NA | NA | 2.0 U | 5.6 U | NA | 2.0 U | 5.6 U |
| Isodrin | | | | | NA | NA | 5.0 U | 5.6 U | NA | 5.0 U | 5.6 U |
| Chlorobenzilate | | | | | NA | NA | 2.0 U | 5.6 U | NA | 2.0 U | 5.6 U |
| **PAHs (µg/L) (d)** | | | | | | | | | | | |
| Naphthalene | | 4940 | | | 1.0 U | 1.0 U | 0.10 U | 0.11 U | 1.0 U | 0.10 U | 0.11 U |
| Acenaphthylene | | | | | 1.0 U | 1.0 U | 0.10 U | 0.11 U | 1.0 U | 0.10 U | 0.11 U |
| Acenaphthene | | 643 | | 2700 | 1.0 U | 1.0 U | 0.10 U | 0.11 U | 1.0 U | 0.10 U | 0.11 U |
| Fluorene | | 3460 | | 14000 | 1.0 U | 1.0 U | 0.10 U | 0.11 U | 1.0 U | 0.10 U | 0.11 U |
| Phenanthrene | | | | | 1.0 U | 1.0 U | 0.10 U | 0.11 U | 1.0 U | 0.10 U | 0.11 U |
| Anthracene | | 25900 | | 110000 | 1.0 U | 1.0 U | 0.10 U | 0.11 U | 1.0 U | 0.10 U | 0.11 U |
| Fluoranthene | | 90.2 | | 370 | 1.0 U | 1.0 U | 0.10 U | 0.11 U | 1.0 U | 0.10 U | 0.11 U |
| Pyrene | | 2590 | | 11000 | 1.0 U | 1.0 U | 0.10 U | 0.11 U | 1.0 U | 0.10 U | 0.11 U |
| Benzo(a)anthracene | | 0.0296 | | 0.031 | 1.0 U | 1.0 U | 0.10 U | 0.11 U | 1.0 U | 0.10 U | 0.11 U |
| Chrysene | | 0.0296 | | 0.031 | 1.0 U | 1.0 U | 0.10 U | 0.11 U | 1.0 U | 0.10 U | 0.11 U |
| Benzo(b)fluoranthene | | 0.0296 | | 0.031 | 1.0 U | 1.0 U | 0.10 U | 0.11 U | 1.0 U | 0.10 U | 0.11 U |
| Benzo(k)fluoranthene | | 0.0296 | | 0.031 | 1.0 U | 1.0 U | 0.10 U | 0.11 U | 1.0 U | 0.10 U | 0.11 U |

Appendix A. Rayonier Mill Site Historic Groundwater Monitoring Data.

| | Applicable Criteria | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | Washington State (a) | | National Toxics Rule (b) | | | | | | | | |
| | Ecological | Human Health | Ecological | Human Health | MW-52 Y129A 8/4/1998 | MW-52 CU22F 2/22/2001 | MW-52 DN25G 8/22/2001 | MW-52 FB89I 12/12/2002 | MW-53 CU06A 2/21/2001 | MW-53 DN18A 8/21/2001 | MW-53 FB89J 12/12/2002 |
| Benzo(a)pyrene | | 0.0296 | | 0.031 | 1.0 U | 1.0 U | 0.10 U | 0.11 U | 1.0 U | 0.10 U | 0.11 U |
| Indeno(1,2,3-cd)pyrene | | 0.0296 | | 0.031 | 1.0 U | 1.0 U | 0.10 U | 0.11 U | 1.0 U | 0.10 U | 0.11 U |
| Dibenz(a,h)anthracene | | 0.0296 | | 0.031 | 1.0 U | 1.0 U | 0.10 U | 0.11 U | 1.0 U | 0.10 U | 0.11 U |
| Benzo(g,h,i)perylene | | | | | 1.0 U | 1.0 U | 0.10 U | 0.11 U | 1.0 U | 0.10 U | 0.11 U |
| cPAH TEQ | | | | | ND | ND | ND | ND | ND | ND | ND |
| **PETROLEUM HYDROCARBONS (mg/L)** | | | | | | | | | | | |
| **NWTPH-D extended** | | | | | | | | | | | |
| Diesel Range Hydrocarbons | | 0.5 | | | NA | 0.25 U | 0.25 U | 0.25 U | 0.25 U | 0.25 U | 0.25 U |
| Motor Oil | | 0.5 | | | NA | 0.50 U | 0.50 U | 0.50 U | 0.50 U | 0.50 U | 0.50 U |
| **TOTAL METALS (mg/L)** | | | | | | | | | | | |
| Arsenic | | | | | NA | 0.004 | 0.0017 | 0.002 | 0.003 | 0.0022 | 0.0021 |
| Beryllium | | | | | NA | NA | 0.001 U | 0.001 U | NA | 0.001 U | 0.001 U |
| Chromium (c) | | | | | NA | 0.005 U | 0.0005 U | 0.0005 U | 0.005 U | 0.0017 | 0.0016 |
| Copper | | | | | NA | 0.005 | 0.0007 | 0.0011 | 0.007 | 0.0057 | 0.0034 |
| Iron | | | | | NA | 1.31 J | 0.13 J | 0.26 | 1.59 J | 1.43 | 1.27 |
| Lead | | | | | NA | 0.006 | 0.001 U | 0.001 U | 0.007 | 0.005 | 0.003 |
| Nickel | | | | | NA | 0.01 U | 0.0014 | 0.0012 | 0.01 U | 0.0026 | 0.0026 |
| Selenium | | | | | NA | 0.05 U | 0.0005 U | 0.0005 U | 0.05 U | 0.0008 | 0.001 |
| Zinc | | | | | NA | 0.013 | R | 0.011 | 0.006 | 0.006 | 0.004 U |
| **Major Ions (total)** | | | | | | | | | | | |
| Calcium | | | | | NA | NA | 46.1 | 38.2 | NA | 22.9 | 30.2 |
| Magnesium | | | | | NA | NA | 26 | 22.8 | NA | 7.12 | 10.2 |
| Potassium | | | | | NA | NA | 5.25 | 3.51 | NA | 33.6 | 45.5 |
| Sodium | | | | | NA | NA | 22.7 | 16.3 | NA | 171 | 206 |

Appendix A. Rayonier Mill Site Historic Groundwater Monitoring Data.

| | Applicable Criteria | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | Washington State (a) | | National Toxics Rule (b) | | | | | | | | |
| | Ecological | Human Health | Ecological | Human Health | MW-52 Y129A 8/4/1998 | MW-52 CU22F 2/22/2001 | MW-52 DN25G 8/22/2001 | MW-52 FB89I 12/12/2002 | MW-53 CU06A 2/21/2001 | MW-53 DN18A 8/21/2001 | MW-53 FB89J 12/12/2002 |
| **DISSOLVED METALS (mg/L)** | | | | | | | | | | | |
| Arsenic | 0.036 | 0.0000982 | 0.036 | 0.00014 | 0.05 U | 0.002 | 0.0017 | 0.0021 | 0.004 | 0.0018 | 0.0022 |
| Beryllium | | 0.27 | | | 0.001 U | NA | 0.001 U | 0.001 U | NA | 0.001 U | 0.001 U |
| Chromium (c) | 0.05 | 0.49 | 0.05 | | 0.005 U | 0.005 U | 0.0005 U | 0.0005 U | 0.005 U | 0.0005 U | 0.0005 U |
| Copper | 0.0031 | 2.66 | 0.0024 | | 0.002 U | 0.002 U | 0.0005 U | 0.0008 | 0.002 U | 0.0015 | 0.0012 |
| Lead | 0.0081 | | 0.0081 | | 0.02 U | 0.001 U | 0.001 U | 0.001 U | 0.001 U | 0.001 U | 0.001 U |
| Nickel | 0.0082 | 1.1 | 0.0082 | 4.6 | 0.01 U | 0.01 U | 0.0012 | 0.0007 | 0.01 U | 0.0009 | 0.0013 |
| Selenium | 0.071 | 2.7 | 0.071 | 11 | 0.05 U | 0.05 U | 0.0005 U | 0.0005 U | 0.05 U | 0.0008 | 0.0019 |
| Zinc | 0.081 | 16.5 | 0.081 | 69 | 0.004 U | 0.006 U | R | 0.004 U | 0.010 | 0.004 U | 0.004 U |
| **PESTICIDES (µg/L)** | | | | | | | | | | | |
| alpha-BHC | | 0.00791 | | 0.013 | NA | NA | 0.050 U | 0.053 U | NA | 0.050 U | 0.051 U |
| beta-BHC | | 0.0277 | | 0.046 | NA | NA | 0.050 U | 0.053 U | NA | 0.050 U | 0.051 U |
| delta-BHC | | | | | NA | NA | 0.050 U | 0.053 U | NA | 0.050 U | 0.051 U |
| gamma-BHC (Lindane) | 0.16 | 0.0384 | 0.16 | 0.063 | NA | NA | 0.050 U | 0.053 U | NA | 0.050 U | 0.051 U |
| Heptachlor | 0.0036 | 0.000129 | 0.0036 | 0.00021 | NA | NA | 0.050 U | 0.053 U | NA | 0.050 U | 0.051 U |
| Aldrin | 0.0019 | 0.000082 | 1.3 | 0.00014 | NA | NA | 0.050 U | 0.053 U | NA | 0.050 U | 0.051 U |
| Heptachlor Epoxide | | 0.000064 | 0.0036 | 0.00011 | NA | NA | 0.050 U | 0.053 U | NA | 0.050 U | 0.051 U |
| Endosulfan I | 0.0087 | 57.6 | 0.0087 | 2 | NA | NA | 0.050 U | 0.053 U | NA | 0.050 U | 0.051 U |
| Dieldrin | 0.0019 | 0.000087 | 0.0019 | 0.00014 | NA | NA | 0.10 U | 0.11 U | NA | 0.10 U | 0.10 U |
| 4,4'-DDE | 0.001 | 0.000356 | | 0.00059 | NA | NA | 0.10 U | 0.11 U | NA | 0.10 U | 0.10 U |
| Endrin | 0.0023 | 0.196 | 0.0023 | 0.81 | NA | NA | 0.10 U | 0.11 U | NA | 0.10 U | 0.10 U |
| Endosulfan II | 0.0087 | 57.6 | 0.0087 | 2 | NA | NA | 0.10 U | 0.11 U | NA | 0.10 U | 0.10 U |
| 4,4'-DDD | 0.001 | 0.000504 | | 0.00084 | NA | NA | 0.10 U | 0.11 U | NA | 0.10 U | 0.10 U |
| Endosulfan Sulfate | | | | 2 | NA | NA | 0.10 U | 0.11 U | NA | 0.10 U | 0.10 U |
| 4,4'-DDT | 0.001 | 0.000356 | 0.001 | 0.00059 | NA | NA | 0.10 U | 0.11 U | NA | 0.10 U | 0.10 U |
| Methoxychlor | | 8.36 | | | NA | NA | 0.50 U | 0.53 U | NA | 0.50 U | 0.51 U |
| Endrin Ketone | | | | | NA | NA | 0.10 U | 0.11 U | NA | 0.10 U | 0.10 U |
| Endrin Aldehyde | | | | 0.81 | NA | NA | 0.10 U | 0.11 U | NA | 0.10 U | 0.10 U |
| gamma Chlordane | 0.004 | 0.0013 | 0.004 | 0.00059 | NA | NA | 0.050 U | 0.053 U | NA | 0.050 U | 0.051 U |
| alpha Chlordane | | | | | NA | NA | 0.050 U | 0.053 U | NA | 0.050 U | 0.051 U |
| Toxaphene | 0.0002 | 0.00045 | 0.0002 | 0.00075 | NA | NA | 5.0 U | 5.3 U | NA | 5.0 U | 5.1 U |
| **PCBs (ug/L)** | | | | | | | | | | | |
| Aroclor 1016 | 0.03 | 0.00582 | 0.03 | 0.000045 | 1.0 U | NA | NA | NA | 0.10 U | NA | NA |
| Aroclor 1242 | 0.03 | | 0.03 | 0.000045 | 1.0 U | NA | NA | NA | 0.10 U | NA | NA |
| Aroclor 1248 | 0.03 | | 0.03 | 0.000045 | 1.0 U | NA | NA | NA | 0.10 U | NA | NA |
| Aroclor 1254 | 0.03 | 0.00166 | 0.03 | 0.000045 | 1.0 U | NA | NA | NA | 0.10 U | NA | NA |
| Aroclor 1260 | 0.03 | | 0.03 | 0.000045 | 1.0 U | NA | NA | NA | 0.10 U | NA | NA |
| Aroclor 1221 | 0.03 | | 0.03 | 0.000045 | 2.0 U | NA | NA | NA | 0.20 U | NA | NA |
| Aroclor 1232 | 0.03 | | 0.03 | 0.000045 | 1.0 U | NA | NA | NA | 0.10 U | NA | NA |
| Total PCBs | | | | 0.00011 | ND | NA | NA | NA | ND | NA | NA |

Appendix A. Rayonier Mill Site Historic Groundwater Monitoring Data.

| | Applicable Criteria | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | Washington State (a) | | National Toxics Rule (b) | | | | | | | | |
| | Ecological | Human Health | Ecological | Human Health | MW-52 Y129A 8/4/1998 | MW-52 CU22F 2/22/2001 | MW-52 DN25G 8/22/2001 | MW-52 FB89I 12/12/2002 | MW-53 CU06A 2/21/2001 | MW-53 DN18A 8/21/2001 | MW-53 FB89J 12/12/2002 |
| **INDICATOR GEOCHEMICAL PARAMETERS (mg/L)** | | | | | | | | | | | |
| Sodium, Dissolved | | | | | NA | NA | 30.9 | 16.4 | NA | 176 | 212 |
| Potassium, Dissolved | | | | | NA | NA | 6.24 | 3.85 | NA | 34.6 | 44.9 |
| Calcium, Dissolved | | | | | NA | NA | 49.8 | 38.7 | NA | 23.2 | 34.4 |
| Magnesium, Dissolved | | | | | NA | NA | 28.8 | 22.9 | NA | 7.08 | 11.2 |
| Chloride | | | | | 5.7 | 11 | 13 | 12 | 130 | 100 | 170 |
| Alkalinity | | | | | NA | NA | 230 | 160 | NA | 120 | 160 |
| Carbonate (Alkalinity) | | | | | NA | NA | 1.0 U | 1.0 U | NA | 1.0 U | 1.0 U |
| Bicarbonate (Alkalinity) | | | | | NA | NA | 230 | 160 | NA | 120 | 160 |
| Sulfate | | | | | 30 | 55 | 54 | 45 | 180 | 250 | 240 |
| Iron, Dissolved | | | | | 0.82 | 0.02 U | 0.11 | 0.13 | 0.10 J | 0.5 | 0.45 |
| **CONVENTIONAL PARAMETERS** | | | | | | | | | | | |
| Total Dissolved Solids (mg/L) | | | | | NA | NA | 330 | 250 | NA | 640 | 740 |
| Total Suspended Solids (mg/L) | | | | | NA | NA | 5.1 | 7.2 | NA | 81 | 34 |
| Bromide (mg/L) | | | | | NA | NA | 0.50 U | 0.34 | NA | 0.50 U | 0.71 |
| Fluoride (mg/L) | | | | | NA | NA | 0.10 U | 0.10 | NA | 0.20 | 0.20 |
| N-Ammonia (total) (mg-N/L) | | | | | 1.0 | 0.086 | 0.23 J | 0.12 | 2.4 | 1.8 | 2.2 |
| N-Ammonia (un-ionized) (mg/L) | 0.035 | | | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| N-Nitrate (mg-N/L) | | | | | 0.010 U | NA | 0.010 U | 0.28 | NA | 0.054 | 0.091 |
| N-Nitrite (mg-N/L) | | | | | 0.010 U | NA | 0.010 U | 0.010 U | NA | 0.010 U | 0.010 U |
| Nitrate + Nitrite (NO2+NO3) (mg-N/L) | | | | | 0.010 U | 0.58 J | 0.010 U | 0.28 | 0.038 J | 0.054 | 0.091 |
| Ortho-Phosphorous (mg/L) | | | | | NA | NA | 0.049 | 0.044 | NA | 0.59 | 0.51 |
| Chemical Oxygen Demand (mg/L) | | | | | NA | NA | 11 | 5.0 U | NA | 14 | 28 |
| Total Organic Carbon (mg/L) | | | | | 2.7 | 3.3 J | 2.9 | 1.5 U | 5.4 J | 5.2 | 4.1 |
| Tannins & Lignins (mg/L) | | | | | NA | NA | 0.522 | 0.106 | 0.985 | 0.945 | 0.638 |
| Field pH (avg) | | 7-8.5 | 6.5-8.5 | | 7.17 | 7.62 | 7.21 | 7.45 | 7.77 | 6.81 | 6.93 |
| Field Temperature (°C) (avg) | | | | | 10.7 | 11.2 | 13.0 | 12.8 | 11.2 | 15.7 | 13.7 |
| Field Conductivity (µS) (avg) | | | | | 658 | 375 | 466 | 336 | 975 | 1120 | 635 |
| Field Dissolved Oxygen (mg/L) | | | | | NM | NM | 1.58 | 0.08 | NM | 0.92 | 0.42 |
| Field Turbidity (NTU) | | | | | NM | NM | 1 | 0 | NM | 261 | 232 |
| Turbidity (NTU) | | | | | 39 | NA | 0.35 | 1.4 J | NA | 22 | 6.0 J |
| Field Redox (mV) | | | | | NM | NM | -16.3 | -32.1 | NM | 177.0 | -7.9 |

Appendix A. Rayonier Mill Site Historic Groundwater Monitoring Data.

| | Applicable Criteria | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | Washington State (a) | | National Toxics Rule (b) | | | | | | | | |
| | Ecological | Human Health | Ecological | Human Health | MW-54 CU06B 2/21/2001 | MW-54 DN25H 8/22/2001 | MW-54 FB89K 12/12/2002 | MW-55 CU06E 2/21/2001 | MW-55 DN25F 8/22/2001 | MW-55 FB89L 12/12/2002 | MW-56 CU22C 2/22/2001 |
| **VOLATILE COMPOUNDS (ug/L)** | | | | | | | | | | | |
| Chloromethane | | 133 | | | 1.0 U | 0.2 U | 0.2 U | 1.0 U | 0.2 U | 0.2 U | 1.0 UJ |
| Vinyl Chloride | | 3.69 | | 525 | 1.0 U | 0.2 U | 0.2 U | 1.0 U | 0.2 U | 0.2 U | 1.0 UJ |
| Chloroethane | | | | | 1.0 U | 0.2 U | 0.2 U | 1.0 U | 0.2 U | 0.2 U | 1.0 UJ |
| Methylene Chloride | | 960 | | 1600 | 2.0 U | 0.3 U | 0.3 U | 2.0 U | 0.3 U | 0.3 U | 2.0 UJ |
| Acetone | | | | | 5.0 U | 1.0 U | 1.0 U | 5.0 U | 1.0 U | 1.0 U | 44 J |
| Carbon Disulfide | | | | | 1.0 U | 0.2 U | 0.2 U | 1.0 U | 0.2 U | 0.2 U | 1.0 UJ |
| 1,1-Dichloroethene | | 1.93 | | 3.2 | 1.0 U | 0.2 U | 0.2 U | 1.0 U | 0.2 U | 0.2 U | 1.0 UJ |
| 1,1-Dichloroethane | | | | | 1.0 U | 0.2 U | 0.2 U | 1.0 U | 0.2 U | 0.2 U | 1.0 UJ |
| trans-1,2-Dichloroethene | | 32800 | | 140000 | 1.0 U | 0.2 U | 0.2 U | 1.0 U | 0.2 U | 0.2 U | 1.0 UJ |
| cis-1,2-Dichloroethene | | | | | 1.0 U | 0.2 U | 0.2 U | 1.0 U | 0.2 U | 0.2 U | 1.0 UJ |
| Chloroform | | 283 | | 470 | 1.0 U | 0.2 U | 0.2 U | 1.0 U | 0.2 U | 0.2 U | 1.0 UJ |
| 1,2-Dichloroethane | | 59.4 | | 99 | 1.0 U | 0.2 U | 0.2 U | 1.0 U | 0.2 U | 0.2 U | 1.0 UJ |
| 2-Butanone | | | | | 5.0 U | 1.0 U | 1.0 U | 5.0 U | 1.0 U | 1.0 U | 6.1 J |
| 1,1,1-Trichloroethane | | 417000 | | | 1.0 U | 0.2 U | 0.2 U | 1.0 U | 0.2 U | 0.2 U | 1.0 UJ |
| Carbon Tetrachloride | | 2.66 | | 4.4 | 1.0 U | 0.2 U | 0.2 U | 1.0 U | 0.2 U | 0.2 U | 1.0 UJ |
| Vinyl Acetate | | | | | 5.0 U | 0.2 U | 0.2 U | 5.0 U | 0.2 U | 0.2 U | 5.0 UJ |
| Bromodichloromethane | | 28 | | 22 | 1.0 U | 0.2 U | 0.2 U | 1.0 U | 0.2 U | 0.2 U | 1.0 UJ |
| 1,2-Dichloropropane | | 23.2 | | 39 | 1.0 U | 0.2 U | 0.2 U | 1.0 U | 0.2 U | 0.2 U | 1.0 UJ |
| cis-1,3-Dichloropropene | | | | | 1.0 U | 0.2 U | 0.2 U | 1.0 U | 0.2 U | 0.2 U | 1.0 UJ |
| Trichloroethene | | 56 | | 81 | 1.0 U | 0.2 U | 0.2 U | 1.0 U | 0.2 U | 0.2 U | 1.0 UJ |
| Dibromochloromethane | | 20.6 | | 34 | 1.0 U | 0.2 U | 0.2 U | 1.0 U | 0.2 U | 0.2 U | 1.0 UJ |
| 1,1,2-Trichloroethane | | 25.3 | | 42 | 1.0 U | 0.2 U | 0.2 U | 1.0 U | 0.2 U | 0.2 U | 1.0 UJ |
| Benzene | | 22.7 | | 71 | 1.0 U | 0.2 U | 0.2 U | 1.0 U | 0.2 U | 0.2 U | 1.0 UJ |
| trans-1,3-Dichloropropene | | | | | 1.0 U | 0.2 U | 0.2 U | 1.0 U | 0.2 U | 0.2 U | 1.0 UJ |
| Bromoform | | 219 | | 360 | 1.0 U | 0.5 U | 0.2 U | 1.0 U | 0.5 U | 0.2 U | 1.0 UJ |
| 4-Methyl-2-Pentanone | | | | | 5.0 U | 1.0 U | 1.0 U | 5.0 U | 1.0 U | 1.0 U | 5.0 UJ |
| 2-Hexanone | | | | | 5.0 U | 1.0 U | 1.0 U | 5.0 U | 1.0 U | 1.0 U | 5.0 UJ |
| Tetrachloroethene | | 4.15 | | 8.85 | 1.0 U | 0.2 U | 0.2 U | 1.0 U | 0.2 U | 0.2 U | 1.0 UJ |
| 1,1,2,2-Tetrachloroethane | | 6.48 | | 11 | 1.0 U | 0.2 U | 0.2 U | 1.0 U | 0.2 U | 0.2 U | 1.0 UJ |
| Toluene | | 48500 | | 200000 | 1.0 U | 0.2 U | 0.2 U | 1.0 U | 0.2 U | 0.2 U | 1.8 J |
| Chlorobenzene | | 5030 | | 21000 | 1.0 U | 0.2 U | 0.2 U | 1.0 U | 0.2 U | 0.2 U | 1.0 UJ |
| Ethylbenzene | | 6910 | | 29000 | 1.0 U | 0.2 U | 0.2 U | 1.0 U | 0.2 U | 0.2 U | 1.0 UJ |
| Styrene | | | | | 1.0 U | 0.2 U | 0.2 U | 1.0 U | 0.2 U | 0.2 U | 1.0 UJ |
| m,p-Xylene | | | | | 1.0 U | 0.4 U | 0.4 U | 1.0 U | 0.4 U | 0.4 U | 1.0 UJ |
| o-Xylene | | | | | 1.0 U | 0.2 U | 0.2 U | 1.0 U | 0.2 U | 0.2 U | 1.0 UJ |
| Total Xylenes | | | | | NA | 0.6 U | 0.6 U | NA | 0.6 U | 0.6 U | NA |
| 4-Isopropyltoluene | | | | | 1.0 U | 0.2 U | 0.2 U | 1.0 U | 0.2 U | 0.2 U | 4.1 J |
| **SEMIVOLATILE COMPOUNDS (ug/L)** | | | | | | | | | | | |
| Dibromochloropropane | | | | | NA | 5.0 U | 5.2 U | NA | 5.0 U | 5.3 U | NA |

Appendix A. Rayonier Mill Site Historic Groundwater Monitoring Data.

| | Applicable Criteria | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | Washington State (a) | | National Toxics Rule (b) | | | | | | | | |
| | Ecological | Human Health | Ecological | Human Health | MW-54 CU06B 2/21/2001 | MW-54 DN25H 8/22/2001 | MW-54 FB89K 12/12/2002 | MW-55 CU06E 2/21/2001 | MW-55 DN25F 8/22/2001 | MW-55 FB89L 12/12/2002 | MW-56 CU22C 2/22/2001 |
| Phenol | | 1110000 | | 4600000 | 2.5 | 2.0 U | 2.1 U | 2.0 U | 2.0 U | 2.1 U | 27 |
| Bis-(2-Chloroethyl) Ether | | 0.854 | | 1.4 | 2.0 U | 2.0 U | 2.1 U | 2.0 U | 2.0 U | 2.1 U | 2.0 U |
| 2-Chlorophenol | | 96.7 | | 400 | 1.0 U | 1.0 U | 1.0 U | 1.0 U | 1.0 U | 1.1 U | 1.0 U |
| 1,3-Dichlorobenzene | | | | 2600 | 1.0 U | 1.0 U | 1.0 U | 1.0 U | 1.0 U | 1.1 U | 1.0 U |
| 1,4-Dichlorobenzene | | 4.86 | | 2600 | 1.0 U | 1.0 U | 1.0 U | 1.0 U | 1.0 U | 1.1 U | 1.0 U |
| Benzyl Alcohol | | | | | 5.0 U | 5.0 U | 5.2 U | 5.0 U | 5.0 U | 5.3 U | 5.0 U |
| 1,2-Dichlorobenzene | | 4200 | | 17000 | 1.0 U | 1.0 U | 1.0 U | 1.0 U | 1.0 U | 1.1 U | 1.0 U |
| 2-Methylphenol | | | | | 2.0 U | 1.0 U | 1.0 U | 2.0 U | 1.0 U | 1.1 U | 4.5 |
| 2,2'-Oxybis(1-Chloropropane) | | 37.5 | | 170000 | 1.0 U | 1.0 U | 1.0 U | 1.0 U | 1.0 U | 1.1 U | 1.0 U |
| N-Nitroso-Di-N-Propylamine | | 0.819 | | 1.4 | 2.0 U | 2.0 U | 2.1 U | 2.0 U | 2.0 U | 2.1 U | 2.0 U |
| Hexachloroethane | | 5.33 | | 8.9 | 2.0 U | 2.0 U | 2.1 U | 2.0 U | 2.0 U | 2.1 U | 2.0 U |
| Nitrobenzene | | 449 | | 1900 | 1.0 U | 1.0 U | 1.0 U | 1.0 U | 1.0 U | 1.1 U | 1.0 U |
| Isophorone | | 1560 | | 600 | 1.0 U | 1.0 U | 1.0 U | 1.0 U | 1.0 U | 1.1 U | 1.0 U |
| 2-Nitrophenol | | | | | 5.0 U | 5.0 U | 5.2 U | 5.0 U | 5.0 U | 5.3 U | 5.0 U |
| 2,4-Dimethylphenol | | 553 | | 2300 | 3.0 U | 3.0 U | 3.1 U | 3.0 U | 3.0 U | 3.2 U | 5.6 |
| Benzoic Acid | | | | | 62 | 10 U | 52 U | 10 U | 10 U | 53 U | 13 |
| bis(2-Chloroethoxy) Methane | | | | | 1.0 U | 1.0 U | 1.0 U | 1.0 U | 1.0 U | 1.1 U | 1.0 U |
| 2,4-Dichlorophenol | | 191 | | 790 | 3.0 U | 3.0 U | 3.1 U | 3.0 U | 3.0 U | 3.2 U | 3.0 U |
| 1,2,4-Trichlorobenzene | | 227 | | 940 | 1.0 U | 1.0 U | 1.0 U | 1.0 U | 1.0 U | 1.1 U | 1.0 U |
| 4-Chloroaniline | | | | | 3.0 U | 3.0 U | 3.1 U | 3.0 U | 3.0 U | 3.2 U | 3.0 U |
| Hexachlorobutadiene | | 29.9 | | 50 | 2.0 U | 2.0 U | 2.1 U | 2.0 U | 2.0 U | 2.1 U | 2.0 U |
| 4-Chloro-3-methylphenol | | | | | 2.0 U | 2.0 U | 2.1 U | 2.0 U | 2.0 U | 2.1 U | 2.0 U |
| 2-Methylnaphthalene | | | | | 1.0 U | 1.0 U | 1.0 U | 1.0 U | 1.0 U | 1.1 U | 1.0 U |
| Hexachlorocyclopentadiene | | 3580 | | 17000 | 5.0 U | 5.0 U | 5.2 U | 5.0 U | 5.0 U | 5.3 U | 5.0 U |
| 2,4,6-Trichlorophenol | | 3.93 | | 6.5 | 5.0 U | 5.0 U | 5.2 U | 5.0 U | 5.0 U | 5.3 U | 5.0 U |
| 2,4,5-Trichlorophenol | | | | | 5.0 U | 5.0 U | 5.2 U | 5.0 U | 5.0 U | 5.3 U | 5.0 U |
| 2-Chloronaphthalene | | | | 4300 | 1.0 U | 1.0 U | 1.0 U | 1.0 U | 1.0 U | 1.1 U | 1.0 U |
| 2-Nitroaniline | | | | | 5.0 U | 5.0 U | 5.2 U | 5.0 U | 5.0 U | 5.3 U | 5.0 U |
| Dimethylphthalate | | 72000 | | 2900000 | 1.0 U | 1.0 U | 1.0 U | 1.0 U | 1.0 U | 1.1 U | 1.0 U |
| 3-Nitroaniline | | | | | 6.0 U | 6.0 U | 6.2 U | 6.0 U | 6.0 U | 6.4 U | 6.0 U |
| 2,4-Dinitrophenol | | 3460 | | 14000 | 10 U | 10 U | 26 U | 10 U | 10 U | 27 U | 10 U |
| 4-Nitrophenol | | | | | 5.0 U | 5.0 U | 5.2 U | 5.0 U | 5.0 U | 5.3 U | 5.0 U |
| Dibenzofuran | | | | | 5.4 | 1.0 U | 1.0 U | 1.0 U | 1.0 U | 1.1 U | 1.0 U |
| 2,6-Dinitrotoluene | | | | | 5.0 U | 5.0 U | 5.2 U | 5.0 U | 5.0 U | 5.3 U | 5.0 U |

Appendix A. Rayonier Mill Site Historic Groundwater Monitoring Data.

| | Applicable Criteria | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | Washington State (a) | | National Toxics Rule (b) | | | | | | | | |
| | Ecological | Human Health | Ecological | Human Health | MW-54 CU06B 2/21/2001 | MW-54 DN25H 8/22/2001 | MW-54 FB89K 12/12/2002 | MW-55 CU06E 2/21/2001 | MW-55 DN25F 8/22/2001 | MW-55 FB89L 12/12/2002 | MW-56 CU22C 2/22/2001 |
| 2,4-Dinitrotoluene | | 1360 | | 9.1 | 5.0 U | 5.0 U | 5.2 U | 5.0 U | 5.0 U | 5.3 U | 5.0 U |
| Diethylphthalate | | 28400 | | 120000 | 1.0 U | 1.0 U | 1.1 | 1.0 U | 1.0 U | 1.1 U | 1.0 U |
| 4-Chlorophenyl-phenylether | | | | | 1.0 U | 1.0 U | 1.0 U | 1.0 U | 1.0 U | 1.1 U | 1.0 U |
| 4-Nitroaniline | | | | | 5.0 U | 5.0 U | 5.2 U | 5.0 U | 5.0 U | 5.3 U | 5.0 U |
| 4,6-Dinitro-2-Methylphenol | | | | 765 | 10 U | 10 U | 16 U | 10 U | 10 U | 16 U | 10 U |
| N-Nitrosodiphenylamine | | 9.73 | | 16 | 1.0 U | 1.0 U | 1.0 U | 1.0 U | 1.0 U | 1.1 U | 1.0 U |
| 4-Bromophenyl-phenylether | | | | | 1.0 U | 1.0 U | 1.0 U | 1.0 U | 1.0 U | 1.1 U | 1.0 U |
| Hexachlorobenzene | | 0.000466 | | 0.00077 | 1.0 U | 1.0 U | 1.0 U | 1.0 U | 1.0 U | 1.1 U | 1.0 U |
| Pentachlorophenol | 7.9 | 4.91 | 7.9 | 8.2 | 5.0 U | 5.0 U | 5.2 U | 5.0 U | 5.0 U | 5.3 U | 7.7 |
| Carbazole | | | | | 1.8 | 1.0 U | 1.0 U | 1.0 U | 1.0 U | 1.1 U | 1.0 U |
| Di-n-Butylphthalate | | 2910 | | 12000 | 1.0 J | 1.0 U | 1.0 U | 1.0 U | 1.0 U | 1.1 U | 1.4 |
| Butylbenzylphthalate | | 1250 | | 5200 | 1.0 U | 1.0 U | 1.0 U | 1.0 U | 1.0 U | 1.1 U | 1.0 U |
| 3,3'-Dichlorobenzidine | | 0.0462 | | 0.077 | 5.0 U | 5.0 U | 5.2 U | 5.0 U | 5.0 U | 5.3 U | 5.0 U |
| bis(2-Ethylhexyl)phthalate | | 3.56 | | 5.9 | 1.0 U | 1.9 U | 1.0 U | 1.0 U | 7.0 U | 3.0 | 1.0 U |
| Di-n-Octyl phthalate | | | | | 1.0 U | 1.0 U | 1.0 U | 1.0 U | 1.0 U | 1.1 U | 1.0 U |
| 3-,4-Methylphenol | | | | | NA | 1.0 U | 1.0 U | NA | 1.0 U | 1.1 U | NA |
| Diallate A | | | | | NA | 2.0 U | 5.2 U | NA | 2.0 U | 5.3 U | NA |
| Diallate B | | | | | NA | 2.0 U | 5.2 U | NA | 2.0 U | 5.3 U | NA |
| Isodrin | | | | | NA | 5.0 U | 5.2 U | NA | 5.0 U | 5.3 U | NA |
| Chlorobenzilate | | | | | NA | 2.0 U | 5.2 U | NA | 2.0 U | 5.3 U | NA |
| **PAHs (µg/L) (d)** | | | | | | | | | | | |
| Naphthalene | | 4940 | | | 11 | 0.40 | 0.10 U | 1.0 U | 0.75 | 0.11 U | 2.2 |
| Acenaphthylene | | | | | 1.0 U | 0.10 U | 0.10 U | 1.0 U | 0.10 U | 0.11 U | 1.0 U |
| Acenaphthene | | 643 | | 2700 | 14 | 3.8 | 0.10 U | 1.0 U | 0.17 | 0.11 U | 1.0 U |
| Fluorene | | 3460 | | 14000 | 7.4 | 1.2 | 0.10 U | 1.0 U | 0.10 U | 0.11 U | 1.0 U |
| Phenanthrene | | | | | 8.3 | 1.8 | 0.10 U | 1.0 U | 0.27 | 0.11 U | 1.0 U |
| Anthracene | | 25900 | | 110000 | 1.0 U | 0.22 | 0.10 U | 1.0 U | 0.10 U | 0.11 U | 1.0 U |
| Fluoranthene | | 90.2 | | 370 | 1.0 U | 1.9 | 0.98 | 1.0 U | 0.25 | 0.11 U | 1.0 U |
| Pyrene | | 2590 | | 11000 | 1.0 U | 0.83 | 0.67 | 1.0 U | 0.33 | 0.11 U | 1.0 U |
| Benzo(a)anthracene | | 0.0296 | | 0.031 | 1.0 U | 0.10 | 0.10 U | 1.0 U | 0.10 U | 0.11 U | 1.0 U |
| Chrysene | | 0.0296 | | 0.031 | 1.0 U | 0.10 U | 0.10 U | 1.0 U | 0.12 | 0.11 U | 1.0 U |
| Benzo(b)fluoranthene | | 0.0296 | | 0.031 | 1.0 U | 0.10 U | 0.10 U | 1.0 U | 0.10 U | 0.11 U | 1.0 U |
| Benzo(k)fluoranthene | | 0.0296 | | 0.031 | 1.0 U | 0.10 U | 0.10 U | 1.0 U | 0.10 U | 0.11 U | 1.0 U |

Appendix A. Rayonier Mill Site Historic Groundwater Monitoring Data.

| | Applicable Criteria | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | Washington State (a) | | National Toxics Rule (b) | | | | | | | | |
| | Ecological | Human Health | Ecological | Human Health | MW-54 CU06B 2/21/2001 | MW-54 DN25H 8/22/2001 | MW-54 FB89K 12/12/2002 | MW-55 CU06E 2/21/2001 | MW-55 DN25F 8/22/2001 | MW-55 FB89L 12/12/2002 | MW-56 CU22C 2/22/2001 |
| Benzo(a)pyrene | | 0.0296 | | 0.031 | 1.0 U | 0.10 U | 0.10 U | 1.0 U | 0.10 | 0.11 U | 1.0 U |
| Indeno(1,2,3-cd)pyrene | | 0.0296 | | 0.031 | 1.0 U | 0.10 U | 0.10 U | 1.0 U | 0.10 U | 0.11 U | 1.0 U |
| Dibenz(a,h)anthracene | | 0.0296 | | 0.031 | 1.0 U | 0.10 U | 0.10 U | 1.0 U | 0.10 U | 0.11 U | 1.0 U |
| Benzo(g,h,i)perylene | | | | | 1.0 U | 0.10 U | 0.10 U | 1.0 U | 0.10 U | 0.11 U | 1.0 U |
| cPAH TEQ | | | | | ND | 0.01 | ND | ND | 0.101 | ND | ND |
| **PETROLEUM HYDROCARBONS (mg/L)** | | | | | | | | | | | |
| **NWTPH-D extended** | | | | | | | | | | | |
| Diesel Range Hydrocarbons | | 0.5 | | | 0.25 U | 0.25 U | 0.25 U | 0.25 U | 0.25 U | 0.25 U | 0.25 U |
| Motor Oil | | 0.5 | | | 0.50 U | 0.50 U | 0.50 U | 0.50 U | 0.50 U | 0.50 U | 0.50 U |
| **TOTAL METALS (mg/L)** | | | | | | | | | | | |
| Arsenic | | | | | 0.001 | 0.005 U | 0.002 U | 0.002 | 0.01 U | 0.002 U | 0.018 |
| Beryllium | | | | | NA | 0.002 U | 0.005 U | NA | 0.002 U | 0.005 U | NA |
| Chromium (c) | | | | | 0.01 U | 0.01 U | 0.005 U | 0.005 U | 0.01 U | 0.005 U | 0.017 |
| Copper | | | | | 0.004 U | 0.01 U | 0.009 | 0.002 U | 0.01 U | 0.008 | 0.013 |
| Iron | | | | | 6.31 J | 9.83 J | 2.88 | 0.64 J | 2.97 J | 0.28 | 1.81 J |
| Lead | | | | | 0.001 U | 0.02 U | 0.01 U | 0.001 U | 0.03 | 0.01 U | 0.004 |
| Nickel | | | | | 0.02 U | 0.01 | 0.015 | 0.01 U | 0.01 | 0.013 | 0.01 U |
| Selenium | | | | | 0.2 | 0.02 | 0.005 U | 0.05 U | 0.05 U | 0.005 U | 0.05 U |
| Zinc | | | | | 0.01 U | R | 0.04 U | 0.006 U | R | 0.04 U | 0.008 |
| **Major Ions (total)** | | | | | | | | | | | |
| Calcium | | | | | NA | 337 | 392 | NA | 376 | 361 | NA |
| Magnesium | | | | | NA | 917 | 1140 | NA | 959 | 968 | NA |
| Potassium | | | | | NA | 324 | 370 | NA | 343 | 315 | NA |
| Sodium | | | | | NA | 7140 | 8950 | NA | 7940 | 7140 | NA |

Appendix A. Rayonier Mill Site Historic Groundwater Monitoring Data.

| | Applicable Criteria | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | Washington State (a) | | National Toxics Rule (b) | | | | | | | | |
| | Ecological | Human Health | Ecological | Human Health | MW-54 CU06B 2/21/2001 | MW-54 DN25H 8/22/2001 | MW-54 FB89K 12/12/2002 | MW-55 CU06E 2/21/2001 | MW-55 DN25F 8/22/2001 | MW-55 FB89L 12/12/2002 | MW-56 CU22C 2/22/2001 |
| **DISSOLVED METALS (mg/L)** | | | | | | | | | | | |
| Arsenic | 0.036 | 0.0000982 | 0.036 | 0.00014 | 0.002 U | 0.01 U | 0.005 U | 0.003 | 0.01 U | 0.005 U | 0.002 |
| Beryllium | | 0.27 | | | NA | 0.002 U | 0.005 U | NA | 0.002 U | 0.005 U | NA |
| Chromium (c) | 0.05 | 0.49 | 0.05 | | 0.01 U | 0.01 U | 0.011 | 0.005 U | 0.01 U | 0.005 U | 0.02 U |
| Copper | 0.0031 | 2.66 | 0.0024 | | 0.004 U | 0.01 U | 0.008 | 0.002 U | 0.01 U | 0.006 | 0.01 |
| Lead | 0.0081 | | 0.0081 | | 0.02 U | 0.02 U | 0.01 U | 0.005 U | 0.02 U | 0.01 U | 0.005 U |
| Nickel | 0.0082 | 1.1 | 0.0082 | 4.6 | 0.02 U | 0.01 | 0.019 | 0.01 U | 0.01 | 0.01 | 0.05 U |
| Selenium | 0.071 | 2.7 | 0.071 | 11 | 0.1 | 0.04 U | 0.02 | 0.05 U | 0.04 U | 0.02 U | 0.2 U |
| Zinc | 0.081 | 16.5 | 0.081 | 69 | 0.01 U | 0.08 U | 0.04 U | 0.006 U | 0.08 U | 0.04 U | 0.03 U |
| **PESTICIDES (µg/L)** | | | | | | | | | | | |
| alpha-BHC | | 0.00791 | | 0.013 | NA | 0.050 U | 0.051 U | NA | 0.050 U | 0.054 U | NA |
| beta-BHC | | 0.0277 | | 0.046 | NA | 0.050 U | 0.051 U | NA | 0.050 U | 0.054 U | NA |
| delta-BHC | | | | | NA | 0.050 U | 0.051 U | NA | 0.050 U | 0.054 U | NA |
| gamma-BHC (Lindane) | 0.16 | 0.0384 | 0.16 | 0.063 | NA | 0.050 U | 0.051 U | NA | 0.050 U | 0.054 U | NA |
| Heptachlor | 0.0036 | 0.000129 | 0.0036 | 0.00021 | NA | 0.050 U | 0.051 U | NA | 0.050 U | 0.054 U | NA |
| Aldrin | 0.0019 | 0.000082 | 1.3 | 0.00014 | NA | 0.050 U | 0.051 U | NA | 0.050 U | 0.054 U | NA |
| Heptachlor Epoxide | | 0.000064 | 0.0036 | 0.00011 | NA | 0.050 U | 0.051 U | NA | 0.050 U | 0.054 U | NA |
| Endosulfan I | 0.0087 | 57.6 | 0.0087 | 2 | NA | 0.050 U | 0.051 U | NA | 0.050 U | 0.054 U | NA |
| Dieldrin | 0.0019 | 0.000087 | 0.0019 | 0.00014 | NA | 0.10 U | 0.10 U | NA | 0.10 U | 0.11 U | NA |
| 4,4'-DDE | 0.001 | 0.000356 | | 0.00059 | NA | 0.10 U | 0.10 U | NA | 0.10 U | 0.11 U | NA |
| Endrin | 0.0023 | 0.196 | 0.0023 | 0.81 | NA | 0.10 U | 0.10 U | NA | 0.10 U | 0.11 U | NA |
| Endosulfan II | 0.0087 | 57.6 | 0.0087 | 2 | NA | 0.10 U | 0.10 U | NA | 0.10 U | 0.11 U | NA |
| 4,4'-DDD | 0.001 | 0.000504 | | 0.00084 | NA | 0.10 U | 0.10 U | NA | 0.10 U | 0.11 U | NA |
| Endosulfan Sulfate | | | | 2 | NA | 0.10 U | 0.10 U | NA | 0.10 U | 0.11 U | NA |
| 4,4'-DDT | 0.001 | 0.000356 | 0.001 | 0.00059 | NA | 0.10 U | 0.10 U | NA | 0.10 U | 0.11 U | NA |
| Methoxychlor | | 8.36 | | | NA | 0.50 U | 0.51 U | NA | 0.50 U | 0.54 U | NA |
| Endrin Ketone | | | | | NA | 0.10 U | 0.10 U | NA | 0.10 U | 0.11 U | NA |
| Endrin Aldehyde | | | | 0.81 | NA | 0.10 U | 0.10 U | NA | 0.10 U | 0.11 U | NA |
| gamma Chlordane | 0.004 | 0.0013 | 0.004 | 0.00059 | NA | 0.050 U | 0.051 U | NA | 0.050 U | 0.054 U | NA |
| alpha Chlordane | | | | | NA | 0.050 U | 0.051 U | NA | 0.050 U | 0.054 U | NA |
| Toxaphene | 0.0002 | 0.00045 | 0.0002 | 0.00075 | NA | 5.0 U | 5.1 U | NA | 5.0 U | 5.4 U | NA |
| **PCBs (ug/L)** | | | | | | | | | | | |
| Aroclor 1016 | 0.03 | 0.00582 | 0.03 | 0.000045 | 0.10 U | NA | NA | 0.10 U | NA | NA | 0.10 U |
| Aroclor 1242 | 0.03 | | 0.03 | 0.000045 | 0.10 U | NA | NA | 0.10 U | NA | NA | 0.10 U |
| Aroclor 1248 | 0.03 | | 0.03 | 0.000045 | 0.10 U | NA | NA | 0.10 U | NA | NA | 0.22 U |
| Aroclor 1254 | 0.03 | 0.00166 | 0.03 | 0.000045 | 0.10 U | NA | NA | 0.10 U | NA | NA | 0.10 U |
| Aroclor 1260 | 0.03 | | 0.03 | 0.000045 | 0.10 U | NA | NA | 0.10 U | NA | NA | 0.10 U |
| Aroclor 1221 | 0.03 | | 0.03 | 0.000045 | 0.20 U | NA | NA | 0.20 U | NA | NA | 0.20 U |
| Aroclor 1232 | 0.03 | | 0.03 | 0.000045 | 0.10 U | NA | NA | 0.10 U | NA | NA | 0.10 U |
| Total PCBs | | | | 0.00011 | ND | NA | NA | ND | NA | NA | ND |

Appendix A. Rayonier Mill Site Historic Groundwater Monitoring Data.

| | Applicable Criteria | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | Washington State (a) | | National Toxics Rule (b) | | | | | | | | |
| | Ecological | Human Health | Ecological | Human Health | MW-54 CU06B 2/21/2001 | MW-54 DN25H 8/22/2001 | MW-54 FB89K 12/12/2002 | MW-55 CU06E 2/21/2001 | MW-55 DN25F 8/22/2001 | MW-55 FB89L 12/12/2002 | MW-56 CU22C 2/22/2001 |
| **INDICATOR GEOCHEMICAL PARAMETERS (mg/L)** | | | | | | | | | | | |
| Sodium, Dissolved | | | | | NA | 8350 | 9050 | NA | 7840 | 7520 | NA |
| Potassium, Dissolved | | | | | NA | 352 | 341 | NA | 333 | 292 | NA |
| Calcium, Dissolved | | | | | NA | 363 | 403 | NA | 358 | 389 | NA |
| Magnesium, Dissolved | | | | | NA | 995 | 1150 | NA | 930 | 992 | NA |
| Chloride | | | | | 14,000 | 17000 | 16000 | 11,000 | 15000 | 14000 | 130 |
| Alkalinity | | | | | NA | 200 | 240 | NA | 330 | 240 | NA |
| Carbonate (Alkalinity) | | | | | NA | 1.0 U | 1.0 U | NA | 1.0 U | 1.0 U | NA |
| Bicarbonate (Alkalinity) | | | | | NA | 200 | 240 | NA | 330 | 240 | NA |
| Sulfate | | | | | 1,700 | 1800 | 2000 | 1,500 | 2300 | 1900 | 310 |
| Iron, Dissolved | | | | | 2.29 J | 8.1 | 0.45 | 0.73 J | 0.1 | 0.2 U | 1.6 J |
| **CONVENTIONAL PARAMETERS** | | | | | | | | | | | |
| Total Dissolved Solids (mg/L) | | | | | NA | 30000 | 27000 | NA | 35000 | 23000 | NA |
| Total Suspended Solids (mg/L) | | | | | NA | 25 | 13 | NA | 380 | 12 | NA |
| Bromide (mg/L) | | | | | NA | 50 U | 64 | NA | 50 U | 55 | NA |
| Fluoride (mg/L) | | | | | NA | 0.30 | 0.30 | NA | 0.20 | 0.30 | NA |
| N-Ammonia (total) (mg-N/L) | | | | | 4.8 | 0.91 J | 0.55 | 1.7 | 0.22 J | 0.16 | 12 |
| N-Ammonia (un-ionized) (mg/L) | 0.035 | | | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| N-Nitrate (mg-N/L) | | | | | NA | 0.010 U | 0.014 | NA | 0.010 U | 0.010 | NA |
| N-Nitrite (mg-N/L) | | | | | NA | 0.010 U | 0.010 U | NA | 0.010 U | 0.010 U | NA |
| Nitrate + Nitrite (NO2+NO3) (mg-N/L) | | | | | 0.010 J | 0.010 U | 0.014 | 0.010 J | 0.010 U | 0.010 | 0.069 J |
| Ortho-Phosphorous (mg/L) | | | | | NA | 0.45 | 0.19 | NA | 0.32 | 0.36 | NA |
| Chemical Oxygen Demand (mg/L) | | | | | NA | 150 | 200 | NA | 150 | 170 | NA |
| Total Organic Carbon (mg/L) | | | | | 19 J | 6.2 | 3.7 | 7.8 J | 4.3 | 2.7 | 81 J |
| Tannins & Lignins (mg/L) | | | | | 5.20 | 1.41 | 0.780 | 1.53 | 0.662 | 0.958 | 32.7 |
| Field pH (avg) | | 7-8.5 | 6.5-8.5 | | 6.59 | 6.46 | 6.69 | 7.23 | 7.43 | 7.44 | 12.31 |
| Field Temperature (°C) (avg) | | | | | 10.2 | 13.4 | 11.7 | 10.6 | 12.9 | 12.1 | 11.6 |
| Field Conductivity (µS) (avg) | | | | | 35400 | 44000 | 46300 | 29475 | 46050 | 41000 | 5158 |
| Field Dissolved Oxygen (mg/L) | | | | | NM | 1.69 | 0.65 | NM | 1.52 | 1.60 | NM |
| Field Turbidity (NTU) | | | | | NM | 29 | 0 | NM | 508 | 0 | NM |
| Turbidity (NTU) | | | | | NA | 25 | 16 J | NA | 19 | 22 J | NA |
| Field Redox (mV) | | | | | NM | -262.0 | 18.2 | NM | 150.1 | -19.3 | NM |

Appendix A. Rayonier Mill Site Historic Groundwater Monitoring Data.

| | Applicable Criteria | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | Washington State (a) | | National Toxics Rule (b) | | | | | | | | |
| | Ecological | Human Health | Ecological | Human Health | MW-56 DN25E 8/22/2001 | MW-56 FB89M 12/12/2002 | MW-57 FB89R 12/13/2002 | MW-58 FB89S 12/13/2002 | MW-59 FB89T 12/13/2002 | MW-59 FG23A 2/19/2003 | FR-1 CU22E 2/22/2001 |
| **VOLATILE COMPOUNDS (ug/L)** | | | | | | | | | | | |
| Chloromethane | | 133 | | | 0.2 U | 0.2 U | 0.2 U | 0.2 U | 0.2 U | NA | 1.0 U |
| Vinyl Chloride | | 3.69 | | 525 | 0.2 U | 0.2 U | 0.2 U | 0.2 U | 0.2 U | NA | 1.0 U |
| Chloroethane | | | | | 0.2 U | 0.2 U | 0.2 U | 0.2 U | 0.2 U | NA | 1.0 U |
| Methylene Chloride | | 960 | | 1600 | 0.3 U | 0.3 | 0.3 U | 0.3 U | 0.3 U | NA | 2.0 U |
| Acetone | | | | | 28 | 9.3 U | 1.9 M | 2.0 M | 1.7 U | NA | 5.0 U |
| Carbon Disulfide | | | | | 1.3 | 0.7 | 0.2 U | 0.2 U | 0.2 U | NA | 1.0 U |
| 1,1-Dichloroethene | | 1.93 | | 3.2 | 0.2 U | 0.2 U | 0.2 U | 0.2 U | 0.2 U | NA | 1.0 U |
| 1,1-Dichloroethane | | | | | 0.3 | 0.3 | 0.2 U | 0.2 U | 0.2 U | NA | 1.0 U |
| trans-1,2-Dichloroethene | | 32800 | | 140000 | 0.2 U | 0.2 U | 0.2 U | 0.2 U | 0.2 U | NA | 1.0 U |
| cis-1,2-Dichloroethene | | | | | 0.2 | 0.2 | 0.2 U | 0.2 U | 0.2 U | NA | 1.0 U |
| Chloroform | | 283 | | 470 | 0.2 U | 0.2 U | 0.2 U | 0.2 U | 0.2 U | NA | 1.0 U |
| 1,2-Dichloroethane | | 59.4 | | 99 | 0.2 U | 0.2 U | 0.2 U | 0.2 U | 0.2 U | NA | 1.0 U |
| 2-Butanone | | | | | 5.5 | 1.9 U | 1.0 U | 1.0 U | 1.0 U | NA | 5.0 U |
| 1,1,1-Trichloroethane | | 417000 | | | 0.2 U | 0.2 U | 0.2 U | 0.2 U | 0.2 U | NA | 1.0 U |
| Carbon Tetrachloride | | 2.66 | | 4.4 | 0.2 U | 0.2 U | 0.2 U | 0.2 U | 0.2 U | NA | 1.0 U |
| Vinyl Acetate | | | | | 0.2 U | 0.2 U | 0.2 U | 0.2 U | 0.2 U | NA | 5.0 U |
| Bromodichloromethane | | 28 | | 22 | 0.2 U | 0.2 U | 0.2 U | 0.2 U | 0.2 U | NA | 1.0 U |
| 1,2-Dichloropropane | | 23.2 | | 39 | 0.2 U | 0.2 U | 0.2 U | 0.2 U | 0.2 U | NA | 1.0 U |
| cis-1,3-Dichloropropene | | | | | 0.2 U | 0.2 U | 0.2 U | 0.2 U | 0.2 U | NA | 1.0 U |
| Trichloroethene | | 56 | | 81 | 0.3 | 0.3 | 0.2 U | 0.2 U | 0.2 U | NA | 1.0 U |
| Dibromochloromethane | | 20.6 | | 34 | 0.2 U | 0.2 U | 0.2 U | 0.2 U | 0.2 U | NA | 1.0 U |
| 1,1,2-Trichloroethane | | 25.3 | | 42 | 0.2 U | 0.2 U | 0.2 U | 0.2 U | 0.2 U | NA | 1.0 U |
| Benzene | | 22.7 | | 71 | 0.6 | 0.6 | 0.2 U | 0.2 U | 0.2 U | NA | 1.0 U |
| trans-1,3-Dichloropropene | | | | | 0.2 U | 0.2 U | 0.2 U | 0.2 U | 0.2 U | NA | 1.0 U |
| Bromoform | | 219 | | 360 | 0.5 U | 0.2 U | 0.2 U | 0.2 U | 0.2 U | NA | 1.0 U |
| 4-Methyl-2-Pentanone | | | | | 1.3 | 1.0 U | 1.0 U | 1.0 U | 1.0 U | NA | 5.0 U |
| 2-Hexanone | | | | | 1.0 U | 1.0 U | 1.0 U | 1.0 U | 1.0 U | NA | 5.0 U |
| Tetrachloroethene | | 4.15 | | 8.85 | 0.2 U | 0.2 U | 0.2 U | 0.2 U | 0.2 U | NA | 1.0 U |
| 1,1,2,2-Tetrachloroethane | | 6.48 | | 11 | 0.2 U | 0.2 U | 0.2 U | 0.2 U | 0.2 U | NA | 1.0 U |
| Toluene | | 48500 | | 200000 | 1.9 | 2.7 | 0.2 U | 0.2 U | 0.2 U | NA | 1.0 U |
| Chlorobenzene | | 5030 | | 21000 | 0.2 U | 0.2 U | 0.2 U | 0.2 U | 0.2 U | NA | 1.0 U |
| Ethylbenzene | | 6910 | | 29000 | 0.9 | 1.1 | 0.2 U | 0.2 U | 0.2 U | NA | 1.0 U |
| Styrene | | | | | 0.2 U | 0.2 U | 0.2 U | 0.2 U | 0.2 U | NA | 1.0 U |
| m,p-Xylene | | | | | 0.4 U | 0.4 U | 0.4 U | 0.4 U | 0.4 U | NA | 1.0 U |
| o-Xylene | | | | | 0.3 | 0.4 | 0.2 U | 0.2 U | 0.2 U | NA | 1.0 U |
| Total Xylenes | | | | | 0.6 U | 0.6 U | 0.6 U | 0.6 U | 0.6 U | NA | NA |
| 4-Isopropyltoluene | | | | | 7.5 | 8.1 | 0.2 U | 0.2 U | 0.2 U | NA | 1.0 U |
| **SEMIVOLATILE COMPOUNDS (ug/L)** | | | | | | | | | | | |
| Dibromochloropropane | | | | | 5.0 U | 5.1 U | 5.4 U | 5.7 U | 5.2 U | NA | NA |

Appendix A. Rayonier Mill Site Historic Groundwater Monitoring Data.

| | Applicable Criteria | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | Washington State (a) | | National Toxics Rule (b) | | | | | | | | |
| | Ecological | Human Health | Ecological | Human Health | MW-56 DN25E 8/22/2001 | MW-56 FB89M 12/12/2002 | MW-57 FB89R 12/13/2002 | MW-58 FB89S 12/13/2002 | MW-59 FB89T 12/13/2002 | MW-59 FG23A 2/19/2003 | FR-1 CU22E 2/22/2001 |
| Phenol | | 1110000 | | 4600000 | 80 | 59 | 2.2 U | 2.3 U | 2.1 U | NA | 2.0 U |
| Bis-(2-Chloroethyl) Ether | | 0.854 | | 1.4 | 2.0 U | 2.0 U | 2.2 U | 2.3 U | 2.1 U | NA | 2.0 U |
| 2-Chlorophenol | | 96.7 | | 400 | 1.0 U | 1.0 U | 1.1 U | 1.1 U | 1.0 U | NA | 1.0 U |
| 1,3-Dichlorobenzene | | | | 2600 | 1.0 U | 1.0 U | 1.1 U | 1.1 U | 1.0 U | NA | 1.0 U |
| 1,4-Dichlorobenzene | | 4.86 | | 2600 | 1.0 U | 1.0 U | 1.1 U | 1.1 U | 1.0 U | NA | 1.0 U |
| Benzyl Alcohol | | | | | 5.0 U | 5.1 U | 5.4 U | 5.7 U | 5.2 U | NA | 5.0 U |
| 1,2-Dichlorobenzene | | 4200 | | 17000 | 1.0 U | 1.0 U | 1.1 U | 1.1 U | 1.0 U | NA | 1.0 U |
| 2-Methylphenol | | | | | 2.8 M | 1.8 | 1.1 U | 1.1 U | 1.0 U | NA | 2.0 U |
| 2,2'-Oxybis(1-Chloropropane) | | 37.5 | | 170000 | 1.0 U | 1.0 U | 1.1 U | 1.1 U | 1.0 U | NA | 1.0 U |
| N-Nitroso-Di-N-Propylamine | | 0.819 | | 1.4 | 2.0 U | 2.0 U | 2.2 U | 2.3 U | 2.1 U | NA | 2.0 U |
| Hexachloroethane | | 5.33 | | 8.9 | 2.0 U | 2.0 U | 2.2 U | 2.3 U | 2.1 U | NA | 2.0 U |
| Nitrobenzene | | 449 | | 1900 | 1.0 U | 1.0 U | 1.1 U | 1.1 U | 1.0 U | NA | 1.0 U |
| Isophorone | | 1560 | | 600 | 1.0 U | 1.0 U | 1.1 U | 1.1 U | 1.0 U | NA | 1.0 U |
| 2-Nitrophenol | | | | | 5.0 U | 5.1 U | 5.4 U | 5.7 U | 5.2 U | NA | 5.0 U |
| 2,4-Dimethylphenol | | 553 | | 2300 | 3.5 | 3.1 U | 3.3 U | 3.4 U | 3.1 U | NA | 3.0 U |
| Benzoic Acid | | | | | 23 | 51 U | 54 U | 57 U | 52 U | NA | 10 U |
| bis(2-Chloroethoxy) Methane | | | | | 1.0 U | 1.0 U | 1.1 U | 1.1 U | 1.0 U | NA | 1.0 U |
| 2,4-Dichlorophenol | | 191 | | 790 | 3.0 U | 3.1 U | 3.3 U | 3.4 U | 3.1 U | NA | 3.0 U |
| 1,2,4-Trichlorobenzene | | 227 | | 940 | 1.0 U | 1.0 U | 1.1 U | 1.1 U | 1.0 U | NA | 1.0 U |
| 4-Chloroaniline | | | | | 3.0 U | 3.1 U | 3.3 U | 3.4 U | 3.1 U | NA | 3.0 U |
| Hexachlorobutadiene | | 29.9 | | 50 | 2.0 U | 2.0 U | 2.2 U | 2.3 U | 2.1 U | NA | 2.0 U |
| 4-Chloro-3-methylphenol | | | | | 2.0 U | 2.0 U | 2.2 U | 2.3 U | 2.1 U | NA | 2.0 U |
| 2-Methylnaphthalene | | | | | 1.0 U | 1.0 U | 1.1 U | 1.1 U | 1.0 U | NA | 1.0 U |
| Hexachlorocyclopentadiene | | 3580 | | 17000 | 5.0 U | 5.1 U | 5.4 U | 5.7 U | 5.2 U | NA | 5.0 U |
| 2,4,6-Trichlorophenol | | 3.93 | | 6.5 | 5.0 U | 5.1 U | 5.4 U | 5.7 U | 5.2 U | NA | 5.0 U |
| 2,4,5-Trichlorophenol | | | | | 5.0 U | 5.1 U | 5.4 U | 5.7 U | 5.2 U | NA | 5.0 U |
| 2-Chloronaphthalene | | | | 4300 | 1.0 U | 1.0 U | 1.1 U | 1.1 U | 1.0 U | NA | 1.0 U |
| 2-Nitroaniline | | | | | 5.0 U | 5.1 U | 5.4 U | 5.7 U | 5.2 U | NA | 5.0 U |
| Dimethylphthalate | | 72000 | | 2900000 | 1.0 U | 1.0 U | 1.1 U | 1.1 U | 1.0 U | NA | 1.0 U |
| 3-Nitroaniline | | | | | 6.0 U | 6.1 U | 6.5 U | 6.8 U | 6.2 U | NA | 6.0 U |
| 2,4-Dinitrophenol | | 3460 | | 14000 | 10 U | 26 U | 27 U | 28 U | 26 U | NA | 10 U |
| 4-Nitrophenol | | | | | 5.0 U | 5.1 U | 5.4 U | 5.7 U | 5.2 U | NA | 5.0 U |
| Dibenzofuran | | | | | 1.0 U | 1.0 U | 1.1 U | 1.1 U | 1.0 U | NA | 1.0 U |
| 2,6-Dinitrotoluene | | | | | 5.0 U | 5.1 U | 5.4 U | 5.7 U | 5.2 U | NA | 5.0 U |

Appendix A. Rayonier Mill Site Historic Groundwater Monitoring Data.

| | Applicable Criteria | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | Washington State (a) | | National Toxics Rule (b) | | | | | | | | |
| | Ecological | Human Health | Ecological | Human Health | MW-56 DN25E 8/22/2001 | MW-56 FB89M 12/12/2002 | MW-57 FB89R 12/13/2002 | MW-58 FB89S 12/13/2002 | MW-59 FB89T 12/13/2002 | MW-59 FG23A 2/19/2003 | FR-1 CU22E 2/22/2001 |
| 2,4-Dinitrotoluene | | 1360 | | 9.1 | 5.0 U | 5.1 U | 5.4 U | 5.7 U | 5.2 U | NA | 5.0 U |
| Diethylphthalate | | 28400 | | 120000 | 1.0 U | 1.0 U | 1.1 U | 1.1 U | 1.0 U | NA | 1.0 U |
| 4-Chlorophenyl-phenylether | | | | | 1.0 U | 1.0 U | 1.1 U | 1.1 U | 1.0 U | NA | 1.0 U |
| 4-Nitroaniline | | | | | 5.0 U | 5.1 U | 5.4 U | 5.7 U | 5.2 U | NA | 5.0 U |
| 4,6-Dinitro-2-Methylphenol | | | | 765 | 10 U | 15 U | 16 U | 17 U | 16 U | NA | 10 U |
| N-Nitrosodiphenylamine | | 9.73 | | 16 | 1.0 U | 1.0 U | 1.1 U | 1.1 U | 1.0 U | NA | 1.0 U |
| 4-Bromophenyl-phenylether | | | | | 1.0 U | 1.0 U | 1.1 U | 1.1 U | 1.0 U | NA | 1.0 U |
| Hexachlorobenzene | | 0.000466 | | 0.00077 | 1.0 U | 1.0 U | 1.1 U | 1.1 U | 1.0 U | NA | 1.0 U |
| Pentachlorophenol | 7.9 | 4.91 | 7.9 | 8.2 | 5.0 U | 5.1 U | 5.4 U | 5.7 U | 5.2 U | NA | 5.0 U |
| Carbazole | | | | | 1.0 U | 1.0 U | 1.1 U | 1.1 U | 1.0 U | NA | 1.0 U |
| Di-n-Butylphthalate | | 2910 | | 12000 | 1.0 U | 1.0 U | 1.1 U | 1.1 U | 1.0 U | NA | 1.0 U |
| Butylbenzylphthalate | | 1250 | | 5200 | 1.0 U | 1.0 U | 1.1 U | 1.1 U | 1.0 U | NA | 1.0 U |
| 3,3'-Dichlorobenzidine | | 0.0462 | | 0.077 | 5.0 U | 5.1 U | 5.4 U | 5.7 U | 5.2 U | NA | 5.0 U |
| bis(2-Ethylhexyl)phthalate | | 3.56 | | 5.9 | 1.0 U | 1.0 U | 1.1 U | 1.1 U | 4.7 | NA | 1.0 U |
| Di-n-Octyl phthalate | | | | | 1.0 U | 1.0 U | 1.1 U | 1.1 U | 1.0 U | NA | 1.0 U |
| 3-,4-Methylphenol | | | | | 16 | 10 | 1.1 U | 1.1 U | 1.0 U | NA | NA |
| Diallate A | | | | | 2.0 U | 5.1 U | 5.4 U | 5.7 U | 5.2 U | NA | NA |
| Diallate B | | | | | 2.0 U | 5.1 U | 5.4 U | 5.7 U | 5.2 U | NA | NA |
| Isodrin | | | | | 5.0 U | 5.1 U | 5.4 U | 5.7 U | 5.2 U | NA | NA |
| Chlorobenzilate | | | | | 2.0 U | 5.1 U | 5.4 U | 5.7 U | 5.2 U | NA | NA |
| **PAHs (µg/L) (d)** | | | | | | | | | | | |
| Naphthalene | | 4940 | | | 0.80 | 1.3 | 0.11 U | 0.11 U | 0.10 U | NA | 1.0 U |
| Acenaphthylene | | | | | 0.10 U | 0.10 U | 0.11 U | 0.11 U | 0.10 U | NA | 1.0 U |
| Acenaphthene | | 643 | | 2700 | 0.10 M | 0.10 U | 0.17 | 0.36 | 0.10 U | NA | 1.0 U |
| Fluorene | | 3460 | | 14000 | 0.26 U | 0.10 U | 0.11 U | 0.11 U | 0.10 U | NA | 1.0 U |
| Phenanthrene | | | | | 0.10 U | 0.10 U | 0.11 U | 0.11 U | 0.10 U | NA | 1.0 U |
| Anthracene | | 25900 | | 110000 | 0.12 M | 0.10 U | 0.11 U | 0.11 U | 0.10 U | NA | 1.0 U |
| Fluoranthene | | 90.2 | | 370 | 0.10 U | 0.10 U | 0.11 U | 0.11 U | 0.12 | NA | 1.0 U |
| Pyrene | | 2590 | | 11000 | 0.10 U | 0.10 U | 0.11 U | 0.11 U | 0.14 | NA | 1.0 U |
| Benzo(a)anthracene | | 0.0296 | | 0.031 | 0.10 U | 0.10 U | 0.11 U | 0.11 U | 0.10 U | NA | 1.0 U |
| Chrysene | | 0.0296 | | 0.031 | 0.10 U | 0.10 U | 0.11 U | 0.11 U | 0.10 U | NA | 1.0 U |
| Benzo(b)fluoranthene | | 0.0296 | | 0.031 | 0.10 U | 0.10 U | 0.11 U | 0.11 U | 0.10 U | NA | 1.0 U |
| Benzo(k)fluoranthene | | 0.0296 | | 0.031 | 0.10 U | 0.10 U | 0.11 U | 0.11 U | 0.10 U | NA | 1.0 U |

Appendix A. Rayonier Mill Site Historic Groundwater Monitoring Data.

| | Applicable Criteria | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | Washington State (a) | | National Toxics Rule (b) | | | | | | | | |
| | Ecological | Human Health | Ecological | Human Health | MW-56 DN25E 8/22/2001 | MW-56 FB89M 12/12/2002 | MW-57 FB89R 12/13/2002 | MW-58 FB89S 12/13/2002 | MW-59 FB89T 12/13/2002 | MW-59 FG23A 2/19/2003 | FR-1 CU22E 2/22/2001 |
| Benzo(a)pyrene | | 0.0296 | | 0.031 | 0.10 U | 0.10 U | 0.11 U | 0.11 U | 0.10 U | NA | 1.0 U |
| Indeno(1,2,3-cd)pyrene | | 0.0296 | | 0.031 | 0.10 U | 0.10 U | 0.11 U | 0.11 U | 0.10 U | NA | 1.0 U |
| Dibenz(a,h)anthracene | | 0.0296 | | 0.031 | 0.10 U | 0.10 U | 0.11 U | 0.11 U | 0.10 U | NA | 1.0 U |
| Benzo(g,h,i)perylene | | | | | 0.10 U | 0.10 U | 0.11 U | 0.11 U | 0.10 U | NA | 1.0 U |
| cPAH TEQ | | | | | ND | ND | ND | ND | ND | NA | ND |
| **PETROLEUM HYDROCARBONS (mg/L)** | | | | | | | | | | | |
| **NWTPH-D extended** | | | | | | | | | | | |
| Diesel Range Hydrocarbons | | 0.5 | | | 0.25 U | 0.25 U | 0.25 U | 0.25 U | 0.25 U | NA | 0.25 U |
| Motor Oil | | 0.5 | | | 0.50 U | 0.50 U | 0.50 U | 0.50 U | 0.50 U | NA | 0.50 U |
| **TOTAL METALS (mg/L)** | | | | | | | | | | | |
| Arsenic | | | | | 0.0136 | 0.0108 | 0.0033 | 0.0045 | 0.0898 | NA | NA |
| Beryllium | | | | | 0.001 U | 0.001 U | 0.001 U | 0.001 U | 0.001 U | NA | NA |
| Chromium (c) | | | | | 0.023 | 0.044 | 0.0334 | 0.005 | 0.302 | NA | NA |
| Copper | | | | | 0.0272 | 0.03 | 0.0097 | 0.0023 | 0.0353 | NA | NA |
| Iron | | | | | 1.14 J | 2.07 | 3.26 | 3.29 | 16.4 | NA | NA |
| Lead | | | | | 0.005 | 0.005 | 0.001 | 0.001 U | 0.004 | NA | NA |
| Nickel | | | | | 0.0199 | 0.023 | 0.0099 | 0.0029 | 0.0179 | NA | NA |
| Selenium | | | | | 0.002 U | 0.002 | 0.0011 | 0.0005 U | 0.0022 | NA | NA |
| Zinc | | | | | 0.009 J | 0.02 | 0.013 | 0.004 U | 0.013 | NA | NA |
| **Major Ions (total)** | | | | | | | | | | | |
| Calcium | | | | | 2.53 | 4.2 | 165 | 81.2 | 107 | NA | NA |
| Magnesium | | | | | 0.11 | 0.06 | 50.2 | 21.1 | 95.9 | NA | NA |
| Potassium | | | | | 7.9 | 12.2 | 49 | 10.5 | 48.7 | NA | NA |
| Sodium | | | | | 713 | 1000 | 329 | 117 | 128 | NA | NA |

Appendix A. Rayonier Mill Site Historic Groundwater Monitoring Data.

| | Applicable Criteria | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | Washington State (a) | | National Toxics Rule (b) | | | | | | | | |
| | Ecological | Human Health | Ecological | Human Health | MW-56 DN25E 8/22/2001 | MW-56 FB89M 12/12/2002 | MW-57 FB89R 12/13/2002 | MW-58 FB89S 12/13/2002 | MW-59 FB89T 12/13/2002 | MW-59 FG23A 2/19/2003 | FR-1 CU22E 2/22/2001 |
| **DISSOLVED METALS (mg/L)** | | | | | | | | | | | |
| Arsenic | 0.036 | 0.0000982 | 0.036 | 0.00014 | 0.0124 | 0.012 | 0.0032 | 0.0058 | 0.09 | NA | NA |
| Beryllium | | 0.27 | | | 0.005 U | 0.005 U | 0.001 U | 0.001 U | 0.002 U | NA | NA |
| Chromium (c) | 0.05 | 0.49 | 0.05 | | 0.02 | 0.05 | 0.0322 | 0.006 | 0.324 | NA | NA |
| Copper | 0.0031 | 2.66 | 0.0024 | | 0.009 | 0.027 | 0.0059 | 0.0019 | 0.031 | NA | NA |
| Lead | 0.0081 | | 0.0081 | | 0.002 U | 0.004 | 0.001 U | 0.001 U | 0.01 U | NA | NA |
| Nickel | 0.0082 | 1.1 | 0.0082 | 4.6 | 0.016 | 0.023 | 0.0059 | 0.0024 | 0.016 | NA | NA |
| Selenium | 0.071 | 2.7 | 0.071 | 11 | 0.002 | 0.004 U | 0.0012 | 0.0006 | 0.005 U | NA | NA |
| Zinc | 0.081 | 16.5 | 0.081 | 69 | 0.008 U | 0.011 | 0.004 U | 0.004 U | 0.04 U | NA | NA |
| **PESTICIDES (µg/L)** | | | | | | | | | | | |
| alpha-BHC | | 0.00791 | | 0.013 | 0.050 U | 0.051 U | 0.055 U | 0.054 U | 0.053 U | NA | NA |
| beta-BHC | | 0.0277 | | 0.046 | 0.050 U | 0.051 U | 0.055 U | 0.054 U | 0.053 U | NA | NA |
| delta-BHC | | | | | 0.050 U | 0.051 U | 0.055 U | 0.054 U | 0.053 U | NA | NA |
| gamma-BHC (Lindane) | 0.16 | 0.0384 | 0.16 | 0.063 | 0.050 U | 0.051 U | 0.055 U | 0.054 U | 0.053 U | NA | NA |
| Heptachlor | 0.0036 | 0.000129 | 0.0036 | 0.00021 | 0.050 U | 0.083 U | 0.055 U | 0.054 U | 0.053 U | NA | NA |
| Aldrin | 0.0019 | 0.000082 | 1.3 | 0.00014 | 0.050 U | 0.051 U | 0.055 U | 0.054 U | 0.053 U | NA | NA |
| Heptachlor Epoxide | | 0.000064 | 0.0036 | 0.00011 | 0.050 U | 0.051 U | 0.055 U | 0.054 U | 0.053 U | NA | NA |
| Endosulfan I | 0.0087 | 57.6 | 0.0087 | 2 | 0.050 U | 0.051 U | 0.055 U | 0.054 U | 0.053 U | NA | NA |
| Dieldrin | 0.0019 | 0.000087 | 0.0019 | 0.00014 | 0.10 U | 0.10 U | 0.11 U | 0.11 U | 0.11 U | NA | NA |
| 4,4'-DDE | 0.001 | 0.000356 | | 0.00059 | 0.10 U | 0.10 U | 0.11 U | 0.11 U | 0.11 U | NA | NA |
| Endrin | 0.0023 | 0.196 | 0.0023 | 0.81 | 0.10 U | 0.10 U | 0.11 U | 0.11 U | 0.11 U | NA | NA |
| Endosulfan II | 0.0087 | 57.6 | 0.0087 | 2 | 0.10 U | 0.10 U | 0.11 U | 0.11 U | 0.11 U | NA | NA |
| 4,4'-DDD | 0.001 | 0.000504 | | 0.00084 | 0.10 U | 0.10 U | 0.11 U | 0.11 U | 0.11 U | NA | NA |
| Endosulfan Sulfate | | | | 2 | 0.10 U | 0.10 U | 0.11 U | 0.11 U | 0.11 U | NA | NA |
| 4,4'-DDT | 0.001 | 0.000356 | 0.001 | 0.00059 | 0.10 U | 0.10 U | 0.11 U | 0.11 U | 0.11 U | NA | NA |
| Methoxychlor | | 8.36 | | | 0.50 U | 0.51 U | 0.55 U | 0.54 U | 0.53 U | NA | NA |
| Endrin Ketone | | | | | 0.10 U | 0.10 U | 0.11 U | 0.11 U | 0.11 U | NA | NA |
| Endrin Aldehyde | | | | 0.81 | 0.10 U | 0.10 U | 0.11 U | 0.11 U | 0.11 U | NA | NA |
| gamma Chlordane | 0.004 | 0.0013 | 0.004 | 0.00059 | 0.050 U | 0.051 U | 0.055 U | 0.054 U | 0.053 U | NA | NA |
| alpha Chlordane | | | | | 0.050 U | 0.051 U | 0.055 U | 0.054 U | 0.053 U | NA | NA |
| Toxaphene | 0.0002 | 0.00045 | 0.0002 | 0.00075 | 5.0 U | 5.1 U | 5.5 U | 5.4 U | 5.3 U | NA | NA |
| **PCBs (ug/L)** | | | | | | | | | | | |
| Aroclor 1016 | 0.03 | 0.00582 | 0.03 | 0.000045 | NA | 0.10 U | 0.11 U | NA | 0.11 UJ | 0.10 UJ | NA |
| Aroclor 1242 | 0.03 | | 0.03 | 0.000045 | NA | 0.10 U | 0.11 U | NA | 0.11 UJ | 0.10 UJ | NA |
| Aroclor 1248 | 0.03 | | 0.03 | 0.000045 | NA | 0.10 U | 0.11 U | NA | 0.11 UJ | 0.10 UJ | NA |
| Aroclor 1254 | 0.03 | 0.00166 | 0.03 | 0.000045 | NA | 0.10 U | 0.11 U | NA | 0.11 UJ | 0.10 UJ | NA |
| Aroclor 1260 | 0.03 | | 0.03 | 0.000045 | NA | 0.10 U | 0.11 U | NA | 0.13 J | 0.10 UJ | NA |
| Aroclor 1221 | 0.03 | | 0.03 | 0.000045 | NA | 0.21 U | 0.23 U | NA | 0.22 UJ | 0.20 UJ | NA |
| Aroclor 1232 | 0.03 | | 0.03 | 0.000045 | NA | 0.10 U | 0.11 U | NA | 0.11 UJ | 0.10 UJ | NA |
| Total PCBs | | | | 0.00011 | NA | ND | ND | NA | 0.13 J | ND | NA |

Appendix A. Rayonier Mill Site Historic Groundwater Monitoring Data.

| | Applicable Criteria | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | Washington State (a) | | National Toxics Rule (b) | | | | | | | | |
| | Ecological | Human Health | Ecological | Human Health | MW-56 DN25E 8/22/2001 | MW-56 FB89M 12/12/2002 | MW-57 FB89R 12/13/2002 | MW-58 FB89S 12/13/2002 | MW-59 FB89T 12/13/2002 | MW-59 FG23A 2/19/2003 | FR-1 CU22E 2/22/2001 |
| **INDICATOR GEOCHEMICAL PARAMETERS (mg/L)** | | | | | | | | | | | |
| Sodium, Dissolved | | | | | 993 | 1090 | 310 | 112 | 131 | NA | NA |
| Potassium, Dissolved | | | | | 11.3 | 13.4 | 43.5 | 9.17 | 48 | NA | NA |
| Calcium, Dissolved | | | | | 3.01 | 4.89 | 161 | 80.1 | 119 | NA | NA |
| Magnesium, Dissolved | | | | | 0.1 U | 0.2 U | 47.3 | 20 | 109 | NA | NA |
| Chloride | | | | | 140 | 150 | 120 | 42 | 93 | NA | 29 |
| Alkalinity | | | | | 1900 | 1900 | 600 | 340 | 660 | NA | NA |
| Carbonate (Alkalinity) | | | | | 1000 | 1300 | 1.0 U | 1.0 U | 1.0 U | NA | NA |
| Bicarbonate (Alkalinity) | | | | | 1.0 U | 1.0 U | 600 | 340 | 660 | NA | NA |
| Sulfate | | | | | 350 | 210 | 720 | 160 | 170 | NA | 120 |
| Iron, Dissolved | | | | | 1.1 | 2.14 | 1.68 | 3.06 | 17.2 | NA | NA |
| **CONVENTIONAL PARAMETERS** | | | | | | | | | | | |
| Total Dissolved Solids (mg/L) | | | | | 3900 | 3400 | 1900 | 660 | 3400 | NA | NA |
| Total Suspended Solids (mg/L) | | | | | 8.0 | 4.7 | 48 | 10 | 64 | NA | NA |
| Bromide (mg/L) | | | | | 100 U | 10 U | 25 U | 3.3 U | 40 U | NA | NA |
| Fluoride (mg/L) | | | | | 0.20 | 0.30 | 0.20 | 0.20 | 0.20 | NA | NA |
| N-Ammonia (total) (mg-N/L) | | | | | 4.5 J | 7.5 | 38 | 4.8 | 26 | NA | 0.67 |
| N-Ammonia (un-ionized) (mg/L) | 0.035 | | | | 4.47 | 7.23 | 0.24 | 0.02 | 0.03 | NA | 0.00 |
| N-Nitrate (mg-N/L) | | | | | 0.010 U | 0.010 U | 0.010 U | 0.010 U | 0.25 U | NA | NA |
| N-Nitrite (mg-N/L) | | | | | 0.032 U | 0.010 U | 0.022 | 0.011 | 0.31 | NA | NA |
| Nitrate + Nitrite (NO2+NO3) (mg-N/L) | | | | | 0.033 | 0.010 U | 0.023 | 0.010 | 0.29 | NA | 0.010 U |
| Ortho-Phosphorous (mg/L) | | | | | 1.7 | 2.0 | 0.89 | 1.3 | 4.2 | NA | NA |
| Chemical Oxygen Demand (mg/L) | | | | | 290 | 730 | 290 | 67 | 4400 | NA | NA |
| Total Organic Carbon (mg/L) | | | | | 110 | 290 | 140 | 24 | 1500 | NA | 4.9 J |
| Tannins & Lignins (mg/L) | | | | | 70.9 | 116 | 69.0 | 12.6 | 861 | NA | 0.926 |
| Field pH (avg) | | 7-8.5 | 6.5-8.5 | | 11.78 (e) | 11.10 | 7.47 | 7.18 | 6.72 | NA | 7.20 |
| Field Temperature (°C) (avg) | | | | | 12.4 | 11.7 | 11.7 | 11.6 | 12.5 | NA | 8.1 |
| Field Conductivity (µS) (avg) | | | | | 4730 | 4308 | 2650 | 1030 | 1465 | NA | 519 |
| Field Dissolved Oxygen (mg/L) | | | | | 0.11 | 0.15 | 0.04 | 2.09 | 0.00 | NA | NM |
| Field Turbidity (NTU) | | | | | 29 | 232 | 10 | 0 | 0 | NA | NM |
| Turbidity (NTU) | | | | | 6.8 | 2.9 J | 8.1 J | 2.7 J | 4.9 J | NA | NA |
| Field Redox (mV) | | | | | 76.4 | -261 | -40.8 | -14.4 | 3.5 | NA | NM |

Appendix A. Rayonier Mill Site Historic Groundwater Monitoring Data.

| | Applicable Criteria | | | | | | |
|---|---|---|---|---|---|---|---|
| | Washington State (a) | | National Toxics Rule (b) | | | Ennis- | |
| | | | | | FR-1 | South | Pier |
| | | Human | | Human | DN25B | DN25K | DN25J |
| | Ecological | Health | Ecological | Health | 8/22/2001 | 8/22/2001 | 8/22/2001 |
| **VOLATILE COMPOUNDS (ug/L)** | | | | | | | |
| Chloromethane | | 133 | | | 0.2 U | NA | NA |
| Vinyl Chloride | | 3.69 | | 525 | 0.2 U | NA | NA |
| Chloroethane | | | | | 0.2 U | NA | NA |
| Methylene Chloride | | 960 | | 1600 | 0.3 U | NA | NA |
| Acetone | | | | | 1.0 U | NA | NA |
| Carbon Disulfide | | | | | 0.2 U | NA | NA |
| 1,1-Dichloroethene | | 1.93 | | 3.2 | 0.2 U | NA | NA |
| 1,1-Dichloroethane | | | | | 0.2 U | NA | NA |
| trans-1,2-Dichloroethene | | 32800 | | 140000 | 0.2 U | NA | NA |
| cis-1,2-Dichloroethene | | | | | 0.2 U | NA | NA |
| Chloroform | | 283 | | 470 | 0.2 U | NA | NA |
| 1,2-Dichloroethane | | 59.4 | | 99 | 0.2 U | NA | NA |
| 2-Butanone | | | | | 1.0 U | NA | NA |
| 1,1,1-Trichloroethane | | 417000 | | | 0.2 U | NA | NA |
| Carbon Tetrachloride | | 2.66 | | 4.4 | 0.2 U | NA | NA |
| Vinyl Acetate | | | | | 0.2 U | NA | NA |
| Bromodichloromethane | | 28 | | 22 | 0.2 U | NA | NA |
| 1,2-Dichloropropane | | 23.2 | | 39 | 0.2 U | NA | NA |
| cis-1,3-Dichloropropene | | | | | 0.2 U | NA | NA |
| Trichloroethene | | 56 | | 81 | 0.2 U | NA | NA |
| Dibromochloromethane | | 20.6 | | 34 | 0.2 U | NA | NA |
| 1,1,2-Trichloroethane | | 25.3 | | 42 | 0.2 U | NA | NA |
| Benzene | | 22.7 | | 71 | 0.2 U | NA | NA |
| trans-1,3-Dichloropropene | | | | | 0.2 U | NA | NA |
| Bromoform | | 219 | | 360 | 0.5 U | NA | NA |
| 4-Methyl-2-Pentanone | | | | | 1.0 U | NA | NA |
| 2-Hexanone | | | | | 1.0 U | NA | NA |
| Tetrachloroethene | | 4.15 | | 8.85 | 0.2 U | NA | NA |
| 1,1,2,2-Tetrachloroethane | | 6.48 | | 11 | 0.2 U | NA | NA |
| Toluene | | 48500 | | 200000 | 0.2 U | NA | NA |
| Chlorobenzene | | 5030 | | 21000 | 0.2 U | NA | NA |
| Ethylbenzene | | 6910 | | 29000 | 0.2 U | NA | NA |
| Styrene | | | | | 0.2 U | NA | NA |
| m,p-Xylene | | | | | 0.4 U | NA | NA |
| o-Xylene | | | | | 0.2 U | NA | NA |
| Total Xylenes | | | | | 0.6 U | NA | NA |
| 4-Isopropyltoluene | | | | | 0.2 U | NA | NA |
| **SEMIVOLATILE COMPOUNDS (ug/L)** | | | | | | | |
| Dibromochloropropane | | | | | 5.0 U | NA | NA |

Appendix A. Rayonier Mill Site Historic Groundwater Monitoring Data.

| | Applicable Criteria | | | | | | |
|---|---|---|---|---|---|---|---|
| | Washington State (a) | | National Toxics Rule (b) | | | Ennis- | |
| | | | | | FR-1 | South | Pier |
| | | Human | | Human | DN25B | DN25K | DN25J |
| | Ecological | Health | Ecological | Health | 8/22/2001 | 8/22/2001 | 8/22/2001 |
| Phenol | | 1110000 | | 4600000 | 2.0 U | NA | NA |
| Bis-(2-Chloroethyl) Ether | | 0.854 | | 1.4 | 2.0 U | NA | NA |
| 2-Chlorophenol | | 96.7 | | 400 | 1.0 U | NA | NA |
| 1,3-Dichlorobenzene | | | | 2600 | 1.0 U | NA | NA |
| 1,4-Dichlorobenzene | | 4.86 | | 2600 | 1.0 U | NA | NA |
| Benzyl Alcohol | | | | | 5.0 U | NA | NA |
| 1,2-Dichlorobenzene | | 4200 | | 17000 | 1.0 U | NA | NA |
| 2-Methylphenol | | | | | 1.0 U | NA | NA |
| 2,2'-Oxybis(1-Chloropropane) | | 37.5 | | 170000 | 1.0 U | NA | NA |
| N-Nitroso-Di-N-Propylamine | | 0.819 | | 1.4 | 2.0 U | NA | NA |
| Hexachloroethane | | 5.33 | | 8.9 | 2.0 U | NA | NA |
| Nitrobenzene | | 449 | | 1900 | 1.0 U | NA | NA |
| Isophorone | | 1560 | | 600 | 1.0 U | NA | NA |
| 2-Nitrophenol | | | | | 5.0 U | NA | NA |
| 2,4-Dimethylphenol | | 553 | | 2300 | 3.0 U | NA | NA |
| Benzoic Acid | | | | | 10 U | NA | NA |
| bis(2-Chloroethoxy) Methane | | | | | 1.0 U | NA | NA |
| 2,4-Dichlorophenol | | 191 | | 790 | 3.0 U | NA | NA |
| 1,2,4-Trichlorobenzene | | 227 | | 940 | 1.0 U | NA | NA |
| 4-Chloroaniline | | | | | 3.0 U | NA | NA |
| Hexachlorobutadiene | | 29.9 | | 50 | 2.0 U | NA | NA |
| 4-Chloro-3-methylphenol | | | | | 2.0 U | NA | NA |
| 2-Methylnaphthalene | | | | | 1.0 U | NA | NA |
| Hexachlorocyclopentadiene | | 3580 | | 17000 | 5.0 U | NA | NA |
| 2,4,6-Trichlorophenol | | 3.93 | | 6.5 | 5.0 U | NA | NA |
| 2,4,5-Trichlorophenol | | | | | 5.0 U | NA | NA |
| 2-Chloronaphthalene | | | | 4300 | 1.0 U | NA | NA |
| 2-Nitroaniline | | | | | 5.0 U | NA | NA |
| Dimethylphthalate | | 72000 | | 2900000 | 1.0 U | NA | NA |
| 3-Nitroaniline | | | | | 6.0 U | NA | NA |
| 2,4-Dinitrophenol | | 3460 | | 14000 | 10 U | NA | NA |
| 4-Nitrophenol | | | | | 5.0 U | NA | NA |
| Dibenzofuran | | | | | 1.0 U | NA | NA |
| 2,6-Dinitrotoluene | | | | | 5.0 U | NA | NA |

Appendix A. Rayonier Mill Site Historic Groundwater Monitoring Data.

| | Applicable Criteria | | | | | | |
|---|---|---|---|---|---|---|---|
| | Washington State (a) | | National Toxics Rule (b) | | | | |
| | Ecological | Human Health | Ecological | Human Health | FR-1 DN25B 8/22/2001 | Ennis-South DN25K 8/22/2001 | Pier DN25J 8/22/2001 |
| 2,4-Dinitrotoluene | | 1360 | | 9.1 | 5.0 U | NA | NA |
| Diethylphthalate | | 28400 | | 120000 | 1.0 U | NA | NA |
| 4-Chlorophenyl-phenylether | | | | | 1.0 U | NA | NA |
| 4-Nitroaniline | | | | | 5.0 U | NA | NA |
| 4,6-Dinitro-2-Methylphenol | | | | 765 | 10 U | NA | NA |
| N-Nitrosodiphenylamine | | 9.73 | | 16 | 1.0 U | NA | NA |
| 4-Bromophenyl-phenylether | | | | | 1.0 U | NA | NA |
| Hexachlorobenzene | | 0.000466 | | 0.00077 | 1.0 U | NA | NA |
| Pentachlorophenol | 7.9 | 4.91 | 7.9 | 8.2 | 5.0 U | NA | NA |
| Carbazole | | | | | 1.0 U | NA | NA |
| Di-n-Butylphthalate | | 2910 | | 12000 | 1.0 U | NA | NA |
| Butylbenzylphthalate | | 1250 | | 5200 | 1.0 U | NA | NA |
| 3,3'-Dichlorobenzidine | | 0.0462 | | 0.077 | 5.0 U | NA | NA |
| bis(2-Ethylhexyl)phthalate | | 3.56 | | 5.9 | 1.0 U | NA | NA |
| Di-n-Octyl phthalate | | | | | 1.0 U | NA | NA |
| 3-,4-Methylphenol | | | | | 1.0 U | NA | NA |
| Diallate A | | | | | 2.0 U | NA | NA |
| Diallate B | | | | | 2.0 U | NA | NA |
| Isodrin | | | | | 5.0 U | NA | NA |
| Chlorobenzilate | | | | | 2.0 U | NA | NA |
| **PAHs (µg/L) (d)** | | | | | | | |
| Naphthalene | | 4940 | | | 0.10 U | NA | NA |
| Acenaphthylene | | | | | 0.10 U | NA | NA |
| Acenaphthene | | 643 | | 2700 | 0.24 | NA | NA |
| Fluorene | | 3460 | | 14000 | 0.10 U | NA | NA |
| Phenanthrene | | | | | 0.10 U | NA | NA |
| Anthracene | | 25900 | | 110000 | 0.10 U | NA | NA |
| Fluoranthene | | 90.2 | | 370 | 0.10 U | NA | NA |
| Pyrene | | 2590 | | 11000 | 0.10 U | NA | NA |
| Benzo(a)anthracene | | 0.0296 | | 0.031 | 0.10 U | NA | NA |
| Chrysene | | 0.0296 | | 0.031 | 0.10 U | NA | NA |
| Benzo(b)fluoranthene | | 0.0296 | | 0.031 | 0.10 U | NA | NA |
| Benzo(k)fluoranthene | | 0.0296 | | 0.031 | 0.10 U | NA | NA |

Appendix A. Rayonier Mill Site Historic Groundwater Monitoring Data.

| | Applicable Criteria | | | | | | |
|---|---|---|---|---|---|---|---|
| | Washington State (a) | | National Toxics Rule (b) | | | Ennis- | |
| | | | | | FR-1 | South | Pier |
| | | Human | | Human | DN25B | DN25K | DN25J |
| | Ecological | Health | Ecological | Health | 8/22/2001 | 8/22/2001 | 8/22/2001 |
| Benzo(a)pyrene | | 0.0296 | | 0.031 | 0.10 U | NA | NA |
| Indeno(1,2,3-cd)pyrene | | 0.0296 | | 0.031 | 0.10 U | NA | NA |
| Dibenz(a,h)anthracene | | 0.0296 | | 0.031 | 0.10 U | NA | NA |
| Benzo(g,h,i)perylene | | | | | 0.10 U | NA | NA |
| cPAH TEQ | | | | | ND | NA | NA |
| **PETROLEUM HYDROCARBONS (mg/L)** | | | | | | | |
| **NWTPH-D extended** | | | | | | | |
| Diesel Range Hydrocarbons | | 0.5 | | | 0.25 U | NA | NA |
| Motor Oil | | 0.5 | | | 0.50 U | NA | NA |
| **TOTAL METALS (mg/L)** | | | | | | | |
| Arsenic | | | | | 0.0009 | NA | NA |
| Beryllium | | | | | 0.001 U | NA | NA |
| Chromium (c) | | | | | 0.0005 U | NA | NA |
| Copper | | | | | 0.0009 | NA | NA |
| Iron | | | | | 3.96 J | NA | NA |
| Lead | | | | | 0.002 | NA | NA |
| Nickel | | | | | 0.0012 | NA | NA |
| Selenium | | | | | 0.0005 U | NA | NA |
| Zinc | | | | | R | NA | NA |
| **Major Ions (total)** | | | | | | | |
| Calcium | | | | | 58.1 | 12.9 | 318 |
| Magnesium | | | | | 13.3 | 4.09 | 1060 |
| Potassium | | | | | 3.34 | 0.79 | 393 |
| Sodium | | | | | 73.9 | 6.85 | 9010 |

Appendix A. Rayonier Mill Site Historic Groundwater Monitoring Data.

| | Applicable Criteria | | | | | | |
|---|---|---|---|---|---|---|---|
| | Washington State (a) | | National Toxics Rule (b) | | | Ennis- | |
| | | | | | FR-1 | South | Pier |
| | | Human | | Human | DN25B | DN25K | DN25J |
| | Ecological | Health | Ecological | Health | 8/22/2001 | 8/22/2001 | 8/22/2001 |
| **DISSOLVED METALS (mg/L)** | | | | | | | |
| Arsenic | 0.036 | 0.0000982 | 0.036 | 0.00014 | 0.0008 | NA | NA |
| Beryllium | | 0.27 | | | 0.001 U | NA | NA |
| Chromium (c) | 0.05 | 0.49 | 0.05 | | 0.0005 U | NA | NA |
| Copper | 0.0031 | 2.66 | 0.0024 | | 0.0005 U | NA | NA |
| Lead | 0.0081 | | 0.0081 | | 0.001 U | NA | NA |
| Nickel | 0.0082 | 1.1 | 0.0082 | 4.6 | 0.001 | NA | NA |
| Selenium | 0.071 | 2.7 | 0.071 | 11 | 0.0005 U | NA | NA |
| Zinc | 0.081 | 16.5 | 0.081 | 69 | R | NA | NA |
| **PESTICIDES (µg/L)** | | | | | | | |
| alpha-BHC | | 0.00791 | | 0.013 | 0.050 U | NA | NA |
| beta-BHC | | 0.0277 | | 0.046 | 0.050 U | NA | NA |
| delta-BHC | | | | | 0.050 U | NA | NA |
| gamma-BHC (Lindane) | 0.16 | 0.0384 | 0.16 | 0.063 | 0.050 U | NA | NA |
| Heptachlor | 0.0036 | 0.000129 | 0.0036 | 0.00021 | 0.050 U | NA | NA |
| Aldrin | 0.0019 | 0.000082 | 1.3 | 0.00014 | 0.050 U | NA | NA |
| Heptachlor Epoxide | | 0.000064 | 0.0036 | 0.00011 | 0.050 U | NA | NA |
| Endosulfan I | 0.0087 | 57.6 | 0.0087 | 2 | 0.050 U | NA | NA |
| Dieldrin | 0.0019 | 0.000087 | 0.0019 | 0.00014 | 0.10 U | NA | NA |
| 4,4'-DDE | 0.001 | 0.000356 | | 0.00059 | 0.10 U | NA | NA |
| Endrin | 0.0023 | 0.196 | 0.0023 | 0.81 | 0.10 U | NA | NA |
| Endosulfan II | 0.0087 | 57.6 | 0.0087 | 2 | 0.10 U | NA | NA |
| 4,4'-DDD | 0.001 | 0.000504 | | 0.00084 | 0.10 U | NA | NA |
| Endosulfan Sulfate | | | | 2 | 0.10 U | NA | NA |
| 4,4'-DDT | 0.001 | 0.000356 | 0.001 | 0.00059 | 0.10 U | NA | NA |
| Methoxychlor | | 8.36 | | | 0.50 U | NA | NA |
| Endrin Ketone | | | | | 0.10 U | NA | NA |
| Endrin Aldehyde | | | | 0.81 | 0.10 U | NA | NA |
| gamma Chlordane | 0.004 | 0.0013 | 0.004 | 0.00059 | 0.050 U | NA | NA |
| alpha Chlordane | | | | | 0.050 U | NA | NA |
| Toxaphene | 0.0002 | 0.00045 | 0.0002 | 0.00075 | 5.0 U | NA | NA |
| **PCBs (ug/L)** | | | | | | | |
| Aroclor 1016 | 0.03 | 0.00582 | 0.03 | 0.000045 | NA | NA | NA |
| Aroclor 1242 | 0.03 | | 0.03 | 0.000045 | NA | NA | NA |
| Aroclor 1248 | 0.03 | | 0.03 | 0.000045 | NA | NA | NA |
| Aroclor 1254 | 0.03 | 0.00166 | 0.03 | 0.000045 | NA | NA | NA |
| Aroclor 1260 | 0.03 | | 0.03 | 0.000045 | NA | NA | NA |
| Aroclor 1221 | 0.03 | | 0.03 | 0.000045 | NA | NA | NA |
| Aroclor 1232 | 0.03 | | 0.03 | 0.000045 | NA | NA | NA |
| Total PCBs | | | | 0.00011 | NA | NA | NA |

Appendix A. Rayonier Mill Site Historic Groundwater Monitoring Data.

| | Applicable Criteria | | | | | | |
|---|---|---|---|---|---|---|---|
| | Washington State (a) | | National Toxics Rule (b) | | | | |
| | Ecological | Human Health | Ecological | Human Health | FR-1 DN25B 8/22/2001 | Ennis-South DN25K 8/22/2001 | Pier DN25J 8/22/2001 |
| **INDICATOR GEOCHEMICAL PARAMETERS (mg/L)** | | | | | | | |
| Sodium, Dissolved | | | | | 76 | NA | NA |
| Potassium, Dissolved | | | | | 3.61 | NA | NA |
| Calcium, Dissolved | | | | | 62.2 | NA | NA |
| Magnesium, Dissolved | | | | | 13.8 | NA | NA |
| Chloride | | | | | 43 | 6.3 | 18000 |
| Alkalinity | | | | | 240 | 61 | 120 |
| Carbonate (Alkalinity) | | | | | 1.0 U | 1.0 U | 1.0 U |
| Bicarbonate (Alkalinity) | | | | | 240 | 61 | 120 |
| Sulfate | | | | | 74 | 11 | 2700 |
| Iron, Dissolved | | | | | 3.95 J | NA | NA |
| **CONVENTIONAL PARAMETERS** | | | | | | | |
| Total Dissolved Solids (mg/L) | | | | | 420 | NA | NA |
| Total Suspended Solids (mg/L) | | | | | 2.7 | NA | NA |
| Bromide (mg/L) | | | | | 2.0 U | 0.50 U | 59 |
| Fluoride (mg/L) | | | | | 0.10 U | 0.10 U | 0.50 |
| N-Ammonia (total) (mg-N/L) | | | | | 0.062 J | 0.031 J | 0.031 J |
| N-Ammonia (un-ionized) (mg/L) | 0.035 | | | | 0.00 | 0.00 | 0.00 |
| N-Nitrate (mg-N/L) | | | | | 0.010 U | 0.25 | 0.14 |
| N-Nitrite (mg-N/L) | | | | | 0.010 U | 0.014 U | 0.014 U |
| Nitrate + Nitrite (NO2+NO3) (mg-N/L) | | | | | 0.012 | 0.26 | 0.16 |
| Ortho-Phosphorous (mg/L) | | | | | 0.053 | 0.027 | 0.044 |
| Chemical Oxygen Demand (mg/L) | | | | | 17 | NA | NA |
| Total Organic Carbon (mg/L) | | | | | 5.8 | NA | NA |
| Tannins & Lignins (mg/L) | | | | | 1.39 | NA | NA |
| Field pH (avg) | | 7-8.5 | 6.5-8.5 | | 6.86 | 7.00 | 8.12 |
| Field Temperature (°C) (avg) | | | | | 15.1 | 13.1 | 11.4 |
| Field Conductivity (µS) (avg) | | | | | 657 | 830 | 51400 |
| Field Dissolved Oxygen (mg/L) | | | | | 1.00 | 5.95 | 5.75 |
| Field Turbidity (NTU) | | | | | 1 | 23 | 7 |
| Turbidity (NTU) | | | | | 4.8 | 6.4 | 0.83 |
| Field Redox (mV) | | | | | -62.0 | 91.8 | 140.6 |

## Appendix A. Rayonier Mill Site Historic Groundwater Monitoring Data.

**Notes:**

(a) = Sources: WAC 173-201A; WDOE publication 94-145 (CLARC II).

(b) = Sources: National Recommended Water Quality Criteria - Correction EPA 822-Z-99-001; 40 CFR 131.36; 57FR60848; 60 FR 22229.

(c) = Criterion based on the form Chromium VI.

(d) = Samples collected prior to August 2001 were analyzed by EPA Method 8270.

(e) = pH value remeasured on October 15, 2001 at 12.3.

NA = Not analyzed.

U = Indicates the compound was undetected at the listed concentration.

J = Results are considered estimated values, based on laboratory evaluation or data validation.

UJ = The analyte was not detected above the reported sample quantitation limit. However, the reported quantitation limit is approximated and may or may not represent the actual limit of quantitation necessary to accurately and precisely measure the analyte in the sample.

M = Indicates an estimated value of analyte detected and confirmed by analyst with low spectral match parameters.

B = Indicates possible/probable blank contamination. Flagged when the analyte is detected in the sample as well as the methold blank.

R = The sample results were rejected due to serious deficencies in the abiltiy to analyze the sample and meet quality control criteria. The presence or absence of the analyte cannot be verified.

ND = Not detected.

NM = Not measured.